Should They Stay or Should They Go? Immigration and Municipal Bonds

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Abstract

Immigration stimulates economic growth, but it also increases the demand for local public resources. This paper causally examines the impact of immigration on the local government's access to finance to evaluate this trade-off. I find that immigration inflows improve local government access to finance, as evidenced by a decline in municipal bond yields and an increase in bond issuances. I instrument for current immigrants' settlement decisions using historical migration patterns of immigrants from 1880 onward, interacted with the flow of incoming immigrants. These effects are stronger for communities located further from the border, with a higher concentration of labor-intensive industries, and more prevalent labor shortages. The positive impact of immigration is driven by an expansion in the local labor market and an enhanced ability to fund collateral, rather than economies of scale. These findings provide evidence of the positive benefits immigrants bring to local communities.

Keywords: Municipal Bonds, Immigration, Public Finance

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1 Introduction

There is a longstanding debate on whether immigrants benefit the communities they settle in. On the one hand, immigration can promote both short- and long-term economic growth by increasing the local labor supply and fostering new business creation (Bernstein et al., 2022; Burchardi et al., 2020; Peri, 2012). On the other hand, immigration can place a greater strain on local public resources such as healthcare, education, and social services as immigrants assimilate into their new communities (Borjas, 1999; Mackie and Blau, 2017). These contrasting impacts of immigration have become increasingly relevant as the United States faces the largest inflow of immigrants in its history and the U.S. welfare system continues to expand.[1]

In this paper, I causally examine the impact of immigration on the local governments' access to finance to test this trade-off. While these trade-offs have been difficult to test simultaneously, I use the municipal bond market as a laboratory, building on the notion that municipal bond yields reflect the markets' forward-looking expectations of risks to local economies.[2] Examining borrowing costs reveals how immigrant inflows support or hinder their communities' access to finance, which is crucial for their long-term development. I link this with extensive data from U.S. counties on labor market, income statement, and balance sheet data to explore the channels through which immigration affects the local economy and local government.

Using OLS, I find that immigrant inflows significantly reduce the cost of borrowing and increase the number of bond issuance proceeds raised for municipalities, suggesting that immigration improves their access to finance.[3]A potential concern is that immigrants might choose to settle in areas where economic conditions are already improving or where the provision of public and social goods is

[1]Milton Friedman highlighted the economic concerns associated with immigrants "freely immigrating to welfare rather than jobs" nearly 50 years ago but this debate remains largely unsettled (Friedman, 1978).

[2]I use the term county, municipality, and local community interchangeably throughout the paper

[3]The municipal bond yield spread is computed as the tax-adjusted bond yield less the maturity-matched treasury rate.

increasing. These factors could independently influence a county's access to finance, leading to positively or negatively biased estimates depending on which form of selection dominates. To address this issue and identify the causal effects of immigration on public finance, I leverage the tendency of immigrants to settle in communities where others of the same ethnic group have *previously* settled. I build on the framework of (Burchardi et al., 2019, 2020) which proceeds in two steps and uses U.S. Census data on the migration and settlement of immigrants dating back to 1880.

First, I predict the number of residents of a specific ancestry (e.g., Mexican) in a given county (e.g., Los Angeles) for a specific year (e.g., 1980) by constructing instruments built around the *predicted* number of Mexican immigrants that settled in Los Angeles county in *prior* years. I do this by interacting the total number of immigrants from that country migrating to other U.S. regions with the proportion of other immigrants settling in the county. For example, I predict that many Mexican immigrants settled in Los Angeles in 1920 because a large number of Mexicans were arriving in the United States and many non-Mexican immigrants were settling in Los Angeles at that time, which helps explain the high proportion of Mexican ancestry in Los Angeles today. Iterating this procedure from 1880 onward, allows for the isolation of quasi-random variation in ancestry distribution *across* counties.

Second, I use the *predicted* ancestry compositions interacted with the subsequent flow of immigrants to predict the number of recent immigrants in a county at time t. For example, if Los Angeles County had a high predicted Mexican ancestry in 1980 and many Mexican immigrants were arriving in other U.S. regions between 1980 and 1985, I would predict a large inflow of Mexican immigrants to Los Angeles in 1985. In contrast, other counties with lower Mexican ancestry weights would be considered relatively untreated. To predict the total flow of immigrants to Los Angeles from 1980 to 1985, I sum the product of the predicted ancestry weights from 1980 with the flow of the respective immigrant groups over the following five years. This Bartik-instrumental variables approach satisfies the relevance condition with first-stage F-statistic exceeding 200. Additionally,

the use of plausibly exogenous ancestry weights and the leave-out information approach supports the validity of the exclusion restriction (Goldsmith-Pinkham et al., 2020).

Consistent with the OLS estimates underestimating the positive impact of immigration on a community's access to finance, I find that immigrants tend to settle in areas with increasing public and social goods expenses (e.g., healthcare and welfare). The instrumental variables (IV) approach provides strong evidence that increasing immigration improves a county's access to finance by lowering its municipal bond yields. This relationship is robust across various fixed effects, bond and county controls, and when yield is expressed as a difference rather than in levels. A one-standard deviation increase in immigration inflows (about 21,000 people) reduces a county's borrowing cost by about 6 basis points. These effect sizes are closer to 15 basis points for larger counties where the majority of immigration inflows occur. These findings suggest that, on average, the benefits immigrants bring to local communities outweigh their consumption of public goods and social services.

I also examine the effects of immigration vary across different communities. Immigrant inflows might be particularly valuable in areas which have lower provisions of social goods to consume or where the additional supply of labor is more valuable. I find that communities further away from the southern border and counties below the median income level experience greater benefits from immigration. Consistent with heterogeneous effects based on labor market compositions, I find the benefits of immigration are more pronounced in aging communities and those with a higher proportion of workers in labor-intensive industries. Both of these findings support the notion that immigrants augment and complement the existing labor force.

Immigrants might enhance a local community's access to finance through several mechanisms. First, immigrants might boost productivity by increasing labor supply and fostering new business creation, which can lead to higher county revenues and more tax dollars allocated back to the local area. Second, more immigrant inflows might improve a county's financial position through

economies of scale if revenues increase while expenses remain largely constant. Third, immigrants can contribute to funding increased collateral through investments in capital and infrastructure projects, enabling the county to take on more debt at lower rates. In contrast, the observed decline in yields might be driven mechanically by immigrant inflows reducing a community's short-term constraints and decreasing its reliance on debt.

Overall, my evidence suggests that increasing immigration enhances productivity and improves a county's ability to fund collateral which increases the supply of credit and reduces lowers borrowing costs for communities. I find that increasing immigration not only drives employment growth but also boosts the number of new businesses, as immigrants both start their own businesses and alleviate labor constraints for other entrepreneurs. These productivity gains translate into higher local government revenues through increased tax collection and intergovernmental transfers. I find no evidence of economies of scale, as expense growth slightly exceeds revenue growth. In contrast, these increased expenses are used to partially fund improved capital projects and infrastructure. In combination with the fact that immigration actually leads to an *increase* in debt outstanding, it appears that immigration allows counties to fund collateral which is used to fund more debt at better terms.

My primary contribution is to examine how immigration affects local communities' access to finance. While many studies have explored various risks to municipalities and their impact on access to finance–such as climate change (Goldsmith-Pinkham et al., 2023; Painter, 2020), the opioid crisis (Cornaggia et al., 2022), newspaper closures (Gao et al., 2020), and aging demographics (Butler and Yi, 2022)–my work focuses specifically on immigration. Gustafson et al. (2023) is the closest in spirit, finding that Covid-induced, primarily white-collar internal migration increases county bond yields and reduces access to finance. In contrast, my paper provides empirical evidence that increases in population due to international migration, including those beyond just white-collar workers, enhance a community's access to finance as more immigrants move into the area.

My paper also connects to a broad literature on the effects of immigration and its interaction with public finance. Prior research has explored immigration's impact on local labor markets and productivity (Burchardi et al., 2020; Card, 2001; Doran et al., 2022; Peri, 2012; Piyapromdee, 2021; Tabellini, 2020), foreign direct investment and international trade(Burchardi et al., 2019; Cohen et al., 2017; Eghbali et al., 2024), innovation (Bernstein et al., 2022; Burchardi et al., 2020), labor and housing prices (Cortes, 2008; Saiz, 2003), long-term community impacts (Sequeira et al., 2020), and the consumption of public goods by immigrants (Borjas, 1999; Chalfin, 2015; Mackie and Blau, 2017). In a related work, Burchardi et al. (2020) show that immigration leads to an increase in the production of innovation and wage growth in counties receiving immigrant flows. However, the overall impact of immigration on public finance remains unclear, as the consumption of public goods and social services by immigrants could offset their economic benefits. By analyzing how immigration affects county revenues, expenses, and balance sheets, my paper enhances our understanding of its implications for public finance. This paper also introduces a novel identification approach to the finance literature which allows for a broader understanding on the impacts of immigration on the financial system.

2 Institutional Background

2.1 Immigration

Although the United States has often been described as a "country of immigrants" or a "melting pot" to reflect the significant role immigrants have played in its development, restrictions on immigration extend back to its origins. The 1790 Naturalization Act required individuals seeking citizenship to have at least one year of residence in the country, be of "good moral character", and be a "free white person" excluding Native Americans, indentured servants, enslaved people, free Africans,

Pacific Islanders, and non-White Asians from becoming citizens. In 1798, the Federalist Party aiming to limit immigrant influence, passed the Alien and Sedition Acts, which allowed the president to deport any non-citizen deemed dangerous and allowed the deportation of any non-citizen who came from a country at war with the United States. During the mid-1800s, the United States adopted more welcoming immigration policies to address labor shortages. For example, the Immigration Act of 1864 allowed labor contracts with foreign workers and established a commissioner of immigration. These more open immigration policies were largely restricted to European immigrants as the Chinese Exclusion Act of 1882 banned Chinese laborers from immigrating for the following 10 years, which was later extended until 1943, and authorized deportation of unauthorized, recent Chinese immigrants. From 1850 to 1910, pro-immigration policies led to a rise in the foreign-born population from about 10 percent in 1850 to nearly 15 percent in 1910.

Following this period of time, immigration policy became more restrictive as evidenced by the 1921 Emergency Quota Act which capped annual, total immigration at 350,000 (later reduced to 165,000 in the Immigration Act of 1924) and also created country quotas. During this period, the percent of the U.S population that is foreign born declined to just 4.7 percent in 1970. Immigration policy took another turn following the Immigration and Nationality Act of 1965 which abolished the quota system, created a preference system prioritizing family reunification, skilled immigrants, and refugees which resulted in significantly higher immigration from Asia, Latin America, and Africa. This era of pro-immigration policy in the modern era created pathways to permanent residency to unauthorized immigrant workers and protection from deportation through the Immigration Reform and Control Act of 1986. Additionally, the Immigration Act of 1990, created H-1B visas for highly skilled temporary workers and H-2B for seasonal, non-agricultural workers while seeking to limit illegal immigration through increasing enforcement at the border and fences built along the Southwest border (Pew Research Center, 2015). Figure 1 summarizes these historical immigration patterns since 1850 and shows that the United States had its highest absolute number of immigrants

in 2020 at nearly 50 million individuals and is also near the maximum proportion of US immigrants in recent history at nearly 15 percent of total residents.

3 Data Sources and Sample

3.1 Bond Issuance Data

I begin with a sample of all municipal bond issuances from Refinitiv's SDC Platinum from 1985 to 2010 which returns 374,971 bond issuances. I am able to link 90 percent of these issuances to the ultimate county issuer resulting in 338,959 matched issuance. As my research design uses flows of immigration over five year periods, I keep only bonds issued at five year endpoints (e.g., 1985 and 1990) which returns 72,744 bond issuances. Lastly, conditioning down to bonds that have non-missing information related to the bond's yield and lagged characteristics returns 53,516 bond issuances.[4] My main measure of borrowing cost for a given bond issuance is the tax-adjusted bond yield less the maturity-matched treasury bond yield where following Garrett et al. (2023) is computed as:

$$Spread_{i,c,t} = \frac{Yield_{i,c,t}}{(1-\tau_{c,t})} - r^{f}_{m,t} \tag{1}$$

where $r^{f}_{m,t}$ is the yield of treasury bill of maturity m issued at time t, $\tau_{c,t}$ is the marginal tax rate on personal income calculated as $\tau_{c,t} = \tau_t^{Federal} + \tau_{c,t}^{State} \times \mathbf{1}[Exemption^{State}]_{c,t}$ where $\tau_t^{Federal}$ is the federal tax rate for top earners after adjusting for the deductability of state income taxes at the federal level and $\tau_{c,t}^{State}$ is the state income tax rate for top earners with both measures provided by NBER Taxsim (Feenberg and Coutts, 1993).

[4] I keep only the longest maturity bond within a given bond issuance as the information required to compute the yield on shorter-dated bonds within the same issuance is not available until 2003.

Table 1 Panel A presents summary statistics on key variables at the bond issuance level. The average bond has a yield spread of 2.43 percent in excess of the maturity-matched, treasury bond yield suggesting that investors demand a sizeable default and illiquidity premium from holding municipal bonds. Cross-sectionally, there is sizeable variation across municipalities despite the low, observed default rates as gap between the 25th and 75th percentile of issuances is about 2 percent. The average bond has a maturity of 15 years and a principal amount of $4.5 million suggesting many municipal projects are sizeable in scope and longevity. About 33 percent of bonds are revenue bonds backed only by the cash flows of the underlying project itself and 88 percent of bonds are tax-exempt.

3.2 County Census Data

I link this bond issuance level data with U.S. Census data on population, immigration, and other county characteristics. The average population of bond-issuing counties in my sample is about 200,000 residents. These counties receive about 4,000 immigrants over the five-year intervals measured in the Census data with about 90 percent of these immigrants migrating from non-European countries. These immigrant inflows have significant cross-sectional dispersion as the median U.S. county receives inflows of about 250 immigrants while the standard deviation is about 20,000 immigrants. These immigrant inflows are a significant part of the population sustainment and growth in the United States as the average population change over the same interval is only 10,000 residents. Regarding demographics, about 60 percent of residents are between the working ages of 18 to 65 and about 12 percent of residents live below the poverty line. The average county has 71,000 employed individuals with 71 percent of these individuals working in more labor-intensive, blue-collar lines of work.[5]

[5]I classify 2-digit NAICS codes into blue or white-collar work based on the nature of work and education required for the position. These county-level employment data are from the County Business Pattern Files (Eckert et al., 2020).

Lastly, I include two data sources of county financial data. The first comes from the Quarterly Census of Employment and Wages which includes data on the number of establishments, employees, and total pay within a given county. Table 1 Panel C shows that the average county has about 5,000 establishments, 80,000 employees, and an average annual CPI-adjusted pay of about $35,000 in 2010 dollars.

The second source provides government financial data from the Government Finance Database which aggregates data primarily from the US Census Bureau's Census of Governments and Annual Survey of State and Local Government Finances (Pierson et al., 2015).[6] These data provide comprehensive information on the income statements and balance sheets of local county governments. Table 1 Panel D shows that the median county has revenues of about $40 million consisting of total taxes, intergovernmental revenue, and other miscellaneous revenue. Regarding expenses, the average county has comparable expenses which are dispersed broadly across public goods for local citizens such as infrastructure and roads, police, judicial, and public welfare spending. The average county government has about $140 million in debt outstanding while financial assets represent about $350 million which is spread across a mix of cash, trust cash securities, and other securities. The average municipality has a leverage ratio of about 0.36 when scaling its total debt by its financial assets while some distressed counties have leverage ratios exceeding 2.[7]

[6]I use the most recent observation from the County Business Pattern Files as these data are provided comprehensively in years ending in the digit 2 or 7.

[7]In comparison, the ratio of total debt to equity of U.S. corporations was nearly 85 percent at the end of 2023. Schwert (2017) estimates that default risk accounts for 74 to 84 percent of the average municipal bond spread after adjusting for tax-exempt status despite the low incidence of municipal default of less than 0.16 percent.

4 Empirical Approach

4.1 Yield Spread Changes Following Immigration

To examine the impact of immigration on municipal bond yields, I first estimate the following regression specification:

$$\begin{aligned}\text{Yield Spread}_{i,c,t} = \beta_0 + \beta_1 \Delta Immigration_{c,t,t-5} + \tau' \times \text{Bond Controls}_{i,t} \\ + \rho' \times \text{County Controls}_{c,t} + \delta_t + \gamma_c + \epsilon_{i,c,t}\end{aligned} \tag{2}$$

where $\text{Yield Spread}_{i,c,t}$ is the municipal bond's tax-adjusted issue yield less the yield on a maturity-matched treasury bond.[8] $\Delta Immigration_{c,t,t-5}$ is the inflow of immigrants into county c over the last five years. $\text{Bond Controls}_{i,t}$ includes the total issue amount of the bond, the time to maturity, whether the bond is callable, insured, a negotiated bid, taxable, the rating of the bond, whether the bond has a sinking fund, and whether the bond is used to refinance existing issuances. $\text{County Controls}_{c,t}$ is a vector of lag county controls from five years prior which includes the population, percent of the population between 18 and 65, percent below the poverty line, the average income, median age, the number of employed people, and the proportion of employees working in labor intensive fields. δ_t is a time fixed effect to account for differences between observed time units, and γ_c is a county fixed effect to capture time-invariant differences across issuing counties.

Table 2 examines how changes in immigration affects municipal bond yield spreads. Increases in immigration consistently lead to lower issuing yields for counties across the OLS estimator. In columns (1) to (5), I regress the yield spread directly onto immigration, and I find that a one-standard deviation increase in immigration leads to about a 5 basis point decline in an issuing

[8] I also use $\Delta\text{Yield Spread}_{i,c,t}$ as a measure of yields where $\Delta\text{Yield Spread}_{i,c,t} = \text{Yield Spread}_{i,c,t} - \overline{\text{Yield Spread}}_{c,t-5}$

county's yield spread on average. These effect size sizes are closer to 12 basis points in the larger counties where the majority of immigration occurs. Columns (6) to (8) provide similar evidence when modeling *changes* in the yield spread with an estimated effect of about 4 basis points. These results are robust across the inclusion of bond and county controls, and the inclusion of county fixed effects providing initial evidence of a link between immigration and reduced borrowing costs for communities. Notably, this link between immigration and reduced municipal bond yields is not present when using measures of internal migration. The results in Table A.1 provide limited evidence that either changes in population displayed in Table A.1 Panel A or net flows of IRS filing residents displayed in Table A.1 Panel B are linked to lower municipal bond yields as only 1 of 16 coefficient estimates is negative and statistically significant.

Although, the OLS estimator provides initial evidence that immigration leads to lower yields, it is possible these estimates do not recover the *true* average treatment effect for two reasons. The first, is due to the non-random selection of immigrants into communities as they typically decide where to settle. For example, immigrants might settle into communities where the marginal productivity of labor is increasing from enhancements to the total factor productivity (positive selection) or the marginal cost of living is declining due to an exodus of native residents (negative selection) the coefficient estimate β_1 might suffer from bias in either direction. Additionally, county-country specific factors can also bias these estimates as workers from a specific country might settle into counties which have concentrated exposure to a specific sector (e.g., Indians settling in Silicon Valley in Santa Clara County due to tech exposure). Productivity shocks in this sector will lead to both improvements in the financial situation of these communities and more immigrant inflows leading to a spurious correlation between immigration and a community's financial situation.

4.2 Instrumental Variables and Bartik-Instrument Approach

While immigrants typically choose their settlement location, I follow Burchardi et al. (2020) in exploiting the fact immigrants are more likely to settle into communities where others of the same ethnic group have previously settled. Applying the framework of Burchardi et al. (2020), I use historical migration and settlement patterns from the U.S. Census from 1880 onward to provide quasi-random, ex-ante variation in the settlement decision of current immigrants. Using migration and settlement decision of historic migrants to determine the exposure of counties to ongoing immigrant flows helps to guard against the settlement decision of immigrants reflecting private information connected to a county's time varying financial performance (e.g., immigrants end up in only improving/declining counties). Additionally, to guard against country-county connections inducing a spurious correlation, immigrant inflows from a specific country are predicted to a specific county using information independent of the county-country time pairing.

The framework of Burchardi et al. (2020) proceeds in two steps which I provide the estimating equations and intuitions through a stylized example.

4.3 Predicting Ancestry

In the first step, Burchardi et al. (2019) predict the number of people of a specific ancestry in a given county in a given year by instrumenting for the the historic flow of immigrants using plausibly exogenous variation in the migration and settlement patterns of historic immigrants.

$$Ancestry_{o,c,t} = \sum_{\tau=1880}^{t} a_{r(c),\tau} Imm_{o,-r(c),\tau} \frac{Imm_{Europe,.,c,\tau}}{Imm_{Europe,\tau}} + v_{o,c,t,} + \delta_{o,r(c)} + \delta_{c(o),c} + X'_{o,c}\varsigma \qquad (3)$$

For example, $\text{Ancestry}_{o,c,t}$ is the number of people of Mexican origin (o), in Los Angeles County

(c), in 1985 (t). The instruments are constructed using the interaction of two sources of variation based on: (1) a *push* factor consisting of variation in the magnitude of when immigrants leave their home countries and (2) a *pull* factor consisting of how desirable these areas are to immigrants settling in the same time period. For example, $I_{o,-r(c),\tau}$ is the total number of immigrants *Imm* from Mexico that settle in U.S. regions outside the West Coast in 1880 (*-r(c),*τ) capturing the *push* of immigrants from Mexico. $\frac{I_{Europe,.,c,\tau}}{I_{Europe,\tau}}$ is the proportion of European immigrants settling in Los Angeles County in 1880 reflecting the *pull* of this area to attract immigrants in this period. $\delta_{o,r(c)} + \delta_{c(o),c}$ are a series of origin country $\times$ destination region and continent of origin $\times$ destination county interacted fixed effects, and $X_{o,c}^{'}$ contains a series of time-invariant controls for country $\times$ county characteristics.

These instruments are constructed for each Census period with immigration data from 1880 onward with the intuition that many immigrants end up in areas as a function of their timing of leaving their home country and the short-term draw of an area. For example, I'd *predict* a large number of Mexican immigrants ended up in Los Angeles as this county was very desirable in the early 1900s when Mexican immigration spiked which is used to explain the large composition of people of Mexican ancestry in Los Angeles *today*. In contrast, I predict that few counties in the Midwest region of the United States have a high concentration of Mexican immigrants as these counties were largely settled in the late 1800s before Mexican immigration spiked. Initial immigrant settlement patterns even when driven by quasi-random forces and devoid of county $\times$ country information are strong predictors of subsequent settlement patterns of ethnic peers as immigrants tend to cluster in similar areas.

This is estimated separately for each time period t = *1980,1985,1990,1995,2000,2005,2010* using all non-European countries in the sample. From this estimation, they derive predicted ancestry

$$\widehat{Ancestry}_{o,c,t} = \sum_{\tau=1880}^{t} \hat{a}_{r(c),\tau}(Imm_{o,-r(c),\tau}\frac{Imm_{Europe,c,\tau}}{Imm_{Europe,.,\tau}})^{\perp} \tag{4}$$

where $a_{r\hat{(d)},\tau}$ are the coefficients estimated from Equation 3 and $\perp$ denotes that the interaction of the push and pull factors has been residualized on the controls and fixed effects from Equation 3, isolating the variation in predicted ancestry driven by these instruments.

Figure 2 provides evidence to support the relevance of using historical migration patterns to explain subsequent immigration waves. Panel A of Figure 2 provides empirical validation of the relevance in using historical migration patterns to explain subsequent variation in the settlement decision of immigrants. Due to sticky immigration patterns, the composition of immigrant flows into a given county are quite persistent. The composition of inflows of immigrants by country into a given county in 1880 have a 30 percent correlation with the composition of the inflow of immigrants in 2010, and this correlation at the country-county level increases to more than 50 percent following 1920. Panel B of Figure 2 shows that historically much of the Mexican immigration has been concentrated along the United States' southern border and western region as counties in these regions were particularly desirable in the early 1900s as Mexican immigration spiked. Although, Mexican immigration has become more widely dispersed across the United States over time, the identifying variation of this approach relies upon areas that had higher desirability (pull) at times when more Mexican immigrants were arriving in the United States (push). Figure 3 Panel A shows significant variation in the arrival of immigrants into the United States over time from some of the largest immigrant sending countries. For example, Mexican immigration made up less than 10 percent of immigration in 1900 before spiking to over 40 percent in 1920.

4.4 Predicting Immigration

Second, I use these *predicted* ancestry compositions interacted with the subsequent flow of immigrants to ultimately predict how many immigrants from a given origin country recently settled in a given county at time t. I use information on the broader flow of immigrants which leaves out the focal county's Census region to exclude the impact of within region $\times$ country migration.

$$Imm_{o,c,t} = \delta_{o,r(c)} + \delta_{c(o),c} + \delta_t + X'_{o,c}\theta + b_t \times [\widehat{Ancestry}_{o,c,t-1} \times \tilde{Imm}_{o,-r(c),t}] + u_{o,c,t} \quad (5)$$

For example, I'd predict that Los Angeles county received a large flow of Mexican immigrants in 1985 $(Imm_{o,c,t})$ if Los Angeles County had a high *predicted* level of Mexican ancestry in 1980 $\hat{\text{Ancestry}}_{o,c,t-1}$, and many Mexicans were migrating to regions in the United States outside the West Coast between 1980 and 1985$(\tilde{Imm}_{o,-r(d),t})$.[9] Similar to before, the δ's are time, country $\times$ region, and continent $\times$ county fixed effects, $X'_{o,c}$ observable controls.

To predict the total flow of immigrants to Los Angeles from 1980 to 1985, I sum across all a given county's *predicted* ancestry weights in 1980 and the flow of the respective immigrant group over the last five years as follows:

$$\hat{Imm}_{.,c,t} = \sum_o \hat{b}_t \times [\hat{Ancestry}_{o,c,t-1} \times \tilde{Imm}_{o,-r(c),t}] \quad (6)$$

Adding up across foreign origins, I derive the main instrument for the total number of migrants settling in county c in period t, $\text{Immigration}_{c,t}$. The use of a Bartik-instrument design allows me to estimate the effects of immigration on two areas with similar proportions of immigrant ancestry but different compositions of immigrant ancestry (e.g. Chinese versus Mexican) as additional immigrants are drawn to settle where others of their ethnic group have previously settled. An important feature of this design is that U.S. counties have varying exposures to immigrant inflows over time which results in significant variation within the *same* county *over* time as the research design partially relies on variation in the *flow* of immigration over time for identification. Figure 3 Panel B provides

[9] $\tilde{Imm}_{o,-r(c),t} = I_{o,-r(c),t} \frac{I_{Europe,r(c),t}}{I_{Europe,-r(c),t}}$ the scaled push factor from o. Because Burchardi et al. (2020) leave out from $\text{I}_{i,-r(d),t}$ all migrants from o who settle in d's region, scaling by $\frac{I_{Europe,r(c),t}}{I_{Europe,-r(c),t}}$ corrects for differences in region sizes.

empirical support for this source of variation by showing that some areas in the United States were less affected by some immigration waves (e.g., Colorado and Nevada prior to 1990) while exposure to immigration increases over time. Crucially, the design relies on identifying exogenous variation in the levels of these endogenous settlement patterns that vary within county over time based on the historical immigrant settlement patterns by nationality and the flow of immigrants from varying sender countries over time.[10]

4.5 Identification Assumption

A sufficient condition for the validity of this instrument is that predicted ancestry $\hat{A_{o,c,t-1}}$ is exogenous in Equation 3 which in combination with the baseline regional and continental leave-outs implies the condition can be written as:

$$Imm_{o,-r(c),\tau}\frac{Imm_{Europe,c,\tau}}{Imm_{Europe,.,\tau}} \perp \epsilon_{c,t} \forall o, \tau \leq t. \tag{7}$$

This requires that any confounding factors that drive temporary increases in a given county's financial situation post-1985 ($\epsilon_{c,t}$) do not systematically correlate with pre-1985 immigration from a given origin to other regions with the United States ($\mathrm{I}_{o,-r(c)}$) interacted with the simultaneous settlement of European migrants in that US destination ($\frac{I_{Europe,c,\tau}}{I_{Europe,\tau}}$).[11] Satisfying this condition implies the ancestry variable used to predict immigration in Equation 6 is exogenous.

Combining the previous two steps, to correct for the non-random flows of immigration into county c, I instrument for immigration into a given county using an instrumental variables framework with the following first-stage equation:

[10] Figure A.1 shows a similar figure in summarizing the magnitude of immigration waves by region of origin over time.

[11] I use the first difference in yield spread as a robustness measure as it has a weaker exogeneity assumption in implying the interaction of the historic push and pull instruments cannot be correlated with *changes* in financial conditions rather than the *levels* of financial conditions.

$$\Delta Immigration_{c,t,t-5} = \beta_0 + \beta_1 \hat{Immigration}_{c,t,t-5} + \tau' \times \text{Bond Controls}_{i,t} + \rho' \times \text{County Controls}_{c,t} + \delta_t + \gamma_c + \epsilon_{i,c,t} \tag{8}$$

While the second-stage regression below identifies the effect of immigration on municipal bond yields.

$$\text{Yield Spread}_{i,c,t} = \beta_0 + \beta_1 \Delta \widehat{Immigration}_{c,t,t-5} + \tau' \times \text{Bond Controls}_{i,t} + \rho' \times \text{County Controls}_{c,t} + \delta_t + \gamma_c + \epsilon_{i,c,t} \tag{9}$$

5 Main Results

The results in Table 3 examine the effects of immigration on municipal bond yields using the instrumental variables (IV) approach. The IV approach provides strong evidence that increasing immigration improves a county's access to finance by lowering its municipal bond yields. The baseline specification in column (5) shows that a one-standard deviation increase in immigration inflows (about 21,000 people) reduces a county's borrowing cost by about 6 basis points. These effect sizes are closer to 15 basis points for larger counties where the majority of immigration inflows occur. The first stage F-statistics are above 200 indicating the predicted ancestry linked with the flow of country specific immigrants are strong predictors of subsequent immigrant inflows. The effects are also robust to modeling the change in municipal bond yields which has a weaker exclusion restriction than modeling the level of municipal bond yields.

In terms of economic magnitude, the average issuer experiencing a one-standard deviation increase in the flow of immigrants would save nearly $200,000 in interest expense payments over the lifetime of the average bond it issues. With the average county issuer, issuing 6.65 bond issuances

per year, the estimated annual savings are over $1 million in interest payments over the lifetime of these issuances.[12] It is important to note these estimated effect sizes of immigration reflect investors pricing in both potential increased economic growth and increased expenses on public and social goods. These positive effects stemming from increased labor supply might be particularly beneficial for counties facing labor shortages or where the labor skill mix of immigrants better matches leading to further reduction in yields. Similarly, the increased costs of immigration stemming from the provision of public goods and social services might be less costly in areas insulated from immigrants that desire to free ride.

Table 4 examines the heterogeneous impact of immigration on a county's yield spread interacting different county characteristics with the exogenous flow of immigrants.[13] Columns (1) and (2) examine the effect on counties by the median distance to the southern border of the United States with state and county, fixed effects respectively. I find evidence that counties further away from the border benefit more from immigration with a one standard deviation increase in immigration leading to an estimated decline in a county's yield spread in excess of 10 basis points. It might be the case that counties further away from the border are less exposed to illegal immigrant flows or rely on more specialized, immigrant labor inflows providing the additional benefit.[14]

Columns (3) and (4) of Table 4 show that counties below the median average income actually have stronger effects of immigrants on improving a municipality's financial situation. These results suggest that areas might also benefit by having fewer public goods to deplete and that augmenting skilled labor or areas with higher capital assets are the not the sole benefactors from immigrant

[12]This saving in interest payments is computed as 6 basis points × $21.22 million (mean issue amount for county issuers) × 14.74 years = $187,670.

[13]The instrumental variables model, now includes two endogenous terms to instrument for (i.e. immigrant flow and immigrant flow × county characteristic).

[14]While, I am unable to disentangle between illegal and legal immigration effects, Pew Research Center (2019) estimates the gap of undocumented immigrants to be between 5 to 15 percent of Census respondents from countries with more undocumented individuals. The U.S. Census Bureau found in a simulated headcount across administrative records that about 20 percent of non-citizens had addresses that couldn't be matched in the 2020 Census versus 5.4 percent for citizens (Stephen and Lo Wang, 2024).

inflows. Consistent with the idea of immigrants filling gaps in the labor market, columns (5) and (6) show that the effects of immigration are strongest in communities with a smaller proportion of individuals between the working ages of 18 and 65. Lastly, regarding the complementary nature of of immigrants to their destination county, I find in columns (7) and (8) stronger effects of immigrants entering counties with a higher proportion of employees working in labor-intensive, blue-collar, and service oriented sectors.

5.1 Robustness & Additional Tests

I run several robustness tests to ensure that my results are not sensitive to my sampling choices and variable construction. Table A.2 presents the results. I indicate my baseline result in the top row for easy comparison to the robustness test results. Turning first to sampling choices, I show that my results are robust to using the logarithm of yield spread as the dependent variable. In row 2B, I weight the regression by the initial county populations to not allow population growth or the propensity of counties to access financial markets, and I find economically similar results. In row 2C, I control for the Census flow of internal migration and similarly find that the results remain largely unchanged. In row 2D, I backfill immigration data (e.g. fill 1981 bond issuances with the total immigration from 1985) which expands the sample, and I still find a strong effect of immigration in improving counties' access to finance.[15] Lastly, in rows 3A and 3B I provide evidence that although counties with larger immigration flows are the strongest driver of the relationship, the relationship between immigration and reduced bond yields holds when excluding the counties in the top percentile of absolute immigration flows or scaling immigration by the county's initial population in 1970.

Thus far, I have shown that counties experience an improvement in their access to finance as

[15]The coefficient estimate is about half the magnitude as the main result due to an attenuation bias from measurement error.

evidenced by a reduction in borrowing costs, but it is also possible that counties shift their demand for credit. The results in column (1) find no evidence that counties increase the size of a given debt issuance in response to increase immigration, but instead column (2) supports the idea the counties take on increasing debt loads by *increasing* the number of issuances themselves. The estimates suggest that a one-standard increase in immigrant inflows increase a city's annual amount of debt issuances by about 3 percent. Overall, column (3) provides limited evidence of changes in ratings while column (4) finds evidence that increasing immigration reduces the probability of a county issuing debt rated below-AA which helps explain the decline in yield spreads these counties experience. In regards to the bond features themselves, counties do not appear to issue longer maturity debt, but are less likely to issue callable debt and more likely to issue insured debt.[16]

Do counties change their debt issuance patterns following increased immigration? The results in Table A.4 show that the explicit use of proceeds raised in bond issuances remains largely unchanged. I find evidence that county's increase their debt issuances tied to more general uses while all other use cases (e.g., transportation, utilities, education, or healthcare) remain largely unchanged.

5.2 Mechanism

Thus far, I have shown that counties exposed to increasing immigration benefit from improved access to finance. These positive effects include both a reduction in their cost of borrowing and an improvement in their ability to issue additional debt. I find evidence of heterogeneous impacts across communities with counties with more likely labor shortages experiencing stronger effects. Building on the notion that municipal bond yields reflect the markets' expectations of future financial risks to local economies, immigration might improve the credit risk of a given county through several different channels. For example, immigration might improve the local economy and taxable base

[16]In my empirical design, I control for contemporaneous bond ratings when modeling yield spreads which provides a lower-bound to the true effect of immigration on municipal yield spreads.

sufficiently to offset increased spending on public goods and social services. It's also possible that immigrant inflows lead to an improvement in a county's financial margins as many of the county's expenses might be fixed while revenue growth expands. Lastly, the inflows of immigrants might allow counties to make additional investments in physical capital and infrastructure which serves as collateral for the county to take out cheaper debt and more debt.

The results in Table 5 provide evidence that immigration results in significant growth in the local labor market. Consistent with immigrants being more likely to serve as entrepreneurs and innovators (Bernstein et al., 2022), a one standard deviation increase in immigrants leads to a 3.31 percent increase in the number of establishments as shown in Panel A of Table 5.[17] Overall, I find a larger effect of immigration on employment and total wages in the community with an estimated effect size increase of 5.30 percent and 5.56 percent, respectively. In terms of economic magnitude, the effects of immigration are quite large with an estimated creation of about 160 additional establishments, 4,300 additional employees, and additional wages of $190 million for the average county. The results in column (4) estimates wage growth increases by a statistically insignificant amount of 1.3 percent. In comparison to the OLS estimator results in Panel B of Table 5 the effect sizes are about 80 percent of the magnitude of the IV for the number of establishments and total employment. I find a statistically significant of immigrant on average wages in OLS suggesting higher wage growth might have partially attracted an influx of immigrants.

How do these gains in the local labor market ultimately flow back to the local county government? Table 6 examines the effect on the revenues of the local county government and Panel A of Table 6 finds that increasing immigration flows lead to about a 3.9 percent increase in total revenues using the instrumental variables estimator. The composition of county government revenue base is made up of about 40 percent taxes from property and sales taxes, 40 percent intergovernmental transfers which are allocated from other governmental levels back to the local county based on population or

[17] $3.31\% = 0.169 \times 100\% \times 19{,}500/100{,}000$ immigrants.

need-based formulas, and the rest is composed of various license and other fees to local residents. The results in columns (2) to (4) show that immigrants lead to an increase in total inflows from taxes while this increase is predominantly driven by increases in property taxes rather than additional inflows from sales and recreation taxes. The results in column (5) shows that intergovernmental transfers have a similar sensitivity to additional immigrant inflows as taxes. The results in columns (6) and (8) show that federal and local intergovernmental transfers have the strongest sensitivity to additional immigrant inflows; although the increase in state intergovernmental transfers are most consequential as they comprise the majority of intergovernmental transfers provided to the local county government. For reference, the OLS estimates in Table 6 are similar in magnitude and direction although intergovernmental revenues experience a slightly larger effect size in the OLS estimator.

Table 7 examines how immigration affects the expense patterns of county governments which are spent on various public goods such as capital and roads, judicial courts, and police. One key benefit of immigration inflows to a local community is that it might allow the county to spend on long-lasting, infrastructure projects which might increase the productivity and capacity of the local business environment that benefit both incoming immigrants and native residents. The results in column (1) document that a one-standard deviation increase in immigration leads to a 4.83 percent increase in expenses. The results in column (2) show that capital expenses have a much higher sensitivity to immigration inflows than general expenses which are allocated on more temporary needs providing evidence consistent with the positive spillovers of immigration to local residents. Consistent with potential adverse effects of immigration, I find evidence of increasing court activity as column (3) shows an increase in judicial expenses. The results in column (4) show that adverse effects on county health spending are less consequential while column (5) shows a positive effect on road expenses by county governments in response to immigration inflows. Lastly, columns (6) to (8) show that while local communities spend more on policing while increased spending on welfare and

parks are statistically insignificant. Consistent with immigrants being attracted to locations where spending on public goods and social services are increasing, I find much stronger OLS effects for the link between immigrant inflows and expenditures on health and welfare related spending while spending on capital is much weaker.

Table 8 examines the net effect of immigration on a county's net income margin and balance sheet. The results in Panel A column (1) show that increasing immigration reduces a county's net income with a one standard deviation increase in immigration reducing a county's net income by about 1 percent. The results in columns (2) and (3) show that counties take on additional debt (primarily long-term debt) to fund the additional immigrants. A one-standard deviation increase in the number of immigrants leads to a 8.6 percent increase in the outstanding debt a county carries, and it appears that counties use debt to offset short-term expenses (e.g., judicial and policing) and also fund long-term infrastructure projects targeted at accommodating additional residents and additional business development. The results in columns (4) to (7) provide some evidence that counties also experience an increase in financial assets with the growth driven primarily by other trust assets. Lastly, while the growth in debt outpaces financial assets held by local counties, column (8) documents this 2.3 percent increase in leverage relative to the mean is statistically insignificant. The OLS estimates in Table 8 are similar in magnitude and direction as shown in Panel B.

In summary, these results suggest that counties benefit from increasing immigration with its spillover to the local economy stemming from both increases in establishment and employment growth. Rather than immigrants taking jobs or reducing wages for native workers, their inflows lead to *increases* in both establishment and wage growth. The improved access of counties to finance following immigrants inflows stems partially from spillovers from economic growth leading to an increase in property tax collection and increasing intergovernmental transfers collected from other levels of government that are distributed back to the local government. Counties do not appear to benefit from economies of scale with increasing profitability as immigrants enter, but rather the

inflow of immigrants are used to fund physical capital and infrastructure which is used as collateral to obtain cheaper and more debt.

6 Conclusion

Immigration has been a topic of debate since the founding of the United States; however, the question of whether immigrants benefit the communities they settle in remains largely unresolved. While local officials often argue that immigrants strain public resources, research suggests that they contribute to the economy. These trade-offs have been challenging to evaluate simultaneously due to the complex cash-flow and discount rate assumptions needed to estimate them.

In this paper, I causally examine the impact of immigration on the local governments' access to finance to test this trade-off. I find that increases in immigrant inflows lead to improvement in a county's access to finance evidenced by a reduction in its cost of borrowing and ability to issue additional debt. I instrument for current immigrants' settlement decisions using historical migration patterns of immigrants from 1880 onward, interacted with the flow of incoming immigrants. I find that a one-standard deviation increase in immigrant inflows reduces borrowing costs by approximately 6 basis points, with larger counties–where immigrant inflows are concentrated–experiencing a reduction of nearly 15 basis points. Consistent with immigration helping to offset labor shortages and having stronger effects where free-riding incentives of immigrants are weaker, I find stronger effects of immigration for counties with a lower proportion of working age population and in counties further away from the southern border.

Immigrant inflows lead to robust changes in the local labor market with significant growth in the number of establishments and employment while average wages experience slight increases. These economic gains spillover into the revenue collection of the local county government through an increase in property tax collection and an increase in intergovernmental transfers from other

levels of government. Rather than immigration improving a county's operating margins, I find that counties increase their spending on capital projects and infrastructure, which serves as collateral to help them negotiate lower borrowing costs and secure more debt. Understanding other risks that municipalities face, and the broader effects of immigration on the local economy represent interesting future areas of work.

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Figure 1: Immigration to the United States Over Time

This figure shows the stock of US immigrants over time as a percent of the total population and in absolute magnitude. Immigrants are defined as individuals born outside of the United States. Immigration data are based on respondents from the US Census Bureau decennial and American Community Survey.

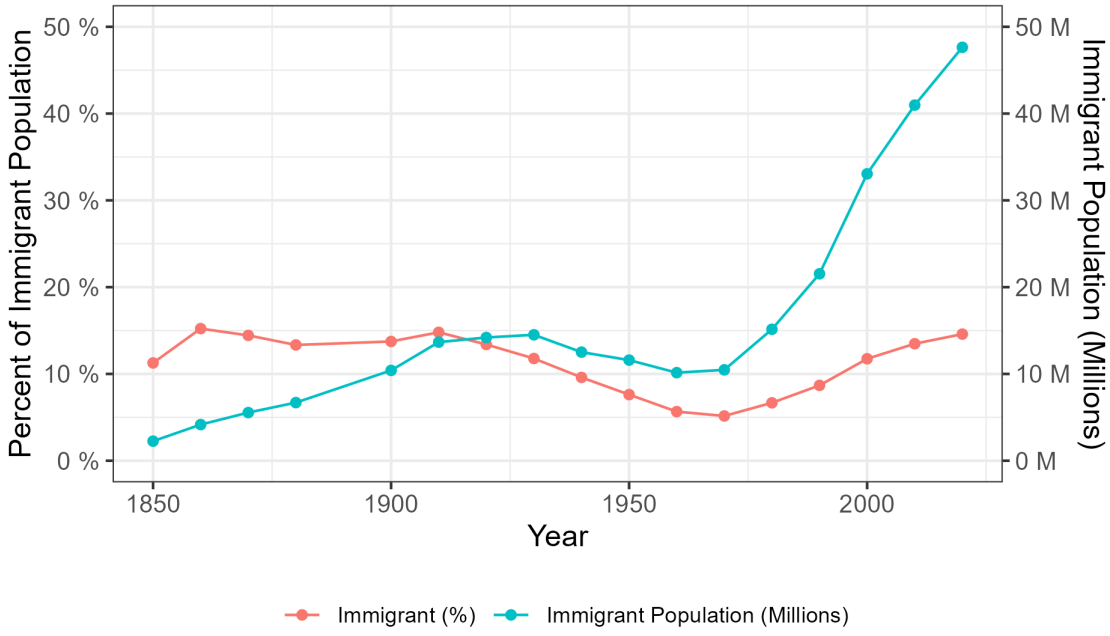
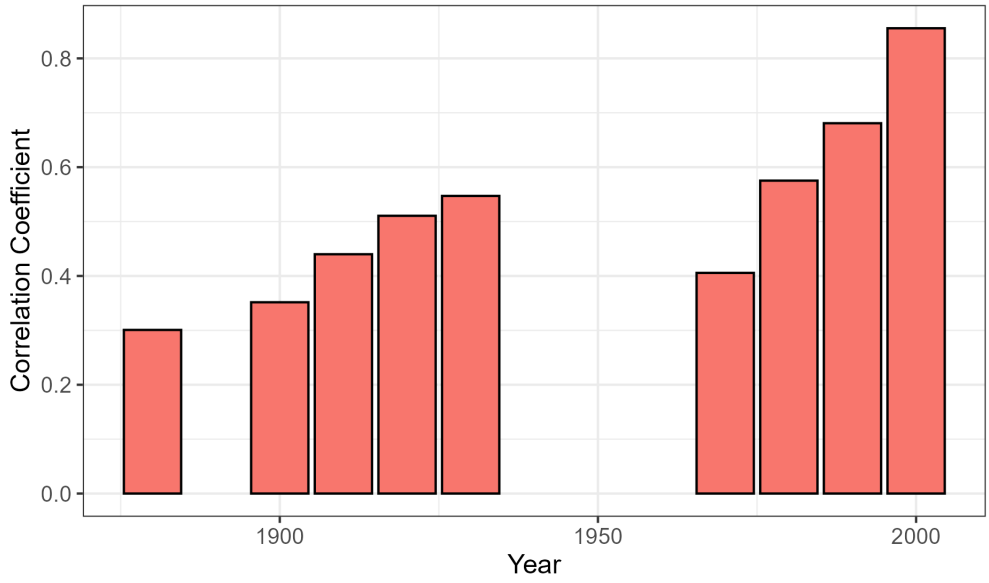


Figure 2: Persistence of Immigration Patterns Over Time

This figure shows the the persistence of immigration patterns at the country-county level. Panel A displays the correlation between the proportion of immigrants from a given country into a given county in 2010 onto the year denoted in the plot where the bar represents the correlation coefficient between the two (e.g. 1880 versus 2010). Panel B shows the percent of Mexican immigrants settling into U.S. counties over time. Immigration data are based on respondents from the US Census Bureau decennial and American Community Survey.

Persistence of Immigration to the United States



Proportion of Mexican Immigration by County

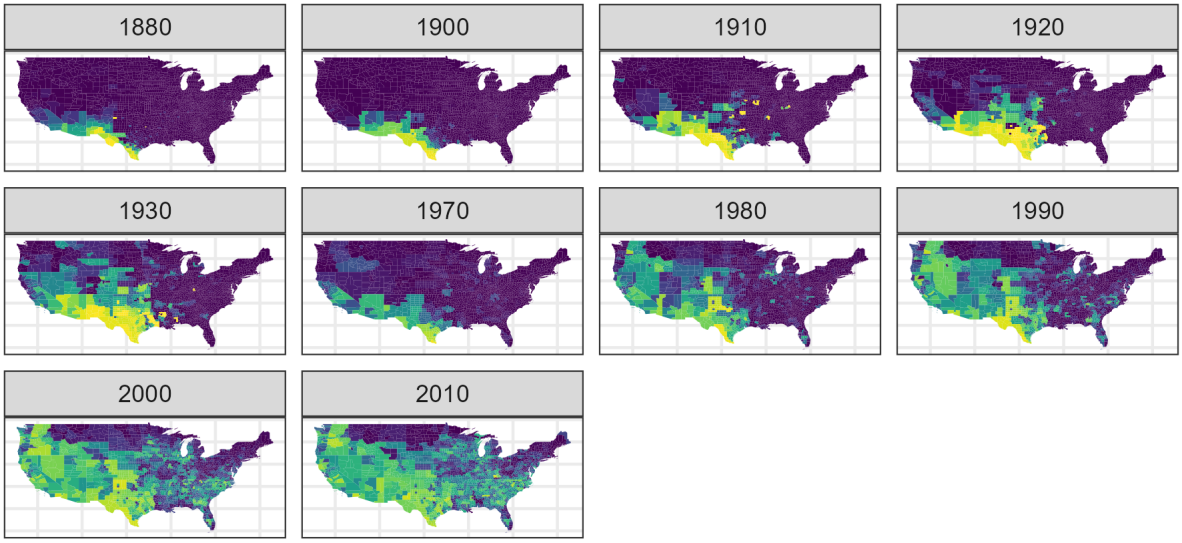
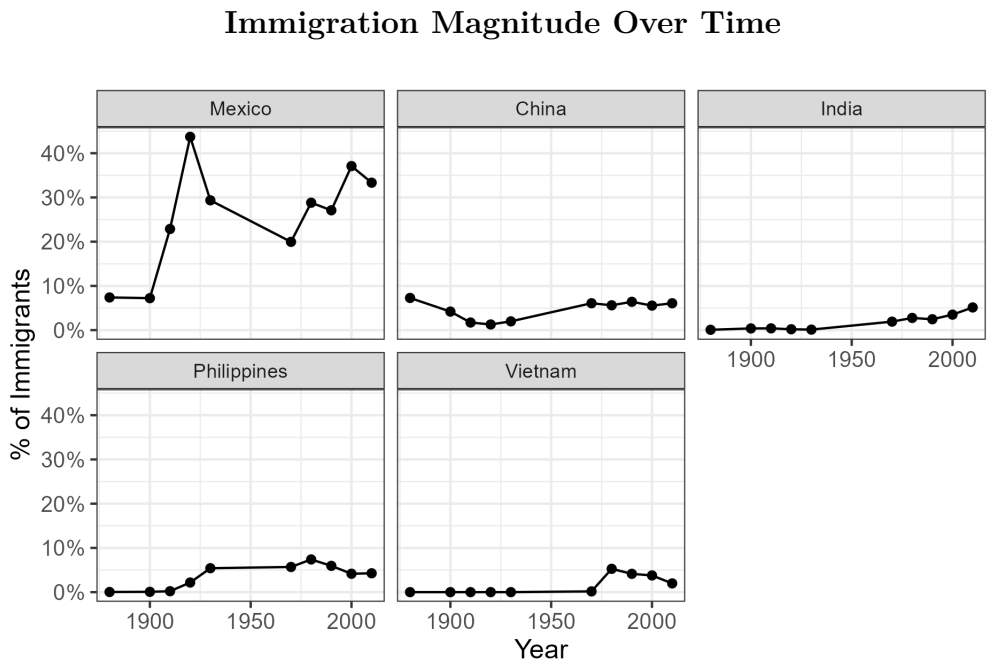


Figure 3: Immigration Patterns to the United States Over Time & Persistence
This figure shows the non-European, immigration into U.S. counties over time and the location and magnitude of US immigration since 1980. Panel A plots the proportion of immigrants by country of origin at a given time point across the six largest sender countries over the sample. Panel B shows the magnitude of immigration of non-European immigrants per 100,000 residents over five year intervals from 1980 to 2010. Immigration data are based on respondents from the US Census Bureau decennial and American Community Survey.



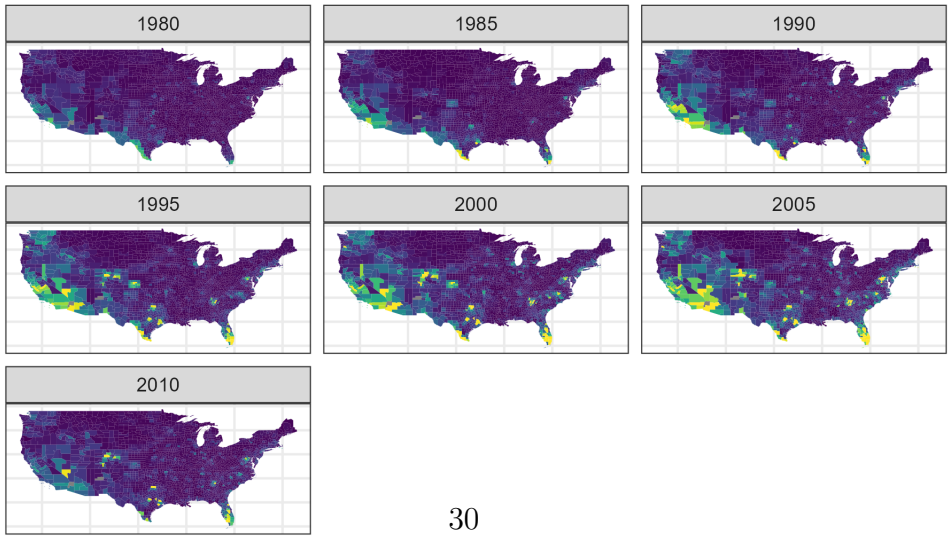


Table 1: Summary Statistics

This table presents the summary statistics for the sample of bond issuances and the underlying county issuer. Panel A describes the characteristics at the bond issuance level including its yield, features, and rating. Panel B describes the characteristics of county issuer including its demographics, average income, and labor-force composition at the county × year level. Panel C contains information on employment including establishments, number of employees, average annual pay, and total wages at the county × year level. Panel D contains information on the income state and balance sheet of county governments at the county × year level. Immigration denotes non-European immigration.

	Panel A: Bond Characteristics							
Yield Spread (%)	42637	2.33	1.41	-0.18	1.36	2.14	3.08	6.92
Δ Yield Spread (%)	42637	-0.56	2.02	-4.94	-1.59	-0.53	0.72	4.35
Years to Maturity	42637	14.74	9.27	0.75	7.75	15.01	20.10	35.00
Total Issue Amount ($ Million)	42637	21.22	55.58	0.20	2.21	5.90	16.00	300.00
Callable Issue	42637	0.69	0.46	0.00	0.00	1.00	1.00	1.00
Insured	42637	0.27	0.44	0.00	0.00	0.00	1.00	1.00
Negotiated Bid	42637	0.57	0.49	0.00	0.00	1.00	1.00	1.00
Revenue Bond	42637	0.33	0.47	0.00	0.00	0.00	1.00	1.00
Tax-Exempt	42637	0.88	0.32	0.00	1.00	1.00	1.00	1.00
Ratings Combined	42636	3.67	3.15	0.00	0.00	5.00	7.00	7.00
Sinking Fund	42637	0.28	0.45	0.00	0.00	0.00	1.00	1.00
Refinancing Flag	42637	0.27	0.44	0.00	0.00	0.00	1.00	1.00
	Panel B: County Census Characteristics							
	N	Mean	SD	p1	p25	Median	p75	p99
Total Population (000'000s)	6302	1.79	4.32	0.06	0.32	0.66	1.60	15.45
Total Immigration (000's)	6302	3.82	21.09	0.01	0.11	0.33	1.48	53.06
Non-European Immigration (000's)	6302	3.39	19.50	0.01	0.09	0.27	1.23	48.48
Population Change (000's)	6302	10.05	32.26	-11.74	0.13	1.97	8.70	128.76
IRS Net Flow (000's)	6065	0.17	4.68	-8.73	-0.17	0.04	0.45	9.59
% Below Poverty	6302	0.12	0.05	0.03	0.08	0.11	0.14	0.27
Average Income	6302	16.66	5.03	7.26	12.89	16.78	19.34	32.40
% Ages (18-65)	6302	0.61	0.04	0.54	0.58	0.61	0.63	0.72
Median Age	6302	35.84	4.23	27.00	33.00	36.00	38.00	47.00
% Labor-Intensive	6302	0.71	0.08	0.51	0.66	0.72	0.77	0.86

(Continued on next page)

Table 1 (*continued*)

	Panel C: County Census Employment and Wages							
	N	Mean	SD	p1	p25	Median	p75	p99
Establishment Count (000's)	6302	4.80	12.68	0.20	0.76	1.61	4.15	47.13
Number of Employees (000's)	6302	81.14	205.81	1.93	10.58	24.59	66.92	789.85
Total Annual Wages ($ Billions)	6302	3.47	10.24	0.05	0.33	0.83	2.47	39.48
Average Annual Pay (000's)	6302	34.74	6.96	24.99	30.07	33.46	37.93	58.39
	Panel D: County Financial Characteristics ($ Millions)							
Revenue Composition								
Total Revenue	6302	174.06	632.44	3.54	15.67	39.93	121.18	2,324.79
Total Taxes	6302	61.47	181.78	1.45	5.53	14.01	43.20	852.24
Property Taxes	6302	43.58	133.81	0.73	4.06	9.98	30.54	571.03
Total Sales & Recreation Tax	6302	12.60	50.05	0.00	0.00	0.95	7.12	195.62
Total Intergovernmental	6302	60.43	294.13	0.38	3.77	11.26	35.47	830.62
Federal Intergovernmental	6302	4.75	17.46	0.00	0.00	0.41	2.60	73.22
State Intergovernmental	6302	52.51	268.05	0.15	3.06	9.10	29.70	752.40
Local Intergovernmental	6302	3.11	14.98	0.00	0.00	0.22	1.34	56.56
Expense Composition								
Total Expenses	6302	171.93	590.35	3.71	15.79	40.44	120.00	2,211.97
Capital Outlays	6302	17.07	50.63	0.00	0.80	3.29	11.45	233.43
Total Highway Expenses	6302	9.84	22.60	0.00	2.13	4.36	9.24	94.91
Parks & Recreation	6302	3.37	14.83	0.00	0.00	0.21	1.27	57.56
Judicial Expenses	6302	8.57	38.10	0.00	0.52	1.50	5.11	114.05
Health Expenses	6302	13.64	56.50	0.00	0.39	1.91	8.96	200.06
Police Expenses	6302	10.18	40.65	0.00	0.92	2.41	6.84	133.35
Public Welfare Expenses	6302	23.49	136.49	0.00	0.10	1.67	11.50	392.66
Profitability								
Net Income Margin	6302	-0.01	0.14	-0.50	-0.08	-0.00	0.07	0.34
Balance Sheet								
Total Debt	6302	139.75	467.55	0.00	1.95	14.63	78.41	2,287.67
Total Long-Term Debt	6302	136.32	457.11	0.00	1.91	14.33	76.25	2,236.07
Financial Assets	6302	354.94	1,395.68	0.47	18.15	57.16	214.31	4,830.52
Total Cash Securities	6302	182.61	896.18	0.20	6.57	22.00	90.61	2,643.16
Non-Insured Trust Cash Securities	6302	118.24	365.16	0.00	6.09	19.83	78.94	1,736.33
Other Non-Insured Trust Cash Securities	6302	52.43	169.64	0.00	4.48	12.29	37.23	717.48
Leverage	6252	0.36	0.41	0.00	0.08	0.27	0.48	2.43

Table 2: OLS: Effect of Immigration on Municipal Bond Yield Spreads

This table presents OLS estimates of the effect of non-European Immigration on a municipality's yield spread. The dependent variable *Yield Spread* is a municipality's issuing yield adjusted based on its tax-exemption less the maturity matched treasury rate used in columns (1) to (5) and Δ *Yield Spread* is the bond's yield spread less the county's average yield spread from 5 years prior. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Yield Spread					Δ Yield Spread		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	-0.082***	-0.041***	-0.090***	-0.103***	-0.240***	-0.026**	-0.039	-0.218**
	[0.014]	[0.014]	[0.032]	[0.022]	[0.045]	[0.011]	[0.068]	[0.092]
Observations	42637	42636	42637	42636	42396	42637	42636	42396
Adjusted-R^2	0.26	0.58	0.27	0.58	0.59	0.50	0.64	0.67
State F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes	No
County F.E.	No	No	No	No	Yes	No	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	Yes	No	Yes	Yes	No	Yes	Yes
County Controls	No	No	Yes	Yes	Yes	No	Yes	Yes

Table 3: IV: Effect of Non-European Immigration on Yield Spreads

This table presents IV coefficient estimates of the relationship between non-European immigration and municipal bond yields. The table displays the IV second-stage results from regressing municipal yield spreads onto *Non-European Immigration*. The dependent variable *Yield Spread* is a municipality's issuing yield adjusted based on its tax-exemption less the maturity matched treasury rate used in columns (1) to (5) and Δ *Yield Spread* is the bond's yield spread less the county's average yield spread from 5 years prior. *Non-European Immigration* is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Yield Spread					Δ Yield Spread		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	-0.090***	-0.054***	-0.140**	-0.140***	-0.288**	-0.057**	-0.123***	-0.488***
	[0.010]	[0.011]	[0.053]	[0.031]	[0.116]	[0.024]	[0.031]	[0.149]
F-Statistic	2820.04	2981.95	205.19	204.97	434.11	2820.04	204.97	434.11
Observations	42636	42636	42636	42636	42396	42636	42636	42396
State F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes	No
County F.E.	No	No	No	No	Yes	No	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	Yes	No	Yes	Yes	No	Yes	Yes
County Controls	No	No	Yes	Yes	Yes	No	Yes	Yes

Table 4: IV: Heterogeneous Effects of Non-European Immigration on Yield Spreads
This table presents estimates of the relationship between non-European immigration and municipal bond yields across different county characteristics. The table displays the IV second-stage results from regressing municipal yield spreads onto *Non-European Immigration*. The dependent variable *Yield Spread* is a municipality's issuing yield adjusted based on its tax-exemption less the maturity matched treasury rate used in columns (1) to (5) and Δ *Yield Spread* is the bond's yield spread less the county's average yield spread from 5 years prior. *Non-European Immigration* is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data. Interaction variables include the indicator variable *Distance to Border* which takes the value 1 for issuing counties above the median distance to either Mexico or Cuba, *Average Income* which takes the value 1 for issuing counties above the median average income, *% Working Age Population* which takes the value 1 for issuing counties above the median proportion of population between 18 and 65, and *% Labor Intensive Employees* which takes the value 1 for issuing counties above the median proportion of workers in 2-digit NAICS codes that correspond to professions with more blue-collar oriented work rather than white-collar. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Yield Spread							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	-0.166***	-0.224***	-0.202***	-0.348***	-0.400***	-0.533***	-0.144***	-0.279**
	[0.046]	[0.068]	[0.034]	[0.124]	[0.132]	[0.197]	[0.040]	[0.123]
I(Distance to Border)	-0.317***	-0.664***						
	[0.084]	[0.070]						
I(Average Income)			0.075*	0.081**				
			[0.038]	[0.032]				
I(% Working Age Population)					0.253**	0.260		
					[0.109]	[0.246]		
I(% Labor-Intensive Employees)							-0.123*	-0.176***
							[0.071]	[0.043]
F-Statistic	74.38	336.92	115.92	180.28	32.12	34.21	18.99	6.89
Observations	42637	42397	42637	42397	42637	42397	42637	42397
State F.E.	Yes	No	Yes	No	Yes	No	Yes	No
County F.E.	No	Yes	No	Yes	No	Yes	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	No	No	No	No	No	No	No
County Controls	No	No	No	No	No	No	No	No
Y-mean	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33

Table 5: IV: Effect of Non-European Immigration on Labor Market

This table presents estimates of the relationship between non-European immigration and the local labor market. Panel A displays the IV second-stage results from regressing labor market outcomes onto *Non-European Immigration* while Panel B displays the comparable OLS specification. The dependent variables of interest include *Log(Establishments)*: the logarithm of the number of establishment, *Log(Employment)*: the logarithm of the number of employees, *Log(Total Wages)*: the logarithm of total wages paid, and *Log($\overline{Wages}$)* is the average wages paid per employee. *Non-European Immigration* is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data. Labor market data come from the Quarterly Census of Employment and Wages. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Panel A: IV: Effect of Immigration on Wages			
	Log(Establishments)	Log(Employment)	Log(Total Wages)	Log($\overline{Wages}$)
	(1)	(2)	(3)	(4)
Non-European Immigration	0.169**	0.272***	0.285***	0.013
	[0.064]	[0.083]	[0.082]	[0.009]
F-Statistic	257.07	257.07	257.07	257.07
Observations	6313	6313	6313	6313
State F.E.	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes
	Panel B: OLS: Effect of Immigration on Wages			
	Log(Establishments)	Log(Employment)	Log(Total Wages)	Log($\overline{Wages}$)
	(1)	(2)	(3)	(4)
Non-European Immigration	0.133***	0.213***	0.271***	0.058***
	[0.043]	[0.033]	[0.039]	[0.019]
Observations	6313	6313	6313	6313
Adjusted-R^2	0.99	0.99	0.99	0.96
State F.E.	No	No	No	No
State × Year F.E.	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes

Table 6: IV: Effect of Non-European Immigration on County Revenues

This table presents estimates of the relationship between non-European immigration and the local county's financial revenues. Panel A displays the IV second-stage results from regressing county financial revenues onto *Non-European Immigration* which is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data while Panel B displays the comparable OLS specification. Data on local government finances comes from the Government Finance Database. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Panel A: IV: Effect of Immigration on Revenues							
	Log(Total)	Log(Taxes)			Log(Intergovernmental Transfers)			
	Total	Total	Property	Sales & Rec	Total	Fed	State	Local
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	0.200***	0.230*	0.264*	0.085	0.261***	0.613***	0.150*	0.496**
	[0.068]	[0.133]	[0.153]	[0.145]	[0.070]	[0.176]	[0.078]	[0.232]
F-Statistic	257.88	258.07	258.14	312.00	258.06	280.66	258.06	277.70
Observations	6302	6280	6272	4136	6265	4592	6263	4314
State F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Panel B: OLS: Effect of Immigration on Revenues							
	Log(Total)	Log(Taxes)			Log(Intergovernmental Transfers)			
	Total	Total	Property	Sales & Rec	Total	Fed	State	Local
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	0.295***	0.311**	0.310**	0.128	0.398***	0.450***	0.344**	0.480**
	[0.080]	[0.123]	[0.118]	[0.190]	[0.127]	[0.100]	[0.134]	[0.191]
Observations	6302	6280	6272	4136	6265	4592	6263	4314
Adjusted-R^2	0.97	0.97	0.97	0.86	0.95	0.72	0.94	0.67
State F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: IV: Effect of Non-European Immigration on County Expenses

This table presents estimates of the relationship between non-European immigration and the local county's financial expenses. Panel A displays the IV second-stage results from regressing county financial expenses onto *Non-European Immigration* which is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data while Panel B displays the comparable OLS specification. Data on local government finances comes from the Government Finance Database. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Panel A: IV: Effect of Immigration on Expenses							
	Log(Total)	Log(Infrastructure and Public Goods Expenses)						
	Total	Capital	Judicial	Health	Roads	Police	Welfare	Parks
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	0.248**	0.593*	0.313***	0.118	0.294**	0.218**	0.283	0.115
	[0.095]	[0.300]	[0.115]	[0.120]	[0.138]	[0.097]	[0.172]	[0.192]
F-Statistic	257.88	259.82	258.12	262.59	261.09	259.23	290.61	270.32
Observations	6302	5946	6186	5831	5998	6194	5438	4631
State F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Panel B: OLS: Effect of Immigration on Expenses							
	Log(Total)	Log(Infrastructure and Public Goods Expenses)						
	Total	Capital	Judicial	Health	Roads	Police	Welfare	Parks
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	0.313***	0.264**	0.305***	0.372*	0.247***	0.280***	0.339**	-0.051
	[0.092]	[0.113]	[0.065]	[0.197]	[0.087]	[0.103]	[0.155]	[0.197]
Observations	6302	5946	6186	5831	5998	6194	5438	4631
Adjusted-R^2	0.96	0.76	0.94	0.88	0.89	0.92	0.91	0.84
State F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 8: IV: Effect of Non-European Immigration on County Financial Position

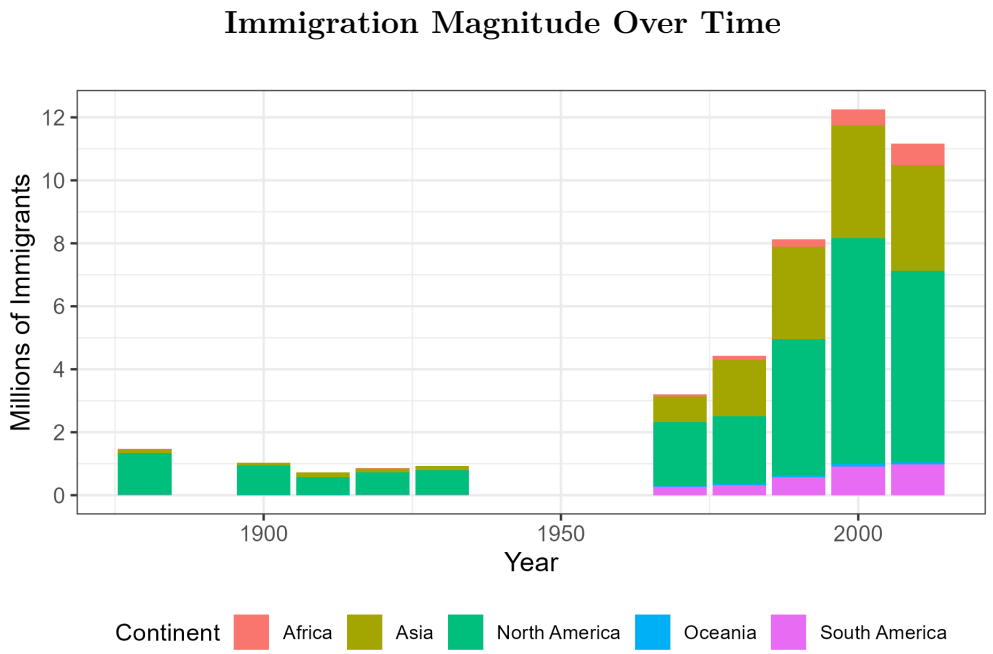
This table presents estimates of the relationship between non-European immigration and the local county's profitability and balance sheet. Panel A displays the IV second-stage results from regressing county profitability and balance sheet measures onto *Non-European Immigration* which is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data while Panel B displays the comparable OLS specification. Data on local government finances comes from the Government Finance Database. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Panel A: IV: Effect of Immigration on Financial Position							
	Profit	Log(Debt)		Log(Assets)				Leverage
	% Net Income	Total	Long-Term	Fin. Assets	Cash	Trust	Other Trust	$\frac{Debt}{\text{Financial Assets}}$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	-0.046	0.443***	0.388**	0.215*	0.190	0.199	0.337***	0.129
	[0.036]	[0.160]	[0.156]	[0.126]	[0.121]	[0.168]	[0.099]	[0.092]
F-Statistic	257.88	265.09	265.29	258.03	258.03	258.66	258.65	258.03
Observations	6302	5347	5304	6237	6237	6214	6178	6237
State F.E.	No	No	No	No	No	No	No	No
State × Year F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Panel B: OLS: Effect of Immigration on Financial Position							
	Profit	Log(Debt)		Log(Assets)				Leverage
	% Net Income	Total	Long-Term	Fin. Assets	Cash	Trust	Other Trust	Leverage
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Non-European Immigration	-0.019	0.294**	0.264**	0.160*	0.127	0.127	0.423***	0.112
	[0.016]	[0.120]	[0.120]	[0.086]	[0.086]	[0.112]	[0.107]	[0.085]
Observations	6302	5347	5304	6237	6237	6214	6178	6237
Adjusted-R^2	0.20	0.83	0.83	0.90	0.90	0.89	0.88	0.24
State F.E.	No	No	No	No	No	No	No	No
State × Year F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Appendix

Figure A.1: Immigration to the United States Over Time

This figure shows the magnitude and proportion of immigration to the United by continent over time. Panel A shows the magnitude of immigrants entering the United States by sender continent while Panel B provides the breakdown of the proportion of immigrants by their birth continent. Immigration data are based on respondents from the US Census Bureau decennial and American Community Survey.



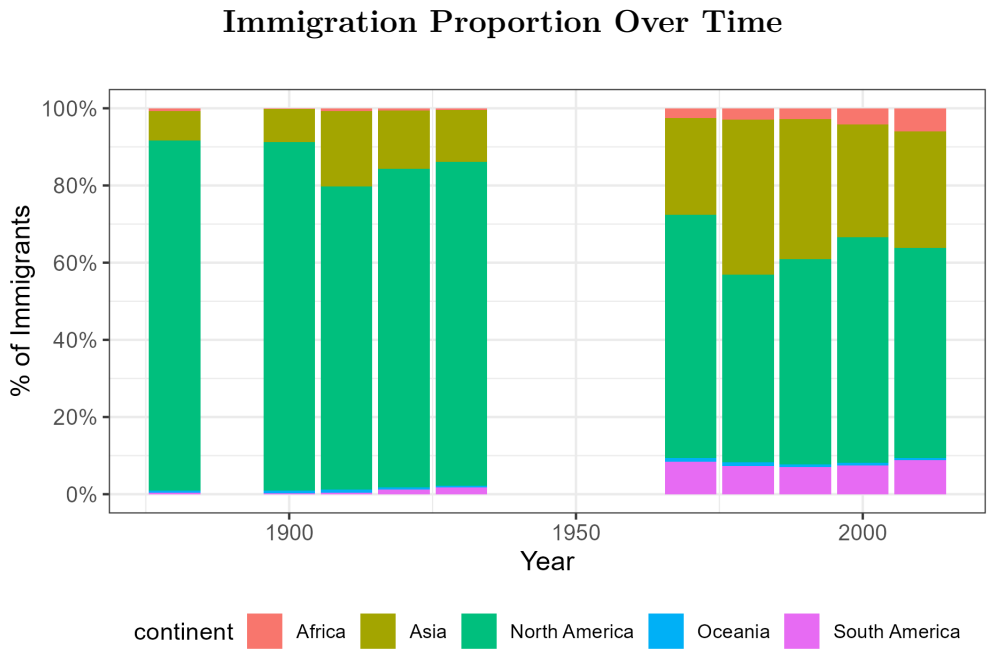


Table A.1: OLS: Effect of Immigration on Municipal Bond Yield Spreads

This table presents OLS estimates of the effect of measures of a county's population change on a municipality's yield spread. The dependent variable *Yield Spread* is a municipality's issuing yield adjusted based on its tax-exemption less the maturity matched treasury rate used in columns (1) to (5) and Δ *Yield Spread* is the bond's yield spread less the county's average yield spread from 5 years prior. The independent variable of interest in Panel A is *Population Change* which is change in population at five year intervals and in Panel B is *Net Flows* which the increase in IRS filers in the county from the prior year. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Panel A: OLS: Effect of Population Changes							
	Yield Spread					Δ Yield Spread		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Population Change	-0.023	-0.036	0.007	-0.031	-0.110***	-0.021	-0.048	-0.087
	[0.026]	[0.027]	[0.030]	[0.030]	[0.028]	[0.029]	[0.057]	[0.056]
Observations	42637	42636	42637	42636	42396	42637	42636	42396
Adjusted R^2	0.26	0.58	0.27	0.58	0.59	0.50	0.64	0.67
State F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes	No
County F.E.	No	No	No	No	Yes	No	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	Yes	No	Yes	Yes	No	Yes	Yes
County Controls	No	No	Yes	Yes	Yes	No	Yes	Yes
	Panel B: OLS: Effect of IRS Net Flows Residents							
	Yield Spread					Δ Yield Spread		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Net Flows	0.306***	0.085	0.397*	0.221	0.093	0.040	-0.120	-0.102
	[0.089]	[0.054]	[0.204]	[0.154]	[0.228]	[0.078]	[0.178]	[0.348]
Observations	41721	41720	41721	41720	41479	41721	41720	41479
Adjusted R^2	0.20	0.56	0.21	0.56	0.57	0.51	0.65	0.68
State F.E.	Yes	Yes	Yes	Yes	No	Yes	Yes	No
County F.E.	No	No	No	No	Yes	No	No	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	Yes	No	Yes	Yes	No	Yes	Yes
County Controls	No	No	Yes	Yes	Yes	No	Yes	Yes

Table A.2: IV: Effect of Non-European Immigration on Municipal Bond Yields
This table presents robustness estimates of the relationship between non-European immigration and municipal bond yields. The table displays the IV second-stage results from regressing municipal yield spreads onto *Non-European Immigration* which is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data. The first panel represents the base specification from column (5) of Table 3. The second panel presents results from various sampling choices: Row 2A uses the logarithm of yield as the dependent variable, row 2B weighs observations by the initial county's population in 1970, row 2C controls for the Census flow of internal migration, row 2D uses the full sample of bonds by back-filling immigration date. The third panel presents results from various alterations of the instrument: Row 3A keeps only counties with non-European immigration below the 99th percentile and row 3B scales non-European immigration by the county's initial population in 1970. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Yield Spread			
Instrument Variable	Coefficient	Standard Error	F-Statistic	Observations
1. Base Specification				
Immigration	-0.288**	0.12	434.11	42,396
2. Sampling Choices				
A. Use Log Dependent Variable				
Immigration	-0.123**	0.05	442.15	41,233
B. Weight by Initial County Population				
Immigration	-0.303***	0.10	715.64	42,396
C. Control Census Flow of Internal Migration				
Immigration	-0.274**	0.10	129.03	41,479
D. Include Full Sample of Bonds and Back-fill Immigration Data				
Immigration	-0.132***	0.02	432.09	248,200
3. Instrument Choices				
A. Immigration $\leq$ 99th Percentile				
Immigration	-0.885***	0.17	55.81	41,940
B. Scale Immigration by Initial County Population				
Immigration	-0.221***	0.08	18.62	42,396

Table A.3: IV: Effect of Non-European Immigration on Bond Features

This table presents estimates of the relationship between non-European immigration and bond features. The table displays the IV second-stage results from regressing bond features onto *Non-European Immigration* which is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data. The dependent variables of interest include *Issue Amount*: the amount of the bond, *# Issues* the number of issuances in a given year by a given county, *Rating* is an ordinal variable from 1 to 7 representing the range of the rating which takes the value of underlying issuer if unrated or the insured rating if the bond is insured, *Below-AA rated* denotes whether the bond's rating is below AA, *Years to Maturity* denotes the time until the issuance matures, *Callable, Insured, and Refinancing* are indicator variables denoting whether the bond has these features. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Issue Amount	# Issues	Rating	Below-AA Rated	Years to Maturity	Callable	Insured	Refinancing
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Immigration	-0.015	0.897*	-0.075	-0.018***	0.089	-0.035**	0.035*	0.007
	[0.043]	[0.483]	[0.185]	[0.005]	[0.407]	[0.014]	[0.021]	[0.020]
F-Statistic	435.46	435.46	435.46	435.46	435.46	435.46	435.46	435.46
Observations	42397	42397	42396	42396	42397	42397	42397	42397
State F.E.	No	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	No	No	No	No	No	No	No
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Y-mean	1.80	6.37	3.67	0.12	14.74	0.69	0.27	0.27

Table A.4: IV: Effect of Non-European Immigration on Use of Bond Proceeds

This table presents estimates of the relationship between non-European immigration and the use of debt proceeds. The table displays the IV second-stage results from regressing indicator variables forthe use of debt proceeds onto *Non-European Immigration* which is instrumented by *Immigration Shock* which is exogenous immigrant inflows based on the historical settlement and migration data. The use of debt proceeds are based on the stated purpose of the bond issuance from Refinitiv. *Non-European Immigration* is per an additional 100,000 non-European immigrants entering a county over the last five years. Immigrants are defined as individuals born outside of the United States. Fixed effects and controls are denoted in the table while standard errors are clustered at the state level. ***, **, * correspond to statistical significance at the 1%, 5%, and 10% level, respectively.

	Transportation	Utilities	Economic Dev.	Education	General	Healthcare	Housing
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Immigration	-0.004	0.002	0.008	0.022	0.013*	-0.022	-0.018
	[0.006]	[0.006]	[0.008]	[0.018]	[0.006]	[0.019]	[0.016]
F-Statistic	435.46	435.46	435.46	435.46	435.46	435.46	435.46
Observations	42397	42397	42397	42397	42397	42397	42397
State F.E.	No	No	No	No	No	No	No
County F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bond Controls	No	No	No	No	No	No	No
County Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Y-mean	0.04	0.14	0.03	0.35	0.36	0.03	0.04