

# Moving To Inclusion: The Migration Effects of Sanctuary City Policies

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## **Abstract**

Since 2008, 30 US metropolitan cities have enacted policies and ordinances known as *Sanctuary City Policies* that protect undocumented immigrants by limiting the power of local law enforcement. Using data from the American Community Survey 2005-2018, I estimated the migration effect of sanctuary city policies at both the individual-level and city-level. I found that individuals have strong preferences over sanctuary types when they are moving, and sanctuary status can be viewed as an amenity substitutable by other amenities. At the city-level, I found that cities lacking in those amenities are more likely to enact sanctuary policies. Comparing the changes in trends before and after the policies were enacted, I found little to null dynamic effect on population growth. In California and Connecticut, I found a negative and significant effect on diversity and migration inflow, while the effect if the opposite in cities outside of California and Connecticut. This study contributes to the literature of migration choices and the national debate dictated by the ideological stances and anecdotes rather than empirical evidence.

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# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	National Immigration Laws . . . . .	1
1.2	Sub-National Immigration Laws . . . . .	2
1.3	Enforcement . . . . .	3
<b>2</b>	<b>Background: Sanctuary City Policies</b>	<b>4</b>
<b>3</b>	<b>Diversity, Migration, and Immigration Politics</b>	<b>5</b>
3.1	Private Amenities . . . . .	6
3.2	Social Amenities . . . . .	7
<b>4</b>	<b>Data</b>	<b>7</b>
4.1	Where are Sanctuary Cities? . . . . .	8
<b>5</b>	<b>The 3-step estimation</b>	<b>11</b>
5.1	Step 1: Individual Migration Decisions (Methodology) . . . . .	11
5.2	Step 1: Individual Migration Decisions (Results) . . . . .	14
5.2.1	2008-2012 (tables 2 and 3) . . . . .	14
5.2.2	2013-2018 (tables 4 and 5) . . . . .	20
5.2.3	Overall Individual-level effect . . . . .	26
5.3	Step 2: Choosing to be sanctuary (Methodology) . . . . .	26
5.4	Step 2: Choosing to be sanctuary (Results) . . . . .	28
5.5	Step 3: Dynamic Effects (Methodology) . . . . .	34
5.6	Step 3: Dynamic Effects (Results) . . . . .	35
<b>6</b>	<b>Concluding Remarks</b>	<b>39</b>
	<b>References</b>	<b>40</b>
	<b>Appendix: Data Tables</b>	<b>43</b>

# 1 Introduction

Immigration has long been a heated topic in US politics, but sanctuary city policies have been mainly discussed since 2014, starting with Donald Trump's presidential campaign. Like health-care and education, immigration is one of the hottest platforms in the 2020 presidential election. However, the elusive nature of data on undocumented immigration and the complexity of sub-national policies have made these studies of immigration policy's effect difficult. In this paper, I extend the typical residential segregation model used in other contexts to study the migration effect of sanctuary city policies in three steps. First, I applied a Probit model to estimate the effect of sanctuary city policies on migration decisions. Then, I took individual cities as agents and model their choices of becoming or staying sanctuary within a discrete choice framework. Lastly, I looked at the dynamic effect of sanctuary city policies using fixed-effect models with and without matching as an event history analysis.

## 1.1 National Immigration Laws

Generally, one can be in one of three statuses to be in the United States as a non-citizen: Permanent visitor, Temporary visitor, and Undocumented visitor. A permanent visitor is a person with an immigrant visa status [as opposed to non-immigrant visa status]. These are visas designed to transition one into a green card holder, also known as Legal Permanent Residents [LPR]. LPR is the last status one needs to obtain before one can apply to naturalize to become a citizen. A temporary visitor is a person with non-immigrant visa status such as the F-1 student visa, B-2 Travel Visa, H1-B work visa, etc. Holders of non-immigrant visas need to adjust their status to an immigrant visa status before they transition to being an LPR. An undocumented visitor is a person who either entered with temporary status and stayed past the designated lawful presence period or entered the country without inspection. An example of the former would be if an individual on a tourist visa [B-2] stayed in the US past

their designated lawful presence period [default is 180 days]. An example of the latter would be if one did not go through customs when they entered the country<sup>1</sup>.

Even though the media often portrays the United States as a country of immigrants, there has been a long history of racially targeted anti-immigration laws such as the Chinese Exclusion Act of 1882. After a series of recent reforms like the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 [IIRIRA] and the Comprehensive Immigration Reform Act of 2007 [CIRA], the immigration system prioritizes the admission of family members of citizens and skilled labor. Also, IIRIRA formalized alienation of individuals with previous unlawful presence and created a sizeable legal barrier for legalization. Due to the many levels of government and law enforcement agencies, national immigration law is not enforced efficiently. Most enforcement requires inter-agency cooperation and hence leaves much room for sub-national laws at the state and local level.

## 1.2 Sub-National Immigration Laws

Because of the complexity of immigration enforcement, the Department of Homeland Security [DHS] has historically relied on local-level law enforcement through laws like *287(g)*, *Secure Communities*, etc. These laws generally require local law enforcement to report, arrest, or further detain undocumented immigrants. After 2011, DHS changed the compliance to this cooperation from optional to mandatory. Backlashes and non-cooperation followed these changes by some local authorities. The media then refer to these non-cooperative local authorities as sanctuary cities. This non-cooperative nature also means that sanctuary city policies are not only announced by the city. In fact, many cities became sanctuary because the county sheriff announces that they will not hold any individuals solely for immigration purposes. How-

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<sup>1</sup>This distinction is critical to make as current immigration law only allows for adjustment of status if one entered the country with inspection. For example, an undocumented immigrant who overstayed their F-1 student visa can transition to LPR through adjustment of status such as marriage with a citizen while an undocumented immigrant who crossed the border with mules cannot. See [USCIS](#).

ever, when the city, including such sanctuary counties, does not disagree with these decisions, these cities become de facto sanctuary and are considered sanctuary by ICE.

### 1.3 Enforcement

The federal-level of immigration enforcement are administered by two agencies: *Customs and Border Protection* [CBP] and *Immigration and Customs Enforcement* [ICE]. C.B.P.'s main form of enforcement is within the 100-mile border zone, where they have the authority to conduct *expedited removal* (ACLU). Expedited removal, introduced in IIRIRA, includes removing an undocumented immigrant without immigration proceedings before a judge, provided that the immigrant is within 100 miles of the border and crossed the border within the last 14 days (NILC 2006).

On the other hand, ICE handles immigration enforcement within the country and outside of the 100-mile border zone. The typical immigration raids reported by the media are conducted by ICE and sometimes in cooperation with local law enforcement. Under *287(g)* and *Secure Communities*, non-sanctuary law enforcement would notify ICE if an arrested individual is an undocumented immigrant. At times, those same authorities will honor a detainer issued by ICE, instead of a Judge, to detain an individual for an immigration violation.

Contrary to standard rhetoric, the unlawful presence of an immigrant in the United States is not criminal unless the individual was previously removed from the country and then returned without permission (ACLU). This distinction means that most immigration proceedings are held in civil courts and not criminal courts; hence undocumented immigrants are not entitled to a public defense attorney in most cases. The flip side of this non-criminal nature is that if the local authorities do not criminalize immigration offenses, they could restrict local law enforcement's ability to cooperate with ICE, thus enabling the most common form of sanctuary city policies.

## 2 Background: Sanctuary City Policies

Although there is no concrete legal definition, sanctuary city policies, in general, are policies that protect non-criminal undocumented immigrants. These policies can be regulations such as requiring local law enforcement not to honor an ICE detainer request, requiring local law enforcement not to take enforcement actions solely based on an individual's immigration status, or refusing to inform ICE the detention of undocumented individuals.

The non-compliant nature of these undocumented-immigrant-friendly policies played a significant role in President Donald J. Trump's anti-immigration agenda before and after he was elected. In 2017, president Trump issued an executive order titled, "Executive Order: Enhancing Public Safety in the Interior of the United States" (Exec. Order No. 13742, 3 CFR, 2017)). This order requires local law enforcement to comply with ICE, or they would lose eligibility for federal grants for public safety, except when deemed necessary for law enforcement purposes. This order put undocumented immigration front and center in the national discussion and started a legal war between the federal and local governments. In 2014, California and Connecticut enacted their own *Trust Acts* and became the only two states with state-level sanctuary policy.

Within these two states, there were still city-level sanctuary policies, and there were also counties that refuse to follow the state-level sanctuary policy. In January 2018, District Judge John A. Mendez ruled against the Trump administration and denied their request to suspend California's statewide sanctuary policy, deeming it not an obstacle to ICE's actions (Fuller 2018). Following that ruling, many circuit courts ruled against the executive order while a select few ruled in favor of it. This executive order and the ensuing legal battles de facto adds a substantial cost associated with sanctuary city policies on top of the ideological stand and further complicates the issue.

### 3 Diversity, Migration, and Immigration Politics

Currently, there are few studies about sanctuary city policies. Wang (2017) looked at the effect of sanctuary city policy and found an increase in labor force participation and median household income, a decrease in crime, poverty, and unemployment. Other research looked at the impact of a measurable immigration influx and found the opposite effects in the Turkey/Syria border using the Syrian refugee resettlement as an exogenous shock (Tumen 2016).

In terms of the migration effect of policies related to immigration, current research has similar findings. Andersson et al. (2018) found that an increase of immigrants in a homogeneous neighborhood reduces the neighborhood's average disposable income and education level and increases natives' outflow while not having a statistically significant effect on inflow. They also showed that this effect is the opposite in neighborhoods that did not start with homogeneity. On the US census tract level, Saiz & Wachter (2011) found similar results, as well as a decrease in housing values after immigrants moved into homogeneous neighborhoods, and the effect is opposite for neighborhoods that started with less homogeneity.

On the other hand, we can infer some information from *Moving To Opportunity* [MTO] and the Schelling (1969; 1971) framework such as Caetano & Maheshri (2017). From MTO, we know that migration decisions can be highly restricted by poverty (Aliprantis 2014; Bergman et al. 2020), which could suppress the revelation of choice. Within the Schelling framework, I assume that different racial groups have preferences for different social and private amenities such as schooling, housing, diversity, opportunities, etc. This information enables us to more generally form a hypothesis on what contributes to migration decisions and how to correctly estimate the effect of sanctuary city policy on migration decisions.

Given the complicated immigration-law enforcement structure, the effect of Sanctuary city policies needs to be thought of on three fronts: (1) Direct effects, (2) Indirect effects, and (3) Dynamic effects. Direct effects can be observed immediately as people react to the ideological

stance through migration and voting. Indirect effects can be observed through the changes in other city characteristics and how those characteristics affect migration.

Dynamic effects can be observed at both the individual-level and the city-level. The individual-level dynamic effect changes how sanctuary cities are valued based on the scarcity of sanctuary cities. The city-level dynamic effect combines all the effects described above and can only be observed as a net effect. To examine these effects using the above framework, I need to explore several possible channels of influence on migration decisions.

### **3.1 Private Amenities**

Private amenities include amenities such as income, opportunities, education, housing, consumption, etc. In terms of the labor market, Albert (2017) showed that undocumented immigrants are in a separate labor market from the labor market of documented immigrants and the natives. Hence sanctuary city policies can only affect one's expectations of job prospects and not their actual job prospects through undocumented immigrants. They further pointed out that documented immigrants diminish the job prospects of natives. Therefore, sanctuary city policies will have complicated effects on the job market for natives depending on how it attracts or deters documented immigrants.

In terms of education, people who move between cities just for education are almost negligible; otherwise, the dynamic effect would be cities, not school districts, specialized in education. In terms of housing, the cost of renting or owning takes up part of one's income and leaves the rest for consumption. This implies an implicit substitution in housing and consumption that, on a large scale, could be captured in income.



### 3.2 Social Amenities

Social amenities per Caetano & Maheshri (2017) are aggregated characteristics in a place. In the case of sanctuary city policies, the social amenities presumed to matter for people's migration decisions are the wealth, employment opportunities, diversity, and ideological leaning of a city. How groups of people value these social amenities are also presumed to be different. For example, documented immigrants can prefer not to live in a sanctuary city due to toxic ties (Del Real 2019) and the belief of increased immigration policing from ICE (New York Times 2020). On the other hand, the ideological meaning of sanctuary city policies can be attractive to both documented and undocumented immigrants.

## 4 Data

I used data from the American Community Survey [ACS] data provided by Integrated Public Use Microdata Series [IPUMS] as the population and economic measure. An important note is that while American Community Survey [ACS] is surveyed mostly by self-reporting, it has over 2 million samples yearly, which provides a more accurate measure of the population than the Current Population Survey. I also collected data from the Department of Homeland Security Immigration and Customs Enforcement [DHS ICE] regarding sanctuary city status in 2017 and immigration removal from 2000-2018.

ACS provides two levels of local geography: city and Constant Public Use Micro Area [CPUMA]. CPUMA is a sub-city geography that is constant across time, comprising different PUMA versions, an area of 100,000 to 200,000 people. Having only city-level data will allow me to calculate diversity for each city, but having CPUMA will also allow me to calculate segregation within a city based on how diversity is distributed within the city. Using CPUMA also gives more fine-tuned control on area characteristics' effect on an individual's migration deci-

sion. 2 To utilize the political leaning of cities, I gathered county-level 2000-2016 presidential election data from the MIT Election Data and Science Lab. Since presidential elections are four years apart, I impute voting data of non-election year to be the same as the nearest year of election. The overlapping year is imputed to be the mean of the two elections.

#### 4.1 Where are Sanctuary Cities?

By 2018, there are a total of 30 sanctuary cities in the US. 10 out of 31 cities in the states of California and Connecticut are sanctuary. Even though most sanctuary cities have voted majority Democrat, sanctuary cities in Arizona, Missouri, Nebraska, and Ohio voted majority Republican. In Appendix A. [figure 1](#) and [2](#), I showed the changes in political leaning throughout the years of this paper. The graphs show the average Democratic Leaning as defined in [section 5.3](#) in each state. Figure [1](#) includes only cities that have never been sanctuary, and figure [2](#) includes only cities that eventually became sanctuary. These two figures serve an important purpose: they showed that Democrat-leaning is not sufficient for becoming sanctuary, and Republican-leaning is not sufficient for non-sanctuary.

Figure [3](#) shows the progression of PUMAs becoming sanctuary over the years. Even though CPUMAs are used in this analysis, I reported PUMAs in this figure as CPUMAs are not consistent in population size. Each color in this figure represents a different metropolitan city. In the figure, there is a surge in sanctuary cities in 2013-2014, this is likely encouraged by the national discussion of undocumented immigrants due to Deferred Action for Childhood Arrivals [DACA] in 2012. There are five cities from 2008 to 2012 and 25 cities from 2013-2018 that became sanctuary. The states of California and Connecticut also enacted state-level sanctuary laws in 2014.

Table [1](#) presents the mean of 2018 city-level characteristics that are used in this paper. The columns are split into four groups based on whether the city was in a state with sanctuary state

laws and whether the city had a sanctuary city policy in 2018. Non-Sanctuary cities outside of CA and CT tends to be less diverse and has the least proportion of non-Citizens. Cities in this category tend to be the most moderate compared to the rest, which is, on average, Democrat-leaning. These cities also have the highest proportion of in-migration, although the average population size is only the third largest of the four categories. One thing to note here is that sanctuary cities tend to be much larger than non-sanctuary cities. A higher percentage of people outside of CA and CT own houses, and the cost of owning seem to be slightly lower compared to people in CA and CT. Cities in CA and CT also have a significantly higher proportion of the Hispanic population.

If we only look at big cities with more than 1 million population, we see a slightly different picture. Diversity Scores in Sanctuary cities in CA and CT are significantly higher than cities in the other three categories. The difference in the Hispanic population between CA and CT and the rest of the country is still large but less extreme compared to the full sample. The average education level, median household income, and Democratic Leaning of these big cities are also higher while the unemployment rates are either equal or lower. The average population in sanctuary cities is still larger than that in non-sanctuary cities.

Table 1: 2018 City Summary Statistics by Sanctuary Type

Mean	Not CA or CT		CA or CT	
	Non-Sanctuary	Sanctuary	Non-Sanctuary	Sanctuary
All Cities (N)	241	20	21	10
Diversity Score	33.71	41.88	44.21	56.06
% Hispanic	13	13	40	31
% Education $\leq$ High School	54	51	55	52
% Non-Citizen	4	6	11	10
% Housing Owned	66	66	58	58
Median Household Income	44398.19	56355.00	53243.00	59383.58
Median Owning Cost (%Household Income)	16	17	19	19
Democratic Leaning (see 5.3)	0.00	0.42	0.43	0.63
Democrat Votes	157898	1169109	118524	715093
Republican Votes	159759	709041	82411	334879
Population	657976	3886086	567244	3102988
Unemployment Rate	0.05	0.05	0.07	0.06
% Moved from within US	15.08	13.50	12.87	12.45
Cities with 1,000,000+ population (N)	28	16	1	6
Diversity	45.23	45.38	47.94	60.91
% Hispanic	15	14	34	30
% Education $\leq$ High School	53	49	48	49
% Non-Citizen	6	7	10	12
% Housing Owned	65	65	53	59
Median Household Income	48289.61	59156.18	59205.90	67570.75
Median Owning Cost (%Household Income)	16	18	21	19
Democratic Leaning (see 5.3)	0.14	0.45	0.56	0.65
Democrat	829960	1432866	735476	1106882
Republican	747658	852549	477766	488602
Population	2665515	4721772	3343364	4698991
Unemployment Rate	0.05	0.04	0.05	0.05
% Moved from within US	14.47	13.41	13.94	11.80

Source: American Community Survey 2018; MIT Election Data and Science Lab

## 5 The 3-step estimation

To get a complete look at the policy effects, I split the analysis into three parts. I first used a discrete choice framework to examine agents' migration decisions affected by sanctuary city policies. Informed by the results from the individual choice estimations, I create an agnostic hedonic choice framework to examine individual city's decisions on becoming or staying sanctuary. Lastly, I conduct an event history analysis to examine the dynamic migration effects of sanctuary city policy.

### 5.1 Step 1: Individual Migration Decisions (Methodology)

Following Caetano & Maheshri (2017), I separate the contributing factors of migration decisions into three parts: private amenities, social amenities, and unmeasurable amenities. Private amenities include housing quality, schooling [teacher] quality, cost of living, etc. These preferences are assumed to be fixed and monotonic, although identifying some of these factors in a hedonic model would require high-quality administrative data. Social amenities are emergence that is only measurable at a group level, such as diversity and political ideology in an area. An example of an unmeasurable amenity is an emotional value attached to a place that could induce a strong preference over the value of the other two amenities in either direction.

If one chooses to migrate from city  $c$  to  $c'$ , it must be that the expected utility of moving is higher than the expected utility of staying. Thus I can estimate the probability of the migration decision using a hedonic utility form that is rather agnostic. Formally, let  $S_{i,c}$  be the vector of social amenities,  $\Psi$  be the price vector associated with the vector of private amenities  $X_{i,c}$ , and  $U_{i,c}$  be the random variable representing the unmeasurable amenity, I can estimate the

migration decision in a two-period model using information from only one period:

$$Pr\{\beta S_{i,c'} + \Psi X_{i,c'} - U_{i,c'} > \beta S_{i,c} + \Psi X_{i,c} + U_{i,c}\} \quad (1)$$

where  $i$  represents individuals,  $c$  and  $c'$  represent the origin city and destination city, respectively. I can thus estimate the amenities that make one marginally more likely to migrate and observe the role sanctuary city policies play in individuals' migration decisions. To do that, I think of sanctuary city policies as an element in  $S_{i,c}$  and rewrite the probability of moving as:

$$Pr\{\beta_{Sanctuary}(Sanctuary_{c'} - Sanctuary_c) + \beta(S_{i,c'} - S_{i,c}) + \Psi(X_{i,c'} - X_{i,c}) > (U_{i,c} - U_{i,c'})\} \quad (2)$$

Note that an implicit assumption in this two-period model made is that private consumption and savings are both included in  $X_{i,c}$ , meaning that a better job or job opportunity is accounted for in this model. In addition, agents make migration decision based on period-1 information from both cities as well as what they can foresee for themselves in the period-2. To estimate this probability, I assume that the unmeasurable amenities  $U_{i,c}$  is distributed normally, hence the difference between the unmeasurable is distributed normally with:  $(U_{i,c} - U_{i,c'}) \sim N(\mu, \sigma^2)$ . With the assumed distribution of the RHS of equation (2), I can estimate this general probability with the Probit model.

Since sanctuary city policy is an immigration-related policy, it is intuitive to assume that the diversity of a city should be included in measurable social amenity  $S_{i,c}$ . Traditionally, economic literature has used dissimilarity index [DI], a composite measure using only binary information<sup>2</sup>, to measure the segregation of a city. However, DI cannot show a complete picture in this case due to race being more than just binary. In this paper, I propose and use a new measure of

<sup>2</sup>Example of DI for income segregation:  $DI = \frac{1}{2} \sum_{n=1}^N \left| \frac{\#LowIncome_n}{\sum_{n=1}^N \#LowIncome_n} - \frac{\#NotLowIncome_n}{\sum_{n=1}^N \#NotLowIncome_n} \right|$

diversity called **Diversity Score [DS]**. DS is calculated as:<sup>3</sup>

$$DS_{city} = 100 \times (1 - \sum_{race} (\frac{Population_{race,city}}{Population_{city}})^2) \quad (3)$$

There are a couple of advantages of using DS as a measure of diversity. First of all, DS is a continuous measure between 0 and 100, where the magnitude of the measure is comparable across groups with different compositions. When a city has 100% one race, the DS of the city is 0. If a city has two races, with a 99.9:1 ratio, the DS of the city is 0.2. If a city has two races, with a 1:1 ratio, the DS of the city is 50. If a city has three races distributed equally, then the DS of the city is 67.7. This means that both the addition of a new race and of new people in a minority race will increase the diversity of a place. In addition, the extreme values of diversity are comparable under this measure.

In addition to sanctuary city policies and diversity, I include the following factors for social and private amenities:

1. Social Amenities (period-1 city amenities): City %Non-citizens, City Population, City Median Household Income, City Unemployment rate, and City Median Cost of Housing.
2. Private Amenities (period-2 personal private amenities): Unemployment, Education Attainment, Wealth, Household Income, Costs of Housing, Age, and Sex.

To conduct the individual-level analysis, I need to be conscious of the value of sanctuary city policies to the marginal mover. The first sanctuary city policy was enacted in 2008, and the next landmark year of sanctuary city policies is 2013, where the policy received more attention as a result of the DACA discussion. Hence, I split up the individual stage of estimation into two eras: 2008-2012 and 2013-2018. This choice of the eras is also partially due to the introduction of sanctuary states in 2014 by California and Connecticut.

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<sup>3</sup>I want to thank Professor Kevin Murphy of the University of Chicago; for this measure is a modified version of a measured we used in Price Theory I to measure political monopoly.

## 5.2 Step 1: Individual Migration Decisions (Results)

Tables 2, 3, 4, and 5 give us much information about how sanctuary city policies affect migration. In addition, they inform us on the characteristics of those who move to sanctuary cities. Tables 2 and 4 describes the general environment for individual level effects. Tables 3 and 5 dissect a portion of the previous two tables into Hispanic and non-Hispanic.

### 5.2.1 2008-2012 (tables 2 and 3)

In table 4, columns 1 and 2 suggest that being a sanctuary city slightly induces people to move in and move out while the states of CA and CT do not. They also show that wealthier individuals and those who own their housing are slightly less likely to move. In addition, people with higher levels of education are more likely to move, and people are more likely to move to a more diverse city from a less diverse city. Surprisingly, %non-Citizen [probable proxy of natives job competition for natives per Albert (2017)] in destination city has no effect on migration while the same amenity in origin city makes one less likely to move. Admittedly, this coefficient can also be interpreted as the effect of exposure to non-Citizens in period-1/period-2 cities, and higher %non-Citizen could also be a signal of more employment opportunities.

Column 3 tells us about people's choices about moving to a sanctuary city. This column is restricted to those who moved in this era. This column shows that individuals moving from a sanctuary city are more likely to move to a sanctuary city. In addition, individuals moving into CA or CT are more likely to move into a sanctuary city, despite the not-yet-existent sanctuary state law and there being few sanctuary cities in these two states. Contrary to columns 1 and 2, the proportion of non-Citizens in the destination city, though only slightly, induces people to move to non-Sanctuary cities. Given similar destination and origin city sizes, individuals are more likely to move to a sanctuary city. Individuals moving to higher-income cities and are less likely to have moved to a sanctuary city while those moving from a higher income city are more



likely to have moved to a sanctuary city. Individuals moving from a more diverse city is more likely to move to a sanctuary city while the diversity of destination city has no effect on the likelihood of the destination city's sanctuary status. One interpretation of this is that diversity and sanctuary status are similar amenities and could be traded-off. Other private amenities of movers do not seem to have an effect on migration to sanctuary cities.

Columns 4 and 5 show that people in sanctuary cities are more likely to move to a sanctuary city, especially if they were moving into CA or CT. Column 4 shows individuals in cities with high proportions of non-Citizens are less likely to move to non-sanctuary cities than to stay or to move to a sanctuary city. Individuals in smaller cities or moving to larger cities are more likely to move to a sanctuary city than a non-sanctuary city. Given similar period-2 city wealth, individuals are less likely to move to a sanctuary city, although individuals are more tolerant of higher unemployment rates when staying or moving to a sanctuary city. Individuals in more diverse cities are less likely to move to a non-sanctuary city unless the non-sanctuary city they are moving to has high diversity; this preference on diversity does not matter when one is moving to a sanctuary city. This is in line with the interpretation of sanctuary status and diversity being similar amenities. Given similar costs of renting, individuals are less likely to move to a sanctuary city, especially when rent at period-2 city is high. Lastly, more highly educated individuals are more likely to move to a sanctuary city, although the difference is not by much.

Columns 6 and 7 reaffirm results from columns 1 and 2 for sanctuary city policy. Interestingly, otherwise, similar individuals in a sanctuary city are more likely to move across types than within type. At a glance, this could seem contradictory to columns 4 and 5. However, that is not the case because these two columns split the outcome decisions in columns 4 and 5 and combined them in a different way [See table 13]. People in CA or CT are also more likely to move across types than to move within types or stay. Both of these results show a strong preference for sanctuary status. Individuals in larger cities are more likely to move to the same

sanctuary type than across types, while individuals moving to larger cities are more likely to move across types than within types. If choosing between two cities of the same sizes, one is less likely to move to a city with the same sanctuary type, indicating a preference for types. Consistent with columns 4 and 5, highly educated individuals are more likely to move across types.

Consistent throughout the table, those who own their housing are more likely to stay. Younger people are also more likely to move while their preferences for sanctuary status cannot be parsed out. In the next table, I estimated the first three columns separately by whether an individual is Hispanic. Given that immigration policing is often and easily racially profiled (Sanchez 2009), the direct impact and preferences could theoretically be more apparent in estimations. This table can thus possibly provide more information on the strength and direction of preferences between the Hispanic and the non-Hispanic population.

Table 2: Individual Migration Decision 2008-2012

Model	Binomial Probit			Multinomial Probit		Multinomial Probit	
Dependent Variable	Moving		Be in Sanctuary	Move to Non-Sanctuary Staying	Move to Sanctuary Staying	Move to same type Staying	Move to different type Staying
Baseline Choice							
Sanctuary (t=1)	.035* (t=1) (2.09)	.031* (t=2) (2.23)	.36*** (4.33)	-.3 (-1.23)	2.6*** (15.55)	.62** (2.74)	1.8*** (9.14)
CA or CT (t=1)	.011 (0.53)	.015 (0.66)	-.00024* (-2.17)	.48 (0.85)	-.88 (-1.58)	.19 (0.35)	1.8* (2.18)
CA or CT (t=2)	-.0065 (-0.81)	-.0082 (-1.14)	.16** (3.15)	-.45 (-1.07)	3.3*** (5.79)	-.14 (-0.35)	-.54 (-0.59)
City %non-citizen (t=2)	.1 (1.52)	.1 (1.55)	-.006** (-2.64)	4 (1.52)	-1.5 (-0.41)	3.8 (1.45)	2.6 (1.00)
City %non-citizen (t=1)	-.22** (-2.80)	-.22** (-2.84)	-.0013 (-0.75)	-8.3** (-2.70)	-9.3 (-1.65)	-8.2** (-2.66)	-8* (-2.43)
City Log (Population) (t=2)	.012*** (4.52)	.012*** (4.48)	.0005** (2.86)	.46*** (4.34)	1.2*** (8.51)	.46*** (4.39)	.84*** (4.80)
City Log (Population) (t=1)	-.018*** (-6.29)	-.018*** (-6.27)	-.00026* (-2.53)	-.68*** (-5.32)	-1.1*** (-7.63)	-.68*** (-5.36)	-.92*** (-5.84)
City Log (Median Household Income) (t=2)	.03 (1.33)	.03 (1.35)	-.0018** (-2.85)	1.1 (1.32)	-2.8** (-2.86)	1.1 (1.31)	-.45 (-0.46)
City Log (Median Household Income) (t=1)	-.038 (-1.43)	-.038 (-1.46)	.00073* (1.96)	-1.4 (-1.42)	.73 (0.87)	-1.4 (-1.42)	-.55 (-0.56)
City Unemployment rate (t=2)	.71 (1.86)	.71 (1.88)	-.0058 (-1.51)	29* (2.19)	-3.2 (-0.25)	26* (2.02)	19 (1.30)
City Unemployment rate (t=1)	-.72 (-1.75)	-.73 (-1.76)	.0057 (1.48)	-29* (-2.06)	.35 (0.03)	-27 (-1.90)	-21 (-1.49)
City Diversity Score (t=2)	.13*** (5.87)	.13*** (5.85)	-.00022 (-0.76)	4.9*** (6.51)	.13 (0.12)	4.9*** (6.34)	1.2 (1.76)
City Diversity Score (t=1)	-.15*** (-6.10)	-.15*** (-6.07)	.0007* (2.25)	-5.8*** (-7.11)	.74 (0.45)	-5.7*** (-6.90)	-2.3** (-2.91)
City Median Costs of Owning (t=2)	-.34 (-1.79)	-.33 (-1.76)	-.0023 (-1.18)	-13 (-1.85)	-11 (-1.70)	-13 (-1.88)	-4.9 (-0.71)
City Median Costs of Owning (t=1)	.36 (1.85)	.35 (1.83)	-.0013 (-0.49)	14 (1.94)	.67 (0.07)	14 (1.95)	5 (0.65)
City Median Costs of Renting (t=2)	-.064 (-0.69)	-.061 (-0.66)	-.0062* (-2.44)	-2.4 (-0.71)	-9.2** (-2.99)	-2.5 (-0.74)	-1.6 (-0.44)
City Median Costs of Renting (t=1)	.02 (0.20)	.017 (0.17)	.0027 (1.67)	.81 (0.22)	6.6* (2.41)	.87 (0.23)	.62 (0.18)
Log (Household Income)	.0022 (1.40)	.0022 (1.40)	-.000071 (-1.33)	.086 (1.52)	-.061 (-1.70)	.085 (1.50)	-.042 (-0.85)
Unemployed	-.0022 (-1.44)	-.0022 (-1.43)	-.000021 (-0.47)	-.087 (-1.39)	-.14 (-1.70)	-.089 (-1.43)	.0016 (0.02)
Education Attainment	.0018** (3.22)	.0018** (3.22)	8.0e-06 (0.37)	.068*** (3.81)	.073*** (4.41)	.067*** (3.76)	.16*** (10.93)
% Poverty Level	-.000023** (-3.24)	-.000023** (-3.23)	5.2e-07 (1.44)	-.00086*** (-3.66)	-.00035 (-1.26)	-.00086*** (-3.69)	.00032 (1.18)
Renting Costs	5.3e-06 (1.42)	5.3e-06 (1.42)	-.000012 (-1.43)	.00021 (1.58)	-.016* (-2.11)	.0002 (1.55)	-.0026 (-0.64)
Owning Costs	-5.0e-06 (-1.24)	-5.0e-06 (-1.24)	.000012 (1.43)	-.00019 (-1.29)	.0045 (0.25)	-.00019 (-1.27)	.0023 (0.57)
Own Housing	-.047*** (-6.44)	-.047*** (-6.45)	.000036 (0.75)	-1.1*** (-15.76)	-.99*** (-12.38)	-1.1*** (-15.88)	-.9*** (-11.58)
Age	-.0006*** (-8.49)	-.0006*** (-8.50)	-4.3e-06 (-1.56)	-.023*** (-16.35)	-.026*** (-13.52)	-.022*** (-16.49)	-.027*** (-16.11)
Female	.0031 (1.57)	.0031 (1.57)	-.000014 (-0.40)	.12 (1.68)	-.024 (-0.81)	.12 (1.69)	-.063 (-1.21)
Observations	4581566	4581566	130199	4581566	4581566	4581566	4581566
Pseudo R-squared	0.233	0.233	0.779				

Notes: Marginal Effects from Probit Model; z statistics in parentheses; standard errors clustered by city and year; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Data from American Community Survey (ACS) 2005-2018 and [ICE Declined Detainer Report](#). Cities are Core-Based Statistical Areas (CBSA) metropolitan areas with population over 50,000 population (Minimum population in this data set is 90,000). Third column is estimated only with people who chose to move hence is only a fraction of the full sample. (t=t) in covariates represent the characteristics of period t city in period 1. The baseline choice for both multinomial Probit models is staying.

In table 3, I estimated columns 1 through 3 of table 2 by whether one is Hispanic or not. The results are largely similar to that of table 2, except that Hispanic individuals are more likely to move away from and move to a sanctuary city than non-Hispanic individuals. Both private amenities city amenities play equal or lesser roles in the migration decisions of Hispanic individuals than non-Hispanic individuals with the exceptions that (1) Hispanic females are more likely to move than Hispanic males and non-Hispanic individuals and (2) Non-Hispanic individuals who own their housing are less likely to move than non-Hispanic individuals.

Hispanic individuals are also more likely to move to sanctuary cities from a sanctuary city than non-Hispanic individuals. However, non-Hispanic individuals moving into CA or CT are more likely to move to a sanctuary city while the states do not have similar effects on Hispanic individuals. Interestingly, given the same proportion of non-Citizens in destination cities, non-Hispanic individuals are less likely to move to a sanctuary city while Hispanic individuals do not have such preference. In fact, the effects of destination city amenities on destination sanctuary status, if any, are only present in non-Hispanic individuals' decisions.

Combining the results from tables 2 and 3, we learn the roles of both private and social amenities in migration decisions during 2008-2012. We learned that people very likely have preferences over a city's sanctuary status, and we do see people on the margin moving to and away from sanctuary cities. We also learned that individuals tend to move to cities that are larger, more diverse, and with more affordable housing. At the individual level, those who move are, on average, younger, less wealthy and tied down [by housing], and have higher educational attainment.

Table 3: Column 1, 2, and 3 by Hispanic: 2008-2012

Column from table 2	(1)		(2)		(3)	
Dependent Variable	Moving		Be in Sanctuary			
Sample	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic
Sanctuary (t=1)	.032* (2.07)	.051* (2.37)			.31*** (3.68)	.51*** (5.38)
Sanctuary (t=2)			.027* (2.17)	.048** (2.61)		
CA or CT (t=1)	.0088 (0.45)	.0091 (0.45)	.013 (0.59)	.012 (0.54)	-.00021* (-2.07)	-.0001 (-0.97)
CA or CT (t=2)	-.0051 (-0.57)	-.0047 (-0.55)	-.0069 (-0.86)	-.006 (-0.76)	.17** (3.07)	.042 (1.66)
City %non-citizen (t=2)	.053 (0.79)	.13 (1.79)	.055 (0.82)	.13 (1.81)	-.0053** (-2.75)	-.0026 (-1.15)
City %non-citizen (t=1)	-.16 (-1.93)	-.2* (-2.40)	-.16* (-1.97)	-.2* (-2.43)	-.00092 (-0.50)	-.0013 (-1.17)
City Log (Population) (t=2)	.013*** (4.37)	.0084*** (3.67)	.013*** (4.33)	.0082*** (3.62)	.00047** (2.75)	.00019 (1.30)
City Log (Population) (t=1)	-.019*** (-6.23)	-.013*** (-4.95)	-.019*** (-6.21)	-.013*** (-4.91)	-.00023* (-2.27)	-.0001 (-1.26)
City Log (Median Household Income) (t=2)	.023 (1.03)	.065** (2.76)	.023 (1.06)	.066** (2.78)	-.0017** (-2.59)	-.00064 (-1.29)
City Log (Median Household Income) (t=1)	-.031 (-1.21)	-.07* (-2.54)	-.032 (-1.24)	-.07* (-2.57)	.00066 (1.82)	.00016 (0.77)
City Unemployment rate (t=2)	.68 (1.79)	.79* (2.29)	.68 (1.81)	.78* (2.28)	-.0075 (-1.82)	.003 (0.85)
City Unemployment rate (t=1)	-.7 (-1.71)	-.78* (-2.12)	-.71 (-1.73)	-.77* (-2.11)	.0066 (1.66)	-.0019 (-0.72)
City Diversity Score (t=2)	.12*** (6.52)	.096*** (3.50)	.12*** (6.49)	.096*** (3.49)	-.00026 (-0.84)	-.000012 (-0.08)
City Diversity Score (t=1)	-.15*** (-6.62)	-.11*** (-3.91)	-.15*** (-6.60)	-.11*** (-3.90)	.00061 (1.86)	.00016 (0.87)
City Median Costs of Owning (t=2)	-.39* (-2.12)	-.34* (-2.00)	-.38* (-2.10)	-.34* (-1.98)	-.0029 (-1.60)	.00048 (0.38)
City Median Costs of Owning (t=1)	.41* (2.20)	.36* (2.04)	.41* (2.17)	.35* (2.02)	-.0022 (-0.74)	.00089 (0.74)
City Median Costs of Renting (t=2)	.02 (0.25)	-.13 (-1.26)	.022 (0.29)	-.12 (-1.23)	-.0054* (-2.29)	-.003 (-1.17)
City Median Costs of Renting (t=1)	-.065 (-0.77)	.085 (0.83)	-.068 (-0.80)	.081 (0.79)	.0028 (1.71)	.00065 (0.84)
Log (Household Income)	.0033 (1.65)	-.00085 (-1.34)	.0033 (1.65)	-.00084 (-1.33)	-.000085 (-1.61)	-.000015 (-0.34)
Unemployed	-.0036 (-1.81)	.00057 (0.62)	-.0036 (-1.81)	.0006 (0.64)	9.4e-06 (0.18)	-.000037 (-0.88)
Education Attainment	.0015* (2.41)	.0013*** (3.84)	.0015* (2.42)	.0013*** (3.85)	.000018 (0.75)	-3.7e-06 (-0.24)
% Poverty Level	-.000032*** (-3.46)	-1.4e-06 (-0.52)	-.000032*** (-3.46)	-1.5e-06 (-0.53)	4.9e-07 (1.45)	3.1e-07 (1.06)
Renting Costs	4.5e-06 (1.01)	4.8e-06 (1.84)	4.5e-06 (1.01)	4.8e-06 (1.84)	-.000011 (-1.43)	-.000044 (-1.37)
Owning Costs	-2.9e-06 (-0.77)	-.000044 (-0.28)	-2.9e-06 (-0.77)	-.000044 (-0.28)	.00001 (1.41)	.000048 (1.50)
Own Housing	-.054*** (-6.31)	-.019*** (-6.23)	-.054*** (-6.32)	-.019*** (-6.24)	.000067 (1.26)	-.000054 (-0.84)
Age	-.00068*** (-9.00)	-.00027*** (-4.44)	-.00068*** (-9.01)	-.00027*** (-4.44)	-3.5e-06 (-1.50)	-2.5e-06 (-1.07)
Female	.0025 (1.11)	.0024** (3.20)	.0025 (1.11)	.0024** (3.22)	4.0e-06 (0.13)	-.000025 (-0.66)
Observations	3911127	670439	3911127	670439	115919	14280
Pseudo $R^2$	0.221	0.355	0.221	0.355	0.770	0.849

Notes: Marginal Effects from Probit Model; z statistics in parentheses; standard errors clustered by city and year; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Data from American Community Survey (ACS) 2005-2018 and ICE Declined Detainer Report. Cities are Core-Based Statistical Areas (CBSA) metropolitan areas with population over 50,000 population (Minimum population in this data set is 90,000). Third column is estimated only with people who chose to move hence is only a fraction of the full sample. (t=t) in covariates represent the characteristics of period t city in period 1.

### 5.2.2 2013-2018 (tables 4 and 5)

In this section, I repeat the same analysis from 5.2.1. Tables 4 and 5 tell a slightly different but not unexpected story. In table 4, columns 1 and 2 suggest that being a sanctuary city does not induce people to move in and out like it did in 2008-2012. Individuals are still attracted to more populous cities though neither individual income nor income level of a city affects migration decisions. % non-Citizen in period-1 city decreases one's chances of moving while the same amenity in the period-2 city increases one's chance of moving. In addition, individuals with higher education attainment are still more likely to move, but diversity is no longer attractive for the marginal mover. Surprisingly, given similar unemployment rates between period-1 and period-2 cities, individuals in cities with high unemployment are more likely to move to a city with an equally high unemployment rate.

Column 3, restricted to those who moved in this era, tells us about people's choices on moving to a sanctuary city. The results suggest that people moving from a sanctuary city are now more likely to move to a sanctuary city than before. This could be because there are simply many more sanctuary cities in this era, but it can also be interpreted as reflecting the self-sorting of marginal movers from 2008-2012. We also see that people moving into CA or CT are more likely to move to a sanctuary city, and people moving from CA or CT are less likely to move to a sanctuary city. This effect was seen in table 2 but is much more prominent here. Individuals moving to a city with a low proportion of non-Citizens or moving from a small city to a larger city are more likely to be in a sanctuary city. Interestingly, the relationship between cities' income levels and whether one had moved to a sanctuary city flipped and became stronger compared to the previous era. This dramatic change can likely be attributed to the increase in sanctuary cities in this era [Recall that by 2018, sanctuary cities are generally more populous and have higher median household income]. In fact, other city amenities that were not significant before are significant now; this can be interpreted as a combination of (1)

Changes in how sanctuary cities are valued by marginal movers due to lessened scarcity and (2) The amenities of new sanctuary cities. Unfortunately, there is no obvious way to parse out the two possible causes without a controlled experiment.

Columns 4 and 5 show strengthens the possibility of changes in the value of sanctuary city policies. In this era, individuals in sanctuary cities are much more likely to move to another sanctuary city than a non-sanctuary city. Individuals in CA and CT are more likely to move to a non-sanctuary city while individuals moving to CA or CT are much more likely to move to a sanctuary city than a non-sanctuary city. Individuals in a city with high %non-Citizens are less likely to move to a non-sanctuary city than a sanctuary city while people moving to a city with higher %non-Citizen are more likely to have moved to a non-sanctuary city. Given similar city sizes, individuals moving from small cities to large cities are much more likely to move to a sanctuary city than a non-sanctuary city. Lastly, individuals in less diverse cities are less likely to move to a sanctuary city.

Columns 6 and 7 show individuals' preferences over sanctuary city policy. Interestingly, individuals in a sanctuary city are more likely to move to a non-sanctuary city than to stay or move to another sanctuary city. Similar to 5.2.1, the results here are not contradictory to that of columns 4 and 5 because of the way outcome is determined [See table 14]. Reflective of columns 4 and 5, individuals in CA or CT and moving to CA and CT move to both types of cities according to their preferences; hence the estimates are not significant. Individuals in larger cities are more likely to move to the same sanctuary type than across types, while individuals moving to larger cities are more likely to move across types than within types. If choosing between two cities of the same sizes, one is less likely to move to a city with the same sanctuary type, indicating a preference for types. Consistent with columns 4 and 5, highly educated individuals are more likely to move across types.

Table 4: Individual Migration Decision 2013-2018

Model	Binomial Probit			Multinomial Probit		Multinomial Probit	
Dependent Variable	Moving		Be in Sanctuary	Move to Non-Sanctuary Staying	Move to Sanctuary Staying	Move to same type Staying	Move to different type Staying
Baseline Choice							
Sanctuary (t=1)	.00057 (t=1) (0.25)	-.00028 (t=2) (-0.14)	.83*** (60.96)	-1*** (-9.49)	1.9*** (13.44)	-.028 (-0.26)	.63*** (5.67)
CA or CT (t=1)	.0076 (0.50)	.0081 (0.52)	-.042*** (-9.62)	1.3** (2.63)	-1.2 (-1.78)	.33 (0.63)	.22 (0.40)
CA or CT (t=2)	-.0059 (-0.92)	-.0058 (-0.90)	.6*** (11.42)	-1.5*** (-3.42)	1.3* (2.32)	-.33 (-0.76)	-.43 (-0.83)
City %non-citizen (t=2)	.29** (2.89)	.28** (2.88)	-.2*** (-3.80)	17*** (3.47)	6.5 (1.37)	13** (2.86)	13*** (3.76)
City %non-citizen (t=1)	-.38*** (-3.66)	-.38*** (-3.66)	-.13 (-1.84)	-22*** (-4.09)	-11* (-2.16)	-18*** (-3.67)	-17*** (-4.52)
City Log (Population) (t=2)	.013*** (6.31)	.013*** (6.30)	.062*** (17.48)	.44*** (5.42)	1.2*** (8.73)	.6*** (8.20)	.71*** (6.51)
City Log (Population) (t=1)	-.018*** (-8.26)	-.018*** (-8.22)	-.032*** (-12.31)	-.7*** (-8.45)	-1.3*** (-11.14)	-.85*** (-11.23)	-.92*** (-9.01)
City Log (Median Household Income) (t=2)	-.0038 (-0.14)	-.0037 (-0.13)	.051** (2.78)	-1.4 (-1.04)	1.4 (0.73)	-.31 (-0.22)	.5 (0.47)
City Log (Median Household Income) (t=1)	.0077 (0.27)	.0075 (0.26)	-.12*** (-6.40)	1.8 (1.31)	-1.7 (-0.99)	.52 (0.37)	-.67 (-0.62)
City Unemployment rate (t=2)	.91** (2.89)	.91** (2.88)	-.48* (-2.26)	33** (2.88)	54** (3.10)	43** (3.01)	41** (2.97)
City Unemployment rate (t=2)	-1** (-3.03)	-1** (-3.04)	-1.2*** (-4.52)	-36** (-3.02)	-61*** (-3.46)	-46** (-3.16)	-54*** (-3.95)
City Diversity Score (t=2)	.03 (1.15)	.03 (1.16)	.025 (1.36)	1.1 (0.86)	2.7 (1.87)	1.3 (1.00)	2.1* (2.32)
City Diversity Score (t=1)	-.04 (-1.54)	-.04 (-1.54)	-.0042 (-0.22)	-1.5 (-1.16)	-3.7* (-2.49)	-1.8 (-1.36)	-2.3* (-2.34)
City Median Costs of Owning (t=2)	-.5** (-2.67)	-.5** (-2.67)	.88*** (6.91)	-19* (-2.25)	-19* (-2.26)	-24** (-2.91)	-18* (-2.19)
City Median Costs of Owning (t=1)	.42* (2.03)	.42* (2.04)	-.13 (-0.93)	12 (1.24)	22* (2.44)	20* (2.10)	21* (2.48)
City Median Costs of Renting (t=2)	.15* (2.50)	.15* (2.48)	-.22*** (-3.77)	6.2* (2.48)	3.7 (1.17)	7.5** (2.79)	4.1 (1.52)
City Median Costs of Renting (t=1)	-.16* (-2.46)	-.16* (-2.45)	-.031 (-0.58)	-6.5* (-2.36)	-6.5 (-1.78)	-8.1** (-2.77)	-4.8 (-1.67)
Log (Income)	-.00027 (-1.47)	-.00026 (-1.43)	.0024 (1.46)	-.002 (-0.21)	-.041* (-2.11)	-.014 (-1.55)	-.00045 (-0.03)
Unemployed	.00014 (0.43)	.00014 (0.45)	-.0062* (-2.00)	.016 (0.89)	-.019 (-0.92)	-.008 (-0.53)	.21*** (6.45)
Education Attainment	.00081*** (6.75)	.00082*** (6.77)	.0013 (1.22)	.036*** (7.67)	.053*** (7.17)	.032*** (7.76)	.13*** (14.80)
% Poverty Level	-.000013*** (-7.77)	-.000012*** (-7.73)	4.2e-06 (0.44)	-.00066*** (-9.17)	-.00041*** (-3.68)	-.00062*** (-9.35)	-.00023* (-2.11)
Renting Costs	-3.8e-06 (-1.39)	-3.7e-06 (-1.38)	.000033 (1.69)	-.000078 (-0.69)	-.0018 (-1.42)	-.00019 (-1.38)	-.000086 (-0.69)
Owning Costs	-.000015 (-0.90)	-.000015 (-0.91)	-.000099 (-0.06)	-.00057 (-1.02)	-.0096 (-0.91)	-.00072 (-0.89)	-.0038 (-0.53)
Own Housing	-.021*** (-12.60)	-.021*** (-12.60)	-.0071** (-3.02)	-.79*** (-49.00)	-.64*** (-27.21)	-.76*** (-52.19)	-.65*** (-24.57)
Age	-.00044*** (-12.22)	-.00044*** (-12.21)	-.00024** (-3.13)	-.021*** (-45.66)	-.019*** (-28.78)	-.021*** (-49.90)	-.017*** (-24.38)
Female	-.00031 (-1.58)	-.00031 (-1.56)	-.00017 (-0.10)	-.018 (-1.66)	-.0069 (-0.44)	-.0091 (-0.96)	-.095*** (-4.65)
Observations	6544621	6544621	147404	6544621	6544621	6544621	6544621
Pseudo R-squared	0.211	0.211	0.727				

Notes: Marginal Effects from Probit Model; z statistics in parentheses; standard errors clustered by city and year; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Data from American Community Survey (ACS) 2005-2018 and [ICE Declined Detainer Report](#). Cities are Core-Based Statistical Areas (CBSA) metropolitan areas with population over 50,000 population (Minimum population in this data set is 90,000). Third column is estimated only with people who chose to move hence is only a fraction of the full sample. (t=t) in covariates represent the characteristics of period t city in period 1. The baseline choice for both multinomial Probit models is staying.



In table 5, I estimated columns 1 through 3 of table 4 by whether one is Hispanic or not. The results are largely similar to that of table 2. Interestingly, the diversity of a city only matters to non-Hispanic individuals' moving decisions. Hispanic individuals are more likely to move than non-Hispanic individuals given age and sex but less likely to move given education and household income. In the separate estimation of column 3, Hispanic individuals, when moving, are more likely to move to sanctuary cities than non-Hispanic individuals. Interestingly, just like in 2008-2012, employment in period-2 only affects migration decisions for non-Hispanic individuals. Consistent with the previous era, both private amenities city amenities play equal or lesser roles in the migration decisions of Hispanic individuals than non-Hispanic individuals with the exceptions that (1) Non-Hispanic females are less likely to move than Non-Hispanic males and Hispanic individuals and (2) Non-Hispanic individuals who own their housing are less likely to move than non-Hispanic individuals.

When moving, Hispanic and non-Hispanic individuals are equally more likely to move to sanctuary cities from a sanctuary city than those from non-sanctuary cities. However, Hispanic individuals moving from CA or CT are much less likely to move to a sanctuary city than non-Hispanic individuals. This difference can stem from the wants for disassociation due to the selectively enhanced immigration enforcement in sanctuary cities. Interestingly, the city amenities that were insignificant before are significant in this era. Specifically, these amenities were slightly significant for non-Hispanic individuals and not significant for Hispanic individuals in the previous era; but they have larger magnitudes and higher significance for Hispanic individuals in this era, with the exceptions of diversity and unemployment rate.

Combining the results from tables 2 and 3, we learn the roles of both private and social amenities in migration decisions during 2013-2018. We cannot falsify the interpretation that individuals have preferences over a city's sanctuary status, and we do see individuals on the margin moving to and away from sanctuary cities. We also learned that individuals tend to move to cities that are larger, more diverse, and with more affordable housing at around the

same magnitude as the previous era. This comparison hence supports the interpretation that the value of sanctuary city changes as more cities become sanctuary, and more people learn more about the effect of the policies. Like the previous era, at the individual level, those who move are, on average, younger, less wealthy and tied down [by housing], and have higher education attainment.

Table 5: Column 1, 2, and 3 by Hispanic: 2013-2018

Column from table 4 Dependent Variable	(1)		(2)		(3)	
	Moving		Be in Sanctuary			
Sample	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic	Non-Hispanic	Hispanic
Sanctuary (t=1)	-.00028 (-0.12)	.0028 (1.45)			1*** (4467.84)	1*** (7918.45)
Sanctuary (t=2)			-.0012 (-0.60)	.0022 (1.29)		
CA or CT (t=1)	.018 (0.84)	-.0076 (-1.09)	.018 (0.84)	-.0066 (-0.94)	-.16*** (-13.35)	-.51*** (-10.51)
CA or CT (t=2)	-.0083 (-1.53)	.0052 (0.47)	-.008 (-1.42)	.004 (0.38)	.87*** (26.35)	.86*** (18.52)
City %non-citizen (t=2)	.32** (2.96)	.15* (2.37)	.32** (2.96)	.15* (2.35)	-.26 (-1.42)	.2 (0.38)
City %non-citizen (t=1)	-.41*** (-3.62)	-.2** (-3.02)	-.41*** (-3.61)	-.2** (-3.01)	.02 (0.09)	-.67 (-1.14)
City Log (Population) (t=2)	.013*** (6.60)	.013*** (5.23)	.013*** (6.62)	.013*** (5.19)	.16*** (18.80)	.26*** (11.27)
City Log (Population) (t=1)	-.018*** (-8.80)	-.017*** (-6.35)	-.018*** (-8.79)	-.017*** (-6.30)	-.12*** (-17.29)	-.21*** (-9.96)
City Log (Median Household Income) (t=2)	.0036 (0.13)	-.028 (-1.14)	.0038 (0.13)	-.029 (-1.15)	.24*** (4.55)	.52** (2.87)
City Log (Median Household Income) (t=1)	.00031 (0.01)	.029 (1.19)	-.000036 (-0.00)	.03 (1.20)	-.29*** (-5.04)	-.64*** (-3.58)
City Unemployment rate (t=2)	.86** (2.81)	1.1** (2.97)	.86** (2.80)	1.1** (2.96)	-.6 (-0.72)	.51 (0.19)
City Unemployment rate (t=1)	-.97** (-3.00)	-1.1** (-2.96)	-.97** (-3.01)	-1.1** (-2.96)	-.51 (-0.59)	-1.8 (-0.69)
City Diversity Score (t=2)	.041 (1.60)	-.019 (-0.84)	.041 (1.60)	-.018 (-0.83)	-.004 (-0.07)	-.056 (-0.26)
City Diversity Score (t=1)	-.055* (-2.09)	.013 (0.55)	-.055* (-2.09)	.012 (0.54)	.022 (0.31)	.19 (0.83)
Median Costs of Owning	-.47* (-2.43)	-.51*** (-3.30)	-.46* (-2.43)	-.52*** (-3.32)	1.9*** (4.42)	4.7*** (4.86)
Median Costs of Owning	.36 (1.70)	.55** (3.15)	.36 (1.70)	.55** (3.18)	-1.5** (-3.24)	-4.1*** (-4.13)
Median Costs of Renting	.14* (2.38)	.2** (2.85)	.14* (2.37)	.2** (2.84)	-.17 (-0.96)	-.75 (-1.47)
Median Costs of Renting	-.14* (-2.15)	-.27*** (-3.44)	-.14* (-2.15)	-.27*** (-3.45)	-.044 (-0.23)	.12 (0.24)
Log (Household Income)	.000082 (0.39)	-.0011*** (-4.06)	.000089 (0.42)	-.0011*** (-4.06)	.0033 (1.17)	.029* (2.52)
Unemployed	.000038 (0.10)	-.0003 (-0.64)	.000043 (0.12)	-.00029 (-0.61)	-.0077 (-1.40)	-.031 (-1.64)
Education Attainment	.00071*** (5.86)	.00054*** (3.52)	.00071*** (5.88)	.00055*** (3.55)	-.000073 (-0.05)	-.011* (-2.29)
% Poverty Level	-.000018*** (-8.59)	1.1e-06 (0.66)	-.000018*** (-8.55)	1.1e-06 (0.66)	.000018 (1.09)	-.000027 (-0.46)
Renting Costs	-3.0e-06 (-1.00)	-5.9e-06 (-1.10)	-3.0e-06 (-0.99)	-5.8e-06 (-1.11)	.000014* (2.33)	.000055 (1.52)
Owning Costs	-.000016 (-0.87)	-.0001 (-0.91)	-.000016 (-0.87)	-.0001 (-0.90)	-9.6e-06* (-2.00)	9.2e-06 (0.48)
Own Housing	-.025*** (-13.66)	-.0077*** (-8.41)	-.025*** (-13.63)	-.0078*** (-8.44)	-.0029 (-0.40)	-.0066 (-0.43)
Age	-.00049*** (-13.29)	-.00022*** (-8.26)	-.00049*** (-13.26)	-.00022*** (-8.35)	.000056 (0.36)	.00012 (0.30)
Female	-.00057* (-2.32)	.00016 (0.52)	-.00056* (-2.31)	.00016 (0.53)	.0011 (0.36)	.0077 (0.72)
Observations	5461443	1083178	5461443	1083178	5461443	1083178
Pseudo $R^2$	0.210	0.248	0.210	0.248	0.992	0.996

Notes: Marginal Effects from Probit Model; z statistics in parentheses; standard errors clustered by city and year; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Data from American Community Survey (ACS) 2005-2018 and ICE Declined Detainer Report. Cities are Core-Based Statistical Areas (CBSA) metropolitan areas with population over 50,000 population (Minimum population in this data set is 90,000). Third column is estimated only with people who chose to move hence is only a fraction of the full sample. (t=t) in covariates represent the characteristics of period t city in period 1.

### 5.2.3 Overall Individual-level effect

Overall, we see that individuals reflect their preferences over sanctuary city policies through migration decisions. The direct effect, as described in section 3, is that people on the margins are induced to move to their preferred type of sanctuary status. We learned that individuals with higher income and owns housing are less likely to move, but income has no effect on one's preference over sanctuary status. Also, individuals of higher education attainment are more likely to move, to move to sanctuary, and to move across sanctuary types. We also see that the marginal movers are different in nature between the two eras. Movers from the first era exhibit preferences through being induced to move while movers in the second era exhibit preferences while moving.

For the indirect and dynamic effects, we can expect sanctuary cities to become younger and more educated, which can imply future economic productivity. We would also expect the population growth of sanctuary cities to be slightly higher over time as more people choose to move in than to move out, and higher population attracts more to move in. Also, we know that employment in period-2 has a significant effect on moving though %non-Citizen, a proxy of job competition per Albert (2017), induces one to stay. Hence we could expect decreased unemployment and slightly decreased population since unemployment rate seems to be an attractive factor for migration.

## 5.3 Step 2: Choosing to be sanctuary (Methodology)

In this step, I view each city as an agent who, at any year, chooses to either be sanctuary or otherwise. This allows for a discrete choice framework where cities make these policy decisions based on their anticipated political, economic, and population effects. The discrete choice framework here follows the last section but with different control variables that are informed by theory.

Like equation (1), this general probability can be written as:

$$Pr\{\Omega_{sanc}X_{c,1} + U_{c,1,sanc} > \Omega_{non-sanc}X_{c,1} + U_{c,1,non-sanc}\} \quad (4)$$

where  $c$  represents the city, 1 represents period-1, the subscripts  $_{sanc}$  represents the sanctuary status of a city,  $\Omega_{sanc/non-sanc}$  represents the transformation vector mapping the characteristics to cities' utility for a policy decision.

The vector  $X$  should include characteristics linked to the first-step [section 5.2], presidential voting outcomes that better captures ideological leaning, and sanctuary states. In this step, I included Log(Median Household Income), %Moved from within US, Median Age of the city, % Population with less than high school education, Diversity Score, % Hispanic, Cost of owning housing as a percent of income. Since the majority of sanctuary cities are democrat-majority, I control for political leaning using % voted for Democratic president in the nearest election, and the change in % voted for Democratic president in the nearest election compared to 4 years ago.

I also created **Democratic Leaning [DL]** as a measure between -1 and 1 that is positive if the majority of voters voted for a Democratic president and negative if the majority voted for a Republican president. The magnitude of this measure is the proportion that voted for the majority party's candidate. For example, a very moderate city that voted for 45% democrat and 40% republican would have a DL of 0.45. And a very moderate city that voted for 40% democrat and 45% republican would have a DL of -0.45. In some estimations, I replaced the percent of Democratic votes with DL and the change in % with the change in DL. DL is supposed to be a sanity check for just controlling for democratic votes.

With this model, I should be able to stay rather agnostic but also efficient in choosing characteristics for estimation. However, without failure, cities that chose to become sanctuary never became non-sanctuary. Hence, to ensure robustness, I estimated this two-period

hedonic model with four different sub-samples and interpreted the results collectively. The sub-samples include (1) Full sample (2) Sample of cities that are not sanctuary in period-1 [excluding cities that are already sanctuary] (3) Samples that all eventually become sanctuary and (4) Cities with over 1,000,000 population in 2010.

Another reason to use an agnostic hedonic model rather than a structural model in this step is that it is tricky to determine the mechanisms/information set that agents [cities] use to make the decision on sanctuary city policy. One possible mechanism is that cities make the decisions based on the expected gains informed by other sanctuary cities. Another possible mechanism is that certain levels in a unique combination of factors induce sanctuary city policy. In addition, these mechanisms can be intertwined and hence difficult to parse out.

In each scenario, the hedonic model described above can help us understand the underlying mechanisms. Moreover, my estimation results from the individual-level give insights on the population cities can expect to attract with the policy. For example, individuals with higher levels of education are more likely to move to a sanctuary city; a city can thus anticipate that and choose to become sanctuary to attract highly educated people and potential high-income earners.

## 5.4 Step 2: Choosing to be sanctuary (Results)

Results from the Probit estimations are posted in tables 6, 7, 8, 9 in the order of the sub-samples listed above. Across the four tables, two consistently significant predictors of choosing to be sanctuary for cities outside of CA and CT are the % of Democratic votes and the change in DL. The similar coefficients between % Democratic votes and DL are intuitive while the coefficient for  $\Delta$  DL is negative. Considering the coefficient of  $\Delta$  % Democratic Votes are small and insignificant, the negative coefficient of  $\Delta$  DL should be interpreted as an increase in non-Democratic votes over the past four years. From the individual-level estimation, we

know that individuals present strong preferences over sanctuary status. If the increase in non-Democratic votes induces the enacting of sanctuary policies, one explanation is that the policies were enacted to attract more democratic voters when the cities are attracting more non-Democratic voters. The dual of this is that if a city was attracting and preserving its democratic base without the policy, they did not have the political need for sanctuary city policies.

Outside of political leaning influences, the factors that I believed would be significant turned out to be significant as well. As discussed in section 5.2, cities that are less wealthy, have fewer in-migration, and less educated are more likely to become sanctuary to attract in-migration as those are trade-offs individuals are willing to make for living in a sanctuary city. We also see that cities inside CA and CT with higher % Hispanic population are more likely to become sanctuary. As discussed in section 5.2, the diversity of a city can be seen as a trade-off for marginal movers. Hence, even if cities with higher diversity could be more likely to become sanctuary, cities with higher diversity would also have less need to become sanctuary for growth. This contradiction can then plausibly lead to our results that the Diversity Score of a city does not seem to have much effect regardless of states.

In CA and CT, the more expensive owning a house is, the less likely the city will become sanctuary. One interpretation is that since the barrier of migrant-entry is higher, the policy will be less likely to have enough marginal effects on migration. It is also plausible that cities in CA and CT with higher costs of owning are less willing to attract migrants since housing for natives is already high, and hence would decide against sanctuary city policies. A similar effect of housing costs is reflected in the costs of renting for cities outside of CA and CT. Interestingly, the costs of owning have a positive relationship with the probability of becoming a sanctuary city in sub-samples 1 and 4 but not 2 and 3. One interpretation of this is that owning costs in these sanctuary cities are on-average higher than non-sanctuary cities. The spurious significance that appeared is likely due to differences in levels.

Table 6: Probit: City's choice with full sample

Dependent Variable: Being Sanctuary Next Year

Sample Clustering	Not CA or CT				CA and CT			
	City-Year		State-Year		City-Year		State-Year	
%Democrat	.0045*** (3.31)		.0045** (3.19)		-.012 (-0.83)		-.012 (-0.89)	
$\Delta$ %Democrat	-.0033 (-1.60)		-.0033 (-1.64)		.073* (2.25)		.073* (2.14)	
Democratic Leaning		.03* (2.04)		.03 (1.91)		.067 (0.23)		.067 (0.36)
$\Delta$ Democratic Leaning		-.054** (-2.67)		-.054** (-2.60)		.21 (0.62)		.21 (0.81)
Log(Population)	.043** (3.22)	.057*** (3.77)	.043** (3.07)	.057*** (3.55)	.12 (1.54)	.17 (1.94)	.12* (2.32)	.17** (3.26)
Log (Median Household Income)	-.21*** (-3.41)	-.26*** (-4.02)	-.21** (-3.27)	-.26*** (-3.83)	-.51 (-1.03)	-.12 (-0.30)	-.51 (-1.13)	-.12 (-0.31)
% Moved from within US	-.0007 (-0.38)	-.0044 (-1.82)	-.0007 (-0.40)	-.0044 (-1.80)	-.064* (-2.13)	-.048 (-1.52)	-.064 (-1.45)	-.048* (-1.99)
% Education $\leq$ High School	-.28* (-2.15)	-.84*** (-3.46)	-.28* (-2.13)	-.84*** (-3.30)	-8.7*** (-5.09)	-7.9*** (-3.80)	-8.7*** (-4.69)	-7.9*** (-4.49)
Diversity Score	-.00073 (-1.55)	-.00029 (-0.53)	-.00073 (-1.55)	-.00029 (-0.55)	.0076 (1.04)	-.00056 (-0.05)	.0076 (0.88)	-.00056 (-0.07)
% Hispanic	-.06 (-1.41)	-.0066 (-0.12)	-.06 (-1.34)	-.0066 (-0.13)	4.4*** (4.27)	5.2*** (4.65)	4.4*** (3.81)	5.2*** (5.20)
Median cost of owning	1.4* (2.47)	2.2** (3.14)	1.4* (2.52)	2.2** (3.13)	-42*** (-4.25)	-51*** (-4.57)	-42** (-2.64)	-51*** (-4.08)
% Housing Owned	-.82 (-1.74)	-1.5* (-2.52)	-.82 (-1.71)	-1.5* (-2.39)	-.52 (-0.09)	3 (0.41)	-.52 (-0.10)	3 (0.43)
Median cost of renting	-1.5*** (-3.29)	-1.5*** (-3.59)	-1.5*** (-3.31)	-1.5*** (-3.63)	-3.4 (-0.99)	-2.4 (-0.58)	-3.4 (-1.38)	-2.4 (-0.81)
% Housing Rented	-1.1* (-2.06)	-2.1** (-2.90)	-1.1 (-1.95)	-2.1** (-2.67)	-4.6 (-0.72)	-1 (-0.13)	-4.6 (-0.82)	-1 (-0.15)
Observations	2130	2130	2130	2130	339	339	339	339
Pseudo $R^2$	0.630	0.598	0.630	0.598	0.876	0.867	0.876	0.867

Notes: Marginal effects; z-statistics in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; Data from American community survey 2005-2018 and ICE detainer report 2017. Democratic Leaning is measured by the proportion of voters voted for a Democrat president in the nearest election provided that is the majority outcome. If the majority votes are Republican, the value is the negative of proportion of votes the Republican candidate received.  $\Delta$  for %Democrat and Democratic Leaning are changes compared to four years ago. Diversity Score is calculated as  $100 \times (1 - \sum_{race} (\frac{Population_{race}}{Population})^2)$ . Cost of Owning measured by the total cost of owning as a percentage of household income.



Table 7: Probit: City's choice with only cities that are not sanctuary in the year before  
Dependent Variable: Being Sanctuary Next Year

Sample Clustering	Not CA or CT				CA and CT			
	City-Year		State-Year		City-Year		State-Year	
%Democrat	.014 (1.40)		.014 (1.40)		-.0062 (-0.79)		-.0062 (-1.84)	
$\Delta$ %Democrat	-.012 (-1.02)		-.012 (-1.02)		.039* (1.97)		.039 (1.31)	
Democratic Leaning		.084 (1.07)		.084 (1.05)		.034 (0.33)		.034 (0.61)
$\Delta$ Democratic Leaning		-.15 (-1.09)		-.15 (-1.11)		.068 (0.54)		.068 (0.67)
Log(Population)	-.041 (-0.94)	-.059 (-1.04)	-.041 (-0.97)	-.059 (-1.03)	.066 (1.32)	.064 (1.47)	.066 (1.31)	.064 (1.32)
Log (Median Household Income)	-.66 (-1.69)	-.96 (-1.83)	-.66 (-1.69)	-.96 (-1.82)	-.27 (-0.98)	-.039 (-0.25)	-.27 (-0.71)	-.039 (-0.23)
% Moved from within US	-.024 (-1.27)	-.038 (-1.51)	-.024 (-1.32)	-.038 (-1.54)	-.034* (-2.12)	-.017 (-1.23)	-.034 (-1.91)	-.017 (-1.39)
% Education $\leq$ High School	.27 (0.35)	-1.6 (-1.60)	.27 (0.35)	-1.6 (-1.57)	-4.7** (-2.65)	-2.9 (-1.78)	-4.7 (-1.55)	-2.9 (-1.11)
Diversity Score	-.00032 (-0.18)	.0026 (1.01)	-.00032 (-0.18)	.0026 (1.04)	.0039 (0.93)	-.00032 (-0.08)	.0039 (1.20)	-.00032 (-0.12)
% Hispanic	.3 (0.77)	.59 (1.03)	.3 (0.79)	.59 (1.04)	2.3** (2.72)	1.9* (2.20)	2.3 (1.60)	1.9 (1.36)
Median cost of owning	.87 (0.56)	4.8 (1.48)	.87 (0.56)	4.8 (1.49)	-22** (-3.12)	-19** (-2.66)	-22* (-2.06)	-19 (-1.65)
% Housing Owned	7.5 (1.35)	6.9 (1.30)	7.5 (1.37)	6.9 (1.33)	-.37 (-0.11)	.99 (0.36)	-.37 (-0.13)	.99 (0.43)
Median cost of renting	-2.2 (-1.23)	-2.1 (-1.20)	-2.2 (-1.24)	-2.1 (-1.21)	-1.8 (-0.84)	-.88 (-0.51)	-1.8 (-0.88)	-.88 (-0.63)
% Housing Rented	7 (1.29)	5.1 (1.07)	7 (1.31)	5.1 (1.11)	-2.5 (-0.77)	-.5 (-0.17)	-2.5 (-0.78)	-.5 (-0.18)
Observations	180	180	180	180	252	252	252	252
Pseudo $R^2$	0.692	0.654	0.692	0.654	0.826	0.814	0.826	0.814

Notes: Marginal effects; z-statistics in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; Data from American community survey 2005-2018 and ICE detainer report 2017. Democratic Leaning is measured by the proportion of voters voted for a Democrat president in the nearest election provided that is the majority outcome. If the majority votes are Republican, the value is the negative of proportion of votes the Republican candidate received.  $\Delta$  for %Democrat and Democratic Leaning are changes compared to four years ago. Diversity Score is calculated as  $100 \times (1 - \sum_{race} (\frac{Population_{race}}{Population})^2)$ . Cost of Owning measured by the total cost of owning as a percentage of household income.

Table 8: Probit: City's choice with only cities that eventually become sanctuary  
Dependent Variable: Being Sanctuary Next Year

Sample Clustering	Not CA or CT				CA and CT			
	City-Year		State-Year		City-Year		State-Year	
%Democrat	.075*** (3.37)		.075*** (3.42)		-.12** (-2.62)		-.12 (-1.80)	
$\Delta$ %Democrat	-.063 (-1.61)		-.063 (-1.58)		-.0098 (-0.18)		-.0098 (-0.33)	
Democratic Leaning		.33 (1.62)		.33 (1.55)		-3.9* (-2.06)		-3.9* (-1.97)
$\Delta$ Democratic Leaning		-.57 (-1.82)		-.57 (-1.90)		-.61 (-1.42)		-.61 (-1.25)
Log(Population)	-.25 (-1.37)	-.26 (-1.40)	-.25 (-1.43)	-.26 (-1.37)	.51** (3.19)	.59* (2.37)	.51*** (3.49)	.59* (2.11)
Log (Median Household Income)	-3.7*** (-4.30)	-3.9*** (-5.44)	-3.7*** (-4.55)	-3.9*** (-5.80)	1.1 (1.68)	.72 (1.41)	1.1 (1.58)	.72 (1.11)
% Moved from within US	-.14** (-2.60)	-.16*** (-3.37)	-.14** (-2.73)	-.16*** (-3.41)	-.16* (-2.00)	-.15 (-1.85)	-.16 (-1.43)	-.15 (-1.40)
% Education $\leq$ High School	1.1 (0.28)	-6.8* (-2.42)	1.1 (0.28)	-6.8* (-2.29)	-8.8 (-1.82)	9 (1.61)	-8.8 (-1.47)	9 (1.56)
Diversity Score	-.001 (-0.11)	.01 (1.25)	-.001 (-0.11)	.01 (1.33)	.07** (2.70)	.082* (2.04)	.07* (2.33)	.082* (2.33)
% Hispanic	1.8 (1.04)	2.5 (1.45)	1.8 (1.06)	2.5 (1.45)	.97 (0.42)	-2.5 (-1.24)	.97 (0.52)	-2.5 (-1.52)
Median cost of owning	5.5 (0.65)	19* (2.51)	5.5 (0.66)	19** (2.71)	-54*** (-3.45)	-58* (-2.10)	-54* (-2.46)	-58 (-1.61)
% Housing Owned	41** (3.26)	28* (2.50)	41** (3.27)	28* (2.55)	-11 (-0.34)	35 (1.44)	-11 (-0.34)	35 (1.17)
Median cost of renting	-13* (-2.02)	-9 (-1.85)	-13* (-2.06)	-9 (-1.83)	-.45 (-0.08)	-2.8 (-0.72)	-.45 (-0.16)	-2.8 (-0.63)
% Housing Rented	38** (2.80)	21 (1.70)	38** (2.82)	21 (1.75)	-17 (-0.54)	25 (1.20)	-17 (-0.56)	25 (0.97)
Observations	240	240	240	240	120	120	120	120
Pseudo $R^2$	0.790	0.763	0.790	0.763	0.915	0.925	0.915	0.925

Notes: Marginal effects; z-statistics in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; Data from American community survey 2005-2018 and ICE detainer report 2017. Democratic Leaning is measured by the proportion of voters voted for a Democrat president in the nearest election provided that is the majority outcome. If the majority votes are Republican, the value is the negative of proportion of votes the Republican candidate received.  $\Delta$  for %Democrat and Democratic Leaning are changes compared to four years ago. Diversity Score is calculated as  $100 \times (1 - \sum_{race} (\frac{Population_{race}}{Population})^2)$ . Cost of Owning measured by the total cost of owning as a percentage of household income.

Table 9: Probit: City's choice with only cities with 1,000,000+ population in 2010  
Dependent Variable: Being Sanctuary Next Year

Sample Clustering	Not CA or CT				CA and CT			
	City-Year		State-Year		City-Year		State-Year	
%Democrat	.014*** (3.57)		.014*** (3.45)		.24 (1.78)		.24 (1.61)	
$\Delta$ %Democrat	-.01 (-1.31)		-.01 (-1.29)		-.29 (-1.95)		-.29 (-1.75)	
Democratic Leaning		.043 (0.86)		.043 (0.79)		32 (0.57)		32 (0.50)
$\Delta$ Democratic Leaning		-.088 (-1.62)		-.088 (-1.57)		1 (0.79)		1 (0.66)
Log(Population)	.067 (1.84)	.085* (2.15)	.067 (1.72)	.085* (1.99)	-2.5 (-1.49)	-1.9 (-0.58)	-2.5 (-1.33)	-1.9 (-0.50)
Log (Median Household Income)	-.69*** (-4.11)	-.74*** (-4.34)	-.69*** (-4.09)	-.74*** (-4.36)	12 (1.64)	9.2 (0.56)	12 (1.47)	9.2 (0.48)
% Moved from within US	-.0089 (-1.11)	-.02* (-2.28)	-.0089 (-1.13)	-.02* (-2.24)	.16 (0.50)	.59 (0.51)	.16 (0.45)	.59 (0.45)
% Education $\leq$ High School	-1.5** (-2.75)	-3.3*** (-4.16)	-1.5** (-2.75)	-3.3*** (-3.99)	86 (1.64)	65 (0.57)	86 (1.47)	65 (0.50)
Diversity Score	-.00086 (-0.52)	.0006 (0.34)	-.00086 (-0.53)	.0006 (0.36)	-.6 (-1.66)	-.62 (-0.57)	-.6 (-1.50)	-.62 (-0.49)
% Hispanic	.17 (0.96)	.23 (1.10)	.17 (0.94)	.23 (1.11)	19 (1.64)	20 (0.70)	19 (1.47)	20 (0.60)
Median cost of owning	5.6** (2.85)	7.6*** (3.50)	5.6** (2.92)	7.6*** (3.54)	-404 (-1.64)	-339 (-0.57)	-404 (-1.47)	-339 (-0.50)
% Housing Owned	-3.4 (-1.43)	-3.9 (-1.58)	-3.4 (-1.42)	-3.9 (-1.56)	283 (1.64)	259 (0.58)	283 (1.47)	259 (0.50)
Median cost of renting	-5.6*** (-3.71)	-4.7*** (-3.63)	-5.6*** (-3.63)	-4.7*** (-3.57)	-94 (-1.64)	-68 (-0.57)	-94 (-1.47)	-68 (-0.50)
% Housing Rented	-4.6 (-1.80)	-5.9* (-2.11)	-4.6 (-1.79)	-5.9* (-2.09)	387 (1.64)	340 (0.57)	387 (1.47)	340 (0.50)
Observations	487	487	487	487	84	84	84	84
Pseudo $R^2$	0.651	0.625	0.651	0.625	1.000	1.000	1.000	1.000

Notes: Marginal effects; z-statistics in parentheses; \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; Data from American community survey 2005-2018 and ICE detainer report 2017. Democratic Leaning is measured by the proportion of voters voted for a Democrat president in the nearest election provided that is the majority outcome. If the majority votes are Republican, the value is the negative of proportion of votes the Republican candidate received.  $\Delta$  for %Democrat and Democratic Leaning are changes compared to four years ago. Diversity Score is calculated as  $100 \times (1 - \sum_{race} (\frac{Population_{race}}{Population})^2)$ . Cost of Owning measured by the total cost of owning as a percentage of household income.

## 5.5 Step 3: Dynamic Effects (Methodology)

In this final step, I conducted an event history analysis on sanctuary city policies. I utilize a fixed effect model on the panel of cities to tease out the dynamic effect on population growth, in-migration, and diversity. The fixed effect model is estimated as the following:

$$\begin{aligned}
 Y_{c,t+1} = & \beta_{sanc} \{ [\text{Becoming sanctuary Year}_{c,t} + \text{First full sanctuary year}_{c,t} \\
 & + 1^+ \text{Sanctuary Year}_{c,t}] \times \mathbb{1}\{\text{CA or CT}_c\} \} \\
 & + \gamma X_{c,t} + u_{c,t}
 \end{aligned} \tag{5}$$

where  $\beta_{sanc}$  is a vector with estimates of the short- and long- term effects of sanctuary city policies inside and outside of CA and CT on next-year outcome  $Y$ .  $X_{c,t}$  is a vector of controls that include income, diversity, unemployment rate, % owned housing, poverty rate with city-year fixed-effects. In addition to the straight forward fixed effects, I conduct fixed-effect estimation using sub-samples of: (1) Cities that eventually become sanctuary (2) Top 30 largest sanctuary and non-sanctuary cities There are 30 total sanctuary cities by 2017, and (3) Cities matched using **income, population size, and diversity score** in 2005 and 2006 since the first sanctuary policy was enacted in 2008. Also, I made similar estimations at the CPUMA level with both city-level and CPUMA level fixed-effects over the samples listed above.

The outcomes of interests are (1) Population growth, (2) Diversity, and (3) In-migration. I separated population growth into non-Hispanic and Hispanic population growth and captured them using the first difference in  $\text{Log}(\text{Population})$  between years  $t+1$  and  $t$ . For Diversity Score and In-migration, the outcomes are future  $[t+1]$  Diversity Score and In-migration, captured by % Moved from within US.

## 5.6 Step 3: Dynamic Effects (Results)

In table 10, we can see that sanctuary city policies have a positive effect on non-Hispanic population growth in the full sample but have little to null effect on Hispanic population growth in cities outside of CA and CT. Both effects are negative but small and insignificant in cities in CA and CT. Moreover, sanctuary city policies seem to have a positive and significant effect on city diversity and long-term in-migration in cities outside of CA and CT. However, the effects are in the opposite direction for cities inside CA and CT, with the effects on Diversity is between negative and somewhat inconclusive. Notably, the negative effects in-migration in cities in CA and CT are both short- and long-term. On average, after a city in CA or CT becomes sanctuary, its in-migration decreased by around 1.5 to 2.5 percentage points.

Combining the results from in-migration and growth, one possible interpretation is that for sanctuary cities in CA and CT, fewer people are moving in, but fewer people are moving out, leading to no significant difference in population growth. For cities outside of CA and CT, the small increase in growth is only short-term, while the increase in in-migration is long-term. This is likely due to the self-sorting of people into and out of sanctuary cities at different times with different value-added to the sanctuary status. To clear up this picture, I estimated the same equations at the CPUMA level in table 11.

Table 10: Dynamic Effects of having a full year of sanctuary city policy on population growth, diversity, and population inflow by CBSA

Samples	All Cities	Sanctuary Cities	Top30 Cities	Match 2005	Match 2006	All Cities	Sanctuary Cities	Top30 Cities	Match 2005	Match 2006
Fixed Effect	City-Year Fixed-Effects									
Dependent Variable:	Non-Hispanic Population Growth (%)					Hispanic Population Growth (%)				
Outside of CA and CT										
Becoming Sanctuary	.22* (1.97)	.019 (0.21)	.36 (1.34)	.18 (0.62)	-.01 (-0.03)	-.68 (-0.67)	-.078 (-0.12)	1.1 (1.30)	.068 (0.05)	1.7 (1.52)
First Full Year	.27* (2.01)	.12 (1.01)	.42 (1.55)	-.16 (-0.56)	.17 (0.73)	.7 (0.78)	.33 (0.36)	.86 (0.73)	1.9 (1.31)	.19 (0.14)
1+ Year	.07 (0.64)	-.028 (-0.18)	.25 (1.00)	-.026 (-0.11)	.006 (0.02)	1.2 (1.47)	1.2 (1.07)	1.7 (1.74)	1.6 (1.32)	1.2 (1.02)
CA and CT										
Becoming Sanctuary	.034 (0.25)	-.072 (-0.40)	.13 (0.41)	-.44 (-0.96)	-.41 (-1.37)	-1.4 (-1.10)	1.2 (1.26)	1.2 (1.04)	1.9 (1.34)	-.013 (-0.01)
First Full Year	-.22 (-1.31)	.042 (0.22)	.23 (0.73)	-.73 (-1.72)	-.34 (-1.22)	-.28 (-0.29)	.18 (0.17)	-1 (-0.72)	2.3 (1.73)	.77 (0.57)
1+ Year	-.067 (-0.51)	-.12 (-0.63)	.026 (0.10)	-.19 (-0.44)	-.2 (-0.76)	.18 (0.21)	1 (0.84)	-.0052 (-0.00)	1.9 (1.42)	1.9 (1.47)
Dependent Variable:	Diversity Score					% Moved from within US				
Outside of CA and CT										
Becoming Sanctuary	1.2*** (4.06)	.29 (0.63)	1.4*** (4.00)	.94 (1.88)	.41 (0.68)	.34 (1.39)	.57 (1.72)	.48 (1.53)	-.68 (-1.67)	-.74 (-1.38)
First Full Year	1.1** (2.98)	.31 (0.40)	1.4** (3.20)	.074 (0.14)	-1.2 (-1.65)	.12 (0.62)	.63* (2.08)	.47 (1.54)	-.56 (-1.49)	-.85 (-1.81)
1+ Year	1.5*** (5.23)	.53 (0.72)	1.7*** (4.60)	.68 (1.42)	.016 (0.03)	.83*** (4.71)	1.4*** (4.29)	.89*** (3.72)	-.032 (-0.11)	-.18 (-0.45)
CA and CT										
Becoming Sanctuary	.52 (0.70)	-.61 (-0.89)	1.2 (1.89)	-2.5 (-1.67)	-4.2** (-2.67)	-1.2** (-3.19)	-.33 (-0.77)	-.59 (-1.37)	-2.7*** (-3.83)	-2.5** (-2.97)
First Full Year	1.3 (1.70)	-.49 (-0.47)	1 (1.57)	-2.4* (-2.35)	-3.5** (-3.11)	-1.6*** (-5.54)	-.087 (-0.23)	-.78* (-2.04)	-1.6*** (-4.19)	-1.4* (-2.17)
1+ Year	1.7* (2.42)	-.42 (-0.47)	1.5* (2.56)	-2.1 (-1.69)	-3.4* (-2.50)	-1.4*** (-4.78)	-.17 (-0.33)	-1.1* (-2.50)	-2.4** (-3.28)	-2.3** (-3.31)
Observations	3217	390	635	429	396	3217	390	635	429	396

Notes: t-statistics computed using robust standard errors (reported in paranthesis); \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Data from American Community Survey (ACS) 2005-2018. Cities are Core-Based Statistical Areas (CBSA) metropolitan areas with population over 50,000 population (Minimum population in this data set is 90,000). Sanctuary Status collected from **ICE Declined Detainer Report**. Controlled variables are Log(Median Household Income), Unemployment rate, %Education  $\leq$  Highschool, %Housing Rented, %Housing Owned, Median Costs of Housing, %Below 100% Poverty Level, and %Population between 100% and 200% poverty level.

In table 11, I confirm the some of the results from 10. For CPUMAs in CA and CT, the effects of sanctuary city policies are positive in terms of increasing diversity and in-migration. % Moved from within US increased after these CPUMAs became sanctuary, which provides a clearer picture. Moreover, the coefficients on Diversity Scores are positive and significant on both the MSA and CPUMA level. This means that not only did the diversity in these sanctuary cities increase, the racial segregation in these cities also decreased [if the diversity increased at the city-level and not CPUMA-level, it would mean the cities are becoming more diverse, but the diversity is concentrated in specific areas, meaning more segregation].

On the other hand, for CPUMAs in CA and CT, the effect on diversity is inconclusive, and the effect on in-migration is negative and significant. The interpretation of the effect on diversity is that the policy did not induce any racial redistribution within the city and likely had little to null effect on the diversity of the city in general. The coefficients on in-migration are smaller but directionally consistent with the city-level estimates, which reaffirm the interpretation that sanctuary policies have negative and significant effects on in-migration for cities in CA and CT.

Table 11: Dynamic Effects of having a full year of sanctuary city policy on population growth, diversity, and population inflow by CPUMA

Dependent Variable:		Diversity Score				% Moved from within US				
Samples	All Cities	Sanctuary Cities	Top30 Cities	Match 2005	Match 2006	All Cities	Treated Cities	Top30 Cities	Match 2005	Match 2006
Fixed-Effects										
City-Year fixed-effect										
Outside of CA and CT										
Becoming Sanctuary	1.1 (1.38)	.058 (0.06)	.63 (0.73)	.9 (0.78)	1.1 (0.95)	.43* (2.46)	.39 (1.80)	.36 (1.91)	.38 (1.28)	.39 (1.41)
First Full Year	1.4 (1.63)	-.026 (-0.02)	.86 (0.90)	1.3 (0.98)	1.5 (1.22)	.19 (0.98)	.18 (0.68)	.079 (0.36)	-.16 (-0.52)	.4 (1.28)
1+ Year	1.1 (1.88)	-.81 (-0.68)	.29 (0.34)	.62 (0.61)	.7 (0.69)	.55*** (3.89)	.36 (1.27)	.29 (1.40)	.76** (2.99)	1.1*** (3.84)
CA and CT										
Becoming Sanctuary	.71 (0.69)	-.85 (-0.59)	.47 (0.35)	-.25 (-0.13)	-.45 (-0.21)	-1.1*** (-4.57)	-1** (-2.90)	-1.1*** (-3.78)	-.97* (-2.12)	-.81 (-1.70)
First Full Year	1.5 (1.43)	-.44 (-0.28)	.97 (0.69)	1.2 (0.62)	.33 (0.14)	-1.4*** (-5.97)	-1.4*** (-3.52)	-1.6*** (-5.08)	-2*** (-4.60)	-1.6*** (-3.38)
1+ Year	1.7* (2.15)	-.52 (-0.37)	.95 (0.85)	1.3 (0.87)	-.25 (-0.15)	-.96*** (-4.88)	-1.2*** (-3.37)	-1.3*** (-4.68)	-.57 (-1.54)	-.92* (-2.25)
Fixed-Effects										
CPUMA-Year fixed-effect										
Outside of CA and CT										
Becoming Sanctuary	.95*** (4.18)	.078 (0.33)	.48 (2.00)	.91 (1.93)	1.1*** (3.75)	.34* (2.18)	.33** (2.72)	.29* (2.29)	.29 (0.86)	.31 (0.96)
First Full Year	1.1** (2.91)	-.15 (-0.40)	.5 (1.18)	1.1* (2.10)	1.5*** (3.72)	.098 (0.61)	.11 (0.49)	-.0071 (-0.04)	-.21 (-0.74)	.3 (0.85)
1+ Year	.93* (2.44)	-.79 (-1.53)	.027 (0.05)	.92 (1.36)	.88 (1.90)	.52** (3.12)	.34 (1.15)	.22 (1.07)	.79* (2.12)	1.1* (2.38)
CA and CT										
Becoming Sanctuary	.35 (0.63)	-.92 (-1.90)	-.085 (-0.14)	.31 (0.29)	-.12 (-0.19)	-1.2*** (-5.34)	-1.1*** (-3.96)	-1.2*** (-4.85)	-.85 (-1.67)	-.79 (-1.49)
First Full Year	.87 (1.36)	-.82 (-1.24)	.2 (0.27)	1.1 (0.96)	.11 (0.13)	-1.5*** (-7.06)	-1.4*** (-4.79)	-1.7*** (-6.80)	-1.9*** (-5.99)	-1.7*** (-4.21)
1+ Year	.8 (1.19)	-1.4 (-1.89)	-.24 (-0.31)	.35 (0.29)	-1 (-1.58)	-1.1** (-2.88)	-1.2* (-2.37)	-1.4** (-2.89)	-.56 (-1.06)	-.95 (-1.62)
Observations	11810	5530	6143	5447	5028	11810	5530	6143	5447	5028

Notes: t-statistics computed using robust standard errors (reported in paranthesis); \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Data from American Community Survey (ACS) 2005-2018). Unit of analysis is Constant PUMA 2010 as defined by IPUMS. Sanctuary Status collected from [ICE Declined Detainer Report](#). Controlled variables are Log(Median Household Income), Unemployment rate, %Education  $\leq$  Highschool, %Housing Rented, %Housing Owned, Median Costs of Housing, %Below 100% Poverty Level, %Population between 100% and 200% poverty level, number of PUMAs in the CPUMA.



## 6 Concluding Remarks

Sanctuary city policies will continue to be a heated topic for political discussions in the US for the foreseeable future. Yet, at the time of writing this paper [2020], both presidential candidates have supplied minimal empirical evidence for their position on immigration policies. This paper provides analysis and evidence that the immigration issue is as political as any other issue, and the effect of immigration laws extends beyond race and ethnicity. I conclude that people in the US show a strong preference for sanctuary city policies. At its start, preferences for the sanctuary status is strong enough to induce migration. After many cities became sanctuary, the preferences exhibited not through induced migration but through the preference of cities' statuses upon migration. I also showed that sanctuary statuses are a type of social amenities for which individuals can make trade-offs in amenities like job opportunities, cities' income levels, etc.

In the hedonic model of cities' choices, I discovered that cities lacking in the trade-offs found in the individual step are more likely to become sanctuary. This potentially simplifies the framework for future research on local policy decisions and provides a way to model city decisions not through aggregating people but through an agent-based framework. The differences between cities in CA and CT and cities outside of CA and CT imply that policy studies need to be cautious about localized differences at the policy level. If the estimations in this paper were done without separating CA and CT, the effects would likely be canceled out and show very little of the true effect.

One element this paper lacks is the effect of the policy on crime and how crime affects migration. While exploring this aspect, I realized that the only way to properly do so is through the proprietary data set National Crime Victimization Survey. Future researchers should look into incorporating that part and go through these three steps of analysis to have an encompassing study of the sanctuary city policy.

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Appendix: Data Tables

Figure 1: Progression of Metropolitan Political Leaning by State for **Never-Sanctuary** Cities

Source: American Community Survey 2005-2018; ICE detainer report 2017; MIT Election Data and Science Lab

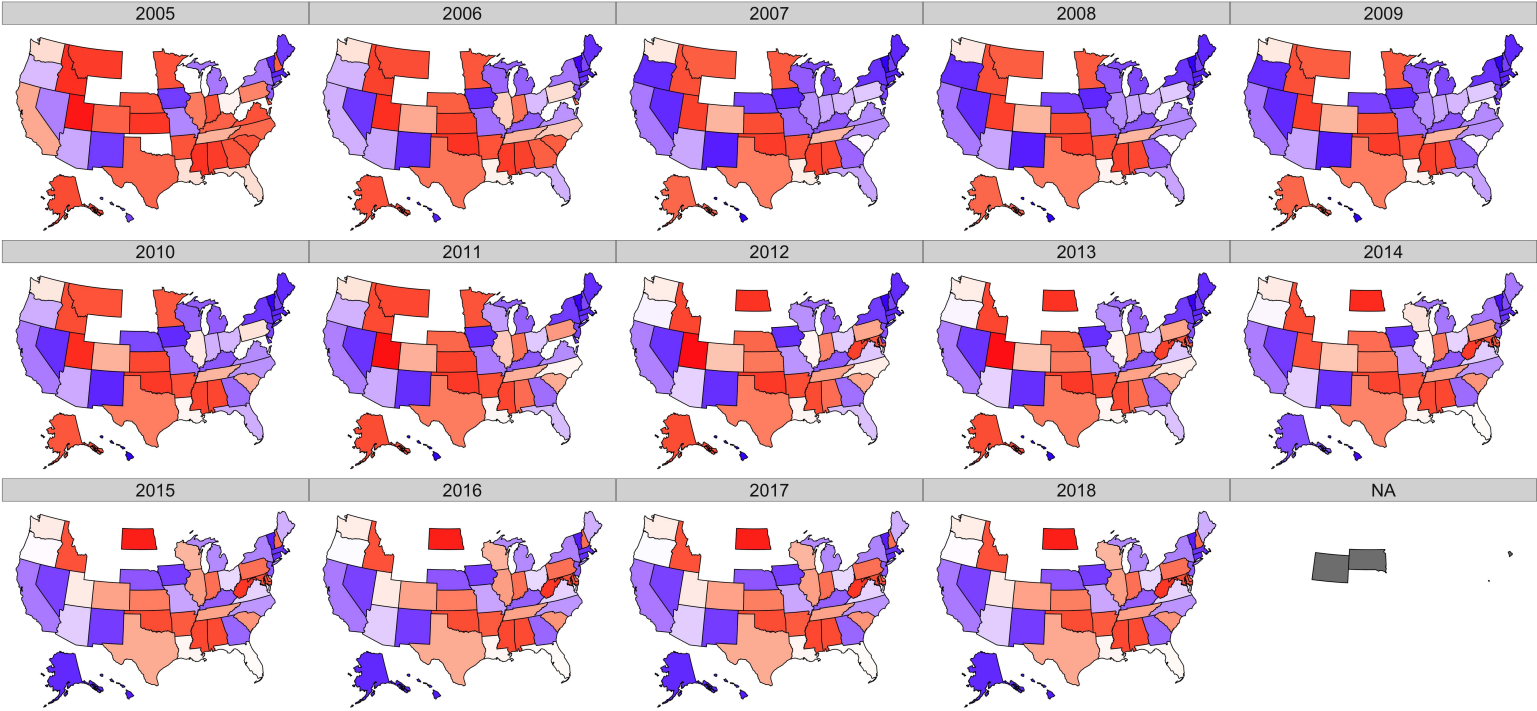


Figure 2: Progression of Metropolitan Political Leaning by State for **Eventual-Sanctuary** Cities

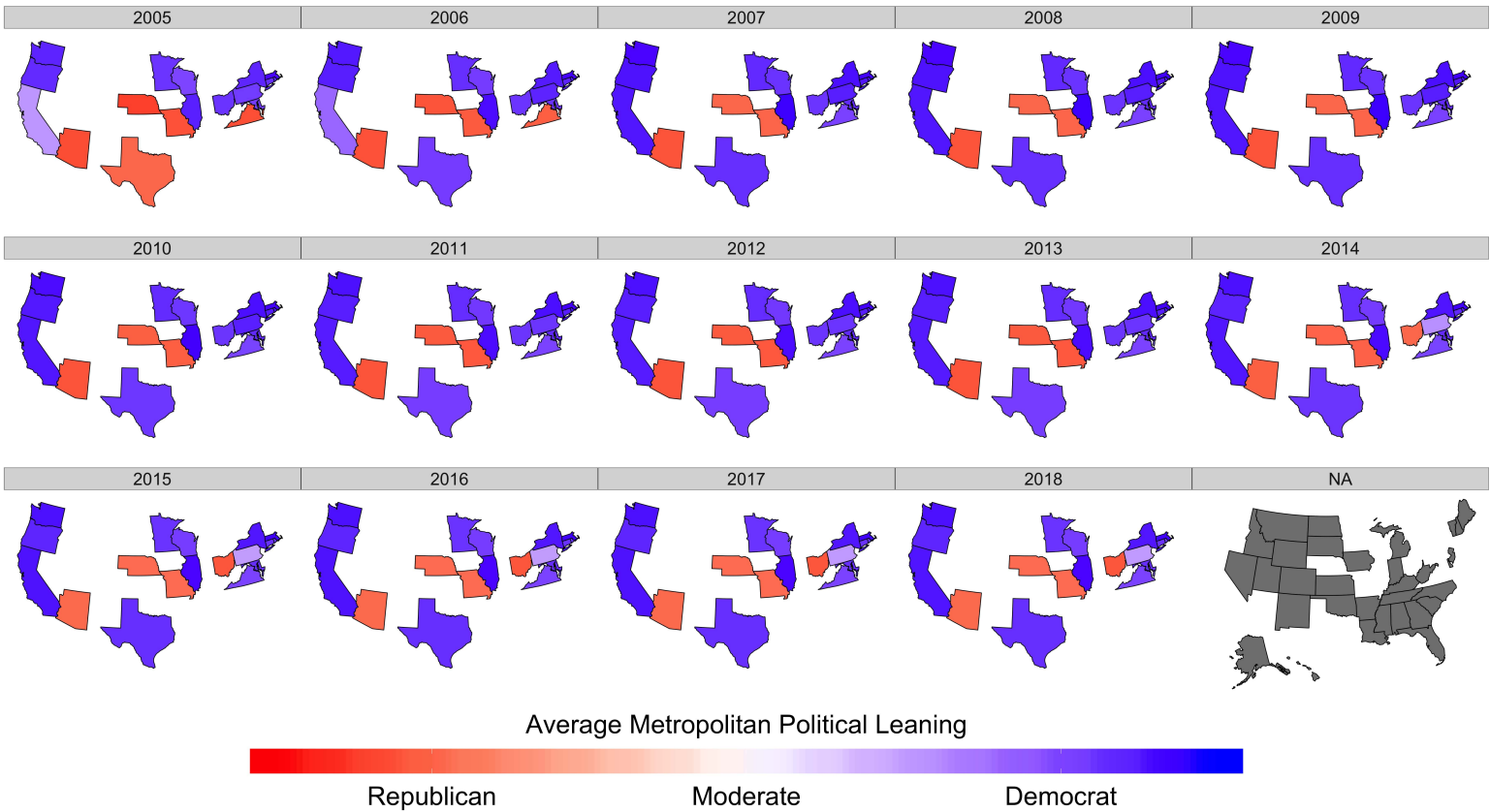


Figure 3: Progression of Sanctuary Cities (Each PUMA has 100,000 to 200,000 people)

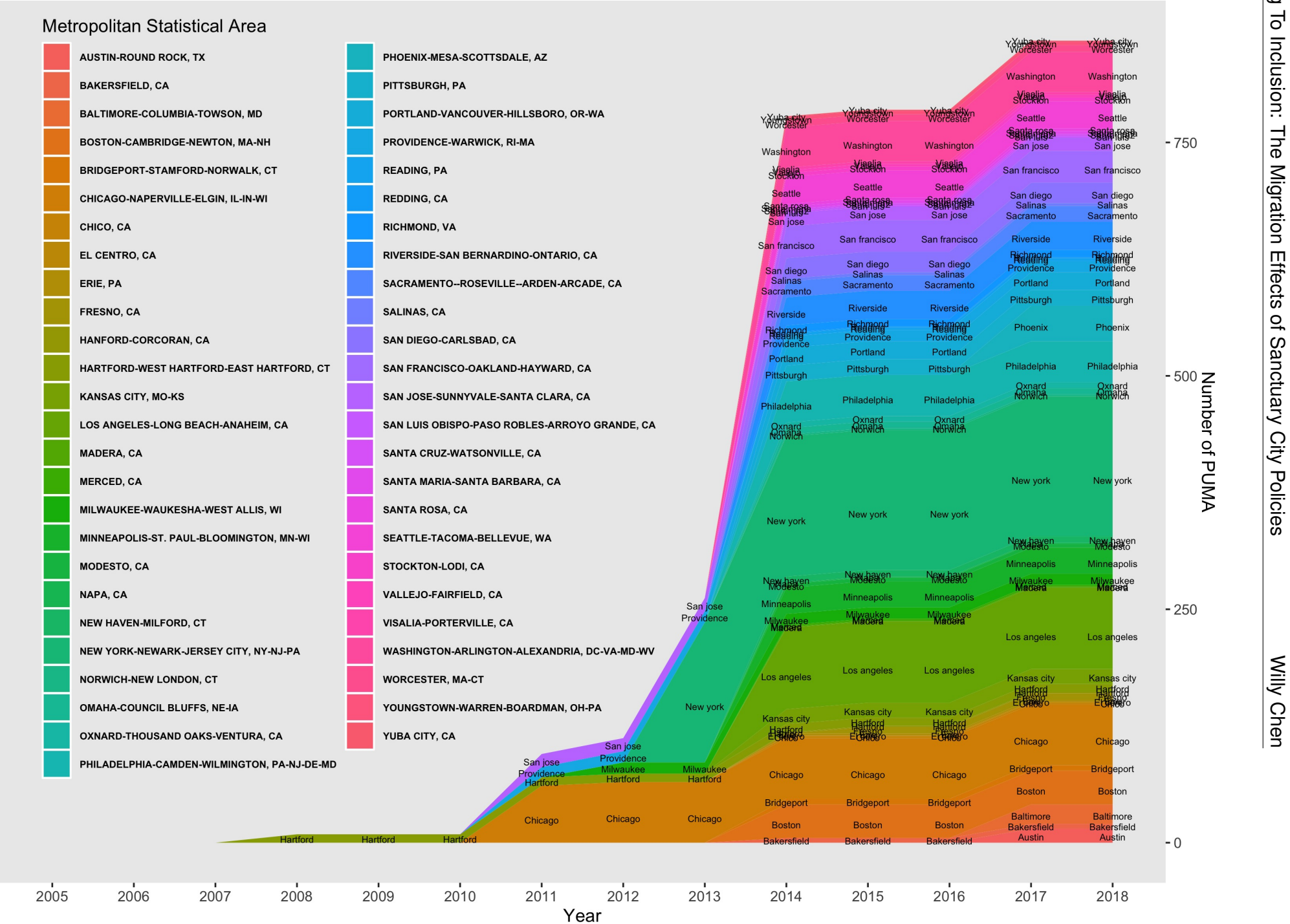


Table 12: List of Sanctuary Cities with Policy Announcement Year

Year	State(s)	MSA
2008	CT	Hartford-West Hartford-East Hartford
2011	CA	San Jose-Sunnyvale-Santa Clara
2011	IL-IN-WI	Chicago-Naperville-Elgin
2011	RI-MA	Providence-Warwick
2012	WI	Milwaukee-Waukesha-West Allis
2013	NY-NJ-PA	New York-Newark-Jersey City
2014	CA	Chico
2014	CA	Los Angeles-Long Beach-Anaheim
2014	CA	Riverside-San Bernardino-Ontario
2014	CA	Sacramento-Roseville-Arden-Arcade
2014	CA	San Francisco-Oakland-Hayward
2014	CA	Stockton-Lodi
2014	CT	New Haven-Milford
2014	DC-VA-MD-WV	Washington-Arlington-Alexandria
2014	MA-NH	Boston-Cambridge-Newton
2014	MN-WI	Minneapolis-St. Paul-Bloomington
2014	MO-KS	Kansas City
2014	NE-IA	Omaha-Council Bluffs
2014	OH-PA	Youngstown-Warren-Boardman
2014	OR-WA	Portland-Vancouver-Hillsboro
2014	PA	Erie
2014	PA	Pittsburgh
2014	PA	Reading
2014	PA-NJ-DE-MD	Philadelphia-Camden-Wilmington
2014	VA	Richmond
2014	WA	Seattle-Tacoma-Bellevue
2015	CA	Fresno
2017	AZ	Phoenix-Mesa-Scottsdale
2017	MD	Baltimore-Columbia-Towson
2017	TX	Austin-Round Rock
2014	CA	State Law
2014	CT	State Law

Source: ICE detainer report 2017 Feb.11 to Feb.17

Table 13: Outcomes in table 2 columns 4 and 5 vs 6 and 7

	Stayed	Moved to Non-Sanctuary (4)	Moved to Sanctuary (5)
Stayed	8,979,584	0	0
Moved to Same Type (6)	0	242,268	3,713
Moved to Different Type (7)	0	956	631

Table 14: Outcomes in table 4 columns 4 and 5 vs 6 and 7

	Stayed	Moved to Non-Sanctuary (4)	Moved to Sanctuary (5)
Stayed	12,834,976	0	0
Moved to Same Type (6)	0	212,231	41,022
Moved to Different Type (7)	0	6,398	8,997