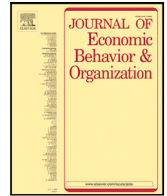



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Journal of Economic Behavior and Organization

journal homepage: www.elsevier.com/locate/jebo

Sanctuary policies and the mortgage market behavior: Reducing uncertainty to promote financial inclusion

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ARTICLE INFO

JEL classification:

G21
 J15
 J68
 K37
 R21

Keywords:

Sanctuary policies
 Immigration policy
 Mortgages
 Financial inclusion

ABSTRACT

This paper examines the impact of sanctuary policies on the financial inclusion of Hispanics in the U.S. mortgage market. By reducing local cooperation with federal immigration authorities, sanctuary policies reduce the risk of deportation and signal local acceptance of irregular immigrants and their families. This reduction in uncertainty for Hispanic borrowers and profit-maximizing lenders influences decision-making in financial markets. To identify the effect, I take advantage of the staggered implementation of county-level sanctuary policies between 2010 and 2021. Using an event study approach, I find evidence of a significant improvement in financial inclusion in counties that adopted local sanctuary policies. The results are consistent with the literature pointing to a trust spiral created by sanctuary policies and provide novel evidence that such local policies can serve as a tool for improving financial inclusion.

1. Introduction

Policies aimed at deporting irregular immigrants are on the rise. Amid the globally increasing number of refugees, policymakers are intensifying their focus on strengthening immigration enforcement. For instance, the United States has recently resumed deportations to Venezuela under the Biden administration ([U.S. Department of Homeland Security, 2023](#)), and similar patterns are emerging globally.¹ Overall, in the United States, which is estimated to be home to more than 11 million unauthorized immigrants, nearly 5 million deportations have been carried out since 2008 ([Migration Policy Institute, 2023](#)).

Against this background, a counter-movement has emerged advocating for local sanctuary policies, i.e., pro-immigrant laws and regulations that limit local cooperation with U.S. Immigration and Customs Enforcement (ICE), the federal enforcement agency, by impeding the exchange of information between local authorities and federal immigration officers. Such policies have triggered a heated political debate. Opponents of sanctuary policies argue that such measures make it more difficult for federal agents to apprehend undocumented immigrants and, therefore, potentially jeopardize public safety. Proponents argue that providing safe havens for immigrants helps to maintain trust between immigrant communities and local law enforcement, and reduces uncertainty and fear of deportation for irregular immigrants and their families.

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¹ For instance, the United Kingdom may soon detain and deport unauthorized arrivals without the chance to seek asylum ([UK Parliament, 2023](#)), Germany aims to ensure faster deportations of individuals who have not been granted refugee status ([Federal Ministry of the Interior, 2023](#)), and Peru recently enacted a new law to facilitate the expulsion of irregular immigrants ([Estado Peruano, 2023](#)).

<https://doi.org/10.1016/j.jebo.2024.106869>

Received 28 November 2023; Received in revised form 8 October 2024; Accepted 15 December 2024

Available online 24 December 2024

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This paper examines the impact of sanctuary policies on the financial inclusion of Hispanics.² In particular, I use the staggered implementation of sanctuary policies across the U.S. counties to analyze Hispanics' outcomes in the local mortgage markets. The analysis in this paper focuses on the financial inclusion of Hispanics in the mortgage market for several reasons. Homeownership remains one of the most essential ways for households, especially low-income families, to accumulate wealth (Wainer and Zabel, 2020) and serves as an indicator of financial security (Goodman and Mayer, 2018). An examination of the behavior of mortgage lenders and minority borrowers is therefore necessary to understand this potential tool for promoting financial inclusion. Furthermore, the focus on Hispanics in the United States offers insights from a significant and growing minority group facing challenges in achieving financial inclusion.

The Hispanic population is the largest racial or ethnic minority in the United States, accounting for around 19 percent of the total population (U.S. Census Bureau, 2023). Notably, Hispanics account for around 80 percent of the estimated 11 million undocumented immigrants in the United States (Migration Policy Institute, 2023), making them and their families the most likely to be affected by sanctuary policies. Furthermore, approximately 30 percent of Hispanics either do not use or use only limited banking services, compared to 13 percent among non-Hispanic whites. Hispanics have almost two times higher credit rejection rates, and the homeownership rate among individuals between 30 and 59 is around 20 percentage points lower among Hispanics than non-Hispanic whites (Federal Reserve Board, 2022).

Sanctuary policies can influence decision-making in the mortgage market by changing the degree of uncertainty lenders and borrowers face. Limiting local cooperation with federal immigration authorities reduces the probability of deportation for Hispanics and signals strong local acceptance of irregular immigrants and their families. Both factors may encourage Hispanics to apply for mortgages and profit-maximizing lenders to reject fewer mortgage applications by Hispanics in the face of lower risks. A reduction in discriminatory behavior as a result of social pressure created by signaling local pro-immigrant sentiments could also lead to a reduction in rejection rates of Hispanic applicants.³

On the other hand, the introduction of such local pro-immigrant laws may lead to an increase in rejection rates as a result of a backlash from lenders with anti-immigrant sentiments, who may intensify their discriminatory practices in local financial markets. In addition, changes in the composition of applicants could also affect rejection rates. As a result, the direction of the potential impact of sanctuary policies on outcomes for Hispanics in the mortgage market is not clear.

To empirically examine the impact of sanctuary policies on the outcomes of Hispanics in the local mortgage markets, I take advantage of loan-level data from the Home Mortgage Disclosure Act available from 2010 to 2021. I merge it with further administrative data on the county level and employ an event study approach. For identification, I exploit plausibly exogenous variation in the timing of the introduction of sanctuary policies across counties. To overcome concerns arising from staggered treatment implementation (Goodman-Bacon, 2021), I employ the dynamic difference-in-differences approach developed by Callaway and Sant'Anna (2021).

The results indicate that the implementation of sanctuary policies increases the local demand for mortgages among Hispanics by around 10.6%. This effect is driven by counties located in states with stable pro-immigrant party governments. I also find evidence of a decrease in the rejection rates of mortgage loan applications from Hispanic applicants by around 9.2%. This reduction in potentially discriminatory practices is driven by counties in states with no stable pro-immigrant party governments, i.e., Republican-leaning states and so-called swing states. Overall, the results show a clear and robust pattern: providing safe havens for immigrants contributes to the financial inclusion of Hispanics in the local mortgage markets. In addition, I find evidence of short-term spillover effects on the demand for mortgages by Black Americans.

This paper contributes to the literature on several fronts. First, I address the gap in the financial inclusion literature by providing novel evidence on the impact of pro-immigrant laws on the financial inclusion of ethnic minorities. Numerous studies have demonstrated the importance of financial inclusion.⁴ My findings add to the body of literature that examines factors that influence financial inclusion. The existing literature provides, for instance, evidence of discriminatory lending practices against women (Montalvo and Reynal-Querol, 2019; Brock and De Haas, 2023) and immigrants (Diaz-Serrano and Raya, 2014). Literature focusing on immigrants and ethnic minorities examines, for example, the impact of ethnic concentration (Bohn and Pearlman, 2013), peer effects (Mugerman et al., 2014), and the role of culture (Osili and Paulson, 2008; Lu et al., 2021) on different aspects of financial inclusion and financial behavior.⁵ A growing body of literature points to the importance of financial literacy and financial education programs for financial inclusion. Grohmann et al. (2018) show a positive effect of financial literacy on financial inclusion in a cross-country study and evidence from a field experiment in India by Carpena and Zia (2020) suggests that financial literacy can influence financial behavior. While financial literacy appears to be partly influenced by cultural factors, as Davoli and Rodríguez-Planas (2020) find a strong association between the financial literacy of adults in the United States and the average financial literacy levels in their respective countries of origin, it can be improved. For instance, Blanco et al. (2023) find positive effects of digital

² In this paper, I consider as "Hispanics" all individuals that during the mortgage application process were assigned the ethnicity "Hispanic or Latino", irrespective of their native language, nationality, or country of origin.

³ For instance, Cattaneo and Grieco (2021) show that even a change in the narrative about migration can lead to more pro-migrant behavior.

⁴ For empirical evidence, see, for example, Burgess and Pande (2005), Beck et al. (2007), and Bruhn and Love (2014) on income inequality and poverty reduction, Von Fintel and Orthofer (2020) on wealth inequality, Ama Zelu et al. (2024) on women economic empowerment, Aguila et al. (2016) and Ajefu et al. (2020) on mental health, Mani et al. (2013) on decision making, Garg et al. (2024) on entrepreneurship, Banerjee et al. (2015) on firm creation, Ahamed and Mallick (2019) and Ahamed et al. (2021) on bank stability and efficiency, Hu et al. (2021) on productivity growth, as well as Arqué-Castells and Viladecans-Marsal (2016) and Siddiki and Bala-Keffi (2024) on local economic activity and economic growth, respectively.

⁵ Abdul-Razzak et al. (2015) provide an extensive overview of the literature on immigrants' financial inclusion.

financial education programs on financial capability among Hispanics in the United States. This paper adds to the literature by providing evidence on an alternative tool for promoting financial inclusion. In addition, I complement Xu (2020), which provides evidence on the impact of trust on financial inclusion in a cross-country study, by analyzing the effects of a policy that fosters trust in local communities (Otsu, 2021).⁶

Second, by providing evidence on the effects of pro-immigrant laws that establish safe havens for immigrants, this paper contributes to the broader literature evaluating the impact of immigration policies and immigration enforcement.⁷ Asad (2020) finds that although the majority of Hispanics living in the United States are not directly in fear of being deported themselves, they are concerned for their families and other members of their communities. Investigating the effect of an increase in internal immigration enforcement, Amuedo-Dorantes et al. (2018) find that US-born children with likely undocumented parent are more prone to experience financial difficulties due to increased concern about the deportation of a family member.⁸ Conversely, programs such as the Deferred Action for Childhood Arrivals (DACA), which offers (temporal) protection from deportation, improve the mental health of children whose parents are irregular immigrants (Hainmueller et al., 2017). Further studies show that DACA increases insurance coverage (Giuntella and Lonsky, 2020), enhances immigrants' sleep patterns (Giuntella et al., 2021), and leads to more independent housing arrangements for DACA-eligible immigrants (Gihleb et al., 2023). However, we know little about the impact of pro-immigrant laws on financial inclusion.

Third, this paper contributes in particular to the growing literature evaluating the impact of sanctuary policies by providing first evidence on the effect on financial inclusion of Hispanics. Previous studies have concentrated on the impact of sanctuary policies on crime, with the findings indicating either a negative or no effect.⁹ Hausman (2020), for instance, finds no impact of sanctuary policies on crime. His study also reveals that providing safe havens in the form of local sanctuary policies decreases deportations of people with no criminal background by half while having no impact on deportations of people with violent convictions. In line with these results, Amuedo-Dorantes et al. (2022) find that sanctuary policies do not impede immigration enforcement in securing custody of convicted criminals. Consistent with those studies, Otsu (2021) finds no evidence of an increase in crime. Furthermore, he finds evidence of a decrease in property crime, pointing to an increase in trust between the residents and police as a potential mechanism behind this result.¹⁰ Interestingly, he finds no evidence of an increase in migrant inflows after the introduction of sanctuary policies.

Finally, this paper presents novel findings with important policy implications. In light of the rising uncertainty faced by immigrants and their families in the context of a global increase in deportation policies and stricter immigration enforcement, this paper points to further benefits of counteracting this trend by local authorities through the establishment of sanctuaries for immigrants. In particular, the findings show that local sanctuary policies, in addition to reducing crime by fostering trust in local communities (Otsu, 2021), can enhance financial inclusion in local mortgage markets.

The remainder of this paper is organized as follows. Section 2 provides relevant background information and discusses the theoretical framework. Section 3 discusses the empirical strategy and potential identification issues. Section 4 describes the sources of the underlying data. In Section 5, I present and discuss the empirical results, while Section 6 concludes.

2. Background and theoretical framework

2.1. U.S. immigration policies and the sanctuary movement

In recent decades, U.S. federal immigration policy has focused either on reducing the inflow of irregular immigrants into the country or on internal immigration enforcement through the deportation of irregular immigrants.¹¹ While the number of deportations was relatively low until 1996, it skyrocketed following the enactment of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) alongside additional laws aimed at lowering the number of undocumented immigrants.

The new legislation allowed deportation for minor crimes such as shoplifting, whereas previously deportation was reserved for severe criminals (Abrego et al., 2017). Moreover, it created the potential for disproportionate racial profiling of Hispanics, regardless

⁶ By investigating how political leanings affect the impact of sanctuary policies on financial inclusion, I also complement findings of Pan (2023) on populism and household debt and Ma et al. (2024) on political rights and financial inclusion.

⁷ For a broad overview on the economics of US immigration policy see, for example, Orrenius and Zavodny (2012). Literature exploring the impact of immigration policies explores, for instance, labor market effects (Phillips and Massey, 1999; Edo and Toubal, 2015; Chassamboulli and Peri, 2020; East et al., 2023; East and Velásquez, 2024). Other recent contributions related to immigration policies include, for example, Dylong and Uebelmesser (2024) that examines the impact of biased beliefs about immigrants on attitudes towards immigrants and immigration policy preferences.

⁸ Studies also show, for example, that the intensification of interior immigration enforcement increases the probability of school dropout and grade repetition among Hispanic youth (Amuedo-Dorantes and Lopez, 2015, 2017a), decreases the electoral participation of U.S. citizens in households with at least one irregular migrant as a family member (Amuedo-Dorantes and Lopez, 2017b), and decreases fertility among irregular immigrant women (Amuedo-Dorantes and Arenas-Arroyo, 2021).

⁹ See Martínez et al. (2018) for an extensive literature review. Most recent studies include O'Brien et al. (2019), Hausman (2020), Otsu (2021), and Manning and Burkhardt (2022). Furthermore, Corral (2021) finds no evidence that sanctuary policies improve educational outcomes for Hispanic undocumented youth.

¹⁰ The importance of trust in public safety is also highlighted in recent studies on the impact of increased interior immigration enforcement on crime (reporting), see, for example, Jácóme (2022) and Goncalves et al. (2024).

¹¹ Improving border security and increasing cooperation with transit countries are some of the measures the US government has taken to decrease the inflow of irregular immigrants. One example is the Southern Border Plan, implemented by the Mexican government in 2014, which aimed to reduce the number of migrants from Central America attempting to cross into the United States (Martínez Flores, 2020).

of their immigration status, and created an atmosphere of distrust between the Hispanic community and law enforcement (Coon, 2017). Since 1996, responsibility for enforcing immigration laws has also shifted partly from the federal government to state and local officials, increasing the need for cooperation between federal and local law enforcement (Martínez et al., 2018).

Against the national backdrop of increased immigration enforcement, a backlash movement has emerged that advocates the adoption of local sanctuary policies. The introduction of such local policies implies reduced cooperation with ICE, i.e., by impeding the exchange of information between local authorities and federal immigration officers.

Fig. 1 illustrates the rollout of sanctuary policies at the county level. Reflecting the decentralized nature of sanctuary policies, there is no observable clustering of sanctuary policy adoption.¹² One exception, however, is the clustering of sanctuary counties in the state of Oregon, which pioneered the adoption of sanctuary policies as early as 1987. To ensure that this does not bias the analysis, I exclude all Oregon counties from the analysis.

As there is no unilateral federal sanctuary law that local jurisdictions can decide to adopt, local formulations of sanctuary policies vary slightly.¹³ For example, in Middlesex County (New Jersey), ICE detainers are only honored if an individual is charged with a severe crime, identified as a known gang member, or has received a final order of removal from ICE. In contrast, Hall County (Nebraska) does not honor ICE detainers without a warrant in general (ICE, 2017).

While the exact enforcement of local sanctuary policies varies and can be hampered by the threat of withholding funding in case of banning such policies by federal and state institutions (CNN, 2019; Reuters, 2021),¹⁴ providing safe havens in the form of local sanctuary policies is shown to reduce the number of deportations of immigrants without criminal background by half (Hausman, 2020). Thus, local sanctuary policies significantly reduce the probability of deportation for irregular immigrants and signal strong local pro-immigrant attitudes.

2.2. How can sanctuary policies influence behavior in the mortgage market?

By increasing the probability of deportation, increased interior immigration enforcement fosters a culture of fear and insecurity in immigrant communities. The overall decrease in trust can lead to a so-called “chilling effect”, i.e., a withdrawal from normal activities by irregular and regular immigrants (Ali et al., 2024). On the contrary, by limiting local cooperation with federal immigration authorities, local sanctuary policies signal strong local acceptance of immigrants, decrease the probability of deportation (Hausman, 2020), and produce “a spiral of trust” (Otsu, 2021).

Previous research has shown the importance of trust for participating in the stock market, accessing credit, and financial inclusion (Guiso et al., 2004, 2008; Wu et al., 2014; Xu, 2020). The increase in trust and overall perceived safety due to the reduced probability of deportation for immigrants and their families could lead to a direct increase in mortgage demand among Hispanics, who now feel safer and more welcome in such communities. In addition, by reversing the chilling effect, Hispanics, in general, may become more integrated into the local community, which in turn would also lead to an increase in mortgage demand among Hispanic immigrants, their families, and possibly even Hispanics who have been in the U.S. for generations.¹⁵

On the other hand, signaling of pro-immigrant attitudes through the introduction of sanctuary policies may lead to an increase in the inflow of further immigrants. If Hispanics do not want to settle in areas that potentially attract more irregular immigrants, for example, due to stigma or increased competition, the implementation of sanctuary policies could reduce local demand for mortgages among Hispanics. However, the share of foreigners, internal and international migrants, does not seem to increase with the implementation of sanctuary policies (Otsu, 2021).

Suppose the demand for mortgages among Hispanics increases after the introduction of sanctuary policies. In that case, this may change the composition of applicants and affect the rejection rate of mortgage applications from Hispanic households. If poorer and more financially disadvantaged immigrant households now try to apply for mortgages, this could lead to an increase in the rejection rate of Hispanics. Moreover, sanctuary policies may also increase rejection rates due to a backlash from lenders with anti-immigrant sentiments, who may intensify their discriminatory practices in local financial markets.

However, if lenders are to maximize profits, the rejection rate of mortgage applications of Hispanics could decrease for two reasons. First, the perceived default risk of a mortgage issued to Hispanics is directly reduced following the introduction of sanctuary policies, as the potential for deportation of the lender or their family members is diminished. Second, the introduction of local sanctuary policies leads to an increase in trust between residents and (local) police (Otsu, 2021). Increased trust in state institutions has been shown to increase social trust (Sønderskov and Dinesen, 2016). The latter, in turn, is inversely related to credit default (Agarwal et al., 2011) and decreases mortgage delinquency (Li et al., 2022). Consequently, implementing sanctuary policies could further indirectly reduce the risk associated with lending to Hispanics, leading to a reduction in the rejection rates of mortgage applications submitted by Hispanic applicants.

¹² The date of the enactment of the sanctuary policy for each county is shown in Table B2 in the online Appendix.

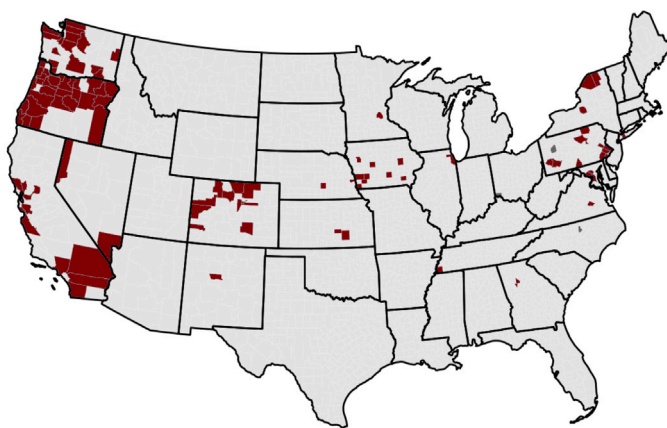
¹³ At the county level, it is typically a local policy of the sheriff (Center for Immigration Studies, 2023), see for example Mlive (2018).

¹⁴ If the potential threat of banning sanctuary policies or withholding funding from counties after their introduction affects my results, the results likely show a lower bound of the effect. This is because the estimated effect would only reflect the impact of signaling a local pro-immigrant environment through the announcement of the introduction of local sanctuary policies.

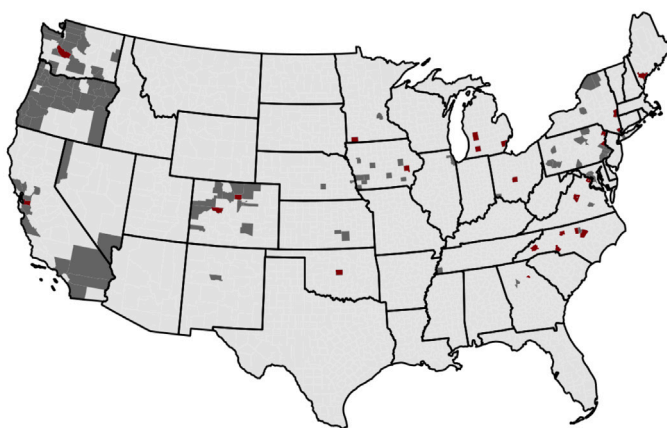
¹⁵ Unfortunately, I am unable to differentiate between Hispanic immigrants who have recently arrived and those who have been in the U.S. for generations due to data restrictions.



(a) 2010



(b) 2015



(c) 2021

Fig. 1. Rollout of sanctuary policies across counties over time. *Notes:* The shading highlights counties that have implemented sanctuary policies at the county level. Counties that have enacted the policy most recently are highlighted in red. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

3. Empirical strategy

To investigate the impact of sanctuary policies on the outcomes of Hispanics in the local mortgage markets, I employ a dynamic difference-in-differences approach. The baseline analysis uses the following specification:

$$y_{ct} = \sum_{\tau} \beta_{\tau} \mathbb{1}(\tau = t - \text{EnactmentYear}_c) + \delta_c + \gamma_t + \varepsilon_{ct}. \quad (1)$$

Depending on the specification, the outcome variable y_{ct} is either defined as the share of mortgage applications by Hispanics in all mortgage applications in year t in county c , or as the rejection rate of mortgage applications submitted by Hispanics standardized by the rejection rate of mortgage applications submitted by non-Hispanics in year t in county c .¹⁶ EnactmentYear_c is the year in which the county c adopts sanctuary policies. β_{τ} is the coefficient of interest that provides event study estimates of the effect of sanctuary policy introduction on the outcomes of Hispanics on the mortgage market. δ_c and γ_t represent county and year fixed effects, respectively. ε_{ct} is the error term.

For identification, similarly to Otsu (2021), I exploit variation in the timing of the introduction of sanctuary policies. In the presence of effect heterogeneity, this staggered treatment implementation of sanctuary policies makes a conventional (dynamic) difference-in-differences approach unreliable (Goodman-Bacon, 2021). I employ the (dynamic) difference-in-differences approach developed by Callaway and Sant'Anna (2021) to address this concern.

The (dynamic) difference-in-differences approach requires that, in the absence of the treatment, the treated and comparison groups would have followed parallel trends in mortgage market outcomes. However, counties that decide to implement sanctuary policies are likely to differ from those that do not adopt such policies. Table A.1 provides descriptive statistics for both non-sanctuary and sanctuary counties.¹⁷ On average, sanctuary counties have a higher share of Hispanics, lower homicide rates, and lower unemployment. Most importantly, sanctuary counties are more likely to be governed by the Democratic Party and are more often located in states governed by Democrats.

These differences suggest that sanctuary and non-sanctuary counties could have different development paths. However, even using the unconditional event study approach, I find no evidence of parallel trend violation in Hispanic mortgage market outcomes in the pre-treatment period. There is also no evidence of parallel trend violation when controlling for several observable socio-economic characteristics, thus relying on conditional parallel trends only. Importantly, I use the doubly robust difference-in-differences estimator, ensuring that control and treated counties are similar in the observable (pre-treatment) covariates by reweighting control units using propensity scores (Sant'Anna and Zhao, 2020).

4. Data sources

This paper relies on panel data covering the period from 2010 to 2021 on counties within the mainland United States and draws on data from the following sources.¹⁸

Mortgage market data is constructed using information on mortgage applications and loans originated under the Home Mortgage Disclosure Act.¹⁹ This legislation obligates most mortgage lending institutions to disclose information on mortgage loans they originate or purchase annually.²⁰ I aggregate mortgage-level data on mortgage applications and mortgage loans originated in the primary mortgage market at the county level to create a yearly panel of U.S. counties.

Sanctuary policies comprise laws and regulations that limit local cooperation with ICE. To create a comprehensive database on sanctuary policies at the county level, I draw on information on the introduction of sanctuary policies provided by the Center for Immigration Studies (2023), Federation for American Immigration Reform (FAIR, 2017), as well as public reports from local governments and ICE.

For robustness checks, I use data on county-specific demographic characteristics, such as the share of Hispanics, the average per capita income among Hispanics, the share of Black Americans, the share of the elderly population, and the unemployment rate. This data is based on the American Community Survey and is obtained from U.S. Census Bureau (2023). Additionally, data on homicides is gathered from the National Archive of Criminal Justice Data (NACJD, 2023). Furthermore, I use data on federal and local elections at the county level. These data are taken from MIT Election Lab (2023) and Federal Election Commission (2023) for local and federal elections, respectively.

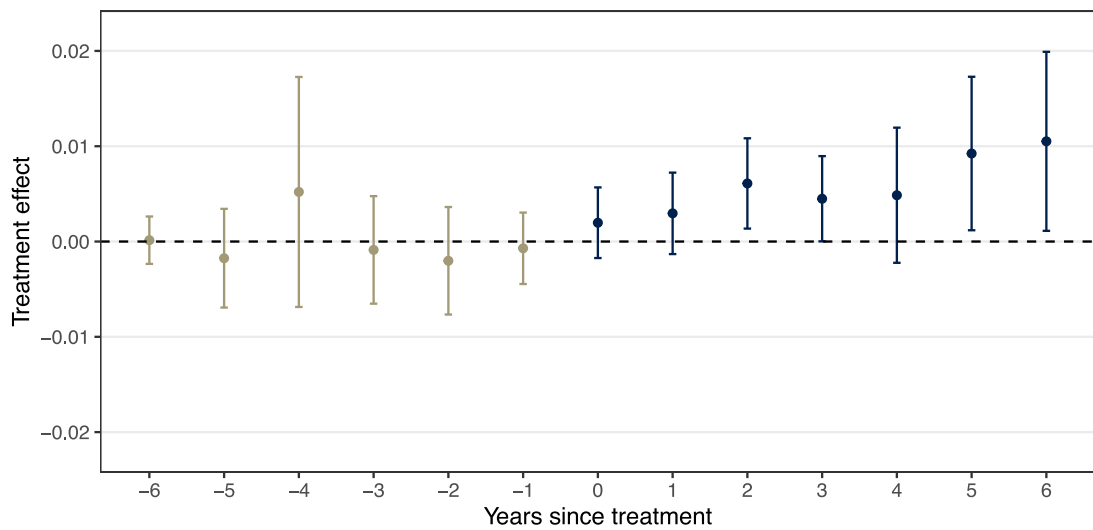
¹⁶ This definition of outcomes allows me to isolate the effect of sanctuary policy introduction on Hispanics from other potential factors that impact both outcomes of Hispanics and non-Hispanics in the local mortgage markets.

¹⁷ I define sanctuary counties as those that implemented sanctuary policies at any point between 2010 and 2021, while non-sanctuary counties are those that did not adopt such policies during that period.

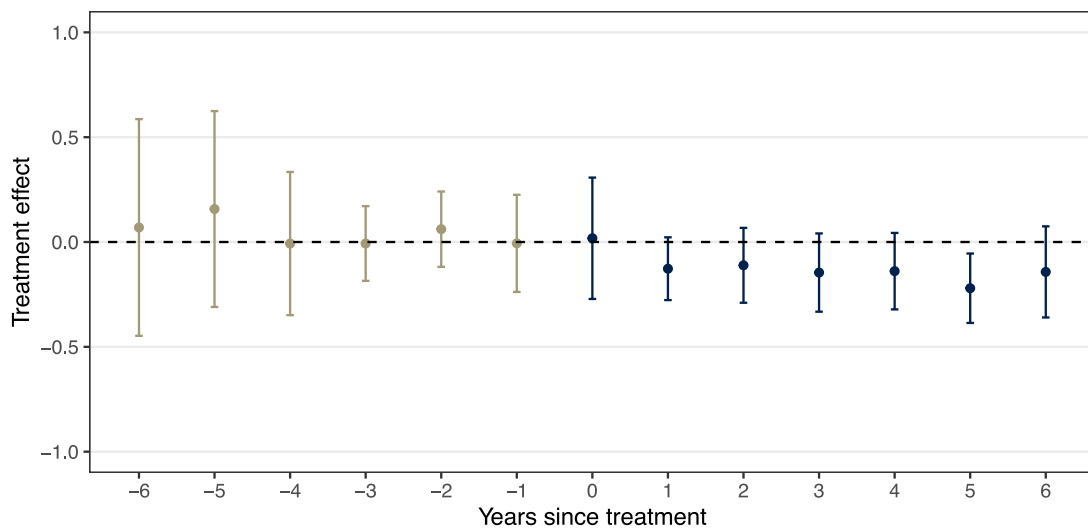
¹⁸ The only exceptions are counties in the state of Oregon, which was excluded from the analysis due to its introduction of sanctuary policy as early as 1987. Thus, the final data set includes 3067 U.S. counties. The availability of the outcome variables limits the span of the analysis. This results in a final sample size of 36,804 observations. Table A.1 provides descriptive statistics.

¹⁹ Most recent data from 2018 to 2021 is obtained from the Federal Financial Institutions Examination Council (FFIEC, 2023), while earlier records are collected from the Consumer Financial Protection Bureau (CFPB, 2023).

²⁰ The exact number of institutions required to report under HMDA changes. Nevertheless, HMDA provides the most comprehensive data on mortgages originated in the U.S. and it is estimated to cover over 80% of all mortgages originated (Scheele, 1998).



(a) MORTGAGE DEMAND



(b) MORTGAGE REJECTION

Fig. 2. Impact of sanctuary policies: event study plot. Notes: The graphs are based on the dynamic difference-in-differences estimator introduced by Callaway and Sant’Anna (2021). Coefficients are depicted with 95% confidence intervals.

5. Results

5.1. Baseline results

Fig. 2 illustrates the event study results using the estimation approach developed by Callaway and Sant’Anna (2021). In addition, Table 1 reports the point estimates along with the corresponding standard errors.

Fig. 2a and column 1 in Table 1 show the results with the dependent variable defined as Hispanics’ share of mortgage applications among all mortgage applications. The pre-treatment coefficients are not statistically significant at any conventional level, and there is no observable trend before the adoption of sanctuary policies.²¹ The post-treatment coefficients consistently exhibit positive values

²¹ However, the point estimate of one pre-treatment coefficient is noticeably high. This is due to an outlier value in Nobles County, Minnesota. The results are robust to excluding Nobles County from the analysis; see Figure B1 in the online Appendix.

Table 1
Impact of sanctuary policies: event study coefficients.

	Mortgage demand (1)	Mortgage rejection (2)
Event time -6	0.0001 (0.0010)	0.0693 (0.2066)
Event time -5	-0.0018 (0.0021)	0.1573 (0.1762)
Event time -4	0.0052 (0.0046)	-0.0073 (0.1297)
Event time -3	-0.0009 (0.0021)	-0.0072 (0.0706)
Event time -2	-0.0020 (0.0022)	0.0612 (0.0658)
Event time -1	-0.0007 (0.0015)	-0.0065 (0.0909)
Event time 0	0.0020 (0.0015)	0.0178 (0.1191)
Event time 1	0.0030* (0.0017)	-0.1274* (0.0578)
Event time 2	0.0061*** (0.0018)	-0.1111 (0.0789)
Event time 3	0.0045** (0.0019)	-0.1458* (0.0749)
Event time 4	0.0049* (0.0025)	-0.1390* (0.0741)
Event time 5	0.0092*** (0.0031)	-0.2205*** (0.0606)
Event time 6	0.0105*** (0.0036)	-0.1426 (0.0889)
Average effect	0.0057*** (0.002)	-0.1241*** (0.047)
Baseline	0.0537	1.3445
Observations	36,804	36,804

Notes: The results are based on the dynamic difference-in-differences estimator introduced by Callaway and Sant'Anna (2021). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

and are statistically significant at least at the 10 percent level. The effect intensifies over time, starting with an increase of 0.3 percentage points in the initial years and reaching around 1 percentage point in the fifth year after the policy introduction. On average, local sanctuary policy introduction increases the relative mortgage demand among Hispanics by around 0.57 percentage points, or around 10.6 percent. Thus, the results indicate a clear pattern that sanctuary policies significantly increase local demand for mortgages among Hispanics.

Fig. 2b and column 2 in Table 1 show the results with the dependent variable measuring the mortgage rejection rate of Hispanics relative to the rejection rate of non-Hispanics. Again, pre-treatment coefficients are not statistically significant at any conventional level, and there is no observable trend before the adoption of sanctuary policies. All post-treatment point estimates consistently exhibit negative values, and almost all are statistically significantly different from zero, at least at the 10 percent level. On average, the introduction of local sanctuary policy decreases the relative rejection rate of Hispanics by around 9.2 percent. This demonstrates that sanctuary policies can substantially reduce the local rejection rate of mortgages requested by Hispanics.

Overall, the baseline results show that sanctuary policies have a positive impact on the financial inclusion of Hispanics in local mortgage markets. In particular, the magnitude of the impact suggests that this effect is not only statistically significant, but also important from a policy perspective. In the following two sections, I check the robustness and examine the heterogeneity of the results.

5.2. Sensitivity analyses

Conditional parallel trends. I first examine whether the results are robust to controlling for several pre-treatment controls that may be related to the local introduction of sanctuary policies and the two outcome variables. Specifically, I include controls for the share of Hispanics, the average per capita income among Hispanics, the share of Black Americans, the share of the elderly population, the homicide rate, the unemployment rate, and the political party winning the local election.²² In doing so, I examine whether the

²² The extant literature also points to loan officer bias, i.e., loan officer discrimination against the borrower based on borrower characteristics such as gender (Montalvo and Reynal-Querol, 2019; Brock and De Haas, 2023). While I cannot include a loan officer fixed effect due to data limitations, the analysis in this paper is conducted at the county level; thus to bias the results, the average characteristics of the loan officer would have to be correlated with the timing of the introduction of sanctuary policies.

results hold when the parallel trends assumption is conditional rather than unconditional. Figure B2 in the online Appendix shows that the inclusion of several pre-treatment covariates has no effect on the overall patterns and only a small impact on the size of the point estimates. However, due to lower statistical power, the confidence intervals for the mortgage demand measure are larger.

Within state variation. The baseline specification does not include state-fixed effects to ensure sufficient statistical power. I now examine whether the results are sensitive to focusing the analysis on the within-state variation. Figure B3 in the online Appendix shows that, although less precisely estimated, the overall patterns from the baseline results are robust to the inclusion of state fixed effects. However, the negative point estimates for mortgage rejection are smaller when the within-state variation is used, suggesting that this result should be interpreted with more caution.

Two-way Mundlak approach. The baseline analysis is based on the approach proposed by Callaway and Sant'Anna (2021). As a next step, I check whether the results are robust to the use of an alternative estimator, the two-way Mundlak regression proposed by Wooldridge (2021). While the recent implementation of this approach does not allow for verification of the pre-treatment trends, Table B1 in the online Appendix shows that the post-treatment coefficients show a similar trend to the baseline results.

Alternative measure of mortgage demand. Lastly, I examine whether the results hold when using an alternative definition of mortgage demand that uses the size of mortgage applications instead of the number of applications. Figure B4 in the online Appendix shows that the overall pattern and size of the effect is not sensitive to this alternative measure of mortgage demand.

5.3. Heterogeneous effects by political leanings

To provide further evidence on the impact of sanctuary policies on Hispanic outcomes in the mortgage market, I examine the heterogeneity of the results by political leanings at the state level. Examining the heterogeneity of the effects across states with different political leanings is crucial because there are profound differences in approaches to immigration policy between Republicans and Democrats. While Republicans focus on strengthening border security and deporting undocumented immigrants, Democrats prioritize creating pathways to legal status for irregular immigrants (Pew Research Center, 2022). This could affect the size of the effect. If a region is governed by a pro-immigrant party, the signaling effect of adopting sanctuary policies might be negligible. Conversely, if a county in a Republican state adopts sanctuary policies, such a signaling effect could be substantial.

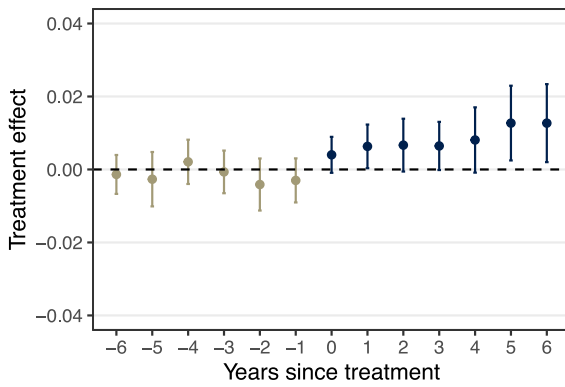
To distinguish between Republican-leaning and Democrat-leaning states and to account for political stability over the period considered in this paper, I classify states based on the results of the presidential elections in 2008, 2012, 2016, and 2020. I classify a state as blue or red if the Democratic or Republican candidate received the most votes in the state in all four elections. If in at least one of the elections a candidate from a different party won the most votes, I label such a state a swing state. Table A.2 presents the final categorization of states and Table B2 in the online Appendix lists all sanctuary counties grouped by the political leaning of the states.²³ Since there are only six sanctuary counties in red states, I look at counties in red and swing states together to get statistically meaningful results. Thus, I examine the heterogeneity of outcomes across counties in states with stable pro-immigrant party governments and in states with no stable pro-immigrant party governments.

Fig. 3a shows the results using the measure of mortgage demand among Hispanics as the dependent variable for blue states, while Fig. 3b shows the results for swing and red states. The results reveal that the increase in the demand for mortgages among Hispanics after the introduction of sanctuary policies is driven by counties located in states with stable pro-immigrant party governments. There is no evidence of an effect in counties located in states with no stable pro-immigrant party governments.²⁴ This suggests that, contrary to expectations, local sanctuary policies are effective in influencing mortgage market behavior in regions with stable pro-immigrant party governments but the signaling effect is not strong enough to influence Hispanic mortgage market behavior in states with stable pro-immigrant party governments. One explanation for this result is that Hispanics may perceive the adoption of local sanctuary policies in states with stable pro-immigrant party governments as a credible signal of an even stronger local pro-immigrant environment, whereas in states with no stable pro-immigrant party governments, the adoption of local sanctuary policies is not a strong enough signal to overcome the potential uncertainty that comes from living in a state with no stable pro-immigrant environment.

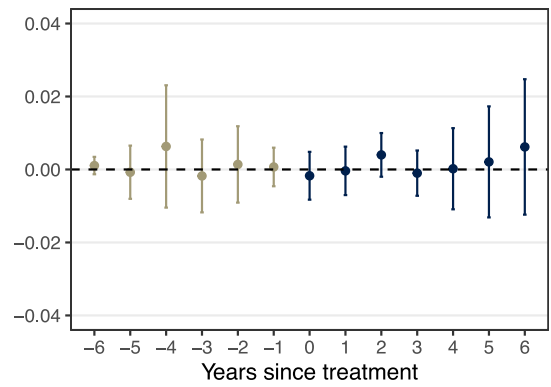
Fig. 3c shows the results using the measure of mortgage rejections as the dependent variable for blue states, while Fig. 3d shows the results for swing, and red states. In contrast to the results for mortgage demand, no point estimate is statistically significantly different from zero for blue states. The average zero effect observed in counties in states with stable pro-immigrant party governments may be attributed to potential shifts in the composition of applicants in response to increased demand, which may offset the direct impact of local sanctuary policies on rejection rates. However, in line with the baseline results, there is a clear pattern of a decrease in the rejection rates of mortgage loans requested by Hispanics in states with no stable pro-immigrant party governments. Thus, counties located in politically volatile swing states and Republican-leaning states are the drivers of the reduction in rejection rates of Hispanics. Furthermore, since there is no evidence of changes in the demand for mortgages in counties located

²³ Alternatively, one can make a similar assignment based on local elections at the county level. Table B3 in the online Appendix lists all sanctuary counties grouped by political leaning based on local elections. The results are robust to using this alternative definition of political leanings; see Figure B5 in the online Appendix.

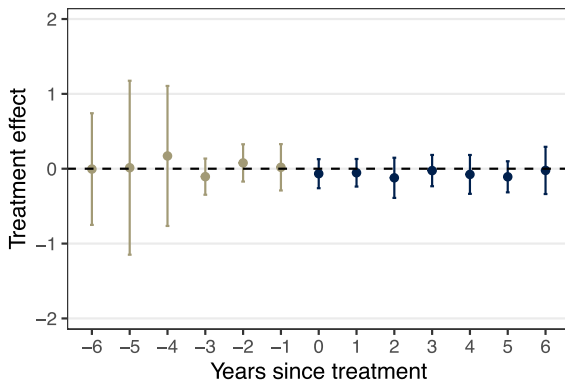
²⁴ Similarly to the baseline results, there is no evidence of pre-treatment trends and the point estimate of one pre-treatment coefficient is noticeably high. This is caused again by the outlier value in Nobles County, Minnesota. The results are robust to excluding Nobles County from the analysis; see Figure B6 in the online Appendix.



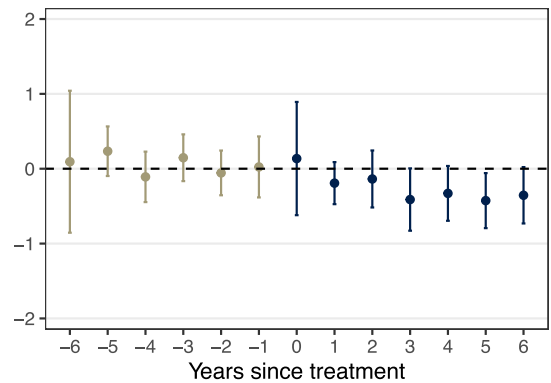
(a) MORTGAGE DEMAND: BLUE STATES



(b) MORTGAGE DEMAND: SWING AND RED STATES



(c) MORTGAGE REJECTION: BLUE STATES



(d) MORTGAGE REJECTION: SWING AND RED STATES

Fig. 3. Heterogeneity by political leanings of states. Notes: The graphs are based on the dynamic difference-in-differences estimator introduced by Callaway and Sant’Anna (2021). Coefficients are depicted with 95% confidence intervals.

in states with no stable pro-immigrant party governments, it is unlikely that composition effects drive the changes in the rejection of mortgages. Taken together, the results suggest that, for lenders seeking to maximize profits, the reduction in deportation risk following the implementation of sanctuary policies in states with no stable pro-immigrant party governments is sufficient to reduce rejection rates of Hispanic borrowers.

5.4. Spillover effect on other ethnic groups

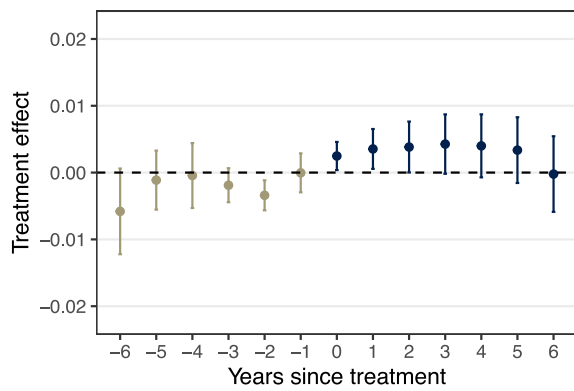
While sanctuary policies are most likely to affect Hispanics, the effect may spill over to other ethnic groups. In this section, I examine whether the introduction of local sanctuary policies affects mortgage market outcomes for other ethnic groups, Black and Asian, that I can identify in the mortgage data.

Fig. 4a shows the effect of sanctuary policies on mortgage demand among the Black American community. The results indicate the existence of spillover effects on mortgage demand by the Black American community, suggesting that the trust spiral effects created by sanctuary policies spill over to this ethnic group. However, in contrast to the effect on Hispanics, the magnitude of the effect on Black Americans diminishes and eventually disappears after a few years. In addition, Fig. 4b shows that there is little evidence of an effect of sanctuary policies on the mortgage demand among the Asian ethnic group.

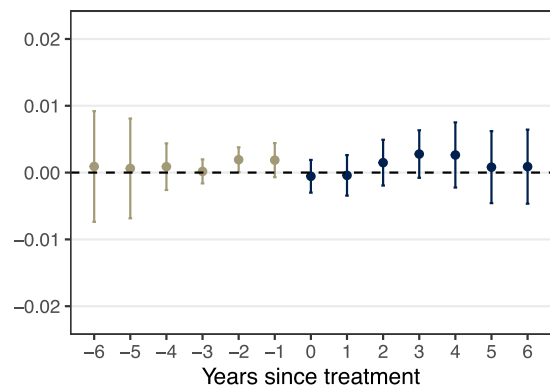
Fig. 4c and d show no evidence of spillover effects for the mortgage rejection on Black Americans and Asian groups, respectively. The mostly positive (yet statistically insignificant) point estimates for Black Americans are most likely driven by the increase in rejection rates due to the change in the composition of applicants, i.e., more applications from financially unstable households amid the increase in demand among Black Americans.²⁵

Taken together, the results show short-term spillover effects of introducing local sanctuary policies on the mortgage demand of Black Americans. This suggests that the signaling of a local pro-immigrant environment may also positively affect the demand of

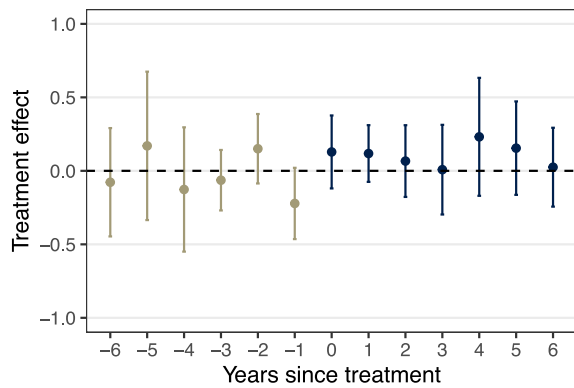
²⁵ If the estimates for Hispanics are also affected by the changes in composition, I estimate a lower bound of the effect on mortgage rejection for Hispanics.



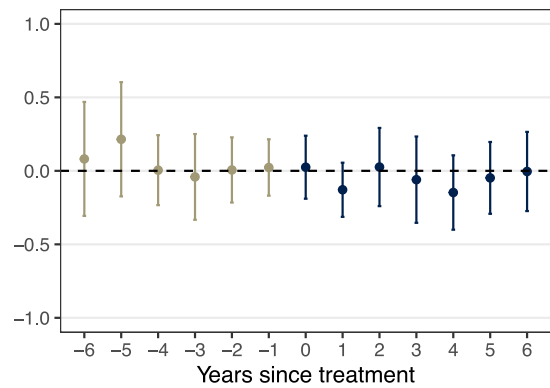
(a) MORTGAGE DEMAND: BLACK



(b) MORTGAGE DEMAND: ASIAN



(c) MORTGAGE REJECTION: BLACK



(d) MORTGAGE REJECTION: ASIAN

Fig. 4. Spillover effect on other ethnic groups. Notes: The graphs are based on the dynamic difference-in-differences estimator introduced by Callaway and Sant'Anna (2021). Coefficients are depicted with 95% confidence intervals.

other marginalized ethnic groups in the short run. However, there is no evidence of long-term spillover effects or effects on the mortgage rejection rate, suggesting that the long-term impact on mortgage demand, as well as the decrease in rejection rates for Hispanics, is driven by a reduction in uncertainty for borrowers and lenders due to the decrease in deportation risk rather than the signaling of local positive attitudes towards marginalized ethnic groups.

6. Summary and policy implications

This paper investigates the impact of policies designed to create safe havens for immigrants on financial inclusion. Specifically, taking advantage of the staggered implementation of the sanctuary policies, I employ an event study approach to examine how the local introduction of sanctuary policies affects the financial inclusion of Hispanics in the local mortgage markets in the United States.

The findings reveal that the local adoption of sanctuary policies has a positive impact on Hispanics' financial inclusion. In particular, the results show an increase in the local demand for mortgages among Hispanics and a decrease in the rejection rates of mortgage loans requested by Hispanics after the introduction of local sanctuary policies. The heterogeneity analysis shows that, particularly in regions commonly perceived as less supportive of immigrants, implementing local sanctuary policies can decrease the rejection rates of Hispanics. Furthermore, in regions with stable pro-immigrant party governments, the introduction of sanctuary policies can increase the demand for mortgages among Hispanics. This effect is also found for Black Americans, suggesting positive spillover effects of sanctuary policies.

In light of the challenges in fostering the financial inclusion of ethnic minorities and the rising uncertainty faced by immigrants and their families in the context of a global increase in deportation policies and stricter immigration enforcement, this paper shows that local authorities can counteract this trend by establishing local sanctuaries for immigrants. In line with the existing literature that highlights the local increase in trust following the introduction of sanctuary policies, this paper shows that implementing pro-immigrant policies can play an important role in promoting financial inclusion. In particular, local sanctuary policies are not only able to reduce crime by increasing trust between residents and police (Otsu, 2021), but also offer a tool to improve financial inclusion on local mortgage markets. However, the implications for the behavior on other financial markets require further research.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgments

I am grateful to the Editor, Sushanta Mallick, and three anonymous reviewers for their constructive comments and suggestions, which have greatly improved this paper. I also thank Amanda Agan, Ronald Bachmann, Julia Bredtmann, Chloe N. East, Roman Klauser, Sebastian Otten, participants of the 37th Annual Conference of the European Society of Population Economics in Rotterdam, the 17th RGS Doctoral Conference in Economics in Essen, seminars at Universitat de Barcelona, Universidad de Granada, and RWI for helpful comments and discussions. I would also like to thank Ferenc Ackermann, Rachel Kühn, Niklas Seveineck, and Raphael Winhart for their excellent research assistance. I acknowledge financial support from the Spanish Ministry of Science, Innovation, and Universities (PID2022-137382NB-100).

Appendix A

See [Tables A.1](#) and [A.2](#).

Appendix B. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.jebo.2024.106869>.

Table A.1

Non-sanctuary versus sanctuary counties.

	Sanctuary		Non-sanctuary		Δ
	Mean	StD	Mean	StD	
Loan demand ^a	0.094	0.092	0.065	0.113	0.029
Loan demand size ^b	0.075	0.074	0.057	0.102	0.018
Rejection rate ^a	1.479	0.754	1.376	1.262	0.103
Share of Hispanics	0.145	0.133	0.087	0.136	0.059
Share of Black Americans	0.086	0.127	0.091	0.146	-0.005
Share of old age population	0.435	0.314	0.448	0.299	-0.013*
Homicide rate	0.265	0.265	0.297	0.705	-0.032
Unemployment rate	0.059	0.025	0.062	0.028	-0.002**
Democrats win election, county	0.680	0.467	0.183	0.386	0.497
Democrats win election, state	0.769	0.422	0.316	0.465	0.453
Income per capita, Hispanics ^c	18.128	5.543	15.329	7.767	2.800**
Observations	1236		35568		

Notes:

^a As defined in Section 3.

^b As defined in Section 3, but using the volume of mortgage demand instead of mortgage demand.

^c In 1000.

Table A.2

Political leanings of states.

Red states	Blue states	Swing states
Alabama	California (12)	Arizona
Arkansas	Colorado (12)	Georgia (3)
Idaho	Connecticut	Indiana
Kansas (2)	Delaware	North Carolina (5)
Kentucky	District of Columbia	Florida
Louisiana	Illinois (1)	Iowa (10)
Mississippi	Maine (1)	Ohio (2)
Missouri	Maryland (3)	Michigan (3)
Montana	Massachusetts	Pennsylvania (13)
Nebraska (2)	Minnesota (2)	Wisconsin
North Dakota	Nevada (2)	
Oklahoma (1)	New Hampshire	
South Carolina	New Jersey	
South Dakota	New Mexico (1)	

(continued on next page)

Table A.2 (continued).

Red states	Blue states	Swing states
Tennessee (1)	New York (6)	
Texas	Rhode Island	
Utah	Vermont	
West Virginia	Virginia (4)	
Wyoming	Washington (17)	

Notes: I classify states based on the results of the presidential elections that took place in 2008, 2012, 2016, and 2020. I label a state as a Blue or Red state if, in all four elections, the Democratic or Republican candidate, respectively, gained the most votes in the state. If, in at least one of the elections, a candidate of another party gained the most votes, I label such a state as a swing state. Alaska, Oregon, and Hawaii are excluded from the analysis and are thus not listed here. The number in brackets indicates the number of sanctuary counties in the respective federal state.

Data availability

All data used in this study are publicly available, and the sources are provided in the data section.

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