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Foreign-Born Residents and the Optimal Provision of Public Goods: An Application of Lindahl Pricing and Tiebout Sorting

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Abstract

This paper examines immigration as it relates to two well-known public finance models of optimal public goods provision: Lindahl pricing and the Tiebout model. As the major function of local governments is the provision of public goods, this paper suggests that local-level voter participation by immigrants could improve preference revelation in Lindahl's model and reinforce Tiebout sorting between jurisdictions. Furthermore, the increased use of vouchers provided to students, native and foreign born alike, increases direct preference revelation concerning the specific public good of education. By using long-standing public finance models, this paper shows that policy ideas of the Left, increased voice (access to the voting booth), and the Right, increased freedom of exit (access to school vouchers), have the theoretical benefit of increasing public good optimization.

JEL Codes: H2, H4, J6

Keywords: immigration, school vouchers, voting, Lindahl, Tiebout

I. Introduction

On May 11, 2023, a restrictive COVID-era US immigration policy, Title 42, expired. Title 42 allowed border agents to quickly expel many asylum seekers back to Mexico or their home countries. During the three years the policy was in place, 2.7 million migrant expulsions took place, while another 2.8 million migrants were allowed into the US (Hesson 2023). With the expiration of Title 42, analysts and policy makers predicted that there would be an increase in the number of those actively seeking entry into the US (Dejarnis and Barnhart 2023).

Indeed, there has been a recent surge in the number of minors attempting to reach the US, while sanctuary cities such as Chicago and New York report that they are struggling to provide resources to the many new migrants being bused there (Vyas 2023; Fung 2023).

As of 2020, approximately 44.1 million foreign-born people resided in the United States, representing 13.5 percent of the population (Congressional Research Service 2022). Coincidentally, 13.5 percent is also the percentage of the US population in 2020 that identified as being African American. The percentage of foreign-born individuals has risen over the last fifty years to almost triple the amount estimated in 1970 (4.7 percent). Of these 44.1 million foreign-born residents, 22.5 million were naturalized citizens and 13.1 million were legal permanent residents (green card holders). A remaining estimated 8.4 million were unauthorized residents, though the actual number is likely much higher (Congressional Research Service 2022).

Concerns about immigration are growing among US adults. In 2022, immigration was one of the top four most important problems mentioned in a Gallup survey (Brenan 2022). By March 2023, the percentage of adults citing immigration as a problem had almost doubled from the prior year (Statista 2023). Because immigration is a large and growing concern for US citizens and policy makers, there is a need for a renewed focus on immigration policy. This paper analyzes the impact of immigration on the optimal mix of public goods at the local level.

II. The Optimal Provision of Public Goods

The field of public finance examines the government's influence on the efficient allocation of available resources, the distribution of income among citizens, and the stability of the economy (Oates 1968). Regarding the efficient allocation of available resources, Charles Tiebout (1956) proposed that perfect competition between political jurisdictions leads to the optimal provision of public goods. Consumers move (vote with their feet) to jurisdictions that align with their preferred bundle of public goods, inclusive of tax incidence.

Erik Lindahl (1919) suggested that the optimal level of public goods provision is achieved by charging residents for public goods in accordance with the marginal benefit received. If a jurisdiction can correctly assess individuals' marginal preferences and valuation of public goods, a government can tax people accordingly—Lindahl pricing.

Both economists' models reach the same outcome. In both cases, consumers end up paying for public goods per the benefit principle and the production of public goods is optimal. The advantage of Tiebout's model over Lindahl's is that Tiebout sorting is based on revealed preferences, while Lindahl pricing is based on inferred knowledge of such preferences. With Tiebout's model, public goods consumers directly reveal their preferences for public goods through their choice of residential location. In contrast, Lindahl's model relies on the belief that bureaucrats accurately know the preferences of the people in their jurisdictions and are willing to institute taxes and produce bundles of public goods that are congruent with these preferences.

The purpose of this paper is to analyze the challenges to the optimal provision of public goods in both models brought about by large-scale immigration of individuals, some of whom are prevented from voting. As only half of the foreign-born US population are naturalized citizens, the lack of voting rights among the remaining foreign-born residents prevents more than 6 percent of the US population from revealing their preferences through the political process.

The impact of the lack of voting rights varies greatly by state. For example, in 2020, 26.6 percent of Californians were foreign born as compared to only 1.6 percent of West Virginians (Congressional Research Service 2022). While this paper focuses on voting barriers in the US context, the lack of voting rights among residents is not an issue solely for the US. According to the *World Migration Report*, in 2020, there were 281 million migrants across the globe. This amounted to 3.6 percent of the world's population and 4.9 percent of the global workforce (International Labour Organization 2021).

This disenfranchisement prohibits these consumers of public goods from revealing their preferences for public goods via the ballot box and, in some cases, also reduces their incentive to vote with their feet. If a migrant has political voice, then they reinforce the preferences of residents in the jurisdictions to which they choose to move. This reduces the chances that their arrival in the jurisdiction will trigger a change in public goods allocation in the jurisdiction. This lowers the cost of moving between jurisdictions.

These are the two prime ways to influence poor institutions: voice and exit (Hirschman 1970; Landgrave and Nowrasteh 2016). However, existing barriers to voting (with a ballot or with one's feet) prevent

many foreign-born residents from influencing inefficient institutions. And yet citizens are reluctant to remove these barriers. Why?

One common concern is that an underground labor market for foreign-born workers prevents Lindahl pricing, so the removal of such barriers will lead foreign-born residents to free-ride. This paper addresses that concern and shows that the government's ability to allocate tax liability at the local level is not complicated by the presence of the underground economy, as unauthorized immigrants pay most forms of local taxes. The majority of public good provision occurs at the local level, at which all residents are primarily taxed, either directly or indirectly, in the form of property or sales taxes. Foreign-born residents are paying for locally provided public goods, but they have no say in the bundle of goods being offered. For example, public school offerings often do not represent the preferences of all individuals living in a district. This paper suggests that local-level voter participation by immigrants could increase Tiebout sorting between public school districts and could lead to greater overall efficiency in public good provision.¹ The next two sections examine optimal public good provision in the context of immigration using Lindahl's and Tiebout's models respectively.

¹ Both Lindahl's and Tiebout's models revolve around public goods. Like most examples of public goods given, public education is not purely a public good. Since current law does not exclude documented or undocumented immigrants from attending public school, it is in many ways non-excludable. Certainly, provisions could be put into place that require students or their parents to be US citizens. However, this is not currently the case, and it arguably would not be consistent with the purpose of public education. In this sense, public school can be seen as non-excludable. Yet public school is not necessarily nonrival. For instance, the presence of non-native speakers can lead to resources being directed away from existing students. In this way, public education is

not necessarily a purely public good.

However, as DeAngelis (2018) points out, "While public schooling is certainly not a public good, it may be 'good for the public' if it increases overall education levels without any unintended consequences. Even Milton Friedman (1955) claims that, because schooling may be an economic merit good, a valid argument may be made for government funding of schools." DeAngelis also notes that public schooling may create significantly more negative externalities than school choice programs. A full analysis of the costs and benefits of a school choice program or voucher system is beyond the scope of the present paper. However, the arguments laid out here can also be used to analyze the impact of giving immigrants and their children access to school choice programs. Further, DeAngelis's arguments in favor of "allowing families to reallocate their educational resources to the private schools that best serve their children" also apply to the broader analysis given here for allowing immigrant families to best serve their children.

III. Voting Rights of Noncitizens

To optimize the provision of public goods, policy makers must ascertain the preferences of their constituents.² Gathering this information can be costly. One way to gain information regarding optimal public goods bundles is through the revealed preferences of voters in elections or referenda in which the size of a public goods bundle is at stake. The greater the access to the ballot box, the greater the reliability of the information (at least about the direction of a preference if not the intensity thereof) provided by the median voter.³

However, voters are not always rational (Caplan 2001b, 2007). Caplan (2001b) goes so far as to say that "ideas, not interests, drive most politically relevant thought" (p. 556). Rather than ask whether all voters vote for their interests perfectly, the relevant question is whether an expansion of the franchise increases or decreases overall rationality. For instance, allowing two-year-olds to vote would likely cause an overall decrease in voter rationality. Allowing a higher percentage of parents with children enrolled in public schools to vote in school board elections is likely to increase efficiency of ballot-based preference revelation, as the outcome of the vote has a direct impact on the parents' consumption of public goods.

The US has limited voting access to varying groups throughout its history. Property ownership, sex, race, and religious affiliation were among the original barriers to the ballot box in the United States. These restrictrions were meant to either keep irrational voters from voting or impose the preferences of one group on another. The Naturalization Law of 1790 stated that only "free white" immigrants could become naturalized citizens. As of 1802, foreign residents had to legally live in the US for a minimum of five years before they could apply for citizenship.

Many barriers to voting eventually fell. In 1856, North Carolina became the last state to remove property ownership as a voting requirement. The Fourteenth Amendment (1868) extended citizenship

² This statement does implicitly assume that aligning provision with constituents' preferences is the correct public policy goal. While this is the position this paper adopts, some have argued that preference error can occur when individuals lack viable options, must choose between complex bundles of public goods, or lack sufficient information to truly realize their own true preferences (Lowery 1998). Further, politicians are quite different from an omniscient, altruistic power and so likely have different public policy goals of their own.

³ For more information on why democracies produce efficient results, see Wittman (1989, 1995).

to all men born in or naturalized into the US, while the Fifteenth Amendment (1870) barred denial of voting rights based upon race. The Nineteenth Amendment (1920) extended the right to vote to women. It was not until 1947 that all Native Americans gained the right to vote and not until 1952 that people with Asian ancestry were given the right to become citizens. In 1964, the Twenty-Fourth Amendment removed failure to pay taxes as a barrier to the ballot box. The Twenty-Sixth Amendment (1971) lowered the minimum voting age to eighteen. With these amendments, voting rights have expanded.

However, immigrant voting rights have fluctuated more widely than those of other groups. Most states have at some point allowed immigrants to vote in local, state, or national elections and even to hold some public offices (Hayduk 2006). As Hayduk (2006) points out, "The idea that non-citizens should have the vote is older and has been practiced longer than the idea that they should not" (p. 16). Despite the exclusion of women, non-whites, and men who did not own property, there was no citizenship requirement for voting from the 1770s to the 1820s. After that time, states and new territories differed in whether to allow aliens to vote. For example, increased immigration of Catholics from Germany and Ireland spurred among some a fear of immigrant voting and led to the development of the Know Nothing movement. The Know Nothings sought an end to immigrant voting. However, noncitizen voting increased in popularity following the Civil War, particularly among southern states seeking to attract cheap immigrant labor.

Numerous territories were authorized by Congress to allow noncitizen voting, a practice many continued after gaining statehood. While voting rights were extended earlier to noncitizens in almost half of all states, they had been removed in all but eleven states by 1900 (Hayduk 2006).

With the turn of the century came both the dawn of the Progressive Era and the large-scale arrival of southern and eastern European immigrants. Increased voting restrictions of this time (including poll taxes, residency requirements, and strict regulations) disenfranchised not only immigrants but also other groups (Hayduk 2006). Anti-immigration sentiment grew during this period, leading to the passage in 1924 of the National Origins Act. Hayduk (2006) writes, "Taken together, these developments limited democratic politics and progressive possibilities in the United States for years to come. The legacy of these changes had significant implications for public policy and American political development

throughout the twentieth century to this day" (p. 30). Although the civil rights movement opened the doors of the US to immigrants from around the world—with the Immigration and Nationality Act being passed in 1965—the restrictions prohibiting alien suffrage have been largely preserved to this day.

At the end of 2021, to further expand the franchise, the New York City Council passed a law that allowed eight hundred thousand noncitizen residents of New York City to vote in municipal elections. Six months later, a New York State judge struck down the law as violating the New York State Constitution (Allen 2022).

Interestingly, other localities in the US previously allowed noncitizens to vote in certain local elections, including San Francisco, where a 2016 ballot initiative approved voting in school board elections (Conklin 2021). The US Constitution does not ban noncitizens from voting in local elections (Raskin 1993; Gessioto 2018). Public opinion is sharply, and often fiercely, divided on the merits of noncitizen voting (Goldberg 2021; Berman 2022).

Opponents of expanding voting rights to noncitizens sometimes argue that the political controversy and division are not worth it. This is because even when allowed to vote, the immigrant voter turnout rate is often lower than that of native-born citizens (Ferris et al. 2020). However, research suggests that the lower rate is partly due to immigrants' being restricted to voting only in local elections (Ferris et al. 2020). The native turnout rate is similarly low in local-only elections.

Opponents also suggest that noncitizens might not have the best interests of the community at heart or might not be educated on the candidates. However, noncitizens who reside in a location have a similar desire to citizens for a safe, clean, prosperous community (Hayduk and Wucker 2004). Further, emigrants have a strong incentive to gain information about prospective jurisdictions. Thus, recent movers are in many cases more informed than longtime residents, as even native-born voters might not be familiar with the political process or the candidates on the ballot. Some opponents also claim that allowing noncitizens a vote could increase fraud, but this concern is unsubstantiated by research (Hayduk and Wucker 2004).

Arguably one of the most compelling concerns is that expanding voting to nonresidents would undoubtedly bring about additional administrative and bureaucratic obstacles, especially in certifying who is eligible to vote (Hayduk and Wucker 2004; Venice Commission 2005). Also compelling is the argument that allowing nonresidents to vote

would change the political makeup of an area. Some opponents fear that the size of entitlement programs will expand if immigrants are allowed to vote, given that immigrants may benefit from the expansion of such programs. Bolstering these fears is the evidence that immigrants come from nations with more expansive welfare states and so may be biased in favor of welfare programs (Powell 2018).⁴

However, Bryan Caplan (2018) points out that this analysis fails to consider the effect that the presence of immigrants will have on existing voters. Current research does little to answer the question of the impact of immigrant voting on the growth or shrinkage of the welfare state, but there is some evidence that the presence of immigrant voters leads native voters to support less redistributive policies (Razin et al. 2002). Caplan (2018) notes that "Soroka et al.'s [sic] ultimately agree that immigration restrains the welfare state, though the effect is so moderate that it merely slows its rate of growth rather than actually making it smaller." The rate of growth of the welfare state appears to be slower in areas that are more open to immigration (Caplan 2018; Soroka et al. 2006). Soroka comments that the redistributive aspect of government might have expanded far more over the last fifty years (by 16–17 percent) had the foreign-born population not expanded in that time.

Caplan (2018) concludes poignantly, "If you think you know the effect of immigration on the welfare state, you're overconfident. Immigration's effect on the welfare state is too hazy to detect one way or the other. So regardless of your views on the welfare state, you should evaluate the effects of immigration on other grounds."

The question of who to enfranchise can be approached via the lens of fairness or efficiency. Those wishing to expand voting rights to noncitizens argue that such rights "are a requirement of just and fair democratic governance and that their application sometimes helps prevent the mistreatment of non-citizens who would otherwise be unfairly excluded from the demos, unable to participate and

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⁴ Even Somin (2008, 2010) notes that it is theoretically possible for large-scale immigration from an illiberal culture to cause immigrants to gain political control through the ballot box and undermine the very freedoms that allowed the immigrants to come. In US terms, a petition was posted to Texas governor Abbott's re-election campaign that used the phrase "Don't California My Texas," referring to Californians voting to impose the very policies that caused them to flee California for Texas. Nowrasteh and Powell (2020) find no correlation between immigration and a loss of economic freedom in states in the US. They state, "Immigrants helped preserve, protect, defend and expand American free-market economic and political institutions" (p. 222).

denied a political voice in the communities where they live, work and pay taxes" (Eisenberg 2015). Legal permanent residents in the US must register for Selective Service and may be asked to bear arms for the US, without being allowed to vote for their political leaders (Hayduk and Wucker 2004).

IV. Lindahl Pricing and Information Costs

According to Lindahl (1919), fairness should be examined by following the benefit principle. If people are taxed per the marginal benefit they derive from public goods, then no additional concerns would arise from allowing noncitizens a voice in the public goods mix. The involvement of more people in the political process would merely lower information costs.

A common concern that arises from the prospect of noncitizen voting is that noncitizens, on net, would become free riders and not pay their fair share of taxes. Governments in the US collect taxes not only to fund public goods but also to redistribute income. Not surprisingly, the public's taste for redistribution tends to fall as the level of immigration increases (Elsner and Concannon 2020; Alesina, Miano, and Stantcheva 2023). The redistributive arm of the government attracts migrants interested in receiving income assistance to more redistributive areas (Peterson and Rom 1989). Thus, the argument for allowing noncitizen preferences to influence public goods production is much stronger if a government solely provides public goods and does not engage in income redistribution.

As a general rule, the amount of income redistribution relative to public goods provision increases at higher levels of government in the United States. The vast majority of federal spending can be categorized as income redistribution (transfer payments). According to the Congressional Budget Office, \$4.1 trillion out of the \$5.7 trillion 2022 budget was dedicated to mandatory spending, with the four largest categories therein being Social Security, Medicare, Medicaid, and income security (Congressional Budget Office 2023). These benefits programs are both rival and excludable. At the state and local levels, the percentage of income redistribution is typically lower. Forty-four percent of states' budgets from 2020 went to support public welfare, as compared to only 6 percent of local expenditures (Urban Institute 2023). School-district spending is even less redistributional. For instance, many school districts provide free lunches to all students, regardless of income level, if a large number of students qualify for federal lunch assistance.

On the tax side of the equation, Office of Management and Budget (2022) projections indicate that in 2023, approximately 83 percent of federal tax revenue would come from personal income taxes and payroll taxes. According to the US Census Bureau (2020), the main sources of state tax revenue in 2020 were sales taxes (48.4 percent) and personal income taxes (36.5 percent). At the local level, property taxes represented 72.2 percent of local revenue while sales taxes accounted for 17.3 percent and individual income taxes only 4.9 percent.

When it comes to local public finance, it is difficult to conclude that foreign-born residents pay a significantly smaller share of their income (as compared to citizens) to support local public goods production. In fact, a recent study suggests that undocumented residents pay a higher overall effective tax rate than do the top 1 percent of taxpayers (Gee, Gardner, and Wiehe 2016). With decreased access to formal saving institutions, foreign-born residents spend a higher percentage of their income on consumption. Accordingly, they not only pay sales taxes but do so at a higher effective tax rate. And while only approximately 31 percent of unauthorized immigrants own homes, a portion of rent paid by renters is invariably used to pay property taxes (Kasperkevic 2017; England 2016). The payment of local property taxes (paid by citizens and noncitizens alike) is consistent with the Tiebout model's head tax (Hamilton 1975, 1976). And increased public good benefits translate into higher property taxes. Thus, both citizens and unauthorized

⁵ England (2016) notes that empirical research on the potential renter's share of the burden of a property tax is still in "its infancy." However, he reviews several theoretical papers and a few empirical papers suggesting that renters do share in this burden. For instance, he cites Tsoodle and Turner's (2008) finding that a 0.34 percent increase above the sample mean of the property tax rate leads to a 1.5 percent increase in rents. This finding is consistent with that of Carroll and Yinger (1994). Carroll and Yinger note that prior research suggested that renters pay a higher portion of property taxes only when they are immobile. However, they show that mobility is not necessary for renters to share the tax burden and that renters consider public services when they choose where to locate. As a result, renters pay a portion of property taxes (in the form of higher rents in locations with greater provision of public services).

England (2016) points out that there is contrasting evidence on whether municipalities with more renters have larger expenditures on public goods (for example, Oates 2005). Banzhaf and Oates (2013) do not find the same relationship between renter percentage and public good provision in their empirical analysis. They suggest that the burden can only be shared among mobile renters if the taxes go to fund public goods the renters themselves value. Unfortunately, as even Oates (2005) notes, this research is still in the early stages, and it is too soon to draw conclusions.

immigrants pay for their public goods in the form of property taxes (Oates 1981).

In contrast, the federal tax system is largely dependent upon personal income taxes and payroll taxes. According to the benefit principle, if unauthorized immigrants work in the black market and do not accurately report income to the Internal Revenue Service, then there is little justification for claiming that unauthorized immigrants should be allowed to reveal their preferences in the national voting booth. However, this concern does not hold at the local level. Non-native households contribute to the local tax base (even if they work in the underground economy) via consumption and rent. Not only that, but non-native households in some cases earn more than their native counterparts, as seen in table 1.

Some suggest that non-native citizens should not be allowed to vote at the local level because they do not expand the tax base. Not only is that premise untrue, but the argument implies that native single households should not be allowed to vote, as they contribute less than the median noncitizen married household. But the idea that only married individuals (or more wealthy households) should be allowed to vote is clearly unjust.

Table 1. Median income of households, 2019

	Native born	Naturalized citizen	Not US citizen
Married couple	\$105,792	\$94,114	\$73,751
Male householder	\$70,346	\$72,284	\$58,895
Female household	er \$48,415	\$56,397	\$36,212

Source: U.S. Census (2020)

Thus, using the Lindahl pricing model, not only do foreign-born residents (authorized and unauthorized alike) face a tax liability at the local level that is virtually indistinguishable from US citizens', but local governments predominantly use this tax money to provide public goods. Granting foreign-born resident noncitizens the right to vote in local elections increases economic efficiency, fairness, and

⁶ Unauthorized immigrants do pay billions of dollars annually to the US government via Individual Taxpayer Identification Numbers (and have Social Security benefits withheld that they will never be eligible to receive). Likewise, green card holders are required to pay income taxes. Further, more than 40 percent of US households bear no federal income tax liability while retaining the right to vote in federal elections.

societal utility by lowering information costs to public goods providers.⁷ The next section discusses the Tiebout model in this context.

V. The Tiebout Model

Tiebout's model assumes, among other things, perfect information, a large number of jurisdictional options, and costless movement between jurisdictions. Under these assumptions, the model predicts that people will sort themselves into jurisdictions consistent with their preferred bundle of public goods and the taxes needed to provide them.

Numerous benefits result from voting with one's feet, including satisfying diverse public policy preferences, ensuring greater competition between jurisdictions, promoting the protection of oppressed local minorities, and guaranteeing exit rights (Somin 2008, 2010, 2021). As Somin (2021) notes, "Even modest increases in opportunities for people to vote with their feet can have an enormous impact in expanding liberty and well-being. For both internal and international migrants—especially those who are poor or fleeing oppression—foot voting is often a life-altering experience that massively improves their situation for the better" (p. 2).

People only move if they expect their (individual or household) utility to be higher in the new location. This expected increase in utility could be a function of many factors including better economic prospects; reunification with family; better marriage options; better access to education, health care, or public goods; decreased crime levels; decreased persecution for political, racial, religious, or other reasons; the need to relocate following a natural disaster; or even the pursuit of the American dream (Whelan 2020; Sanchez et al. 2014). While utility can be increased by better provision of public goods, it is not a necessary condition for overall utility to be enhanced. Thus, the decision to move to the United States or within the US should not be seen as proof that the value of the bundle of public goods at the new location exceeds that at the mover's prior location. This bundle is but one of many factors a mover must weigh when deciding where to locate.

The Tiebout model is not without criticism. For one, it relies on the assumption that residential mobility forces local governments to

⁷ Although some fear that immigrants lead to higher costs to society, research finds "the local fiscal effects of increased immigration to be relatively small" (Card 2007).

be competitive in their offering of public goods. However, as Bryan Caplan (2001a) points out, the ability of the electoral system to work efficiently is more important than economic competition. This is because local property taxes create monopoly power among local governments. As property taxes are the primary funding source for local governments, the expansion of local government comes at the expense of higher property taxes. Property owners must either pay the taxes explicitly or implicitly bear the tax burden in the form of adjusted property values when they move. This creates deadweight loss and causes the public sector to grow inefficiently. The most effective counter to this monopoly power is the ability to vote out those in office.

However, the electoral process is far from perfect and has inefficiencies of its own. Caplan (2001a) concludes that "local politics is all politics; what determines the efficiency of the local public sector is not the ease of relocation, but the severity of the imperfections in the political process" (p. 120). This argument reinforces our argument that the local political process is only efficient if it reflects the desire for public goods expressed by the residents. In this way, our paper builds upon the foundation laid out by Caplan, as we suggest that expansion of voting rights increases the efficiency of the local public sector.

Three major barriers that prevent Tiebout sorting include nonzero information costs, a lack of jurisdictional options, and the transaction cost of moving between jurisdictions. Changing locations, especially when moving to a different state, region, or country, comes with substantial social and economic costs. Because of these costs, some individuals remain in a location that is less consistent with their preferences instead of moving. Nevertheless, there is ample evidence that people vote with their feet, just as Charles Tiebout hypothesized.

A. Evidence of Tiebout Sorting

In 2022, for the first time since 1957, the Census Bureau listed Florida as the leading state for population growth. That year, Florida gained over 416,000 new residents, mainly because of net migration (Perry, Rogers, and Wilder 2022). Texas and Florida received the most net one-way U-Haul trips, while Illinois and California saw the most net one-way U-Haul trips out of their states (U-Haul 2022). Despite desirable weather and being named the Sunshine State in 1970, Florida took sixty-five years to regain its position as the leader in population growth. What contributed to this massive net

migration to Florida in 2022? Perhaps it was in part the federal limitation on state and local tax deductibility, beginning in 2018. This change altered the cost of living in New York, New Jersey, California, and other high-taxed states relative to Florida and other states that impose zero state income taxes. The net migration to Florida also likely resulted from the enhanced differentiation in government policies following the onset of the COVID-19 pandemic. Florida allowed its businesses and schools to resume operation much more quickly than did many other states during the pandemic. Why pay higher taxes when your children are not able to attend public school in person or play mask free in public parks, especially if a less taxed and less regulated environment exists?

The South, as a whole, has experienced net population growth in every year since 2017. US population movements in recent years suggest that Tiebout sorting is occurring. Nevertheless, some barriers prevent efficient Tiebout sorting, and indeed overall US migration rates have declined to a seventy-year low, with only 8.4 percent of the population moving in 2022 (D'Amore, Marshall, and McKenzie 2022).

A large number of immigrants may affect Tiebout sorting. As illustrated in table 2, foreign-born noncitizens are substantially more likely to move in a given year than their naturalized counterparts and are more likely to move within a county than natives or naturalized citizens. All three groups are more likely to move within a county than between counties and are more likely to move between counties rather than between states. However, noncitizens are more likely to move within a county, between counties, and between states than naturalized citizens are. And their interstate moving rate differs from that of natives by only 0.1 percentage points.

Table 2. Geographical mobility by citizenship status

	Movement i	n the last year	
	Within county	Intercounty (same state)	Interstate
Native	7.80%	3.40%	2.40%
Naturalized citizen	5.40%	1.90%	1.50%
Not a citizen	9.20%	2.60%	2.30%

Source: U.S. Census (2022)

Concerning mobility, native and foreign-born mobility were roughly similar in the US between 1980 and 2000 (Basso and Peri 2020). Since then, foreign-born mobility has fallen relative to that of native residents because of a reduction in immigration during times of economic crisis in the US. Foreign-born residents experience the greatest mobility within their first two years of arrival in the US. More recent immigrants are more strongly motivated by working conditions and was "about 2.5 times more responsive than the native population in moving to locations experiencing positive economic shocks and away from those experiencing negative economic shocks" (Basso and Peri 2020, p. 89). The largest variation in mobility between the native and foreign born is seen among individuals with less than a high school degree. By being more mobile than their native counterparts, less educated immigrants help national labor markets adjust more quickly during economic shocks and therefore provide a positive economic externality to their surrounding communities (Basso and Peri 2020).

B. Information Cost and Immigrant Enclaves

When looking at the foreign-born population's decision where to move, local job market strength is the leading factor, but immigrants are also more likely to move to locations where their ethnic group has previously immigrated and established roots (Card 2001). They move to ethnic enclaves because information and assimilation costs are lowered when there is feedback regarding local conditions and when a support network for new arrivals already exists. US cities with larger ethnic enclaves are therefore able to adjust more quickly to local economic shocks by increasing or decreasing immigration from those ethnic groups' countries of origin.⁸

If authorized and unauthorized immigrants were to gain access to the local political process, their collective voice could work to increase the attractiveness of a locality to others in their country of

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⁸ The presence of economic incentives and enclave effects do not negate the proposition that immigrants also consider the public goods mix when making locational choices. Their intracounty mobility suggests some level of mobility specific to the public good bundle. Local tax policies, regulations, and policies regarding the provision of public goods affect both economic conditions within a locality and the determination of an ethnic enclave to exist and persist. Long-standing members of the ethnic enclave may have the ability to move toward citizenship, which garners them voice in the political process. Their voice may influence the bundle of public goods in a way that is attractive to immigrants from a similar ethnic background.

birth. This potentially important feedback loop is stifled when consumers of public goods who contribute to the tax base are denied political voice. In this way, voice is not just an alternative to exit but a complement. Even so, "unlike ballot box voters, 'foot voters' have little reason to be either rationally ignorant or irrational. Their decisions as to which jurisdiction to live in are individually decisive and not dependent on the outcome of a majority vote in which they have little say" (Somin, 2010, p. 273). Put another way, if jurisdictional shoppers, such as foreign-born immigrants, are more likely to obtain information about their chosen locale than those who were merely born there, their presence in the voting booth will increase the level of information held by the median voter.

C. Immigration and Jurisdictional Choice

Movement within a county (where a public good consumer could alter their residence without changing jobs) is the type of mobility closest to the idealized conditions in the Tiebout model. The relative mobility of noncitizens means that they can vote with their feet if there are multiple jurisdictions (such as public school districts) to choose from, particularly within a county.

A lack of jurisdictional choice among a heterogeneous population makes the provision of public goods suboptimal (Kollman, Miller, and Page 1997). For example, an increase in the number of public school districts nearby leads to increased competition for constituents and raises the educational outcomes of students (Hoxby 2000). Accordingly, house values increase by more than 3 percent for a one-standard-deviation increase in student test scores, indicating that educational quality motivates residential location choice (Nguyen-Hoang and Yinger 2011). In contrast, a lack of options for schools incentivizes the school district to perform as a monopoly, generating suboptimal educational performance.

Certainly, educational quality is not the only factor motivating an immigrant's location choice. In fact, for immigrants who are choosing a location for temporary employment or who do not ever plan to have young children, school quality (with possible accompanying higher taxes) may negatively factor into the choice of location.

Only 5 percent of immigrants were school-aged (five to seventeen years old) as of 2021. However, immigrant households are giving birth at greater rates than nonimmigrant households (Ward and Batalova 2023): 5.7 percent of US-born women aged fifteen to forty-four gave birth in 2017, as compared with 7.5 percent of

foreign-born women in the US (Budiman et al. 2020). In 1990, 13.4 percent of all children living in the US had at least one immigrant parent (Ruggles et al. 1990). By 2022, this percentage had increased to 25.7 percent. Certainly, there is a great deal of variation between states. In California, 45.5 percent of all children have at least one immigrant parent (Migration Policy Institute 2022). By 2050 18 percent of the nation's population will be children of at least one immigrant (Budiman et al. 2020).

Research suggests that immigrant parents and potential parents-to-be factor in school quality when choosing where to locate (Zhan 2015). This is consistent with the finding by Duleep and Regets (1999) that immigrants invest more in human capital than US-born residents. As the share of children living in immigrant families continues to increase, it is probable that school quality will become a greater factor in location choice.

And yet, over the twentieth century, the number of school districts in the US fell by over 90 percent (Kogan, Lavertu, and Peskowitz 2021). While some of this consolidation may have allowed school districts to improve economies of scale, the consolidation has decreased educational choice. Interestingly, the consolidation of school districts appears especially concentrated in areas with large immigrant populations. Thus, educational choice appears to be more limited in many large counties for the children of unauthorized immigrants.

Schools are largely funded through local property taxes. The percentage of school funding contributed by the federal government (largely in the form of school lunches and disability education) among the top ten largest school districts ranges from only 4.6 percent in New York City to 13.6 percent in Hillsborough, Florida (National Center for Education Statistics 2020a). As public school attendance is typically based upon whether students reside within the boundaries of a school district, the extension of voting rights to authorized and unauthorized immigrants whose children are registered to attend school in a district could mitigate concerns that citizens may have about foreign tourists voting in local elections and could increase voice feedback to influence local education

⁹ Evidence suggests that upper-income school district consolidation leads to an initial decrease in property values, while lower-income school district consolidation leads to an initial increase in property values (Duncombe, Yinger, and Zhang 2016). It appear that in the short run, the loss arising from less educational choice among upper-income households is greater than the benefits gained from taking advantage of economies of scale in education.

policies. (Kane 2022). This added voice could complement Tiebout effects among the foreign born. The policy implication, consistent with the Tiebout model, is that increases in jurisdictional competition improve the efficiency of public good provision.

Table 3. Immigration and school district size

US rank of largest school
districts, by student population,
2018

- 1. New York City, NY
- 2. Los Angeles, CA
- 3. Chicago, Il
- 4. Miami-Dade County, FL
- 5. Clark County, NV
- 6. Broward County, FL
- 7. Hillsborough County, FL
- 8. Houston IS, TX
- 9. Orange County, FL
- 10. Palm Beach County, FL

Source: National Center for Education Statistics (2020a)

US county rank by largest number of unauthorized immigrant population, 2015–19

- 1. Los Angeles, CA
- 2. Harris County, TX (Houston)
- 3. Dallas County, TX
- 4. Cook County, IL (Chicago)
- 5. Orange County, CA
- 6. Queens County, NY
- 7. Maricopa County, AZ
- 8. Miami Dade-Monroe Counties, FL
- 9. Boston-Cambridge-Quincy, MA 10. San Diego County, CA

Source: Migration Policy Institute (2019)

Notes: Half of the ten counties in the US with the most unauthorized immigrants have students enrolled in one of the ten largest school districts by student population. These districts/counties are noted in bold.

Concerning education, a second option to ascertain and act on the preferences of parents has been gaining in popularity: school choice via charter schools or school vouchers (National Center for Education Statistics 2022a). Overall trends since 2009 in charter school enrollment are reported in table 4. Since 2009, the percentage of schoolchildren in charter schools has more than doubled (rising from 3.3 percent in 2009–10 to 7.5 percent in 2021–22). During that same period, Hispanic students' representation in traditional public schools increased from 22 to 27.8 percent while their presence in charter schools rose from 26 to 36.1 percent, indicating that Hispanic parents and students exercise choice within public schools more than non-Hispanic parents and students (NCES 2020c, 2022b). However, Hispanic students represented only 12 percent of students enrolled in private schools in 2019, indicating that the cost of private schooling

may be a barrier to the choice of a private education (Broughman et al. 2021).

While access to school vouchers expanded over the last decade, only 0.5 percent of all US students used a voucher in 2021 (Berends 2021). In 2023, Florida joined Utah, Iowa, Arkansas, West Virginia, and Arizona in passing major private school choice bills expanding the use of vouchers to a larger number of students (Kennedy and Shah 2023). School choice advocates have even begun using Spanish-language ads to inform residents that school vouchers can be used by documented and undocumented citizens alike (Berry 2019).

Table 4. Enrollments of public elementary and secondary schools, 2009–10 and 2021–22

	2009–10	2021–22
Total enrollment	49,081,519	49,089,640
Number of charter students	1,610,285	3,674,712
% charter student	3.28%	7.5%

Source: National Center for Education Statistics (2020b, 2022a)

Ironically, the partisan divide in the US has Republicans antagonistic toward noncitizen voting in school board elections while simultaneously supporting the use of public dollars to be directed to the noncitizen parents' school of choice. Democrats, in contrast, often support noncitizen voting but oppose the use of school vouchers. But both voting (voice) and the use of private vouchers (exit) increase alignment of public goods provision with individual preferences. Currently, Republicans are expanding educational options more quickly to foreign-born residents via vouchers than are Democrats via local school board voting rights for noncitizens.

In their discussion of quasi-market failure, Boettke, Coyne, and Leeson (2011) note that "the source of the quasimarkets' failure doesn't lie in the 'marketness.' It lies in their 'quasiness." Their point is that while Tiebout (1956), Ostrom, Tiebout, and Warren (1961), and Oates (1972) note that public goods are most efficiently provided at the lowest level of government that internalizes relevant externalities, markets provide a more efficient mechanism of coordinating production with consumer preferences. That is, barriers

to perfect Tiebout sorting among school districts can be overcome by granting educational choice directly to parents.

D. Transaction Costs of Immigrant Movement

A final transaction cost to consider is the enforcement of immigration policy. Local law enforcement's level of cooperation with federal authorities does vary by local jurisdiction. On one end of the spectrum, sanctuary cities strive to cooperate the least with federal immigration authorities. Given the large cost that deportation imposes on a family, it is not surprising that many of the counties with the highest number of unauthorized immigrants also contain sanctuary cities or, at a minimum, do not direct local resources toward immigration enforcement. There is some evidence that noncustodial arrests are elevated in sanctuary cities. This may indicate that the federal government may directly intervene more to enforce immigration policies in noncooperative communities (Chand 2021).

When costs associated with deportation, or the likelihood thereof, exceed the perceived benefit derived from maximizing public goods bundles, unauthorized immigrants are forced to settle for suboptimal bundles. This may explain why so many unauthorized immigrants tolerate a lack of school district choice. The uncertainty and variability of immigration enforcement across local jurisdictions impose an extra movement cost for illegal immigrants and lead to suboptimal equilibria in which unauthorized residents' locational choice is predominantly driven by the locational risk of deportation rather than the optimal provision of public goods.

VI. Conclusion

The goal of public finance is to optimize the bundle of public goods provided relative to resident preferences. Two major mechanisms, voice and exit, help align resident preferences with the provision of public goods. Voice provides residents with the ability to make their preferences known via the ballot box. Exit allows residents to make their preferences known through voting with their feet.

Implementation of Lindahl pricing relies upon knowledge of resident preferences. Allowing resident noncitizens access to the ballot box in local elections increases preference revelation. This preference revelation can also augment Tiebout sorting, as new arrivals, who acquired location-specific knowledge in advance of their arrival, can reinforce the public goods mix that attracted them. Multiple local school districts have expanded the political franchise to

residents regardless of immigration status if their children are enrolled within schools in the district. This policy is consistent with public good optimization. It is also consistent with the benefit principle, as local tax burdens via property and sales taxes are placed on the very people who consume the local public goods bundle.

The Tiebout model relies on the ability to move between a large number of political jurisdictions. Equal enforcement of immigration policy across the US would decrease the cost of unauthorized immigrants moving between jurisdictions and could increase Tiebout sorting. Alternatively, in the case of education, the expansion of charter schools and school vouchers is providing unauthorized immigrants greater direct say over the provision of education. This too is consistent with public good optimization.

Whether it is through the ballot box (voice), freedom to move without fear of deportation (exit), or the ability to self-select educational opportunities (charter schools and vouchers), public good provision has room to improve in the US. Foreign-born residents pay taxes that fund locally provided public goods. They also provide positive economic externalities through their mobility during economic shocks, thereby causing labor markets to clear more quickly. As we noted, there is a strong correlation between the number of disenfranchised residents and the size of local school districts in the US. In many major US cities, the presence of supersized public school districts increases the costs of jurisdictional shopping for public education. This is particularly problematic given the decreased mobility between counties and states faced by immigrants to the US.

Unauthorized immigrants appear to include the chances of deportation in their jurisdictional calculus. Removing or standardizing deportation risk would better allow unauthorized immigrants to pursue their jurisdictional choice based on their optimal public goods bundle. We expect that if this were to materialize, immigrants would choose a wider range of jurisdictional locations within the US.

Any effort to decrease the cost of information, increase the number of jurisdictional options, and decrease the transaction costs associated with jurisdictional movement would increase Tiebout sorting. While self-sorting increases the optimality of public goods production, vested political interests whose objective functions lie elsewhere than societal utility maximization remain an obstacle to realizing Tiebout's idealized world.

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