Wall and Wall Street

Abstract

This paper examines the impact of undocumented immigration on the U.S. economy by analyzing financial market reactions to ICE enforcement actions. Firms located in counties with high concentrations of undocumented immigrants experience negative stock returns following enforcement events, particularly in low-skill industries. Similarly, municipal bond values in these areas decline. We identify labor market tightening as a key mechanism, as firms reduce employment in response to enforcement actions. The effects are most pronounced during Trump's presidency and for firms with high sales volatility. Our findings highlight the significant financial consequences of immigration enforcement policies.

I. Introduction

The term "Wall Street" originates from a wall built in the 17th century by Dutch colonists to fend off British colonists and native American tribes[1]. Today, it symbolizes the U.S. financial markets. The notion of a "Wall" took on a new significance during Donald Trump's first term presidency when his administration pursued a highly publicized policy of constructing a physical barrier along the US-Mexico border to curb illegal immigration. The policy was accompanied by a series of executive orders and enforcement actions targeting both legal and illegal immigration. Notably, in June 2020, Trump issued an executive order restricting the entry of individuals on work visas, prompting a 1.5% decline in the S&P 500 over three days and erasing $100 billion in the market value from Fortune 500 companies (Bahar, Choudhury, and Glennon, 2020). This episode hints at a potential connection between the "Wall" and "Wall Street."

Undocumented immigration remains a contentious socio-political issue, with debate over its economic impact. Advocates of more lenient immigration policies argue that undocumented workers fill low-skilled jobs, sustain essential industries, and contribute to local economies through consumer spending and tax revenues. Critics, however, contend that these workers may suppress wages for native-born workers, particularly in low-skilled sectors, while draining public resources such as healthcare and education, and undocumented immigration poses potential national security risks.

This paper empirically examines the relationship between undocumented immigration and the U.S. financial market. Specifically, we investigate how the density of undocumented

[1] See *https://www.boweryboyshistory.com/2017/02/building-wall-wall-street-got-name.html*.

immigrants in different regions affects U.S. public firms and local economies. Over the past few decades, U.S. Immigration and Customs Enforcement (ICE) actions targeting undocumented immigration have fluctuated significantly. These exogenous variations provide a unique opportunity to analyze the causal effects of immigration policies on firms and counties with differing levels of undocumented immigrant populations.

ICE enforcement actions, carried out by the Department of Homeland Security, include identifying, apprehending, and deporting individuals who violate immigration laws. We manually compiled a dataset of ICE enforcement actions related to undocumented immigrant arrests from the U.S. ICE newsroom between 2009 and 2023.[2] The exogenous nature of these actions helps mitigate endogeneity concerns, making them an ideal source for analyzing financial market reactions.

Using county-level data from the Migration Policy Institute (MPI) on "Unauthorized Immigrant Population Profiles," we calculate the density of undocumented immigrants relative to total employment in each county. As expected, the concentration of undocumented immigrants varies significantly across the U.S., with higher densities in border and coastal areas.

With our datasets on ICE actions and county-level undocumented immigrant density, we examine the impact of undocumented immigrants on local economy by analyzing two financial market responses in counties with high undocumented immigrant density: (1) the stock returns of firms headquartered in the county and (2) municipal bond returns in response to news of ICE enforcement actions.

[2] *https://www.ice.gov/newsroom*

Our analysis shows that firms in counties with higher concentrations of undocumented immigrants experience significantly more negative cumulative abnormal returns (CARs) following ICE enforcement actions compared to those in areas with lower densities. This effect holds after controlling for the presence of legal immigrants and is particularly pronounced for firms in low-skill industries.

These findings support the hypothesis that U.S. public firms benefit from the presence of undocumented immigrants, and that ICE enforcement disrupts this benefit, leading to a decline in firm value. We argue that this effect operates through the local labor market, where competition from undocumented workers suppresses wages across the market, create cost advantages for firms seeking to minimize labor expenses. The impact is particularly pronounced for firms in the low-skill industry, as undocumented immigrants often fill roles requiring minimal training or specialized skills.

To investigate this labor market channel, we examine how US public firms adjust their employment in response to varying intensities of ICE enforcement. Our results show that intensified ICE enforcement leads to a reduction in employment at firms located in areas with high density of undocumented immigrants. Anticipating higher labor costs due to the potential loss of undocumented workers, firms reduce their workforce as a precautionary measure. This effect is more pronounced in low-skill industries, where firms are particularly sensitive to cost increases associated with labor shortages.

Next, we analyze the municipal bond market, a critical source of funding for local governments to support essential services and infrastructure. By examining municipal bond returns in response to ICE enforcement actions, we assess the broader economic impact of undocumented immigrants on local economies.

Municipal bonds reflect the financial health of counties. Our results show that, following ICE enforcement actions, municipalities in counties with higher densities of undocumented immigrants experience more significant negative returns on their bonds, with the effect being stronger in areas a higher proportion of low-skilled workers. While some argue that the undocumented immigrants strain public resources, our findings suggest that they may play a net positive role to the economic stability.

Next, we examine whether political climates influence financial market reactions to immigration enforcement by conducting sub-period analyses. We divide the sample into three presidential administrations: Obama (2009–2016), Trump (2017–2020), and Biden (2021–2023). Our results indicate that the negative effect of ICE enforcement on cumulative abnormal returns (CAR) and employment in low-skill industries, as well as on municipal bond returns for areas with high concentrations of undocumented immigrants, is most pronounced during Trump's presidency. The effects weaken or become statistically insignificant under the Obama and Biden administrations.

Finally, we investigate the moderating role of sales volatility. Firms with high sales volatility face greater uncertainty and often rely on flexible labor strategies. We hypothesize that undocumented immigrants enhance the elasticity of the local labor market, benefitting firms that require workforce flexibility. Our findings confirm that stricter immigration enforcement, particularly under Trump administration, has a more significant negative impact on firms with high sales volatility.

This paper is among the first to empirically examine the economic impact of undocumented immigrants on stock market and local economy. The paper contributes to literature in several ways. First, a small number of studies have examined the economic effect of illegal

immigration and the recent government policy changes. Hanson, Robertson, and Spilimbergo (2002) study the asymmetric wage responses to enforcement actions along the border between the US and Mexico. While wages in US border states are almost not affected, wages on the Mexican side decrease in response to border apprehensions. Their results imply that the apprehensions shifted labor supply to Mexico. Allen, de Castro Dobbin, and Morten (2018) provide labor market evidence that the "border wall" benefits the low-skill workers but hurts the high-skill workers. Nadadur (2009) argues that illegal immigration has a positive effect on resource allocation by the federal and state governments, despite the extra costs to public services. Piyapromdee (2021) weighs the cost and benefit of the border wall by analyzing the social welfare effect of illegal immigration. Instead of distinguishing the illegal labor force from the legal one, Piyapromdee (2021) focuses on the skill difference of the illegal labor force and finds little improvement to local welfare by restraining undocumented immigrants. The empirical literature on illegal immigration is small and with mixed results, largely due to a data hurdle. We fill the gap by combining several sources of data – the county-level statistics on the undocumented immigrant population, the events of policy changes and enforcement actions, and the corporate financial data.

The paper also joins several studies that use financial market data to examine immigration issues. Baker and Blau (2019) show that stock prices of firms in the agricultural, construction, and manufacturing industries react positively to two policies instituted in the 1990s that aim to protect Latin American immigrants. Bahar, Choudhury, and Glennon (2020) examines the work visa suspension during Trump's presidency in June 2020. They find that the stocks of Fortune 500 companies suffered significant drops during the announcement date of the executive order, which reflects the market's concern about compromised firm valuation due to

high-skill labor shortage. More generally, our study is related to an important literature that documents the significant impact of immigration on the economy in various ways. For example, empirical studies show that immigrants have a significant effect on productivity and innovation; however low-skill immigrants impose pressures on the short-term domestic wages and the labor market for the youth (Aydemir and Borjas, 2011; Dustmann, Frattini, and Preston, 2013; Monras, 2020; Smith, 2012), while significantly lowering the prices for nontradable and labor-intensive services (Cortes, 2008).

Our paper also contributes to the literature by providing evidence on the economic impact of immigration enforcement actions and policy changes. Lessem (2018) uses simulations to show that enforcement actions against Mexican immigrants reduce migration rates but increase the duration of immigrants' stay in the US. Clemens, Lewis, and Postel (2018) find no significant uplift in wage or employment after the imposition of immigration barriers. Studies focusing on undocumented immigrant legalization such as (Baker, 2015) find that the Immigration Reform and Control Act of 1986 (IRCA), which legally prohibits hiring or recruiting undocumented immigrants, drives down the crime rate. Bahar, Choudhury, and Glennon (2020) report strong financial market reaction to the Trump administration's restriction of work-visa holders during the recent pandemic. However, it remains unclear whether and how public firms are affected by the presence of undocumented immigrants and government policies toward undocumented immigrants. Our study addresses this question by providing event-study evidence based on policy changes and enforcement actions that target illegal immigration.

Finally, our paper builds on the literature that studies the impact of the labor market on firm risk. Some studies show that the supply and demand in the labor market directly affect the

firms' employment strategy, leading to variations in firm risk and the expected returns. For instance, Donangelo (2014) shows theoretically and empirically that firms facing higher labor mobility have higher cross-sectional operating leverage and stock returns. Donangelo, Gourio, Kehrig, and Palacios (2019) argue that the operating leverage of firms with high labor shares is more sensitive to economic shocks, thereby leading to higher expected returns. Existing studies also show that the relative bargaining power between a firm and its employees also impacts the firm's risk. Labor protection is positively associated with firms' cost of equity and operating leverage while negatively related with firms' operating flexibility and financial leverage (Chen, Kacperczyk, and Ortiz-Molina, 2011; Simintzi, Vig, and Volpin, 2015). Moreover, heterogeneity in the labor market is also identified as a determinant of the expected stock returns. Firms with higher-skill workers face higher firing/hiring costs, leading to higher stock returns (Belo, Li, Lin, and Zhao, 2017; Belo, Lin, and Bazdresch, 2014). Our paper adds to the literature by identifying the impact of illegal labor on firms' risk in the context of labor market frictions. We also identify variations in firm risk due to geographic variations in undocumented workers.

II. Political Background and Literature Review

Undocumented immigration in the U.S. over the past two decades has been a complex and contentious issue, reflecting a range of political, economic, social, and legal intricacies. The issue remains a significant challenge for policymakers, with ongoing debates over the appropriate balance between border security, humanitarian concerns, and the rights of immigrants.

The issue received intensive attention during Obama's administration, as the US-Mexican

border faced a surge in immigration, prompting the proposal of Deferred Action for Childhood Arrivals (DACA) to address the humanitarian crisis.[3] The debate intensified during Donald Trump first term, when strict immigration policies were implemented, including efforts to build the border wall along the U.S.-Mexico border,[4] increased deportations, travel bans,[5] and end of DACA.[6] After assuming office in January 2021, Biden's administration took steps to reverse many of Trump's policies. However, with Trump's second term, the country has reversed course once again, returning to more hardline immigration measures.

As the country experienced fluctuating immigration policies, a notable aspect was the varying intensity of Immigration and Customs Enforcement (ICE) enforcement actions. During Trump's first term, there is a significant increase in ICE activities, including arrests, deportations, and workplace raids, compared to Obama and Biden periods. A key policy that contributed to this surge was the 2018 "zero tolerance" policy at the southern border. While

[3] President Obama establishes DACA in 2012, providing temporary relief from deportation and work permits to certain undocumented immigrants who arrived in the U.S. as children.

[4] The 2016 Donald Trump's campaign for the presidency prominently features a promise to build a wall along the U.S.-Mexico border to curb illegal immigration. On January 25, 2017, President Trump signs an executive order directing the Department of Homeland Security to begin construction of the border wall. Since then, there had been a standoff between Trump and Congress over funding for the border wall, which leads to a partial government. Despite legal challenges and funding issues, some sections of the border wall are constructed using allocated funds and redirected resources.

[5] In January 2017, Trump signed an executive order titled "Protecting the Nation from Foreign Terrorist Entry into the United States." banning entry into the United States for citizens of seven predominantly Muslim-majority countries: Iran, Iraq, Libya, Somalia, Sudan, Syria, and Yemen. It also halted the U.S. refugee resettlement program for 120 days and indefinitely suspended the entry of Syrian refugees. In March 2017, Trump signed a revised executive order ("Travel Ban 2.0.") to removed Iraq from the list of banned countries and to exempt the green card holders and individuals with valid visas. In September 2017, the Trump administration issued a presidential proclamation (commonly known as "Travel Ban 3.0" or "Muslim Ban 3.0.") expending the list of banned countries to include Chad, North Korea, and Venezuela. In June 2018, the U.S. Supreme Court upheld the legality of "Travel Ban 3.0" in a 5-4 decision, ruling that the president has broad authority to regulate immigration and national security matters. The court's decision effectively allowed the travel ban to remain in place.

[6] In September 2017, the Trump administration announced its decision to end the Deferred Action for Childhood Arrivals (DACA) program. Following the announcement, multiple lawsuits were filed challenging the decision to end DACA. In June 2020, The Supreme Court rules against the Trump administration's attempt to end DACA, stating that the administration's actions were "arbitrary and capricious" and in violation of administrative law.

this policy was primarily associated with the Department of Justice's prosecution of individuals crossing the border illegally, it contributed to heightened scrutiny and enforcement actions by ICE.

Several studies in the prior literature focus on the direct consequence of the migration enforcement in deterring undocumented immigration by, for instance, examining the efficacy of U.S. Border Patrol in deterring migrants (Hanson and Spilimbergo, 1999; Lessem, 2018; Bazzi, Burns, Hanson, Roberts, and Whitley, 2018). Allen, Dobbin, and Morten (2018) study the economic consequence of undocumented immigration by analyzing its impact on the domestic labor market. Their findings suggest that the high-skill labor suffers while the low-skill labor benefits from the "border walls". Our paper differs from the prior literature by empirically examining the impact of enforcement actions on the financial market through event study analyses. We reason that ICE actions, as exogenous events, provide a natural experiment to investigate economic consequence of undocumented workers.

Broadly related to this paper is the extensive literature that studies the impact of immigration, and particularly the economic impact in the labor market. Theories and empirical studies support that the impact of immigration on the domestic labor market depends on the composition of the labor skills (Borjas, 1995; Ottaviano and Peri, 2012; Dustmann, Sch¨onberg, and Stuhler, 2017; East, Luck, Mansour, and Velasquez, 2018), and that the low-skill labor as the major components of immigration is complementary of the local higher-skill labor (East, Luck, Mansour, and Velasquez, 2018). Given the substitution effects between automation machinery and low-skill labor, the large inflow of immigration promoted the unskilled technologies (Peri, 2012) while dampens the high-skill technologies (Peri, 2012; Lewis, 2011). Additionally, Mayda, Peri, and Steingress (2022) look into the political impact

of immigrants on voting and show that local increase in high-skill (low-skill) immigrants results in decrease (increase) of voting to Republicans. Chassamboulli and Peri (2015) find that policies restraining immigration inflows would deliver short-term negative effect on the local labor market. Peri (2012) find that immigration boosts the total factor productivity (TFP), and that firms respond to the flow of immigration by adjusting the capital and technology differently from they would have otherwise to the local labor market.

While studies on legal immigration are extensive, the literature on the economic impact of illegal immigration is limited. Ethier (1986) analyze the role played by the undocumented immigrant in triggering the redistribution of the national income and distorting the local labor market. He also discusses how legitimizing the illegal labor would lead firms to design the wage structure of unskilled and skilled labor, and the wages between legal and illegal labor within the unskilled labor. Camacho, Mariani, and Pensieroso (2017) model undocumented immigrants in the informal sector and study the endogenously determined system of the illegal labor market. One of the contributions of our paper is to empirically establish the causal and indirect economic impact of undocumented immigrants in the informal sector on public firms in the formal sector, and how public policies impact the dynamics.

Our paper is also linked to the growing literature on the discrepancy across locations and the economic impact. Roca and Puga (2017) shows that individual productivity and earnings are positively associated with larger cities with the advantage of "learning by working". Ouimet, Simintzi, and Ye (2020) find that the opioid prescriptions at county level drives firm to substitute the inefficient labor productivity with the technology investment and thus lead to the increase in firm value. Dougal, Parsons, and Titman (2022) find that firm's headquarter location has an impact on the value generation, with the geographical variation of human

capital quality being the key driving factor. Our paper contributes to literature with new evidence of the geographical impact on firm valuation. The channel we identify in our paper is through the labor market similar to Dougal, Parsons, and Titman (2022). Our paper differs from their work in that we identify the impact of undocumented immigrant in the informal sector (rather than the formal sector) in the labor market, which is a novel channel with little attention in the prior literature.

III. Data

A. Undocumented Immigrants

We employ an event-study strategy to examine how the price response of financial securities to immigration policy news is moderated by the regional immigrant density. We construct variables capture regional immigrant density and immigration policy news.

We construct the dataset on county-level density of undocumented immigrants by relying primarily on the *Unauthorized Immigrant Population Profiles* provided by the Migration Policy Institute (MPI).[7] The estimates of unauthorized immigrants are based on a "residual method,"[8] wherein the total number of undocumented immigrants is derived by subtracting the count of legally documented immigrants from the self-reported foreign-born resident population.[9] The dataset comprises demographic profiles for 130 counties with the highest

[7] For further details, please visit *https://www.migrationpolicy.org/programs/us-immigration-policy-program-data-hub/unauthorized-immigrant-population*-profiles. For insights into the methodology, refer to "MPI Methodology for Assigning Legal Status to Noncitizen Respondents in U.S. Census Bureau Survey Data" (*https://www.migrationpolicy.org/about/mpi-methodology-assigning-legal-status-noncitizens-census-dat*).

[8] A similar approach is employed by the US Department of Homeland Security, the Pew Hispanic Center, the Center for Immigration Studies, and the U.S. Census Bureau.

[9] It is widely acknowledged that estimates derived from the residual method tend to underestimate the undocumented immigrant population. This population includes legal immigrants such as a) naturalized citizens, b) individuals with permanent resident status, and c) refugees. The Department of Homeland Security (DHS) maintains meticulous records of the first two categories, while the Department of Health and Human Services

population of unauthorized immigrants. MPI also provides the profile of the unauthorized population, including the labor force participation.

To determine the density of undocumented immigrants in each county, we divide the employed unauthorized immigrants in the labor force by the total employed population of the county. We calculate the average total employed population from 2015 to 2019 using Census Bureau data to ensure consistency with the time frame utilized by MPI for estimating the undocumented immigrants.

Figure 1 displays the geographical distribution of the undocumented immigrant density by county. Overall, the undocumented immigrants are concentrated in counties of east and west coast, as well as the southern border. Panel A of Table 1 presents data on 20 counties with the highest undocumented immigrant density. The counties with the highest illegal employment ratios are predominantly located in California, New York/New Jersey, and Texas, with San Benito, California (18.9%) showing the highest ratio, followed by Dallas, Texas (14.6%), Santa Barbara, California (14.1%), and Hudson and Queens, New Jersey/New York (13.7%). Nine out of the 20 listed counties are in California. Additionally, counties such as Gwinnett, Georgia, and Prince George's, Maryland also exhibit a high density of illegal immigrant employment. The data suggests that regions with high illegal immigrant labor are typically urbanized areas, likely offering substantial employment opportunities for illegal immigrants.

tracks the third. Further information on the "residual method" can be found at *https://www.pewresearch.org/fact-tank/2019/07/12/how-pew-research-center-counts-unauthorized-immigrants-in-us/*. Surveys or censuses specifically targeting undocumented immigrants are limited in scope. Additionally, undocumented immigrants may be disinclined to truthfully participate in such surveys. The Pew Research Center conducts its own specialized surveys aimed at Mexican immigrants, estimating that the undercount relative to the actual undocumented immigrant population ranges from 5% to 15%. Citing operational data on deportations and visa overstays, as well as demographic data including death rates and immigration rates, Fazel-Zarandi, Feinstein, and Kaplan (2018) contends that the long-standing underestimation could be double the size of the documented undocumented immigrant population.

In our empirical analysis, the legal immigrant population is frequently used as a control variable. We collect the employed legal immigrants from US Census Bureau and construct the county-level legal immigrant density variable as the ratio of employed legal immigrant population to the total employment in the county. In accordance with undocumented immigrant density measure, we construct the ratio as the average number of employed legal immigrants from 2015 to 2019 divided by the average of total employment from 2015 to 2019.

Figure 2 displays the geographical distribution of the legal immigrant density by county, and Panel B of Table 1 reports the top 20 highest density counties. Both distributions show high concentrations in broad regions, particularly in California, New York/New Jersey, and Florida, with major urban centers such as Los Angeles and Queens appearing in both tables. However, notable differences emerge at the county level. For instance, San Benito, California (18.9% undocumented) showing a high concentration of undocumented immigrant employment, while counties like Miami-Dade, Florida (63.39% legal) have a significantly higher proportion of legal immigrant labor. Areas such as Hudson, New Jersey and Santa Clara, California appear on both lists, though their illegal and legal employment ratios differ substantially. Overall, the data indicate a broad trend in which urban areas attract both legal and undocumented workers, but employment opportunities and legal frameworks in specific regions likely shape the composition of the workforce in distinct ways.

In our dataset, the correlation between legal and undocumented immigrant density is 0.75, with a rank correlation of 0.71. For robustness, we conduct most of the empirical analyses both with and without the legal immigrant controls and present the results for both specifications.

For county-level control, we construct a set of county characteristic variables. We calculate 1) the growth rate of GDP with county-level GDP data collected from U.S. Bureau of Economic

Analysis (BEA), 2) the population growth with data from Census Bureau, and 3) the employment growth rate with employment data from U.S. Bureau of Labor Statistics (BLS). Moreover, we control the work force participation of legal immigrants and the impact on firms' valuation. To this end, we collect the legal immigrant population at county level from American Community Survey (ACS) on U.S. Census Bureau, and calculate the proxy for the employed legal immigrants as the legal immigrants at working age between 15 and 64. The legal density (LegalDensity) is therefore computed as the ratio of legal immigrants at working age to the total employment of the county.

B. Exogenous Shocks to Undocumented Immigrants

We use ICE enforcement actions from 2009 to 2023 as a form of exogenous shocks to undocumented immigrants. Additionally, we employ the county-level activation data of the Automated Biometric Identification System (IDENT)/Integrated Automated Fingerprint Identification System (IAFIS).

B.1 ICE Enforcement Actions

U.S. Immigration and Customs Enforcement (ICE) is a federal agency of the U.S. Department of Homeland Security (DHS) with tasks of enforcing immigration laws, investigating criminal activities related to immigration, and overseeing the removal (deportation) of individuals who are unlawfully residing in the U.S. ICE enforcement actions are primarily carried out by Enforcement and Removal Operations (ERO). The Enforcement and Removal Operations (ERO) section on the U.S. Immigration and Customs Enforcement

(ICE) website[10] primarily features news releases and statements related to ICE's activities in enforcing U.S. immigration laws, particularly those involving the detention and deportation of individuals who are unlawfully in the country. Among several topics in ICE News releases related to Enforcement and Removal, we focus on the targeted enforcement operations. ICE will report on large-scale enforcement operations or raids involving the detention of undocumented immigrants who are working illegally or have criminal records. Each release typically follows a consistent format that specifies the dates, number of arrested individuals, and the scope of the operation. Most releases provide geographical information, including cities or states where arrests were made. There are also some releases covering nationwide raids.

We collect all the news releases related to targeted enforcement operations in the category of "Enforcement and Removal" on ICE Newsroom site from 2009 to 2023.[11] There are 255 reported enforcement actions in our sample period. Figure 3 plots the frequency of the total actions by ICE fiscal year from 2009 to 2023. Overall, there are on average 29 annual reported actions with waves over years over our sample period. The number of actions peaks during Trump presidency from 2017 to 2019. Before Trump's presidency up to year 2016, the average reported arrests are 24. The average number jumps to 52 during the first three years of Trump's presidency. The actions drop in the year of 2020, mainly due to COVID, then remain relatively low during the first three years of Biden's presidency, then bounce back to the level in pre-Trump era.

[10] *https://www.ice.gov/newsroom*

[11] The fiscal year for U.S. Immigration and Customs Enforcement (ICE) is from October 1 of the previous year to September 30 of the current year. The news releases on ICE Newsroom date back to 2008. But due to news quality and quantity concerns, we use the data from 2009 and onward. We also remove the regional actions with less than 10 arrested individuals, as the impact is limited. The fiscal year for U.S. Immigration and Customs Enforcement (ICE) is from October 1 of the previous year to September 30 of the current year.

C. Firm Stock and Municipal Bond Data

For US public firms, we examine how firm's stock return and employment react to the shocks of undocumented immigrants. We collect the stock daily return data from CRSP, and firm's total number of employees from COMPUSTAT. [12] We also collect the firms' headquarter with zip code from COMPUSTAT, match them with the county-level UID and LID using the FIPS-ZIP identifiers. We also collect firm's market capitalization, ROE, sales, and initial public trading date (for firm's age calculation purposes) from COMPUSTAT to construct the control variables. We calculate the average skill of firm's industry following Belo, Li, Lin, and Zhao (2017). We collect industry-level Occupational Employment and Wage Statistics data by year from US Bureau of Labor Statistics, and the skill of occupations from ONET Online.[13] The Occupational Employment and Wage Statistics data records the number of employees in each occupation within an industry in a specific year, which allows us to calculate the skill at the industry-year level as the weighted average of the occupation skill with weights as the occupation employees in the industry.

For county-level municipal bond data, we collect municipal bond issuance and trading data from The Mergent Municipal Bond database and the MSRB EMMA database. We identify the county of each issuer from the name of the bond and drop the observation with no explicit county issuer name, or bond issued by the state. For each new bond issue, we retain the issuer type and collect issue characteristics including sale date, offer yield, duration, issuance size, coupon rate, whether the bond is callable, insured, refunding, and whether the bond is a General

[12] We remove the firms with missing zip code or with headquarter outside the US.
[13] *https://www.onetonline.org*

Obligation or a Revenue bond. In our main analysis, we only focus on the General Obligation bond. ONET also provides total employment by occupation at metropolitan statistical area (MSA) level. We calculate the county-level occupation skill as the weighted average of the occupation skill with weights being the total employment share of the occupation. Table 2 documents the summary statistics of the main variables. Panel A lists the main variables of our US public firm sample, and Panel B lists the main variables of the municipal bond sample. The variables are all within a reasonable range with no extremely high variance.

IV. Empirical Analysis

A. Stock Market Reactions to ICE Enforcement Actions

We begin by documenting the baseline effect of undocumented immigrants on US public firms, based on the stock cumulative abnormal returns (CAR) in response to ICE enforcement actions. The abnormal return AR_{i,t_k} of a firm i on a date $t_k$is the difference between the actual return $R_{i,t}$ and the expected return $\widehat{R_{\imath,t_k}}$, $AR_{i,t_k} = R_{i,t_k} - \widehat{R_{\imath,t_k}}$. Our measure of the expected return R_{i,t_k} is the value-weighted average return of the stocks within the Fama-French 30%-40%-30% three size groups. We adopt a five-day window (−2, −1, 0, 1, 2) to calculate the cumulative abnormal return around the event t

$$CAR_{i,t} = \sum_{k=-2}^{k=+2} AR_{i,t+k}.$$

As described in Section III, our event set includes ICE enforcement actions from 2009 to 2023.

We run the following regression to examine the relationship between undocumented

immigrants and stock returns:

$$CAR_{i,t} = High\ Undocumented\ Immigrants_{i,t} + High\ Legal\ Immigrants_{i,t} + Control_{i,t} + Control_{c,t} + \theta_t + \epsilon_{i,j,c,t},$$

where $CAR_{i,t}$ is the cumulative abnormal return (CAR, in percent, %) of stock i around the ICE enforcement action event t. $High\ Undocumented\ Immigrants_{i,t} = \{0,1\}$ is an indicator that equals 1 if the firm's county-level undocumented immigrant density is above the median for firms in the same fiscal year. $Control_{i,t}$ are firm-level control variables, including Ln(Size), $Ln(Age)$, $lag(ROE)$ and $SalesGrowth$. $Control_{c,t}$ are county- level control variables, including $Ln(Pop)$, $Ln(GDP)$, and $\Delta Unemployment$. $\theta_t$are year fixed effects. The standard errors are double-clustered at the firm-by-event level.

Column (1) of Table 3 presents the results. We find that firms located in counties with higher undocumented immigrant densities experience significantly lower stock returns during ICE enforcement actions. On average, a single ICE enforcement announcement causes a loss of billion in stock market value. In Column (2), we control for legal immigrants, where $High\ Legal\ Immigrants_{i,t} = \{0,1\}$ equals 1 if the firm's county-level legal immigrant density is above the median for firms in the same fiscal year. The effect of undocumented immigrants remains to be significant. The results suggest that the ICE enforcement actions targeting undocumented immigrants in a firm's location are perceived as detrimental to firm value.

Our analysis does not depend on whether the firm directly employs undocumented immigrant labor. Instead, we argue that firms are impacted by the local labor market through labor expenses and bargaining power. Competition between undocumented and legal workers

generally reduces, average labor costs in the local market. Public firms benefit from increased bargaining power over employees, which helps to lower labor expenses. However, when negative shocks like ICE enforcement threatens the presence of undocumented immigrants, firms may face higher labor costs and reduced bargaining power. If our hypothesis holds, the effects should be more pronounced for firms in low-skill industries, as these industries are more sensitive to changes in the labor market, especially regarding low-skill workers. Moreover, competition is more intense between undocumented and low-skill legal workers in these industries.

To test this hypothesis, we run the following regression:

$$\begin{aligned}\mathrm{CAR}_{i,t} = {} & \text{High Undocumented Immigrants}_{i,t} \times \text{Low Skill}_{i,t} \\ & + \text{High Legal Immigrants}_{i,t} \times \text{Low Skill}_{i,t} + \text{Low Skill}_{i,t} + \mathrm{Control}_{i,t} \\ & + \mathrm{Control}_{c,t} + \theta_t + \epsilon_{i,j,c,t},\end{aligned}$$

where *Low Skill* is an indicator variable that equals 1 if the firm's industry-level skill is below the median across all firms within the same fiscal year. In Columns (3) and (4) of Table 3, we find that low-skill firms in high undocumented immigrant density counties experience a significantly negative CAR. This negative effect on CAR is more pronounced for these firms compared to the full sample, which is likely due to the perceived ICE- enforcement-induced labor market disruptions in industries heavily reliant on low-skilled labor.

B. Labor Market Reactions to ICE Enforcement Actions

We further examine the hypothesis by testing the labor market reactions in response to the ICE enforcement actions. Specifically, we run the regression as follows:

$$\Delta Ln(Employment)_{i,t} = High\ Undocumented\ Immigrants_{i,t-1} \times \#\ Enforcement_{t-1} + High\ Legal\ Immigrants_{i,t-1} \times \#\ Enforcement_{t-1} + \#\ Enforcement_{t-1} + High\ Undocumented\ Immigrants_{i,t-1} + High\ Legal\ Immigrants_{i,t-1} + Control_{i,t} + Control_{c,t} + \epsilon_{i,j,c,t}$$

where $\Delta Ln(Employment)$ is the change of the log of total employees in firm i, $\#\ Enforcement$ is one-year lagged total numbers of reported ICE enforcement action in the previous fiscal year.

Table 4 presents the results. In Columns (1) and (2), the interaction term between $High\ Undocumented\ Immigrants$ and $Lag(\#Enforcement)$ is statistically negative, both with and without controls for legal immigrants. This suggests that intensified ICE enforcement leads to a reduction in employment at firms located in areas with high undocumented immigrant density, supporting our hypothesis. As enforcement intensifies, firms anticipate higher labor costs due to the potential loss of undocumented workers. To mitigate these anticipated costs, firms reduce their workforce as a precautionary measure. We next explore how ICE enforcement impacts high- versus low-skill firms. In Columns (3) and (4) of Table 4 the triple interaction among $High\ Undocumented\ Immigrants$, $Lag(\#\ Enforcement)$, and $Low\ Skill$ is significantly negative, with a larger magnitude compared to the results in Columns (1) and (2). This indicates that labor cuts are more pronounced in low-skill firms. These firms are particularly vulnerable to increased labor costs related to low-skill labor, which drives them to reduce their workforce more aggressively in response to the heightened threat of ICE enforcement.

C. Municipal Bond Reactions to ICE Enforcement Actions

In this section, we examine the impact of undocumented immigrants on local economies by analyzing the effect on municipal bond returns. Municipal bonds are key financial instruments that local governments use to fund essential services and infrastructure. These bonds are sensitive to various economic and social factors, such as labor market shifts, tax revenues, and public service costs, which can influence the fiscal stability of local governments. Specifically, we explore whether undocumented immigrants have a significant effect on the local economy and, consequently, municipal bond returns.

Undocumented immigrant labor plays a complex role in local economies, with both positive and potentially destabilizing effects. On the one hand, undocumented workers fill labor gaps in critical industries – particularly those that native-born workers may avoid due to low wages, long hours, seasonal employment, or physically demanding tasks. By doing so, these workers help sustain local production capacity and support business growth, contributing to the economic stability of the region. Additionally, undocumented immigrants stimulate local economic activity by contributing to consumer demand, spending their earnings on housing, food, transportation, and other essential services. If this hypothesis holds, ICE enforcement actions that disrupt the undocumented immigrants labor force could destabilize the local economy, leading to negative municipal bond returns.

On the other hand, concerns exist that undocumented immigrants may contribute to economic instability, especially when local labor markets are disrupted or when public service costs rise. Although undocumented immigrants are generally ineligible for federal assistance, they often rely on local public services. Local government with higher undocumented immigrant density tend to be more financially strained. If this hypothesis holds, ICE

enforcement actions that reduce the number of undocumented workers could alleviate some of this strain, potentially stabilizing the local economy and improving municipal bond returns.

To isolate the causal impact of undocumented immigrants on municipal bond returns, we use ICE enforcement actions as an exogenous shock. These actions target undocumented immigrant populations and threaten to disrupt local labor markets, which could alter perceptions of local economic stability. By focusing on municipal bonds, we aim to better understand how immigration status influences local economic outcomes in ways that traditional labor market analyses may overlook.

Column (1) and (2) of Table 5 report the results based on the following regression:

$$Return_{i,t} = High\ Undocumented\ Immigrants_{i,t-1} + High\ Legal\ Immigrants_{i,t-1} + Control_{i,t} + Control_{c,t} + \epsilon_{i,j,c,t}$$

where $Return_{i,t}$ is the bond return, defined as the return of the municipal bond minus the return of the Bloomberg US Municipal Index within a [-2,+2] week window surrounding the enforcement events. The analysis is limited to bonds with at least two trades within the event window: one occurring before the event date and one after. To calculate the bond returns, we use the prices of the trades closest to the event window boundaries. Similarly, the Bloomberg US Municipal Index return is calculated using the same two trading days, and the bond return is adjusted by subtracting the index return.

The coefficient for $High\ Undocumented\ Immigrants$ is significantly negative in both Columns (1) and (2), indicating that bonds issued by counties with higher undocumented immigrant densities experience lower returns around ICE enforcement actions. This suggests that the presence of undocumented immigrants supports economic activity by sustaining local

businesses, consumer spending, and essential services. Disruptions to the undocumented labor force due to ICE enforcement actions may raise concerns about local economic stability, including reduced tax revenues and diminished business activity, which explain the negative municipal bond returns.

To further test this hypothesis, we examine whether the effect is more pronounced in low-skill counties. In Columns (3) and (4), we include an interaction between $High\ Undocumented\ Immigrants$ and $Low\ Skill$. The interaction term is significantly negative in both Columns (3) and (4), indicating that counties with both high concentrations of undocumented immigrants and a larger proportion of low-skill workers experience a greater negative impact on municipal bond returns during ICE enforcement actions. This suggests that the combined effect of undocumented immigration and workforce skill levels makes these regions more vulnerable to disruptions in local labor markets and public services.

Together, these results suggest that higher concentrations of undocumented immigrants – particularly in regions with a larger low-skill workforce – have a stabilizing effect on local economies. However, ICE enforcement actions disrupt this stability, leading to negative fiscal outcomes for local governments, as reflected in lower municipal bond returns.

D. Subperiod Analysis

To gain a deeper understanding of the impact of undocumented immigrants on U.S. public firms and local economies, we conduct a sub-period analysis by dividing the entire sample period into three distinct time frames: the Obama presidency (2009–2016), the Trump presidency (2017–2020), and the Biden presidency (2021–2023).

Immigration policies under each administration varied significantly, likely leading to

differing effects on labor markets and local economies. During the Obama administration, immigration policy aimed to balance enforcement with reform. While prioritizing the deportation of criminals, Obama also introduced initiatives such as the Deferred Action for Childhood Arrivals (DACA) program, which provided protections for certain undocumented individuals. In contrast, the Trump administration adopted a more hardline stance, marked by the construction of a border wall, efforts to end DACA, and a more aggressive ICE enforcement strategy, including widespread deportations and workplace raids. Under the Biden administration, immigration policies shifted toward moderation, halting the border wall construction and reinstating DACA protections. However, the Biden administration also faced challenges related to migrant arrival surges, which sparked debates on how to balance immigration control with national security concerns.

To capture the potential influence of these varying political environments, we conduct sub-period analyses to examine how the economic consequences of immigration enforcement may have differed across the three administrations.

Table 6 presents the results of cumulative abnormal returns (CAR) for U.S. public firms in response to ICE enforcement actions, based on Models (2) and (3) across the three presidencies. Panel A shows that the effect of $High\ Undocumented\ Immigrants$ on CAR is significantly negative during the Trump presidency. The average decrease in CAR is -0.12% and -0.10% with or without legal controls. These results suggest that under Trump's hardline policies and intensified ICE enforcement, firms located in areas with high density of undocumented immigrants experienced substantial negative abnormal returns. In contrast, the effect of $High\ Undocumented\ Immigrants$ on CAR is not statistically significant during the Obama or Biden presidencies.

Panel B examines the interaction between $High\ Undocumented\ Immigrants$ and $Low\ Skill$. The interaction term is significantly negative in Columns (3) and (4), indicating that low-skill industries, which are more reliant on undocumented labor, are particularly vulnerable to disruptions caused by ICE enforcement during the Trump presidency. Consistent with the findings in Panel A, this suggests that the negative impact of ICE enforcement on CAR was more pronounced for low-skilled firms under Trump. However, the effects are not significant during the Obama or Biden presidencies.

Table 7 examines the impact of undocumented immigration and workforce skill levels on municipal bond returns in response to ICE enforcement actions across the three presidencies. During the Obama presidency, the effect of high undocumented immigrant density on bond returns was minimal, with no significant disruptions observed. Under the Trump administration, however, the negative impact on bond returns was notably stronger, especially in regions with high undocumented immigrant populations and a greater reliance on low-skill workers. This suggests that ICE enforcement caused more substantial economic disruptions during Trump's presidency. Under the Biden administration, the effects of immigration enforcement on bond returns are negligible, indicating either a shift in enforcement policies or a stabilization of local economies in response to policy changes. Overall, the analysis reveals that the economic consequences of ICE enforcement on municipal bond returns are most severe during the Trump presidency.

Our findings highlight how the dynamics of immigration enforcement are shaped by the political climate, with varying impacts on local economies and public services across different presidential administrations. The effects are most pronounced during the Trump administration, particularly in regions with high concentrations of undocumented immigrants

and low-skilled workers, while the impacts diminished or are not significant under the Obama and Biden administrations.

E. Firms' Reactions to ICE Enforcement: The Role of Sales Variability

In this section, we build on our earlier findings by examining the impact of ICE enforcement actions on firms with varying levels of sales volatility. The relationship between undocumented immigration and business outcomes can differ significantly across firms based on their operational characteristics. Firms with high sales volatility are more exposed to unpredictable demand fluctuations and require flexible labor strategies to adjust their workforce in response to business needs. Undocumented immigrant workers, often employed in lower-wage and flexible jobs, play a crucial role in enabling these firms to adapt to periods of high variability. In contrast, firms with low sales volatility experience more stable staffing needs, making the role of undocumented workers less central to their operations.

In this context, disruptions to the availability of this flexible labor force – such as stricter immigration enforcement – can have a particularly strong impact on firms with high sales volatility. These firms are more reliant on part-time or temporary labor force, and any reduction in labor supply can exacerbate operational challenges, leading to significant declines in employment and stock returns during enforcement periods. Therefore, understanding how immigration enforcement affects firms differently based on their sales volatility is crucial for comprehending broader labor market dynamics and the economic consequences of immigration policies.

Table 9 examines the relationship between undocumented immigration and firms' cumulative abnormal returns (CAR) in response to ICE enforcement actions, with a specific

focus on the workforce skill levels and sales volatility.

For low-skilled firms located in high undocumented immigrant density areas, those with higher sales variability experience more pronounced negative effects on CAR in response to ICE enforcement actions. This effect is particularly notable during the Trump presidency, where the coefficient for the triple interaction term ($High\ Undocumented\ Immigrants$, $Low\ Skill$, and $High\ Sales\ Variability$) is significantly negative, both with and without legal controls. These results suggest that for firms facing high sales volatility, disruptions to the undocumented immigrant workforce—more likely to occupy lower-skill, flexible labor roles—lead to significant reductions in stock performance during enforcement actions.

Table 10 presents the impact of ICE enforcement actions on changes in total employment for firms with high versus low sales variability. The four-way interaction term $High\ Undocumented\ Immigrants \times High\ Sales\ Variability \times Low\ Skill \times Lag(\#\ Enforcement)$ shows robust and significantly negative coefficients during the Trump presidency, indicating that firms relying heavily on low-skill labor in high-sales-variability sectors face more severe consequences from enforcement actions in terms of employment reductions.

Overall, the results emphasize that Trump-era enforcement actions had particularly significant employment and stock market impacts, especially for firms located in areas with high undocumented immigrant density, high sales volatility, and a high reliance on low-skilled labor.

F. Stock CAR and Bond Return in Response to the 2024 Election Result

To further investigate the broader implications of immigration policies on U.S. public firms

and local economies, we extend our analysis by examining the effects of the 2024 U.S. presidential election results. With Donald Trump securing a second term in office, this event signals a continuation of his previous hardline stance on immigration enforcement. Given the significant impact of Trump's first administration on labor markets, firm performance, and local economies, the re-election outcome may lead to further intensification of immigration policies, including expanded ICE enforcement, stricter border controls, and potentially more aggressive workplace immigration raids. By testing the market reactions – specifically cumulative abnormal returns (CAR) and municipal bond returns – around the 2024 election, we aim to capture how public firms and local economies respond to potentially renewed commitment to stricter immigration policies. This out-of-sample event provides a unique opportunity to assess the potential impact of Trump's re-election on business outcomes and municipal finances, building on our previous findings and offering insight into how firms and local governments might react to the continuity of his immigration agenda.

We calculate the cumulative abnormal return during the [-2,+2] day window of November 6, 2024, when the presidential election results was projected by the media. For municipal bonds, we collect all the general obligation bonds with two tradings covering the election result projection day and within the [-2,+2] week window, calculate the bond return based on the price of the two tradings closest to the event window boundaries, minus the Bloomberg US Municipal Index return of the same trading windows.

In Panel A of Table 11, the interaction term between $High\ Undocumented\ Immigrants$ and $Low\ Skill$ is significant and negative. This suggests that firms located in regions with a high concentration of undocumented immigrant labor in low-skill industries face greater uncertainty regarding labor supply and potential disruptions

due to anticipated immigration enforcement actions, which in turn leads to a decline in stock prices. In Panel B, we do not observe a statistically significant impact on bond returns in response to the election results. This lack of significance may stem from a limited number of observations for the single event, reducing statistical power. Alternatively, it is possible that the effect is dominated by other factors that bond investors prioritize, such as credit risk, debt servicing capacity, and regional economic performance.

V. Conclusion

This paper provides a comprehensive analysis of the economic effects of immigration enforcement policies on U.S. public firms and local economies. Based on the county-level undocumented immigrant data, we find positive impact of undocumented immigrants on US public firms. Undocumented immigrants compete with legal workers on jobs, which benefits public firms with lower labor costs in the local labor market. We use ICE enforcement actions as an exogenous shock to draw casual effects. In response to stricter immigration enforcement that threatens and targets undocumented immigrants, firms suffer from negative cumulative abnormal return and cut employment. The effects are more pronounced among firms relying on low-skilled workforce and with high sales variability.

We also find positive impact of undocumented immigrants on local economy. The return of municipal bond issued by county with high undocumented immigrant density reacts negatively to ICE enforcement, with the effects concentrated in counties with higher proportion of low-skill labor force. It implies that the undocumented immigrants in general helps sustain local production capacity and support business growth.

Stricter immigration enforcement, particularly during the Trump administration,

significantly affected firm performance, with substantial negative impacts on stock returns for firms in immigrant-heavy, low-skill sectors. Additionally, local economies, as reflected in municipal bond markets, were also negatively impacted, especially in areas with high concentrations of undocumented immigrants. The results underscore the importance of immigration policies in shaping the economic landscape, with different political environments leading to varying levels of disruption for firms and local governments.

Subperiod analysis suggests that the negative impact of immigration enforcement is more pronounced during the Trump presidency with intensified and more aggressive illegal immigration policies.

By exploring these dynamics, we contribute to a deeper understanding of how immigration enforcement affects not just the labor market but also the broader economic fabric of U.S. regions. This research has important policy implications, particularly for understanding the trade-offs between immigration enforcement and local economic stability, as well as the role of political climate in shaping the impact of these policies.

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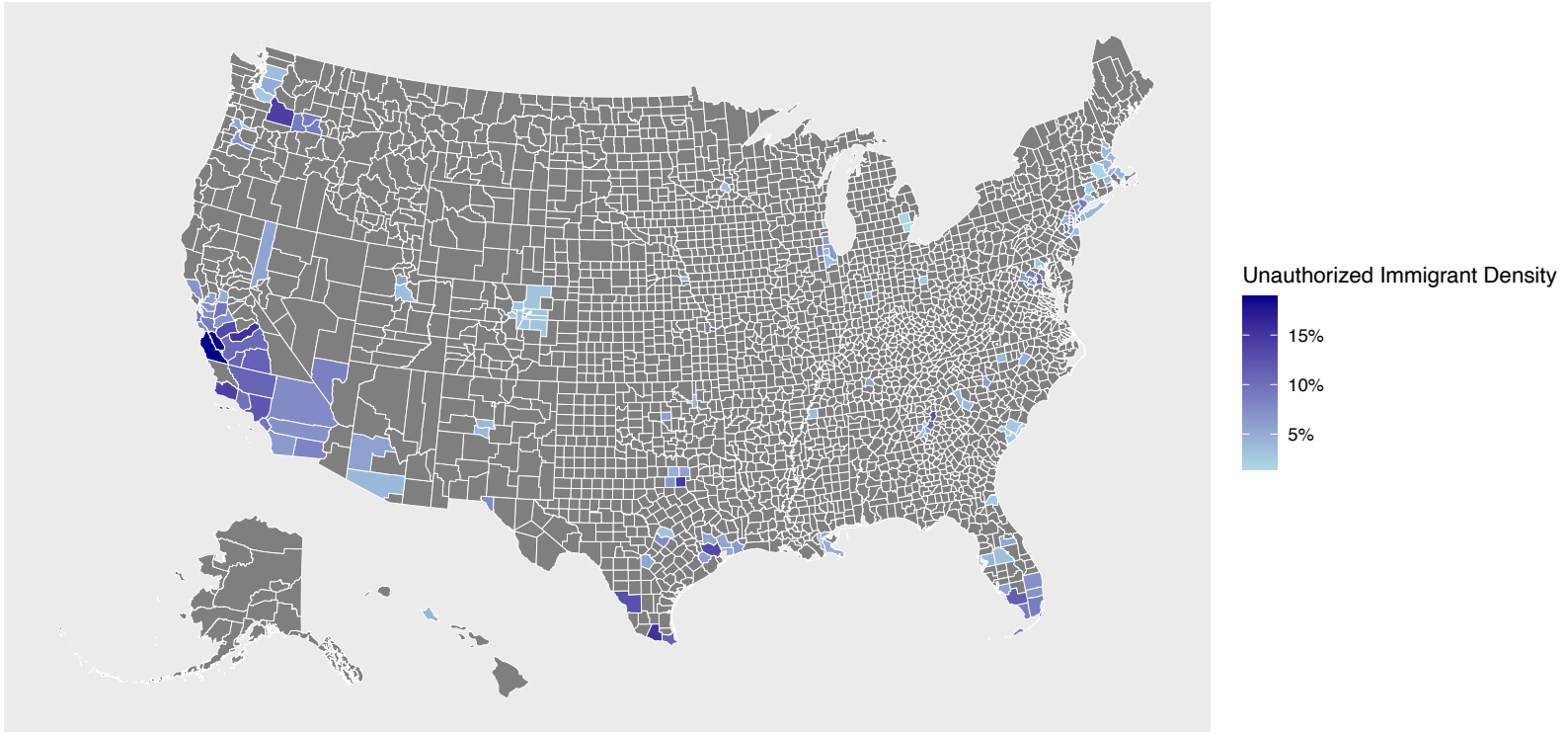
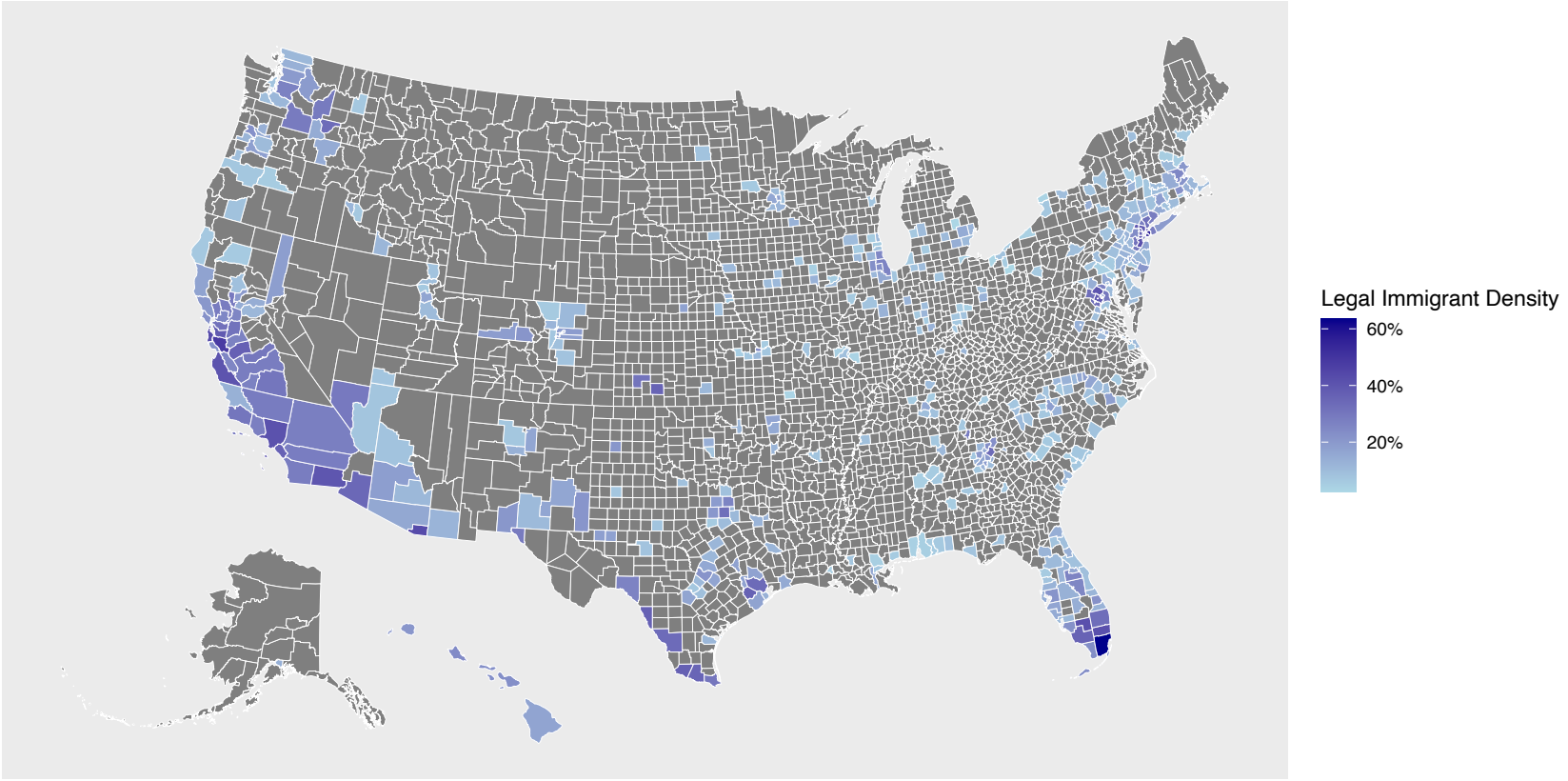


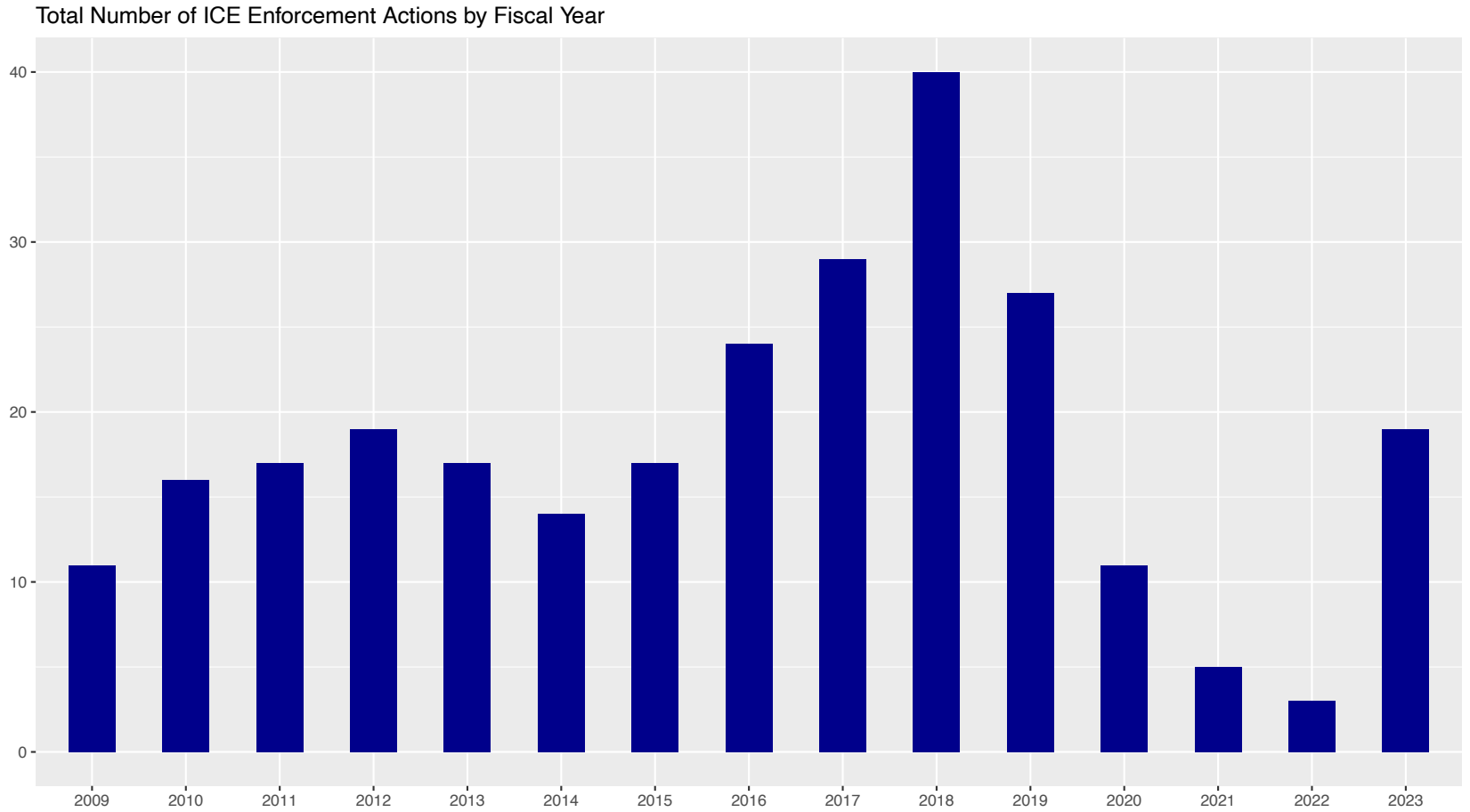
Note: This figure plots the undocumented immigrant density by county. The undocumented immigrant density of each county is defined as the ratio of employed unauthorized immigrants (estimated from the IPUMS census data from 2015 to 2019[17]) to the average of total employment of the county from 2015 to 2019. For counties with missing estimates of unauthorized immigrant employment, we set the density to be zero.

Figure 1. Undocumented Immigrant Employment Density by County



Note: This figure plots the legal immigrant density by county. The legal immigrant density of each county is defined as the ratio of employed legal immigrants to the average of total employment of the county from 2015 to 2019. For counties with missing estimates of legal immigrant employment, we set the density to be zero.

Figure 2. Legal Immigrant Employment Density by County



Note: This figure plots the number of ICE enforcement actions reported in the News Releases and Statements of US Immigration and Customs Enforcement website https://www.ice.gov/newsroom. We limit the news topic as *Enforcement and Removal*, and filter out the unique news with arrests of multiple illegal immigrant offenders. We count the number of such reported enforcement actions within ICE fiscal years (from October 1 to September 30), and plot the frequencies in the bar plot above. The sample period is from 2009 to 2023.

Figure 3. Frequency of ICE Enforcement Actions by Fiscal Year

Table 1
Top 20 Counties with the Highest Immigrant Density

Note: This table reports the top 20 counties with the highest immigrant density in the sample. Panel A presents the top 20 counties with the highest employed undocumented immigrant density, which is calculated as the estimated number of employed unauthorized immigrants (collected from MPI) scaled by the total employment of the same county. Panel B presents the top 20 counties with the highest employed legal immigrant density, which is calculated as the estimated number of employed legal immigrants scaled by the total employment of the same county. We use the average population from 2015 to 2019 from ACS to keep consistent with the period that MPI uses for undocumented immigrant estimations. We report FIPS code, the state name, the county name, the affiliated metropolitan area, undocumented immigrant density, legal immigrant density, and the average number of firms of which the headquarter locates in the county over the sample years.

Panel A – Top 20 Counties with the Highest Employed Undocumented Immigrant Density

ID	FIPS	State	County	Metropolitan Statistical Area	Undocumented Density (%)	Legal Density (%)
1	6069	California	San Benito	San Jose-San Francisco-Oakland, CA	18.9	25.6
2	48113	Texas	Dallas	Dallas-Fort Worth, TX-OK	14.6	32.3
3	6083	California	Santa Barbara	Santa Maria-Santa Barbara, CA	14.1	30.3
4	34017	New Jersey	Hudson	New York-Newark, NY-NJ-CT-PA	13.7	50.4
5	36081	New York	Queens	New York-Newark, NY-NJ-CT-PA	13.5	57.2
6	48201	Texas	Harris	Houston-Pasadena, TX	13.2	33.5
7	6037	California	Los Angeles	Los Angeles-Long Beach, CA	12.2	41.1
8	12021	Florida	Collier	Cape Coral-Fort Myers-Naples, FL	11.4	35.8
9	34039	New Jersey	Union	New York-Newark, NY-NJ-CT-PA	11.4	39.0
10	6029	California	Kern	Bakersfield, CA	11.1	28.6
11	13135	Georgia	Gwinnett	Atlanta–Athens-Clarke County–Sandy Springs, GA-AL	10.9	33.5
12	24033	Maryland	Prince Georges	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	10.7	29.5
13	34031	New Jersey	Passaic	New York-Newark, NY-NJ-CT-PA	9.9	39.3
14	6111	California	Ventura	Los Angeles-Long Beach, CA	9.9	27.5
15	6077	California	San Joaquin	San Jose-San Francisco-Oakland, CA	9.6	31.2
16	6059	California	Orange	Los Angeles-Long Beach, CA	9.5	36.1
17	6081	California	San Mateo	San Jose-San Francisco-Oakland, CA	9.4	42.7
18	6085	California	Santa Clara	San Jose-San Francisco-Oakland, CA	9.0	48.0
19	53071	Washington	Walla Walla	Kennewick-Richland-Walla Walla, WA	9.0	–
20	24031	Maryland	Montgomery	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	8.9	40.3

Panel B – Top 20 Counties with the Highest Employed Legal Immigrant Density

ID	FIPS	State	County	Metropolitan Statistical Area	Undocumented Density (%)	Legal Density (%)
1	12086	Florida	Miami-Dade	Miami-Port St. Lucie-Fort Lauderdale, FL	8.74	63.39
2	36081	New York	Queens	New York-Newark, NY-NJ-CT-PA	13.48	57.15
3	34017	New Jersey	Hudson	New York-Newark, NY-NJ-CT-PA	13.72	50.36
4	6085	California	Santa Clara	San Jose-San Francisco-Oakland, CA	9.01	47.99
5	36047	New York	Kings	New York-Newark, NY-NJ-CT-PA	7.74	44.45
6	6081	California	San Mateo	San Jose-San Francisco-Oakland, CA	9.40	42.71
7	12011	Florida	Broward	Miami-Port St. Lucie-Fort Lauderdale, FL	7.04	41.61
8	34023	New Jersey	Middlesex	New York-Newark, NY-NJ-CT-PA	7.37	41.56
9	6037	California	Los Angeles	Los Angeles-Long Beach, CA	12.19	41.08
10	24031	Maryland	Montgomery	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	8.91	40.27
11	34031	New Jersey	Passaic	New York-Newark, NY-NJ-CT-PA	9.86	39.26
12	34039	New Jersey	Union	New York-Newark, NY-NJ-CT-PA	11.36	38.96
13	51059	Virginia	Fairfax	Washington-Baltimore-Arlington, DC-MD-VA-WV-PA	7.88	38.78
14	6001	California	Alameda	San Jose-San Francisco-Oakland, CA	7.65	38.63
15	34003	New Jersey	Bergen	New York-Newark, NY-NJ-CT-PA	5.62	37.82
16	48157	Texas	Fort Bend	Houston-Pasadena, TX	5.99	36.34
17	34013	New Jersey	Essex	New York-Newark, NY-NJ-CT-PA	8.72	36.11
18	6059	California	Orange	Los Angeles-Long Beach, CA	9.55	36.07
19	12021	Florida	Collier	Cape Coral-Fort Myers-Naples, FL	11.36	35.77
20	6075	California	San Francisco	San Jose-San Francisco-Oakland, CA	5.73	34.88

Table 2
Summary Statistics of the Main Variables

Note: Panel A documents the summary statistics of the main variables of the US public firm sample in our paper. The data covers the period from 2009 to 2023. Undocumented Immigrants Density is the density of the undocumented immigrant at the county level, which is calculated as the ratio of employed unauthorized immigrants to the total employment in the county of the firm's headquarter; the value is set to be 0 for the county with no undocumented immigrant estimates. Legal Immigrants Density is the density of the legal immigrant at the county level, which is calculated as the ratio of employed legal immigrants to the total employment in the county of the firm's headquarter. CAR is the cumulative abnormal return in percent, which is calculated as the stock return minus the value-weighted market return of [-2,+2] days around the event. Change of Ln(Employees) is the log change of the number of employees between Year t − 1 and Year t of firm i. Percentage Change in Employees is the change rate of the number of employees between Year t − 1 and Year t scaled by the employees in Year t − 1. # Enforcement is the number of reported ICE enforcement action within the ICE fiscal year.
Panel B presents the summary statistics for the key variables in our U.S. municipal bond sample. Return represents the bond's return relative to the Bloomberg U.S. Municipal Index return, calculated using prices from the two trading days closest to the [-2, +2] week window. Coupon refers to the bond's coupon rate. Ln(Total Offering Amount) is the natural logarithm of the bond's issue size, measured in millions of dollars. Duration denotes the bond's duration in years. Callable is a binary variable equal to one if the bond is callable and zero otherwise. Insured is a binary variable equal to one if the bond carries third-party insurance and zero otherwise. Refunding is a binary variable equal to one if the bond is issued to refinance an existing bond and zero otherwise. The sample includes bonds where the source of repayment is classified as general obligation. The sample is from 2009 to 2023.

Panel A – Summary Statistics of the US Public Firms Sample

Variable	Obs.	1st Quarter	Median	Mean	3rd Quarter	Std. Dev.
Undocumented Immigrants Density (%)	124	4.01	5.63	6.43	8.30	3.12
Legal Immigrants Density (%)	335	8.05	11.65	15.15	18.34	10.16
Cumulative Abnormal Return (%)	668853	-2.64	0.01	0.00	2.65	5.74
# of ICE Enforcement	15	12	17	16.27	20.50	9.72
Change of Ln(*Employees*) (*Thousand*)	39897	-0.10	-0.02	-0.02	0.07	0.34
Ln(*Age*)	39897	2.20	2.94	2.78	3.40	0.86
Ln(*Size*)	39897	4.49	6.47	6.27	8.05	2.56
Sales Growth (%)	39897	-4.39	6.00	18.46	19.52	90.97
Return On Equity (%)	39897	-13.74	6.36	-3.14	16.90	89.32
Ln(*GDP*)	5383	15.26	16.00	16.10	17.06	1.41
Ln(*Population*)	5383	11.50	12.13	12.20	13.01	1.16
Δ*Unemployment* (%)	5383	-0.18	-0.11	-0.06	-0.05	0.34

Panel B – Summary Statistics of the Municipal Bond Sample

Variable	Obs.	1st Quarter	Median	Mean	3rd Quarter	Std. Dev.
Return (%)	381414	0.00	0.00	0.00	0.00	0.00
OfferingYield (%)	381414	1.99	2.65	2.78	3.50	1.11
Coupon (%)	381414	4.00	5.00	4.31	5.00	0.95
TotalOfferingAmount (*Million*)	381414	17.29	18.24	18.24	19.29	1.41
Duration (*Year*)	381414	2.00	3.00	3.97	6.00	2.94
Callable	381414	0.00	1.00	0.58	1.00	0.49
Insured	381414	0.00	0.00	0.14	0.00	0.35
Refunding	381414	0.00	1.00	0.53	1.00	0.50

Table 3
Cumulative Abnormal Return (CAR) of US Public Firms in Response to ICE Enforcement Actions

This table reports the panel regression results of the effect of the undocumented immigrants on firm's cumulative abnormal return (*CAR*, expressed in percentage points, %) in response to ICE enforcement actions. The dependent variable is the size-adjusted cumulative abnormal return (CAR), which is calculated as the firm's stock return minus the value-weighted market return over a [-2,+2] day window around the event, then further adjusted by subtracting the equal-weighted cumulative abnormal return of stocks within the same size group. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator variable that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Low Skill* is an indicator variable that equals 1 if the firm is in an industry with below-median skill levels across all industries. We also include the interaction term between *High Undocumented Immigrants* and *Low Skill* in the regression. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (2) and (4) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. The regression also includes year fixed effects. Standard errors are double-clustered at firm by event level. T-statistics are in parentheses. The sample covers ICE fiscal years from 2009 to 2023.

	(1)	(2)	(3)	(4)
High Undocumented Immigrants	**-0.06*** **	**-0.05** **	-0.04**	-0.03
	(-3.09)	**(-2.38)**	(-2.01)	(-1.44)
Low Skill			0.10***	0.10***
			(4.72)	(4.51)
High Undocumented Immigrants × Low Skill			**-0.08** **	**-0.09**
			(-2.33)	**(-1.91)**
High Legal Immigrants		-0.01		-0.01
		(-0.70)		(-0.52)
High Legal Immigrants × Low Skill				0.02
				(0.43)
Observations	668853	668853	668853	668853
Adjusted R-squared	0.001	0.001	0.001	0.001

Table 4
Employment Change in Response to ICE Enforcement Actions

Note: This table reports the panel regression results examining the interactive effect of the undocumented immigrants and the intensity of the ICE enforcement on firm's employment. The dependent variable is the change of *Ln*(*Employees*), which is calculated as the difference of the log of the total employees from Year $t-1$ to Year t. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Lag*(*#Enforcement*) is the one-year lagged total number of ICE enforcement actions reported within the ICE fiscal year. *Low Skill* is an indicator that equals 1 if the firm's industry-level skill is below median for all firms in the same fiscal year. We also include the interaction between *High Undocumented Immigrants*, *Lag*(*#Enforcement*) in Column (1) and (2). In Column (3) and (4), we additionally add the triple interaction terms among *High Undocumented Immigrants*, *Lag*(*#Enforcement*), and *Low Skill*. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (2) and (4) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. Standard errors are double-clustered at firm by year level. T-statistics are in parentheses. The sample covers the ICE fiscal years from 2009 to 2023.

	(1)	(2)	(3)	(4)
High Undocumented Immigrants	1.97**	2.70**	0.60	-1.12
	(2.46)	(2.15)	(0.55)	(-0.80)
Lag(*# Enforcement*)	0.07	0.06	-0.02	-0.00
	(1.33)	(1.15)	(-0.23)	(-0.01)
High Undocumented Immigrants	**-0.08****	**-0.12***	0.00	0.06
× *Lag*(*# Enforcement*)	**(-1.99)**	**(-1.95)**	(0.01)	(0.80)
High Legal Immigrants		-1.21		2.62*
		(-0.91)		(1.71)
High Legal Immigrants		0.06		-0.09
× *Lag*(*# Enforcement*)		(0.89)		(-1.05)
Low Skill			-2.38	-1.05
			(-1.38)	(-0.63)
High Undocumented Immigrants			2.34*	7.00***
× *Low Skill*			(1.79)	(3.69)
Lag(*# Enforcement*) × *Low Skill*			0.16*	0.11
			(1.72)	(1.15)
High Undocumented Immigrants			**-0.14****	**-0.31*****
× *Lag*(*# Enforcement*) × *Low Skill*			**(-1.97)**	**(-3.32)**
High Legal Immigrants × *Low Skill*				-7.26***
				(-3.03)
High Legal Immigrants				0.27**
× *Lag*(*# Enforcement*) × *Low Skill*				(2.27)
Observations	39897	39897	39897	39897
Adjusted R-squared	0.084	0.084	0.084	0.084

Table 5
Municipal Bond Return in Response to ICE Enforcement Actions

Note: This table reports the panel regression results of the effect of the undocumented immigrants on municipal bond returns around the ICE enforcement actions. The dependent variable is the bond return calculated as the municipal bond return minus the return of the Bloomberg US Municipal Index of [-2,+2] weeks around the events. The key independent variables are as follows. *High Undocumented Immigrants* is an indicator that equals 1 if the bond county-level undocumented immigrant density is above the median for all the bonds in the same event window. *Low Skill* is an indicator that equals 1 if the bond county-level skill is below the median for all the bond in the same event window. We calculate the county-level skill as the weighted average of occupation skills, with weights determined by the employment share of each occupation within the county. We include the interaction between *High Undocumented Immigrants* and *Low Skill* in Column (3) and (4). The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Offering Y ield*, *Duration*, *Coupon*, *Ln*(*Total Offering Amount*), *Callable*, *Insured*, *Refunding* are bond-level control variables. Column (2) and (4) control for legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all the bonds in the same event window. We keep the bond with the source of repayment being classified as general obligation. The regression also includes year fixed effects. Standard errors are double-clustered at county by event level. T-statistics are in parentheses.

	(1)	(2)	(3)	(4)
High Undocumented Immigrants	**-0.021***	**-0.037*****	0.011	-0.012
	(-1.89)	**(-3.07)**	(0.77)	(-0.77)
High Legal Immigrants		0.041***		0.048***
		(4.54)		(3.99)
Low Skill			0.043***	0.045***
			(3.24)	(3.39)
High Undocumented Immigrants × Low Skill			**-0.058*****	**-0.045*****
			(-3.79)	**(-2.69)**
High Legal Immigrants × Low Skill				-0.018
				(-1.14)
Observations	381414	381414	381414	381414
Adjusted R-squared	0.081	0.081	0.081	0.081

Table 6
Cumulative Abnormal Return (CAR) of US Public Firms in Response to ICE Enforcement Actions – Subperiod Analysis

Note: This table reports the panel regression results of the effect of the undocumented immigrants on firm's cumulative abnormal return (*CAR*, expressed in percentage points, %) in response to ICE enforcement actions. The dependent variable is the size-adjusted cumulative abnormal return (CAR), which is calculated as the firm's stock return minus the value- weighted market return over a [-2,+2] day window around the event, then further adjusted by subtracting the equal- weighted cumulative abnormal return of stocks within the same size group. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator variable that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Low Skill* is an indicator variable that equals 1 if the firm is in an industry with below-median skill levels across all industries. We also include the interaction term between *High Undocumented Immigrants* and *Low Skill* in the regression. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (1) and (2) report the results based on the period of Obama's presidency (before Jan 20, 2017); Column (3) and (4) are based on the period of Trump's presidency (between Jan 20, 2017 and Jan 19, 2021); Column (5) and (6) cover the period of Biden's presidency (after Jan 19, 2021). Column (2), (4), and (6) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. The regression also includes year fixed effects. Standard errors are double-clustered at firm by event level. T-statistics are in parentheses.

Panel A

	Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)
High Undocumented Immigrants	**-0.04***	**-0.04**	**-0.12*****	**-0.10*****	**0.08**	**0.07**
	(-1.71)	**(-1.61)**	**(-4.29)**	**(-3.17)**	**(1.06)**	**(0.90)**
High Legal Immigrants		0.00		-0.04		0.01
		(0.05)		(-1.29)		(0.11)
Observations	386376	386376	230354	230354	52123	52123
Adjusted R-squared	0.000	0.001	0.003	0.003	0.002	0.002

Panel B

	Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)
High Undocumented Immigrants	-0.03	-0.03	-0.10***	-0.08**	0.09	0.10
	(-1.00)	(-1.04)	(-3.33)	(-2.31)	(1.17)	(1.12)
Low Skill	0.04	0.05	0.19***	0.18***	0.12	0.11
	(1.41)	(1.48)	(5.83)	(5.49)	(1.43)	(1.24)
High Undocumented Immigrants	**-0.08***	**-0.05**	**-0.08***	**-0.12***	**-0.08**	**-0.18**
× Low Skill	**(-1.65)**	**(-0.79)**	**(-1.66)**	**(-1.67)**	**(-0.61)**	**(-1.01)**
High Legal Immigrants		0.01		-0.04		-0.01
		(0.32)		(-1.07)		(-0.09)
High Legal Immigrants		-0.03		0.06		0.15
× Low Skill		(-0.45)		(0.81)		(0.81)
Observations	386376	386376	230354	230354	52123	52123
Adjusted R-squared	0.000	0.000	0.003	0.003	0.002	0.002

Table 7
Employment Change in Response to ICE Enforcement Actions – Subperiod Analysis

Note: This table reports the panel regression results examining the interactive effect of the undocumented immigrants and the intensity of the ICE enforcement on firm's employment. The dependent variable is the change of *Ln*(*Employees*), which is calculated as the difference of the log of the total employees from Year $t-1$ to Year t. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Lag*(*#Enforcement*) is the one-year lagged total number of ICE enforcement actions reported within the ICE fiscal year. *Low Skill* is an indicator that equals 1 if the firm's industry-level skill is below median for all firms in the same fiscal year. We also include the interaction between *High Undocumented Immigrants*, *Lag*(*#Enforcement*) in Column (1) and (2). In Column (3) and (4), we additionally add the triple interaction terms among *High Undocumented Immigrants*, *Lag*(*#Enforcement*), and *Low Skill*. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (2), (4), and (6) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. Standard errors are double-clustered at firm by year level. T-statistics are in parentheses. Column (1) and (2) report the results based on the period of Obama's presidency in our sample; Column (3) and (4) are based on the period of Trump's presidency; Column (5) and (6) cover the period of Biden's presidency.

	Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)
High Undocumented Immigrants	-0.06	-4.67	-2.31	-3.91	3.83**	1.22
	(-0.02)	(-1.41)	(-0.85)	(-1.00)	(1.98)	(0.56)
Lag(*# Enforcement*)	-0.19	-0.08	-0.12	-0.11	0.06	0.12
	(-1.15)	(-0.41)	(-0.89)	(-0.75)	(0.32)	(0.58)
High Undocumented Immigrants	-0.01	0.27	0.12	0.15	-0.32*	-0.16
× *Lag*(*# Enforcement*)	(-0.07)	(1.34)	(1.22)	(1.03)	(-1.83)	(-0.95)
High Legal Immigrants		7.29*		2.74		3.84**
		(1.90)		(0.72)		(2.09)
High Legal Immigrants		-0.46**		-0.05		-0.26
× *Lag*(*# Enforcement*)		(-2.01)		(-0.34)		(-1.54)
Low Skill	-5.88*	-3.71	-4.17	-3.32	1.20	2.92
	(-1.74)	(-1.03)	(-1.48)	(-1.19)	(0.63)	(1.52)

High Undocumented Immigrants × Low Skill	3.49	10.55*	11.68***	14.52***	-0.53	4.72*
	(0.95)	(1.85)	(3.48)	(2.90)	(-0.28)	(1.94)
Lag(*# Enforcement*) *× Low Skill*	0.36*	0.23	0.28**	0.25**	-0.08	-0.20
	(1.65)	(1.00)	(2.51)	(2.17)	(-0.41)	(-0.93)
High Undocumented Immigrants	**-0.22**	**-0.59***	**-0.46*****	**-0.54*****	**0.27**	**-0.13**
× Lag(*# Enforcement*) *× Low Skill*	**(-0.94)**	**(-1.79)**	**(-3.80)**	**(-3.02)**	**(1.27)**	**(-0.56)**
High Legal Immigrants × Low Skill		-10.84*		-4.53		-8.53***
		(-1.75)		(-0.92)		(-2.64)
High Legal Immigrants		0.58		0.13		0.64**
× Lag(*# Enforcement*) *× Low Skill*		(1.62)		(0.72)		(2.11)
Observations	25364	25364	9275	9275	5258	5258
Adjusted R-squared	0.092	0.092	0.086	0.086	0.098	0.099

Table 8
Municipal Bond Return in Response to ICE Enforcement Actions – Subperiod Analysis

Note: This table reports the panel regression results of the effect of the undocumented immigrants on municipal bond returns around the ICE enforcement actions. The dependent variable is the bond return calculated as the municipal bond return minus the return of the Bloomberg US Municipal Index of [-2,+2] weeks around the events. The key independent variables are as follows. *High Undocumented Immigrants* is an indicator that equals 1 if the bond county-level undocumented immigrant density is above the median for all the bonds in the same event window. In Panel B, *Low Skill* is an indicator that equals 1 if the bond county-level skill is below the median for all the bond in the same event window. We calculate the county-level skill as the weighted average of occupation skills, with weights determined by the employment share of each occupation within the county. We include the interaction between *High Undocumented Immigrants* and *Low Skill*. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Offering Y ield*, *Duration*, *Coupon*, *Ln*(*Total Offering Amount*), *Callable*, *Insured*, *Refunding* are bond-level control variables. Column (1) and (2) report the results based on the period of Obama's presidency (before Jan 20, 2017); Column (3) and (4) are based on the period of Trump's presidency (between Jan 20, 2017 and Jan 19, 2021); Column (5) and (6) cover the period of Biden's presidency (after Jan 19, 2021). Column (2), (4) and (6) in both panels control for legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all the bonds in the same event window. In both panels, we keep the bond with the source of repayment being classified as general obligation. The regression also includes year fixed effects. Standard errors are double-clustered at county by event level. T-statistics are in parentheses.

Panel A

	Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)
High Undocumented Immigrants	**-0.011**	**-0.010**	**-0.041*** **	**-0.062*** **	**-0.009**	**-0.027**
	(-0.67)	**(-0.52)**	**(-2.78)**	**(-4.08)**	**(-0.21)**	**(-0.59)**
High Legal Immigrants		-0.003		0.060***		0.046
		(-0.20)		(6.76)		(1.60)
Observations	114049	114049	186800	186800	80565	80565
Adjusted R-squared	0.073	0.073	0.094	0.095	0.071	0.071

Panel B

	Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)
High Undocumented Immigrants	**0.042****	**0.037**	**-0.006**	**-0.031***	**-0.034**	**-0.061**
	(2.04)	**(1.42)**	**(-0.34)**	**(-1.66)**	**(-0.63)**	**(-1.05)**
Low Skill County	0.051***	0.055***	0.055***	0.055***	-0.030	-0.032
	(2.77)	(2.92)	(3.10)	(3.09)	(-0.63)	(-0.66)
High Undocumented Immigrants	**-0.097*****	**-0.082*****	**-0.062*****	**-0.056*****	**0.049**	**0.062**
× Low Skill County	**(-4.19)**	**(-2.80)**	**(-3.28)**	**(-2.78)**	**(0.90)**	**(1.12)**
High Legal Immigrants		0.003		0.061***		0.055
		(0.11)		(5.43)		(1.46)
High Legal Immigrants		-0.029		-0.003		-0.014
× Low Skill County		(-0.94)		(-0.19)		(-0.28)
Observations	114049	114049	186800	186800	80565	80565
Adjusted R-squared	0.074	0.074	0.094	0.095	0.071	0.071

Table 9
Cumulative Abnormal Return (CAR) of US Public Firms in Response to ICE Enforcement Actions – High Sales Volatility

Note: This table reports the panel regression results of the effect of the undocumented immigrants on firm's cumulative abnormal return (*CAR*, expressed in percentage points, %) in response to ICE enforcement actions. The dependent variable is the size-adjusted cumulative abnormal return (CAR), which is calculated as the firm's stock return minus the value-weighted market return over a [-2,+2] day window around the event, then further adjusted by subtracting the equal-weighted cumulative abnormal return of stocks within the same size group. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator variable that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Low Skill* is an indicator variable that equals 1 if the firm is in an industry with below-median skill levels across all industries. *High Sales Variability* is an indicator variable that equals 1 if the firm's quarterly sales variability over the past 4 quarters are higher than the median of all firms within the same fiscal year. Sales variability is defined as the standard deviation of firms sales scaled by the average sales over the past four quarters. We also include the two-way and triple interaction terms among *High Undocumented Immigrants*, *Low Skill*, and *High Sales Variability* in the regression. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (1) and (2) cover the ICE fiscal years from 2009 to 2023. Column (3) and (4) report the results based on the period of Obama's presidency (before Jan 20, 2017); Column (5) and (6) are based on the period of Trump's presidency (between Jan 20, 2017 and Jan 19, 2021); Column (7) and (8) cover the period of Biden's presidency (after Jan 19, 2021). Column (2), (4), (6), and (8) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. The regression also includes year fixed effects. Standard errors are double-clustered at firm by event level. T-statistics are in parentheses.

	All Time		Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High Undocumented Immigrants	-0.03	-0.03	0.01	-0.00	-0.11***	-0.11**	-0.04	0.06
	(-1.47)	(-1.05)	(0.19)	(-0.10)	(-3.25)	(-2.48)	(-0.38)	(0.54)
Low Skill	-0.01	-0.01	-0.00	-0.00	0.00	0.00	-0.10	-0.15
	(-0.27)	(-0.35)	(-0.12)	(-0.09)	(0.09)	(0.11)	(-0.98)	(-1.47)
High Undocumented Immigrants	-0.01	-0.04	-0.03	-0.04	0.00	0.02	0.11	-0.19
× Low Skill	(-0.20)	(-0.53)	(-0.55)	(-0.46)	(0.02)	(0.23)	(0.73)	(-0.77)
High Sales Variability	-0.20***	-0.21***	-0.10***	-0.10***	-0.34***	-0.34***	-0.29***	-0.37***
	(-8.44)	(-8.06)	(-3.13)	(-2.97)	(-9.12)	(-8.55)	(-2.69)	(-3.17)
High Undocumented Immigrants	0.01	-0.00	-0.05	-0.05	0.04	0.04	0.27*	0.09
× High Sales Variability	(0.19)	(-0.01)	(-1.14)	(-0.82)	(0.81)	(0.65)	(1.91)	(0.53)

Low Skill × High Sales Variability	0.26***	0.26***	0.11*	0.12*	0.43***	0.42***	0.52***	0.61***
	(5.90)	(5.88)	(1.87)	(1.96)	(6.64)	(6.35)	(2.92)	(3.32)
High Undocumented Immigrants	**-0.17*** **	**-0.12**	**-0.10**	**-0.03**	**-0.22** **	**-0.28** **	**-0.46***	**-0.07**
× Low Skill × High Sales Variability	**(-2.63)**	**(-1.26)**	**(-1.09)**	**(-0.19)**	**(-2.29)**	**(-1.96)**	**(-1.75)**	**(-0.19)**
High Legal Immigrants		-0.01		0.02		-0.01		-0.15
		(-0.21)		(0.40)		(-0.23)		(-1.24)
High Legal Immigrants × Low Skill		0.04		0.01		-0.03		0.44*
		(0.52)		(0.13)		(-0.27)		(1.68)
High Legal Immigrants		0.01		-0.00		-0.01		0.30*
× High Sales Variability		(0.25)		(-0.04)		(-0.08)		(1.66)
High Legal Immigrants		-0.07		-0.10		0.08		-0.59
× Low Skill × High Sales Variability		(-0.74)		(-0.74)		(0.54)		(-1.57)
Observations	668853	668853	386376	386376	230354	230354	52123	52123
Adjusted R-squared	0.001	0.001	0.000	0.000	0.004	0.004	0.002	0.002

Table 10
Change of Total Employment in Response to ICE Enforcement Actions – High Sales Volatility

Note: This table reports the panel regression results examining the interactive effect of the undocumented immigrants and the intensity of the ICE enforcement on firm's employment. The dependent variable is the change of *Ln*(*Employees*), which is calculated as the difference of the log of the total employees from Year $t-1$ to Year t. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Lag*(*#Enforcement*) is the one-year lagged total number of ICE enforcement actions reported within the ICE fiscal year. *Low Skill* is an indicator that equals 1 if the firm's industry-level skill is below median for all firms in the same fiscal year. *High Sales V ariability* is an indicator variable that equals 1 if the firm's quarterly sales variability over the past 4 quarters are higher than the median of all firms within the same fiscal year. Sales variability is defined as the standard deviation of firms sales scaled by the average sales over the past four quarters. We also include the two-way and triple interaction terms among *High Undocumented Immigrants*, *Low Skill*, and *High Sales V ariability* in the regression. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (1) and (2) cover the ICE fiscal years from 2009 to 2023. Column (3) and (4) report the results based on the period of Obama's presidency in our sample; Column (5) and (6) are based on the period of Trump's presidency; Column (7) and (8) cover the period of Biden's presidency in our sample. Column (2), (4), (6) and (8) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. Standard errors are double-clustered at firm by year level. T-statistics are in parentheses.

	All Time		Obama		Trump		Biden	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
High Undocumented Immigrants	0.42	0.25	0.43	2.00	1.92	2.79	1.32	0.22
	(0.42)	(0.21)	(0.17)	(0.58)	(0.66)	(0.93)	(0.74)	(0.12)
Lag(*# Enforcement*)	0.00	-0.00	-0.15	-0.19	0.08	0.07	-0.05	-0.02
	(0.01)	(-0.05)	(-0.85)	(-1.03)	(0.64)	(0.61)	(-0.34)	(-0.15)
High Undocumented Immigrants	-0.03	-0.06	-0.06	-0.18	-0.08	-0.12	-0.12	-0.05
× *Lag*(*# Enforcement*)	(-0.67)	(-0.99)	(-0.40)	(-0.88)	(-0.87)	(-1.10)	(-0.68)	(-0.27)
Low Skill	0.01	0.31	-4.47	-4.96	1.38	1.12	2.31	2.50
	(0.01)	(0.22)	(-1.45)	(-1.58)	(0.48)	(0.40)	(1.35)	(1.40)
High Undocumented Immigrants	1.35	2.73	-0.56	-1.97	-0.54	-1.12	1.66	1.88
× *Low Skill*	(1.00)	(1.60)	(-0.14)	(-0.31)	(-0.15)	(-0.25)	(0.81)	(0.93)
Lag(*# Enforcement*) × *Low Skill*	0.05	0.04	0.27	0.31*	0.06	0.06	-0.14	-0.15
	(0.69)	(0.58)	(1.47)	(1.65)	(0.55)	(0.59)	(-0.78)	(-0.80)

High Undocumented Immigrants	-0.04	-0.08	0.07	0.22	0.01	-0.02	0.13	0.17
× *Lag*(*# Enforcement*) × *Low Skill*	(-0.55)	(-1.02)	(0.32)	(0.61)	(0.08)	(-0.12)	(0.44)	(0.50)
High Sales V ariability	1.68	0.52	0.71	-4.00	14.40***	12.71***	-1.14	-2.33
	(0.86)	(0.24)	(0.16)	(-0.92)	(3.31)	(2.66)	(-0.38)	(-0.71)
High Undocumented Immigrants	-0.02	-3.41	-0.89	-10.97	-10.79**	-16.79***	5.85	2.06
× *High Sales V ariability*	(-0.01)	(-1.16)	(-0.18)	(-1.64)	(-2.15)	(-3.64)	(1.51)	(0.39)
High Sales V ariability	-0.05	0.01	-0.07	0.23	-0.49***	-0.44**	0.24	0.33
× *Lag*(*# Enforcement*)	(-0.47)	(0.09)	(-0.26)	(0.90)	(-2.79)	(-2.19)	(0.81)	(0.98)
High Undocumented Immigrants	0.08	0.27*	0.10	0.73*	0.49**	0.65***	-0.47	-0.20
× *High Sales V ariability*	(0.65)	(1.69)	(0.31)	(1.87)	(2.55)	(3.44)	(-1.60)	(-0.45)
× *Lag*(*# Enforcement*)								
High Sales V ariability × *Low Skill*	-5.03*	-2.81	-2.98	2.46	-13.93***	-11.40**	-1.96	1.31
	(-1.90)	(-1.05)	(-0.46)	(0.38)	(-3.01)	(-2.16)	(-0.55)	(0.33)
High Undocumented Immigrants	2.55	8.37**	8.59	22.96*	23.93***	31.30***	-4.74	4.12
× *High Sales V ariability* × *Low Skill*	(0.93)	(2.28)	(1.11)	(1.92)	(3.33)	(3.98)	(-1.10)	(0.75)
High Sales V ariability	0.22	0.13	0.18	-0.15	0.53***	0.47**	0.09	-0.18
× *Lag*(*# Enforcement*) × *Low Skill*	(1.63)	(0.88)	(0.47)	(-0.38)	(2.75)	(2.05)	(0.24)	(-0.48)
High Undocumented Immigrants	**-0.22**	**-0.45****	**-0.61**	**-1.47****	**-0.93*****	**-1.07*****	**0.32**	**-0.49**
× *High Sales V ariability*	**(-1.45)**	**(-2.43)**	**(-1.29)**	**(-2.13)**	**(-3.66)**	**(-4.10)**	**(0.74)**	**(-0.88)**
× *Lag*(*# Enforcement*) × *Low Skill*								
Legal Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	39897	39897	25364	25364	9275	9275	5258	5258
Adjusted R-squared	0.084	0.084	0.091	0.092	0.088	0.088	0.098	0.098

Table 11
CAR and Bond Return in Response to 2024 Presidential Election Results

Note: This table reports the panel regression results of the effect of the undocumented immigrants on firm's cumulative abnormal return (CAR) around Trump's 2024 presidential election win. The dependent variable is the cumulative abnormal return (CAR) calculated as the stock return minus the value-weighted market return of [-2,+2] days around Nov 6 2024 (the day when Trump's winning was projected). The dependent variable is the size-adjusted cumulative abnormal return (CAR), which is calculated as the firm's stock return minus the value-weighted market return over a [-2,+2] day window around the event, then further adjusted by subtracting the equal-weighted cumulative abnormal return of stocks within the same size group. The key explanatory variables include the following. *High Undocumented Immigrants* is an indicator variable that equals 1 if the firm's county-level undocumented immigrant density is above the median for all firms in the same fiscal year. *Low Skill* is an indicator variable that equals 1 if the firm is in an industry with below-median skill levels across all industries. We also include the interaction term between *High Undocumented Immigrants* and *Low Skill* in the regression. The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county- level control variables. *Ln*(*Size*), *Ln*(*Age*), *Lag*(*ROE*), *Sales Growth* are firm-level control variables. Column (2) and (4) also control for the legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all firms in the same fiscal year. The regression also includes year fixed effects. Standard errors are double-clustered at firm by event level. T-statistics are in parentheses.

Panel A – Cumulative Abnormal Return of US Public Firms

	(1)	(2)
High Undocumented Immigrants	0.37	0.53
	(0.79)	(1.03)
Low Skill	1.01	0.80
	(1.34)	(1.00)
High Undocumented Immigrants × Low Skill	**-0.58***	**-1.23****
	(-1.64)	**(-2.11)**
High Legal Immigrants		-0.08
		(-0.18)
High Legal Immigrants × Low Skill		1.05*
		(1.70)
Obs.	2942	2942
Adj. R^2	0.066	0.066

Table 11
CAR and Bond Return in Response to 2024 Presidential Election Results (Continued)

Note: Panel B of the table reports the impact of the undocumented immigrants on municipal bond returns around the 2024 presidential election result. The dependent variable is the bond return calculated as the municipal bond return minus the return of the Bloomberg US Municipal Index of [-2,+2] weeks around the events. The key independent variables are as follows. *High Undocumented Immigrants* is an indicator that equals 1 if the bond county-level undocumented immigrant density is above the median for all the bonds in the same event window. *Low Skill* is an indicator that equals 1 if the bond county-level skill is below the median for all the bond in the same event window. We calculate the county-level skill as the weighted average of occupation skills, with weights determined by the employment share of each occupation within the county. We include the interaction between *High Undocumented Immigrants* and *Low Skill* in Column (3) and (4). The control variables include the following. *Ln*(*Population*), *Ln*(*GDP*) and Δ*Unemployment* are county-level control variables. *Offering Y ield*, *Duration*, *Coupon*, *Ln*(*Total Offering Amount*), *Callable*, *Insured*, *Refunding* are bond-level control variables. Column (2) and (4) control for legal immigrants, where *High Legal Immigrants* is an indicator that equals 1 if the firm's county-level legal immigrant density is above the median for all the bonds in the same event window. We keep the bond with the source of repayment being classified as general obligation. The regression also includes year fixed effects. Standard errors are double-clustered at county by event level. T-statistics are in parentheses.

Panel B – Municipal Bond Return

	(1)	(2)	(3)	(4)
High Undocumented Immigrants	**0.024**	**-0.010**	0.001	0.030
	(0.56)	**(-0.20)**	(0.02)	(0.36)
High Legal Immigrants		0.048		-0.035
		(1.02)		(-0.43)
Low Skill County			-0.001	-0.015
			(-0.02)	(-0.34)
High Undocumented Immigrants			**0.044**	**-0.063**
× Low Skill County			**(0.66)**	**(-0.64)**
High Legal Immigrants				0.149
× Low Skill County				(1.50)
Observations	3762	3762	3762	3762
Adjusted R-squared	0.105	0.105	0.105	0.106