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IMMIGRANT GROUP SIZE AND POLITICAL MOBILIZATION:
EVIDENCE FROM EUROPEAN MIGRATION TO THE UNITED STATES

Allison Shertzer

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Immigrant Group Size and Political Mobilization: Evidence from European Migration to the United States

Allison Shertzer

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ABSTRACT

Immigration to democratic nations generates new groups of potential voters. This paper investigates how the electorate share of immigrant groups influences their likelihood of becoming politically mobilized, focusing on the mechanism of coalition formation with the Democratic Party. Using newly assembled data on ethnic enclaves in American cities at the start of the twentieth century, I show immigrants were more likely to mobilize politically as their share of the local electorate grew larger. This effect is driven by political mobilization in voting districts where the Democratic Party likely needed an immigrant group's vote to win elections. I also consider the shape of the electorate share effect, showing it is nonlinear and consistent with a political economy model of coalition formation.

Allison Shertzer

Department of Economics

University of Pittsburgh

4901 WW Posvar Hall

230 South Bouquet Street

Pittsburgh, PA 15260

and NBER

shertzer@pitt.edu

I. Introduction

The question of how minority groups access public goods has received a great deal of attention in economics, particularly from the perspective of ethnic fractionalization studies. Economists have documented that more diverse municipalities spend less on education and infrastructure and have residents who are less likely to participate in civic organizations or support welfare programs (Alesina, Baqir, and Easterly, 1999 and 2000; Alesina and La Ferrara, 2000; Luttmer, 2001). However, the question of how minorities, and particularly immigrants, many of whom are from undemocratic sending countries, come to participate in the political process themselves remains largely unexplored. Of particular interest to scholars and policy makers is whether immigrants are more likely to vote as their ethnic group's share of the electorate grows and their political clout increases. Empirical investigation of this question has been thus far limited by measurement problems in contemporary voting datasets.

The first measurement problem that complicates empirical investigation of immigrant political mobilization is that many foreign-born individuals in the present day United States are undocumented and thus ineligible for citizenship. However, existing datasets do not contain information on legal status, rendering it impossible to know which immigrants are potential voters and hence what share of the electorate is composed of foreign-born individuals eligible to participate in the political process. The second measurement problem is that few datasets combine measures of political participation, detailed demographic characteristics, and political geographic identifiers below the state level.² Previous work has necessarily relied on aggregate regressions using voter

² An exception is the November CPS supplement which has measures of voting behavior and county-level geographic identifiers. This data source was used by Jang (2009) to study immigrant group size and voting behavior and by Oberholzer-Gee and Waldfogel (2005) to study group size and black political participation. Although counties are smaller than states, they are not an important political unit and hence cannot be used to study the role of electorate share on immigrant political participation unless they are aggregated to the state level.

turnout as the dependent variable, making it difficult to know what is driving any correlation between immigrant electorate share and turnout.³

To overcome the limitations of contemporary data for studying immigrant political mobilization, I turn instead to the mass migration from Europe to the United States in the early twentieth century. This setting has several key advantages for the study of why immigrants vote. First, the United States maintained a nearly open border to immigration until 1921, when the Emergency Quota Act was passed, and every European immigrant who arrived prior to this date had equal capacity to initiate citizenship proceedings and participate in the political process. With the open border, citizenship was optional for immigrants simply interested in living and working in the United States. Becoming a citizen was necessary only to obtain the right to vote, and there were virtually no publicly provided benefits that were available to citizens only.⁴ Therefore, naturalization can be used as a proxy for political mobilization in this time period, before the barriers and economic motivations faced by immigrants wishing to become American citizens in the present day became important.

To construct a dataset covering immigrant citizenship attainment and local electorate share in the early twentieth century, I collected the universe of census records from the genealogy website Ancestry.com and computed the size of ethnic enclaves in wards, the political unit used to elect city councilmen, for five major cities in 1900 and 1910. City governments invested substantial resources in infrastructure related to sanitation and transportation at the start of the century. Immigrant groups could compete for a share of the associated patronage if they became citizens, registered to vote, and translated their numbers into credible voting blocs. The Financial Statistics of Cities give a glimpse of the magnitude of these turn of the century municipal investments: the replacement value of New

³ A recent paper on the impact of the Voting Rights Act sidestepped this problem by instead studying the shift of public resources towards black localities after African Americans' voting rights increased (Cascio and Washington, 2012).

⁴ The entry of the United States into WWI in 1916 changed the costs and benefits of citizenship: anyone from a non-hostile sending country who had initiated citizenship proceedings could be drafted.

York's sewers rose from \$46 million to \$53 million dollars between 1907 and 1910 alone, an increase of 14 percent (1910 dollars).⁵ The value of Baltimore's sewers more than doubled over the same period, and the value of paved roads in the city rose by 16 percent.

This process of political incorporation was often encouraged and facilitated by the local Democratic Party, whose positions on allowing ethnic parochial schools and opposing the prohibition of alcohol appealed to immigrants. Because the newly arrived immigrants I consider in the paper were all minorities in their wards, coalition formation with other Democratic voters was the most likely mechanism through which immigrants became politically mobilized. Using a simple model, I show that immigrants should be more likely to mobilize politically as their ethnic group grows larger and is more likely to be decisive in local elections, increasing the expected return from including the immigrant group in a coalition with existing Democratic voters. However, this effect should taper off or even reverse as ethnic groups grow beyond the size needed to form a minimal winning coalition with the Democrats, reducing the return for mobilization additional members. The model thus predicts a nonlinear relationship between electorate share and political mobilization.

Using the newly assembled dataset on naturalization and immigrant group electorate share in city wards, I show that immigrants mobilized in a pattern consistent with the model. The predicted nonlinear relationship between electorate share and naturalization attainment is evident for all enclaves in the data, but the effect is driven by immigrants living in wards where there was good potential for coalition formation with the local Democratic Party. To measure the size of the existing Democratic Party in a ward (and hence determine where a new immigrant coalition partner would be attractive), I use the share of the population composed of individuals whose ethnic ancestry made them likely to align with the urban Democratic Party. For immigrants living in enclaves that could likely form a winning coalition with the local Democratic group, an increase in electorate share from

⁵ These data come from the Financial Statistics of Cities published in 1907 and 1910. The 1907 volume was the first to report replacement value of public infrastructure in the twentieth century.

8 to 16 percent (a standard deviation below the mean to the mean electorate share) is associated with a 15 percentage point increase in naturalization likelihood, an increase of 30 percent with respect to the mean naturalization rate. Using English speaking as a placebo test, I show that sorting on propensity to assimilate generally is unlikely to explain these results.

My findings contribute to the literature on the social and economic assimilation process of immigrants to the United States. Economists have investigated many aspects of immigrant assimilation and convergence, particularly earnings and education (Chiswick, 1978; Borjas, 1985; LaLonde and Topel, 1991; Abramitzky, Boustan, and Eriksson, 2012; Card, 2005; Lleras-Muney and Shertzer, 2014). This paper studies the political dimension of immigrant assimilation, which previously received much less attention in economics. My methods also provide insight into the question of why people vote more generally. The primary finding of this paper, that ethnic electorate share influences an immigrant's decision to participate in the political process, underscores the importance of considering social structures in models of voter turnout and provides new evidence for the validity of group-based approaches (for instance, Uhlaner, 1989; Morton, 1991; Shachar and Nalebuff, 1999).

The paper is organized as follows: Section II describes the relevant historical context and develops a simple model of immigrant political mobilization. Section III covers dataset construction and sample selection. Section IV addresses the econometric specification and identification issues in the analysis. Section V provides the main results on electorate share and naturalization. Section VI concludes.

II. Immigrant Political Mobilization Background and Theory

A. Historical Context

The United States maintained an open border to European immigrants in the late nineteenth and early twentieth centuries, and local patronage politics played a prominent role in the lives of the millions of newcomers who settled in the industrial cities in the Northeast and Midwest. Locally elected ward aldermen, or city councilmen, served as a vital link to services and favors from the central city government (Kornbluh, 2000, p. 129).⁶ To secure the loyalty of new immigrants and remain politically competitive, aldermen strategically provided informal public assistance to their constituents.⁷ Aldermen were also responsible for presenting public works and licensing proposals to the relevant city boards on behalf of individuals in their wards. It was possible for aldermen to strategically focus their efforts to benefit a particular group in their ward due to the prevailing custom of “aldermanic courtesy” in which council committees deferred to an alderman on any issue that dealt solely with his ward (Teaford, 1984, p. 26). The concentrated authority of the alderman served as a powerful tool to entice ethnic groups to become politically mobilized.

The political mobilization of these new immigrants, most of whom had never participated in an election before, often occurred within the framework of the patronage political systems of the day. For instance, the Tammany Hall political machine attempted to absorb Jewish and Italian newcomers using a variety of favors including municipal jobs and protection from Irish gangs (Werner, 1928).

One boss summarized his machine’s mobilization efforts thusly:

“Tammany looks after them for the sake of their vote, grafts them onto the Republic, makes citizens of them in short; and although you may not like our motives or our methods, what other agency is there by which so long a row could have been hoed so quickly or so well?”

-Tammany Hall Boss Richard Croker⁸

⁶ Some cities switched to at-large elections in the early twentieth century. The cities in my sample were still using a system of ward-level elections to choose aldermen between 1900 and 1909.

⁷ In the colorful collection of talks by George W. Plunkitt about his career in the Tammany Hall political machine in New York City, the former alderman describes how he bought clothes for fire victims, gave candy to children, and matched up young men to jobs with local businesses (Riordon [1905] 1994, p. 64).

⁸ As cited in Werner (1928).

Although it was not the case for all urban areas in the United States, most large, immigrant-receiving cities in the Northeast and Midwest had political machines by 1900, including the five studied in this paper (Menes, 1999). Immigrant political mobilization in this context is thus linked to strategic actions taken by political machines.

New immigrant groups tended to vote as homogenous blocs along ethnic lines once members of the group became naturalized citizens able to vote. Reformers of the day considered this tendency to be a form of fraud since immigrants were voting in their narrow self-interest instead of in the “true public spirit” (Kleppner, 1987, p. 169). Nonetheless, the bloc voting behavior noted by Kleppner and others justifies the grouping individuals by country of origin used in this paper. The desire to win the “Polish vote” or “Italian vote” also motivated strategists from both political parties to incorporate the new immigrants into their coalitions.⁹ However, these new immigrants were usually mobilized by the Democratic Party, whose “Liturgical” wing was dominant in urban politics. Liturgical Democratic principles appealed to immigrants, particularly allowing ethnic parochial schools and opposing the prohibition of alcohol.¹⁰ Although there is no systematic data on voting behavior by religious and ethnic groups for the twentieth century of which I am aware, Kleppner (1979) estimates that between 80 and 90 percent of Catholics and Confessional Lutherans voted Democratic by the last decade of the nineteenth century using data from Iowa (p. 323).

I consider six of the largest immigrant groups from the post-1880 European migration to the United States in the paper: Czechs, Germans, Greeks, Italians, Poles, and Russians. Although millions of these immigrants lived in the cities I study in this paper, nearly all ward populations of these ethnic groups were minorities. Thus, coalition formation is the mechanism through which

⁹ An observer of Tammany Hall noted that “every time an election comes around, the Republicans and Democrats cater to the German element... or the Jewish... and tell them they are the greatest things that ever happened.” (Henderson, 1976, p. 159).

¹⁰ The Republicans frequently referred to Democrats as the “Catholic-Democratic” Party and the “Saloon Party” to reinforce these associations (Kleppner, 1979, pp. 234-246).

immigrants became politically mobilized. In the next section I develop a simple model of immigrant political mobilization via coalition formation where I assume the size of the Democratic Party excluding immigrants can be observed.¹¹ In practice, it is generally not possible to count the number of existing Democratic voters using available data sources such as turnout records. In the empirical work, I will instead characterize wards by their potential for coalition formation with these immigrants by measuring the size of the population that was of Irish descent, a group that voted overwhelmingly Democratic. The Irish began arriving in the United States in the 1840s and were well established and influential in Democratic politics by 1900.

B. A Simple Model of Immigrant Group Political Mobilization

To generate predictions for how immigrant electorate share should influence a political machine's strategy for mobilizing a new group, I consider a simple model of coalition formation within a ward. The native voters are either Democrats or Republicans, with Democrats comprising share D of the electorate. An immigrant group comprises minority share I of the electorate. The local leader of the Democratic Party chooses a share z of the immigrant group to mobilize for an election with a prize of W . The leader faces a two-part cost for mobilizing immigrants: a fixed cost of T for each group and an incorporation cost c per immigrant share of the electorate. I assume all native Democratic voters turnout to vote costlessly. The Democrats win with electorate share x with probability:

$$f(x) = \frac{x^M}{x^M + (1-x)^M}$$

where the M parameter determines the curvature of the victory function (see Hirschleifer, 1989).

The local Democratic leader thus faces the following optimization problem in z :

¹¹ I reviewed lists of aldermen for the cities I study in this paper and found virtually no individuals with Italian, Czech, Greek, Polish, or Russian surnames prior to 1910.

$$\max H(z) = wf(D + zI) - czI - T(z) \quad \text{for } z > 0$$

$$\text{where } T(z) = \begin{cases} T & \text{if } z > 0 \\ 0 & \text{if } z = 0 \end{cases}$$

I consider three cases.

$$\text{Case 1: } D > \frac{1}{2}$$

In this case the Democrats hold a majority but may still choose to form a coalition with immigrants due to uncertainty over the probability of winning implied by $f(x)$. The function $H(x)$ is concave over the $(\frac{1}{2}, 1)$ interval, so the optimal share of the immigrant group \hat{z} to mobilize is the interior solution satisfying $f'(D + \hat{z}I) = \frac{c}{W}$. The equilibrium condition is:

$$\frac{M((D + \hat{z}I)(1 - D - \hat{z}I))^{M-1}}{((D + \hat{z}I)^M + (1 - D - \hat{z}I)^M)^2} = \frac{c}{W}$$

Because \hat{z} cannot exceed 1, the optimal share of the immigrant group to mobilize in this case is

$$z^* = \min\{\hat{z}, 1\}.$$

$$\text{Case 2: } D + I < \frac{1}{2}$$

In this case, the Democrats will be a minority even if with the entire immigrant group voting Democratic, but uncertainty over the election outcome may still lead the Democratic leader to mobilize the immigrants. The function $H(x)$ is convex over the $(0, \frac{1}{2})$ interval, so the leader will either mobilize the entire immigrant group or none of them. In particular $H(0) < H(1)$ if:

$$wf(D) < wf(D + I) - cI - T$$

Thus $z^* = 1$ if $H(0) < H(1)$ and $z^* = 0$ if $H(0) > H(1)$.

$$\text{Case 3: } D < \frac{1}{2} < D + I$$

In this case the Democrats improve their likelihood of winning if they mobilize all or part of the immigrant group. $H(x)$ is concave over this interval, so the optimal \hat{z} satisfies the same interior solution as in Case 1. The optimal share of the immigrant group to mobilize in this case is again $z^* = \min\{\hat{z}, 1\}$.

Figure 1 presents $z^*(I)$ for a calibrated version of this model with $W=1$, $c=.75$, $T=.1$, and $M=3$ for a range of Democratic share (D) values. Panel A shows the optimal fraction of the immigrant group to mobilize z as a function of the immigrant group's electorate share I for $D = .3$. For values of $I < .2$, the Democrats are a minority even if all the immigrants were mobilized. Consistent with the corner solution in the $D + I < \frac{1}{2}$ case, the Democratic leader choose $z^* = 0$. However, once the immigrant group is large enough to form a winning coalition with the Democratic machine ($I > .2$), the model predicts that the Democratic leader will choose to mobilize the entire immigrant group so that $z^* = 1$. Panel B shows the result for $D = .4$. In this case the switch from $z^* = 0$ to $z^* = 1$ happens at a smaller I ($I = .1$) since a relatively larger Democratic group can form a winning coalition with a smaller immigrant group. This *extensive* margin effect thus predicts a sharp rise in the likelihood that an immigrant is mobilized near the point at which a coalition between Democrats and the immigrant group is likely to win the election.

Panel B also demonstrates the other stylized prediction of the model. As the immigrant group increases in size, the Democratic leader will choose to mobilize a decreasing fraction of the group. This feature of the model is consistent with the notion of minimal winning coalitions due to Riker (1962), which states that, because the payoff to any victorious coalition is identical, winning coalitions should only contain enough voters to win. The gradual decline in z is evident for values of $I > .3$ in the $D = .4$ case, which corresponds to the interior solution z^* from Cases 1 and 3. The point at which immigrant political mobilization begins to drop off as a function of I declines as the Democratic share of the electorate grows, as illustrated in Panels C and D. The *intensive* margin

effect is thus evident as immigrant groups grow relatively large and fewer new members are required to maintain a winning coalition.

To summarize, the simple model yields two testable predictions. First, there should be a sharp increase in political mobilization as smaller groups grow to the point of becoming decisive in ward elections. Second, there should be a more gradual decrease in political mobilization as larger groups grow beyond the electorate share needed to form a minimal winning coalition with the Democrats. The shape of this nonlinear relationship, in particular where the peak occurs, is determined by the share of the electorate comprised of the Democratic Party *plus* the immigrant group. I discuss how I test these predictions using the demographic characteristics of ward electorates in Section IV.

C. Naturalization as a Measure of Political Mobilization

To measure the political mobilization of immigrants, I use their naturalization status, which was recorded in the 1900 and 1910 censuses for every foreign-born person. The suitability of naturalization status as a proxy for political participation is rooted in the role of the state and federal governments in the early twentieth century. In stark contrast to the present day, there was no direct benefit to becoming a naturalized citizen except securing the right to vote and run for public office.¹² Immigrants from European countries were *de facto* permanent residents in the sense that they could live and work in the United States indefinitely without a visa or initiating naturalization proceedings. Indeed, the notion of an undocumented immigrant (e.g. an alien without a valid immigration visa) did not exist until the Immigration Act of 1924. In addition, the federal government offered little in the way of retirement benefits or welfare to citizens that could serve as motivation for immigrants to

¹² Most states restricted licensed occupations such as attorney, physician, or accountants to American citizens, but these laws likely had little effect on poor, recently arrived immigrants from southern and eastern Europe. Non-citizens were also barred from becoming plumbers in four states and barbers in five states (Konvitz, 1946 provides a complete list of restrictions by state). It is difficult to determine how thoroughly these statutes were enforced. In the paper I assume that obtaining the right to vote was the primary motivation to naturalize; nonetheless, I acknowledge that gaining entry to a restricted occupation may have served as an incentive for some immigrants.

begin the naturalization process. Access to education was not an issue for resident aliens; in fact, illiterate immigrants above the compulsory schooling age were encouraged to attend publicly-funded evening schools in many cities (Hill, 1919).

Should he decide to become an American citizen, any white male immigrant could file a declaration of intention, or “first papers,” in a court of law after a residency period in the United States of at least two years. After having completed a total residency period of five years, the immigrant could complete the citizenship process by taking an oath of allegiance and filing a petition of naturalization, or “second papers.” I focus on men in the empirical analysis because women and children usually received derivative citizenship from the male head of the family when he completed the naturalization process.

In order to vote, a naturalized immigrant next needed to register as a voter in his city. Beginning in the 1890s, many states adopted personal registration systems, residency requirements, and literacy tests in an attempt to reshape the electorate (Kleppner, 1982, p. 60). These policies had the effect of greatly reducing voter turnout over the early twentieth century, ushering in an era of relative demobilization. The increased difficulty of becoming a naturalized, registered voter further highlights the potential for political parties to selectively mobilize immigrant groups. Importantly, because most voting policies were set at the state level, immigrants living in different wards in the same city would have faced very similar legal barriers to becoming registered voters.

III. Dataset Construction and Sample Selection

I combine three data sources for the main empirical work. First, I employ detailed digital maps of five major cities to establish consistent political geography between 1900 and 1910. I then use newly available 100 percent census samples of the electorate from a genealogy website to precisely measure the size of ethnic group electorate share within wards. Finally, I rely on smaller

census microdata samples to obtain data on the naturalization status of individuals, which was not digitized in the 100 percent samples.

The Center for Population Economics (CPE) at the University of Chicago provided the redistricting histories for the wards of Baltimore, Boston, Chicago, Manhattan, and Philadelphia used in this paper. The sample is thus composed of five of the six largest cities in the United States in 1900, all of them major immigrant destinations. Furthermore, all the cities in the sample had local (at the ward level) elections for city councilmen through at least 1909. Boston had a Common Council with three representatives locally elected from each ward in the city. Otherwise all the cities in the sample had locally elected aldermen or city councilmen with each representing one ward or assembly district. Boston switched to at-large aldermanic elections in 1909 but was under a local election regime prior to this date. The sample reflects the typical institutional environment facing many European newcomers to the large cities of the Northeast and Midwest.

Unlike Congressional districts, city wards were not legally required to be redrawn at any point, and cities could simply add wards to their existing system when they annexed land.¹³ Although all five of the cities made changes to their ward systems over the decade, I am able to use about 80 percent of the wards present in 1900 in the panel. The excluded wards are mainly from outlying areas that were annexed or split into two wards during at some point in the decade. Thus my sample consists primarily of the core urban wards in each city. The detailed CPE maps also enable me to address redistricting events from early in the decade which would otherwise render the ward systems from the two censuses incomparable. In particular, both the ward systems in Chicago and Manhattan were redrawn shortly after the 1900 census, so the wards in place in 1900 and 1910 were very different from each other. To create a panel of wards, I use census enumeration districts (small

¹³ A system of Assembly Districts was used to elect aldermen in Manhattan, and for this reason I use Assembly Districts to construct electorate measures in Manhattan. For simplicity of exposition, I continue to use the term “ward” to refer to voting units in the paper.

administrative units used internally by the Census Bureau) from 1900 to construct synthetic 1910 wards for the year 1900. Details on this procedure and a breakdown of included wards can be found in the Data Appendix.

The second source of data is a newly available 100 percent sample of census records covering the population of these five cities, with both ward and enumeration district identifiers, taken from the genealogy website AncestryLibrary.com. These counts are a substantial improvement over existing sources of data. IPUMS samples are at present only 5% and 1.4% of the population for 1900 and 1910, respectively, and are insufficient for precisely estimating the size of minority immigrant groups at the ward level. Furthermore, using AncestryLibrary.com allows me to make counts by gender, age, year of immigration, and place of birth so the potential electorate for each group and ward in the sample can be precisely measured. I restrict the sample to men aged 21 and older since only these men could vote during this period. Because only foreign-born men who had been in the United States for at least two years were eligible for citizenship, I also restrict the potential electorate to natives and immigrants who arrived at least two years before the respective censuses of 1900 and 1910. To compute the ethnic group electorate shares, I classify individuals based on their reported place of birth (see the Data Appendix for details).

AncestryLibrary.com did not digitize the naturalization status of immigrants, so my third source of data is the Integrated Public Use Microdata IPUMS microdata samples (Ruggles et al., 2008). I use the 5 percent sample of the 1900 census and 1.4 percent sample of the 1910 census. I match foreign-born respondents living in the five sample cities to their ward of residence and to their ethnic group using place of birth. My main dependent variable, an indicator for having initiated the naturalization process, is equal to one if the individual has either first or second papers. To address the concern that I may not observe an immigrant in the same ward in which he became a citizen, I restrict the baseline sample to recently arrived immigrants who have been in the United States for 15

years or less. I explore other durations in Section V and show the results are similar for cutoffs of between ten and twenty years in the United States.

The model developed in Section II assumes a fixed cost for mobilizing an immigrant group, reflecting the effort required by a political machine to sway the leadership of ethnic enclaves. Differentiating ethnic enclaves – which would have had the social networks and established institutions necessary to mobilize the group – from a scattered or recently arrived set of families with the same ancestry living in a ward is an empirical challenge. Because I cannot directly measure the number of relevant local ethnic institutions, I instead develop a measure of enclave status using the year of immigration variable in the 100 percent census samples. Specifically, I create a count of the number of individuals in each ward and ethnic group cell who had lived in the U.S. for at least a decade.¹⁴ The tenth percentile of this enclave measure about 400 individuals for the sample in 1900. I use this number as a cutoff to characterize immigrant populations in a given ward as enclaves. For example, an Italian living in a ward that had 500 individuals of Italian birth present since 1890 would be classified as “in an enclave” whereas a Pole living in a ward that had 50 individuals of Polish birth present since 1890 would be classified as “outside an enclave.”

While the empirical work in this paper focuses on the role of electorate share in the context of coalition formation to explain why immigrants become mobilized, a separate literature emphasizes social network size as a determinant of economic and political outcomes for immigrants. Economists have demonstrated that the density of social networks impacts immigrant employment and welfare enrollment (Bertrand, Luttmer, and Mullainathan, 2000; Munshi, 2003; Beaman, 2012). Recent scholarship has also argued that larger and more connected social networks facilitate the exchange of

¹⁴ I use men and women of any age for this exercise since any immigrant could contribute to the social network of the group. I also experimented with an alternate enclave measure that is scaled by the size of the ward. Specifically, I defined enclaves as any immigrant group whose established population (in the U.S. for at least ten years) was at least two percent of the ward population in 1900. The main result presented in Section V is robust to this alternate measure (available upon request).

information relevant to political engagement (Chay and Munshi, 2013; Halberstam and Knight, 2014). I explore the determinants of naturalization for immigrants living both inside and outside of enclaves in Section V, shedding light on the role of established social networks in determining political mobilization in this context.

The summary statistics in the top panel of Table 1 cover the 104 wards from the panel that had at least one IPUMS record of a recently arrived male immigrant from one of the six sending countries studied in this paper. These ward-level statistics give a glimpse of the magnitude of immigration flows to large industrial cities in the early twentieth century: the average ward population in the sample is 37 percent foreign born by 1910. The average size of the potential electorate in these wards (men aged 21 and above, excluding immigrants who have lived in the U.S. for less than two years) is just over 10,500 men per ward. The Irish, who had begun arriving sixty years earlier, were a significant fraction of the population: first and second-generation Irish immigrants comprised 20 percent of the average ward electorate.

The summary statistics of individual characteristics of recent immigrants are presented in the lower panel of Table 1. There are 141 enclaves across the 104 wards, and the summary statistics for immigrants living in enclaves are provided in the first two columns. The average electorate share was 16 percent in 1900 and 14 percent in 1910 with some groups as large as 35 percent.¹⁵ Interesting, the average decline in electorate share is driven entirely by Germans, who started off the century as a relatively large group in urban areas but found their numbers diluted by composition of post-1900 immigration. The electorate share of Germans declined from 18 percent to 10 percent over the decade while the average electorate share of the other immigrant groups increased from 14

¹⁵ I exclude the nine immigrant enclaves in my sample that were approaching majority status in their ward and focus on minority groups comprising less than 35 percent of the ward electorate. I found suggestive evidence that the incentive to mobilize again increases for groups nearing majority status in their wards; however, I have too few groups in this range to investigate this idea systematically.

percent to 16 percent. The electorate share and absolute size of the local ethnic group for immigrants living outside of enclaves was much smaller, as shown in the next two columns.

The naturalization rate fell over the decade from 51 percent to 26 percent over the decade, consistent with the secular decline in new immigrant naturalization after 1900 reported in previous work (Trounstine, 2008). The decline in immigrants applying for citizenship is another symptom of the “Era of Electoral Demobilization” (1896-1928) noted by Kleppner and others, which saw increased barriers to voting and waning levels of political participation across groups and regions in the United States.¹⁶ Another factor contributing to the decline in the share of the foreign born who were naturalized between 1900 and 1910 was the recession of the late 1890s, which was accompanied by a steep drop in the number of European immigrants arriving each year. Willcox (1929) estimates that 297,349 Europeans came to the United States in 1899. This number rapidly rose to 814,507 by 1903 and remained high throughout the first decade of the twentieth century. Thus there were relatively more recently arrived immigrants who had not yet initiated citizenship proceedings in the United States in 1910 than there were in 1900.

IV. Empirical Specification

The objective of the empirical work is to ascertain whether an immigrant’s likelihood of becoming politically mobilized, as measured by citizenship attainment, depends on his ethnic group’s share of the local electorate.

A. Naturalization as a Measure of Political Mobilization

To further justify the use naturalization status as a proxy for political engagement, I provide evidence that foreign-born men who became naturalized citizens in fact participated in elections. The anonymous and aggregate nature of voting data makes a direct test impossible since the individual

¹⁶ The South saw the greatest declines in voter turnout as blacks became almost completely disenfranchised over the 1890s.

characteristics of the participants in early twentieth century urban elections are unobserved. However, I can document that higher voter turnout was associated with a larger number of naturalized foreign-born male residents of city wards, all else equal. I use two sources of data for this exercise. The first source is a unique dataset covering the wards of Chicago compiled by Skogan (1989) that contains turnout rates and the number of registered voters by ward. The second source is the national, county-level turnout statistics compiled by Clubb, Flanigan, and Zingale (ICPSR 8611). I combine these datasets with IPUMS samples from 1900 and 1910 to estimate the number of naturalized immigrant men living in ward or county.

I partition the potential electorate and estimate the number of ballots cast in an election as a function of the number of naturalized, foreign-born male immigrants aged 21; the number of native-born white men aged 21 and over; the number of native-born, nonwhite men aged 21 and over and for the Chicago data estimate:

$$\begin{aligned} \text{Ballots}_{kt} = & \alpha + \beta(\text{Naturalized Men } 21+)_{kt} + \gamma(\text{Native White Men } 21+)_{kt} + \\ & + \pi(\text{Native Nonwhite Men } 21+)_{kt} + \mu X_{kt} + \theta(\text{Year})_t + \varepsilon_{kt} \end{aligned} \quad (1)$$

where k indexes wards and t indexes the year. I pool data from 1900 and 1910 and include year fixed effects when using the Chicago data (redistricting in 1901 prevents me from including ward fixed effects). For the national regressions, I use a version of this specification that includes both year and county fixed effects. All specifications include a vector X_{kt} of controls for voter turnout including share of the voting population that is literate, share in white collar occupations, and five age dummies.¹⁷

B. Estimating Equation and Identification of Electorate Share Effect

To estimate the effect of electorate share on immigrant political mobilization, I take advantage of the variation in the relative size of ethnic enclaves in different wards across time. The

¹⁷ The white collar variable is calculated using the 1950 occupational score constructed by IPUMS. I use this measure because the census did not ask about income until 1940.

main estimating equation relates changes in the naturalization likelihood of immigrants to changes in the share of the electorate comprised of their ethnic group. Focusing on first differences allows me to disentangle the impact of electorate share from other unobserved determinants of voting. In particular, I include ward fixed effects to capture time-invariant characteristics of wards that are correlated with political participation, such as the entrenched relationship of the ward political elite to the central city government. The year fixed effect controls for time trends affecting all cities and ethnic groups, for instance, the national debate regarding closing the border. I also include fixed effects for each ethnicity in the study, which allows each immigrant group to have different baseline probability of political participation.

To examine the relationship between the electorate share of ethnic enclaves and political mobilization, I estimate equations of the form:

$$\begin{aligned}
 \text{Naturalized}_{ijkt} = & \alpha + \beta(\text{Electorate Share})_{jkt} + \\
 & + \delta(\text{Total Size of Ward Electorate})_{jkt} + \eta(\text{Individual Controls})_i + \\
 & + \theta(\text{Ward})_j + \lambda(\text{Year})_t + \mu(\text{Group})_k + \varepsilon_{ijkt}
 \end{aligned} \tag{2}$$

where i indexes individuals, j indexes the ward, k indexes the ethnic group (Czechs, Germans, Greeks, Italians, Poles, and Russians), and t indexes the census year. Individual controls include literacy in any language, age, and a series of dummies for years lived in U.S. I include literacy because the ability to read was likely acquired before an immigrant came to the United States and would have simplified the naturalization and registration process. Electorate share is computed using the number of foreign-born men from that group aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. I restrict the sample to foreign-born men aged 21 and over who have been in the U.S. for at least two years since only they were eligible to both naturalize and vote in both the numerator and denominator. The dependent

variable is equal to one if the immigrant has applied for first or second papers. Standard errors are clustered at the ward-group level (Bertrand, Duflo, and Mullainathan, 2004).

The primary difficulty in estimating the causal effect of electorate share on political mobilization comes from the fact that immigrants were not randomly distributed across wards, and those who were the least likely to naturalize may have been drawn to the largest ethnic enclaves within a city. The selection concern is particularly acute in this context because of the large share of immigrants who sought temporary employment in the United States and then returned to their home countries after a few years.¹⁸ If these temporary immigrants were attracted to large enclaves and at the same time unlikely to seek citizenship, the pool of potential voters in these wards would appear larger than it actually was and the electorate share effect could be biased. Because they could not vote, I drop all immigrants who had been in the United States for less than two years from the electorate group share and size variables; this sample restriction should also have the effect of reducing the bias on the electorate share coefficient because immigrants intending to repatriate would be concentrated amongst the most recent arrivals.

I use two other approaches to address the concern that sorting could be driving an observed relationship between immigrant electorate share and naturalization. First, I characterize wards by their potential for a Liturgical Democratic coalition using the insights from the historical context and model in Section II. The main testable prediction of the model was that immigrants should mobilize when they are large enough to form a winning coalition with the most closely aligned political party. I use the size of the first and second-generation Irish population, an earlier arriving ethnic group that voted overwhelmingly Democratic, to measure the size of the *ex ante* Liturgical Democratic Party in each ward. I then compute the sum of the potential electorate comprised of the Irish plus an immigrant's group. Immigrants living in enclaves where this sum was 30 or even 40 percent of the

¹⁸ Gould (1980) estimates that between 30 and 40 percent of Polish and Hungarians returned home while between 40 and 50 percent of Italians did so in the twenty years before the First World War.

electorate should have had better prospects for successful coalition formation than immigrants living in enclaves where this sum was a smaller share of the electorate.

Not all Democratic voters were Irish or new immigrants, but using these demographic measures allows me to sidestep issues associated with using election results to measure Democratic strength (see Nalebuff and Schachar, 1999 for a discussion of the limits of *ex post* election data for measuring contestability). If immigrants were naturalizing for reasons unrelated to strategic political mobilization, one should expect to see similar patterns of citizenship attainment regardless of the prospects for a Liturgical Democratic coalition. On the contrary, I show immigrants mobilized in places where their vote was likely to be decisive.

The second approach I use to investigate whether sorting could drive the observed relationship between electorate share and naturalization status is to use English speaking ability as a placebo test. Language acquisition is arguably the most important indicator of assimilation we can observe in the census. If the observed patterns of citizenship attainment are the outcome of a process unrelated to immigrant group political mobilization, for instance because immigrants who are the most likely to stay in the United States sort into enclaves of a particular relative size, then the relationship between electorate share and English acquisition should exhibit the same nonlinear shape observed for citizenship attainment. I show that this is not the case in the next section.

V. Results

A. Naturalization and Voter Turnout

I begin with the results related naturalized immigrants to voter turnout. Table 2 shows the results of the estimation of equation (1) using the Chicago ward data. The first column reports the relationship between the numerical size of each portion of the electorate and the number of ballots cast in Chicago's elections by ward. The coefficient on the number of naturalized foreign-born men

is equal to .280 and significant at the ten percent level, similar in size and significance to the coefficient on native-born whites. The coefficient on native non-white men is close to zero. In the second column I present the results from a specification with the groups expressed as shares of the electorate with voter turnout (as a share of registered voters) as the dependent variable, controlling for the size of each ward's population. The omitted group is non-white men in this specification. Relative to non-white men, an increase in the share of the electorate composed of naturalized men is positive and statistically significantly associated with higher turnout in mayoral elections. The effect for native-born white men is insignificant. These effects are consistent with the notion that many immigrants did in fact vote after they become eligible, and in fact that they voted at rates comparable to or higher than native-born whites.

Because the Chicago data contain information on the number of registered voters, I can also explore whether a higher number of naturalized immigrants is associated with greater voter registration. The second two columns of Panel A repeat the analysis from the mayoral elections but with share registered expressed as a share of the population eligible to vote. One naturalized immigrant is associated with .913 additional voter registrations while the effect for native-born white men is .704 (both significant at the one percent level). The results from the share registered specification is similar to the outcome for voter turnout, with only naturalized men share significantly associated with a larger share of the ward population registered to vote relative to non-white men.

Ward redistricting prevents me from including ward fixed effects in the regressions from Panel A, leading to the concern that omitted variables could be driving the observed relationships between naturalized men and electoral outcomes. To address this concern, I perform a similar analysis using congressional and presidential voter turnout at the county level. These results, which include county fixed effects, are presented in Panel B. Whether I use data on congressional or presidential elections, one additional naturalized immigrant is significantly associated with about .9

additional ballots cast (first two columns). An additional native-born white man is associated with between .5 and .7 additional ballots depending on the election type. Additional non-white men are associated with a reduction in the number of ballots cast, which is consistent with depressed voter turnout in areas with large numbers of blacks. In the last two columns, I again express turnout in terms of shares of eligible men in each county and treat non-white men as the omitted category. A standard deviation increase in naturalized men share (.14) is associated with a 39 percent increase in voter turnout relative to the mean share of the electorate comprised of naturalized men (12 percent), compared with non-white men. This effect is quantitatively larger than the effect for native-born white men (a standard deviation increase is associated with a 16 percent increase in voter turnout relative to the mean).

In this aggregate framework I cannot distinguish between naturalized immigrants voting themselves and the presence of naturalized immigrants spurring higher turnout from natives as a form of “defensive voting.” Furthermore, the negative effect on non-white men in the first two columns of Panel B suggests that some of these results may be driven by unobserved trends in voting behavior in places with more racial and ethnic minorities. The difficulty associated with interpreting these results underscores the advantage of using individual-level data in a panel framework to study political mobilization, and I use such an approach for the remainder of the paper. Nonetheless, the results from Table 2 are consistent with higher voter turnout among naturalized immigrants compared with resident aliens and similar to Tuckel and Maisel (1994), who show that voter turnout in early twentieth century urban elections is positively correlated with the fraction of the electorate that is foreign born and naturalized.

B. Measuring Political Mobilization using Naturalization Status: Nonparametric Evidence

In this section I present the empirical results of the effect of immigrant electorate share on political mobilization as measured by citizenship attainment. The model presented in Section II predicts that the relationship between electorate share and naturalization will be nonlinear. In particular, I expect a positive relationship between electorate share and political mobilization as smaller groups grow to the point of becoming decisive in ward elections (the extensive margin effect). However, this effect should taper off or even reverse as larger groups grow beyond the relative size needed to form a minimal winning coalition, leading to a decline in the payoff of mobilizing additional members of the immigrant group (the intensive margin effect).

To investigate the presence of such a nonlinear relationship in the data, I begin by documenting the empirical relationship between electorate share and naturalization nonparametrically. In particular, I appeal to the Frisch-Waugh-Lovell theorem and purge both naturalization status (the dependent variable) and electorate share (the independent variable of interest) of the other independent variables from equation (2).¹⁹ Year, ward, and group fixed effects are also purged from both variables; the nonparametric regressions thus illustrate the same variation used in the panel estimation.

Figure 2 presents local linear regression estimators of the electorate share residual plotted against the naturalization residual for the full enclave sample and key subsamples. Figure 2.A shows that for the full sample of immigrants living in enclaves, the relationship appears nonlinear, with an increasing relationship for smaller electorate shares which tapers off for the largest electorate shares. The empirical evidence is thus consistent with the model of immigrant political mobilization presented in Section II. To further support the political interpretation of the results, Figures 2.B through 2.D present the same nonlinear regression for subsamples by potential for a Liturgical

¹⁹ Specifically, to obtain the “electorate share residual” I regress electorate share on every independent variable in equation (2) except electorate share. To obtain the “naturalization residual” I regress naturalization status on every independent variable in equation (2) except electorate share.

Democratic coalition. Figure 2.B shows the result for enclaves where the Liturgical Democratic coalition measure (own immigrant group electorate share plus Irish electorate share) was below the median of 30 percent. Although a weak upward trend is apparent, the effect is not statistically different from zero at any point on the distribution.

In contrast, Figure 2.C shows the same regression for the immigrants living in enclaves where the coalition measure was above 30 percent. Intuitively, this sample shows wards where Liturgical Democrats would have the potential to be a large minority with the vote of the new immigrants. The inverse U-shape from the full sample is more pronounced in this graph, suggesting that the nonlinear relationship between electorate share and naturalization is being driven immigrant enclaves with good coalition potential. Figure 2.D shows the regression for immigrants living in enclaves where the coalition measure was above 40 percent; thus Liturgical Democrats were approaching majority status for these enclaves. The increase in naturalization status for relative small groups is stronger for this subsample although the reduction in sample size increases the confidence interval somewhat.

The nonlinear shape of the electorate share effect and the pattern of the effect with respect to Liturgical Democratic coalition potential strongly suggest that immigrants respond to political incentives to mobilize politically. However, one may still be concerned that the relationships presented in Figures 2.B through 2.D reflect sorting of immigrants with different propensities to naturalize across wards according to a factor correlated with the share of the population that is Irish. I develop a placebo test to rule out a sorting explanation using another key marker of assimilation, the ability to speak English. Figure 2.E shows a nonparametric regression on the full sample of immigrants living in enclaves using ability to speak English as the dependent variable. The relationship is markedly different, with a negative trend apparent across the full electorate share range.

The result from the English acquisition placebo test suggests that immigrants with the greatest potential to assimilate would have been drawn towards relatively smaller enclaves, a pattern that consistent with the evidence that the economically weakest migrants are attracted to large enclaves in the present day (Edin, Fredriksson, and Aslund, 2003). Furthermore, this finding suggests that sorting is unlikely to be driving the extensive margin effect for relatively small groups. However, I cannot rule out that sorting by assimilation likelihood could contribute to the observed intensive margin effect (e.g. the tapering off of the electorate share effect for immigrants from the relatively largest enclaves). I thus focus on the extensive margin effect for the remainder of this section, quantifying in particular the increase in naturalization likelihood for immigrants living in relatively smaller enclaves.

C. Measuring Political Mobilization using Naturalization Status: Parametric Evidence

I begin by showing parametric regression results for the subsamples discussed above. Table 3 shows the results from a probit estimation of equation (2) for all immigrants living in enclaves and the key subsamples (average marginal effects reported). I model electorate share with a quadratic term to capture the predicted nonlinearity. The model and nonparametric regressions indicate that the linear term should be positive and the quadratic term negative, consistent with the inverse-U shape. Column (1) shows the result for the full enclave sample. The coefficients are 2.2 and -6.0 for the linear and quadratic term, respectively, and they are individually and jointly significant at the five percent level. The next four columns present the two partitions of the data presented earlier, subdividing the sample at the 30 percent and then 40 percent Liturgical Democratic coalition measure. The linear regression results support the nonparametric regression findings: the nonlinear relationship between electorate share and naturalization is being driven by immigrants living in enclaves with good coalition potential with their most likely political allies.

The coefficients from the regression on the subsample with above 30 percent coalition potential in column (2) are 2.8 and -7.8 on the linear and quadratic term, respectively. These results suggest that moving from 8 to 16 percent of the electorate (a standard deviation below the mean to the mean electorate share) is associated with an 8 percentage point increase in naturalization likelihood, an increase of 17 percent with respect to the mean (49 percent of immigrants in the sample have commenced naturalization proceedings). The parabola implied by these results has a peak at 18 percent electorate share, which is reasonably consistent with the simulations presented in Figure 1 for cases when the native-born Democratic Party is between 30 and 40 percent of the electorate. Since not all Democratic voters are captured by the demographic measure I use, these values reflect the most likely case in wards with good coalition potential: the Democrats were able to form a minimal winning coalition if they mobilized an immigrant group that had reached 10 to 20 percent of the electorate.

For the above 40 percent coalition sample in column (4), the respective coefficients are 5.7 and -16.1. The parabola implied by these coefficients has a similar peak, but the same standard deviation increase in electorate share is associated with a 15 percentage point increase in naturalization likelihood, an increase of 30 percent with respect to the mean. The return for mobilizing a new immigrant group in these wards was likely greatest because the Liturgical Democrats could possibly win the aldermanic seat by themselves, reducing the need to incorporate additional coalition partners. For the poorer coalition prospect subsamples in columns (3) and (5), the results have the expected sign but are insignificant.

Importantly, it is not the case that immigrant enclaves with worse coalition potential comprise systematically different shares of the electorate. For enclaves with coalition potential greater than 30 percent, the 25th and 75th percentiles of electorate share are 9 percent and 22 percent, respectively. For enclaves with coalition potential less than 30 percent, the same percentiles are 7 percent and 17

percent. Thus, the differential result for immigrants living in enclaves with worse coalition potential is more likely to be driven by political strategy rather than dearth of enclaves in the 10 to 20 percent electorate share range.

I subject the main results to a series of robustness checks. First, I investigate including second-generation Germans in the Liturgical Democratic coalition measure since many urban Germans were Lutherans who likely voted Democratic. Splitting the sample by this new coalition measure at 30 percent produces similar results. I continue to use the Irish definition (own group electorate share plus Irish electorate share greater than 30 percent) as my baseline definition of enclaves with good coalition potential since there were no segments of the Irish population that tended to vote Republican as there were with Germans (e.g. German Pietists, see Kleppner, 1979).

In Table 4, I present further robustness checks for the full enclave sample (Panel A) and for enclaves with good coalition potential (Panel B) with the baselines reproduced in the first column. The next two columns assess the sensitivity of the results to the restriction on the years lived in the United States. The electorate share effect implied by the most limited sample estimates (between two and ten years, column 2) is very similar to that of the inclusive sample (between two and twenty years, column 3) sample estimates. However, estimates in column 3 are slightly decreased in magnitude, suggesting that measurement error from immigrant mobility has attenuated the results.²⁰ In column (4) I drop Germans, the largest ethnic group from the analysis, and show that the results for the smaller ethnic groups are similar. In column 5 I include city-by-year fixed effects to address the potential for correlation between trends in citizenship attainment and immigrant settlement at the city level. The coefficients are virtually unchanged.

I have thus far focused on immigrant group political mobilization, assuming that ward political bosses viewed immigrants as voting blocs. It is also possible that aldermen could have

²⁰ To the best of my knowledge there is no source that would allow me to systematically account for the mobility of these immigrants since the Census Bureau did not ask about internal migration until 1940.

formed a coalition *across* new immigrants groups, meaning that the overall share of new immigrants in a ward should matter for political mobilization. Table 6 reports the results of a regression where the independent variable of interest is the sum of Czech, German, Greek, Italian, Polish, and Russian immigrants in the electorate, again restricting the sample to individuals who have been in the U.S. for between two and fifteen years. The first three columns show the results for the full enclave sample and then enclaves with good and poor coalition potential (using the baseline Liturgical Democratic coalition measure). Total new immigrant electorate share does not appear to predict naturalization for any sample.

However, it is possible that there were spillovers from the Germans, who formed the largest and most established ethnic group, onto the newer immigrants. When I run the same specification on the non-German immigrants, I find that the total share of the electorate composed of immigrants predicts naturalization in the same nonlinear manner as predicted by the model, and furthermore that the effect is driven by wards with good Liturgical Democratic coalition potential (columns 4-6). The results from column (5), which show the estimates for non-German immigrants living in wards with good coalition potential, suggest that moving from .19 to .35 percent of the electorate (a standard deviation below the mean to the mean total immigrant electorate share) is associated with an 15 percentage point increase in naturalization likelihood, an increase of 30 percent with respect to the mean naturalization rate. There is thus evidence for immigrant political mobilization spillovers, but not for all major immigrant groups living in cities at this time.

I close by considering the citizenship attainment of immigrants who lived outside of enclaves. In Section III, I defined an immigrant as living outside an enclave if his enclave measure value was below the 10th percentile in 1900 (where the enclave measure was the number of individuals in the ward ethnic group who had been in the U.S. since 1890). In Table 5, I report the results for these immigrants, modeling electorate share as a quadratic as before (column 1). The linear term is

negative but the quadratic term is insignificant. When I estimate the equation with only the linear term, the coefficient is -1.6 and significant at the ten percent level. A weak negative relationship is consistent with the nonparametric estimation, shown in Figure 2.F. The effect is similar for immigrants living in wards that had good coalition potential using the baseline Liturgical Democratic coalition measure (column 3). Furthermore, there is no evidence of spillovers onto these primarily small immigrant populations: total immigrant electorate share does not predict naturalization for either all immigrants (column 4) or non-German immigrants (not shown).

These results suggest that while a model of group political mobilization may be suitable for explaining the behavior of immigrants living in enclaves with established social networks, it may not be appropriate for immigrants who have selected out of enclaves. To investigate selection out of enclaves, the column (5) shows the results of a fully interacted specification on the entire immigrant sample, including immigrants living in enclaves and outside enclaves. The coefficients on the electorate share variables are similar to what was found for the samples studied separately: electorate share has a significant nonlinear relationship with naturalization for immigrants living in enclaves and a weak negative relationship for immigrants living outside enclaves. However, the main effect for living outside an enclave is .58 and significant at the one percent level. Thus, immigrants who have selected out of enclaves were 58 percentage points more likely to have initiated naturalization proceedings, all else equal. Thus, the same individual characteristics that predict living outside of an ethnic environment appear to also predict becoming a citizen independently of political strategy.

VI. Conclusions

Although the economists have focused extensively on the question of how immigrants access public goods, the question of how they become politically mobilized and vote has been left large unexplored. The process by which these newcomers become integrated into democratic political

systems is particularly relevant because the flow of immigrants over the past century has primarily been from monarchies and empires to democracies like the United States. In this paper, I used a novel dataset and empirical approach to investigate how immigrants joined the American electorate. Specifically, I used the citizenship attainment of immigrants during a period when the United States maintained a nearly open border to measure political mobilization. The naturalization approach allows me to expand beyond the ecological regression framework employed in much of the previous literature on ethnic and racial political behavior.

I find that immigrants were more likely to naturalize as their ethnic group's share of the local electorate grew, and the effect is concentrated in wards where the benefits of mobilization were potentially large due to the potential for a Liturgical Democratic coalition. I find no significant electorate share effects for immigrants living outside of enclaves; however, immigrants who selected out of enclaves were more likely to naturalize, all else equal. An interesting question for future research concerns the persistence of (or withering away of) ethnic voting. What are the factors that encourage immigrants and their descendants to deprioritize ethnic identification and stratify into other political interest groups?

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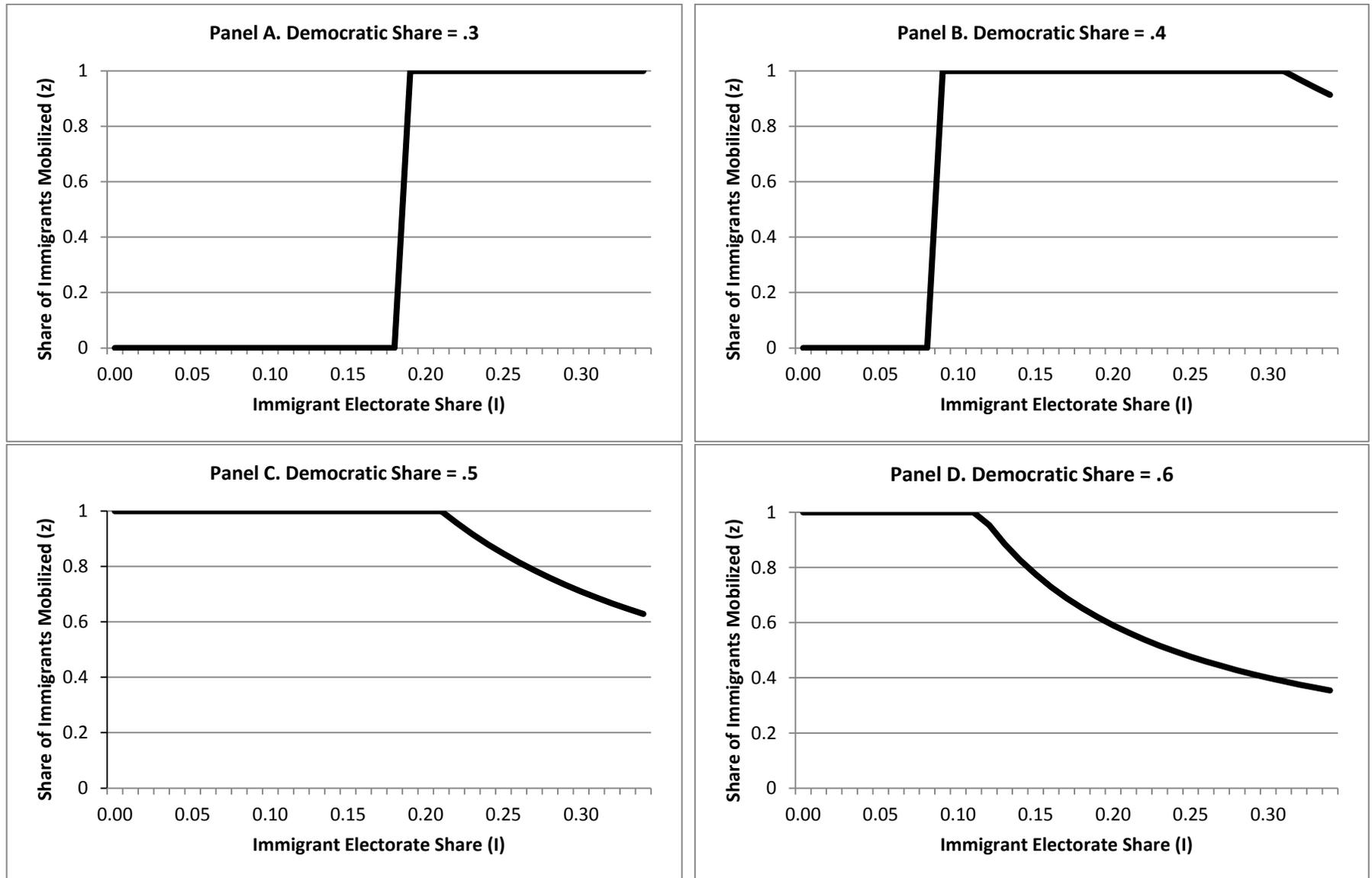
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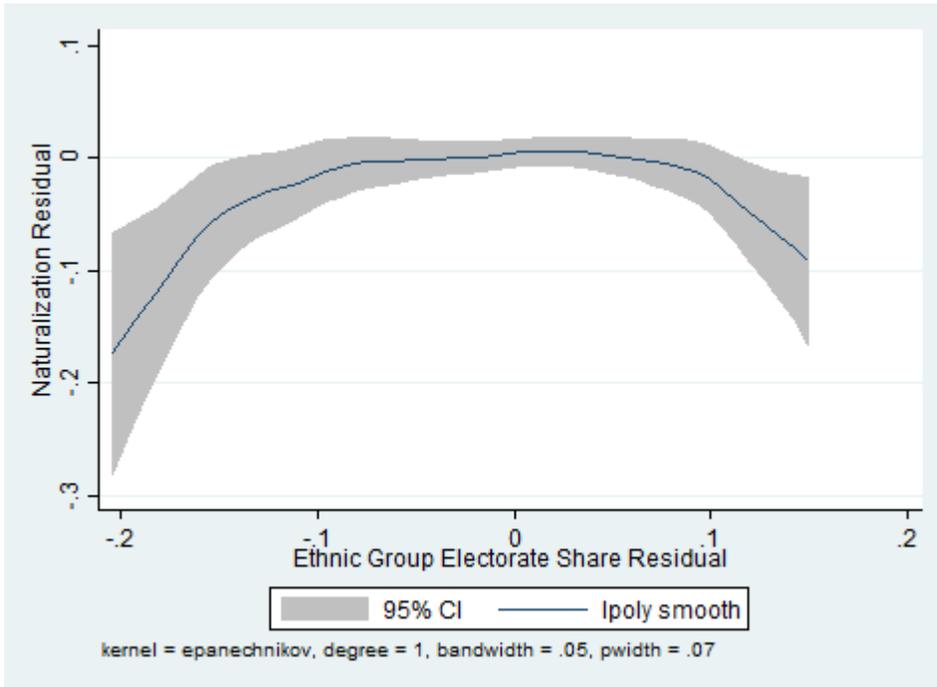
Figure 1. Simulated Immigrant Political Mobilization Model Results



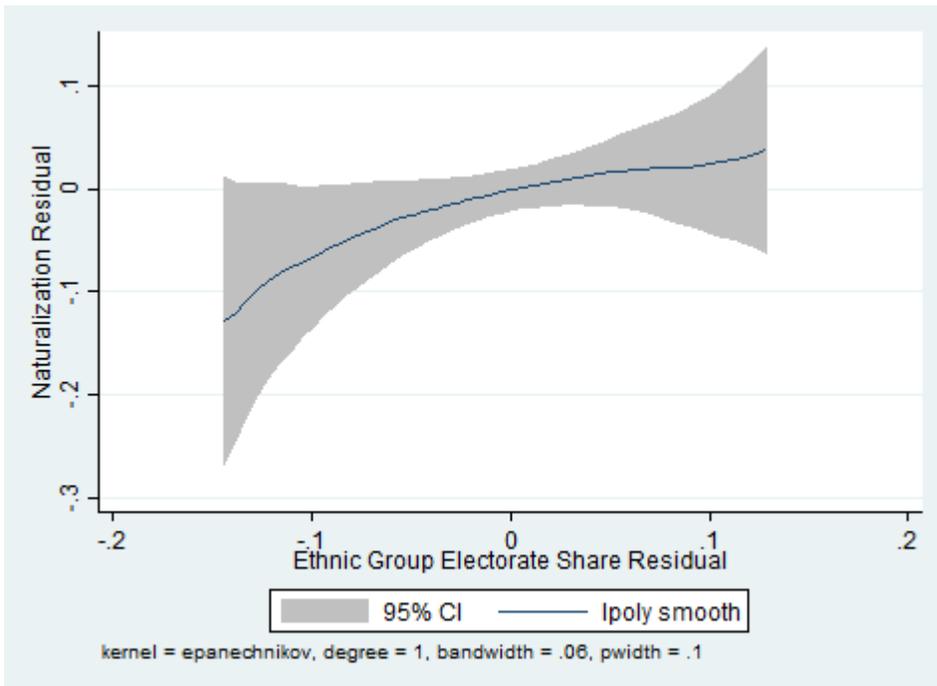
Notes:

Figure 2. The Relationship between Group Electorate Share and Naturalization Likelihood

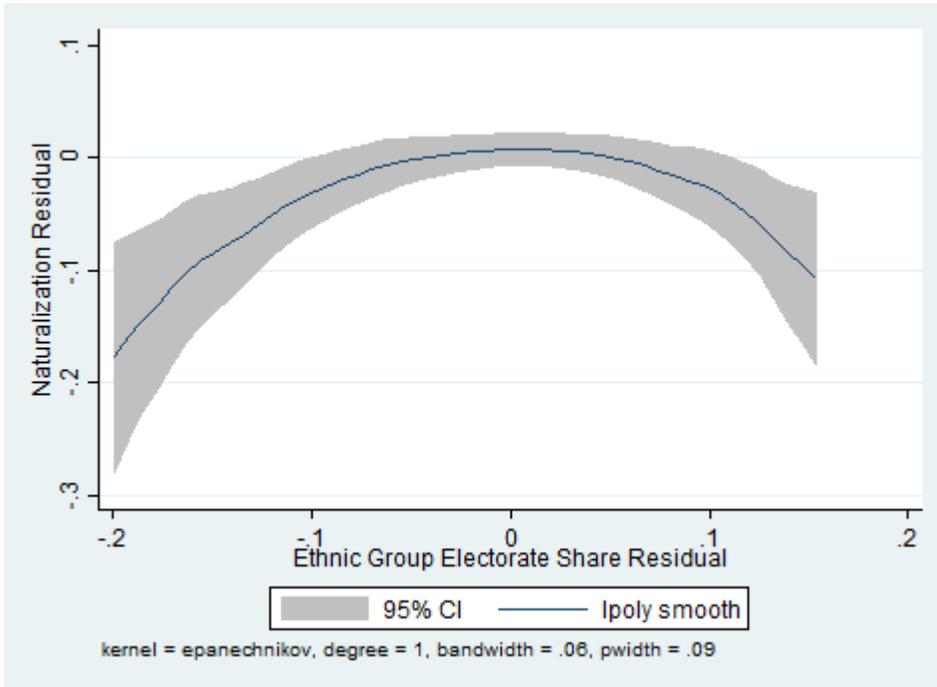
A. Immigrant Men Living in Enclaves



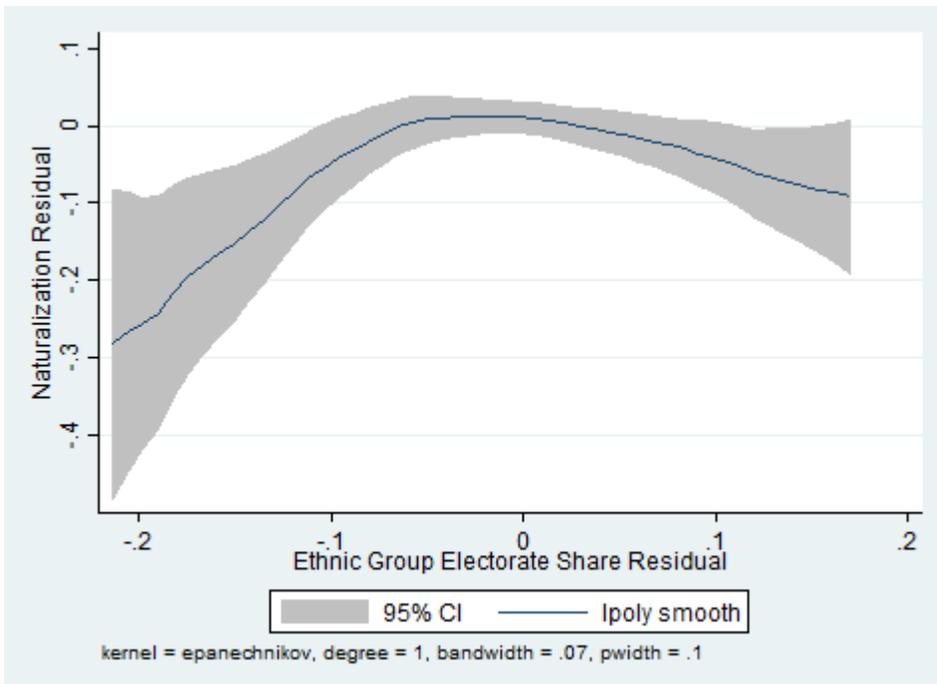
B. Immigrant Men Living in Enclaves: Poor Coalition Potential (Liturgical Democrats < 30%)



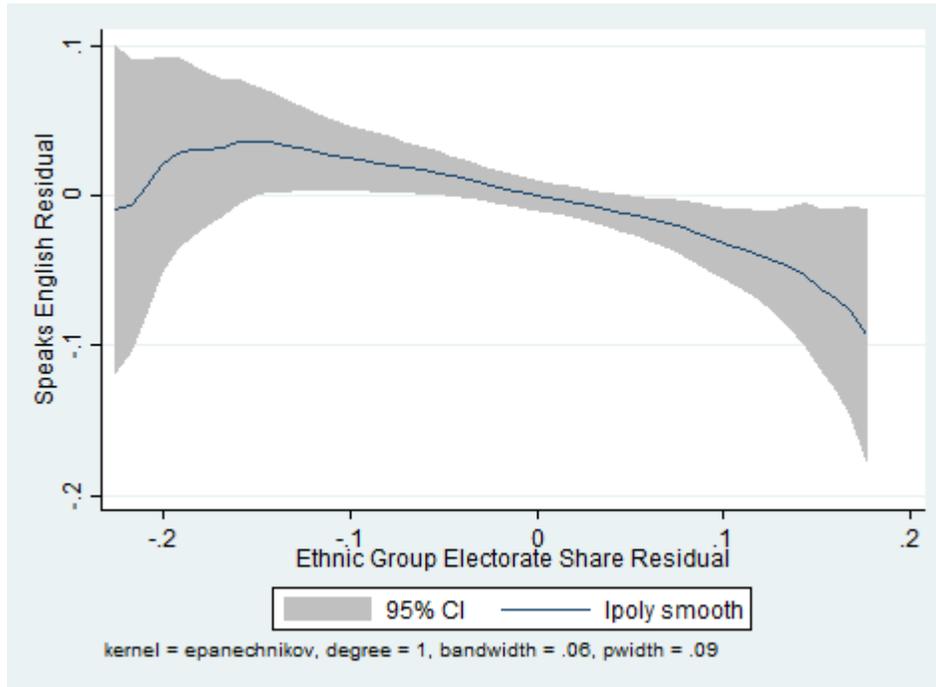
C. Immigrant Men Living in Enclaves: Good Coalition Potential (Liturgical Democrats >30%)



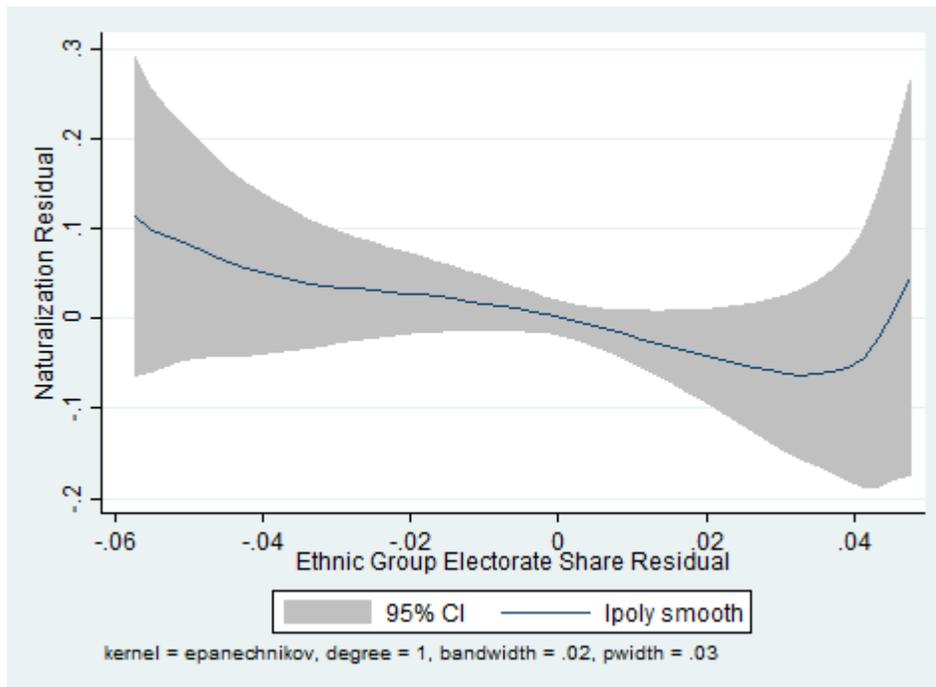
D. Immigrant Men Living in Enclaves: Great Coalition Potential (Liturgical Democrats >40%)



E. Immigrant Men Living in Enclaves: English Speaking Ability



F. Immigrant Men Living Outside of Enclaves



Notes: These figures show a local linear regression estimator of the naturalization residual on the residual of electorate share with the other dependent variables from equation (2). The sample is Czechs, Germans, Greeks, Italians, Poles, and Russians who have been in the U.S. from between two and fifteen years from the wards of Baltimore, Boston, Chicago, Manhattan, and Philadelphia included in the panel (see Data Appendix for included wards). Individual controls in the regression include literacy in any language, age, and a series of dummies for years lived in U.S. All regressions include year, ward, and group fixed effects. Electorate share is computed using the number of foreign-born men from that group aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. The dependent variable is equal to one if the immigrant has applied for first or second papers. “Liturgical Democrats” is defined as the share of the electorate composed of the immigrant’s ethnic group plus the share of the electorate composed of individuals of Irish descent. The individual data come from IPUMS samples for 1900 and 1910 and the electorate share variables are computed from the 100 percent Ancestry.com samples.

Table 1. Summary Statistics in the Panel Dataset

	1900		1910	
<u>Ward-Level Characteristics</u>				
Total Ward Foreign-Born Share	0.33		0.37	
	(0.12)		(0.15)	
Ward Irish Electorate Share	0.20		0.17	
	(0.13)		(0.12)	
Ward Electorate Size	10.81		10.66	
	(4.91)		(6.02)	
Number of Wards in Panel	104			
	Immigrants Living in Enclaves		Immigrants Living Outside Enclaves	
	1900	1910	1900	1910
<u>Individual Characteristics</u> (in U.S. \leq 15 years)				
Group Electorate Share of Ward	0.16	0.14	0.01	0.02
	(0.08)	(0.08)	(0.01)	(0.02)
Group Ward Electorate Size (1000s)	1.87	1.54	0.16	0.29
	(1.12)	(0.77)	(0.08)	(0.30)
Naturalized	0.61	0.33	0.44	0.27
	(0.49)	(0.47)	(0.50)	(0.45)
Total Members Present in 1890 (1000s)	2.78	2.43	0.18	0.18
	(1.93)	(2.01)	(0.10)	(0.11)
Years in U.S.	9.48	7.12	8.77	7.08
	(3.56)	(3.55)	(3.83)	(3.61)
Age	35.25	32.47	33.96	32.55
	(10.54)	(9.87)	(8.97)	(10.07)
Literate	0.82	0.80	0.71	0.81
	(0.38)	(0.40)	(0.45)	(0.40)
N	3780	2009	712	1117

Notes: Data source is 1900 and 1910 IPUMS samples for individual characteristics and Ancestry.com for ward electorate variables. The immigrant sample includes foreign-born Czechs, Germans, Greeks, Italians, Poles, and Russians who have lived in the U.S. for between two and fifteen years observed in the wards of Baltimore, Boston, Chicago, Manhattan, and Philadelphia included in the panel. See Data Appendix for the list of included wards. The share of ward electorate is computed using the number of foreign-born men from that group aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. Foreign-born men who have lived in the U.S. for less than two years and are thus ineligible for citizenship are excluded from the electorate. The Irish electorate share includes both first and second-generation Irish immigrants. The naturalized variable is equal to one if the immigrant has applied for first or second papers. Immigrants are defined as living in an enclave if the ward population of their ethnic group in 1900 contained at least 400 individuals who have lived in the United States since 1890 and outside an enclave if there are fewer than 400 such individuals.

Table 2. Relationship between Election Turnout and Naturalized Immigrants, 1900-1910

Panel A: Chicago Ward Data	Mayoral Votes	Mayoral Turnout	Voter Registration	Share Registered
Naturalized Foreign-Born Men 21+	0.280* (0.148)		0.913*** (0.0663)	
Native-Born White Men 21+	0.205* (0.122)		0.704*** (0.0545)	
Native-Born Non-White Men 21+	-0.0639 (0.351)		0.335** (0.157)	
Naturalized Men Share		1.100** (0.455)		0.448** (0.169)
Native-Born White Men Share		0.316 (0.512)		0.243 (0.190)
Observations	70	70	70	70
R-squared	0.951	0.557	0.532	0.301
Panel B: National County Data	Congressional Votes	Presidential Votes	Congressional Turnout	Presidential Turnout
Naturalized Foreign-Born Men 21+	0.929*** (0.0113)	0.916*** (0.0120)		
Native-Born White Men 21+	0.554*** (0.00731)	0.671*** (0.00775)		
Native-Born Non-White Men 21+	-0.135*** (0.0350)	-0.195*** (0.0371)		
Naturalized Men Share			0.338*** (0.0286)	0.319*** (0.0270)
Native-Born White Men Share			0.626*** (0.0229)	0.613*** (0.0216)
Observations	5,467	5,467	5,467	5,467
R-squared	0.970	0.972	0.423	0.459

Notes: The Chicago ward-level voting data in Panel A are from Skogan (1989) and the demographic data from IPUMS samples for 1900 and 1910. The national county-level data in Panel B are from ICPSR 8611 (Electoral Data for Counties in the United States) the demographic data from IPUMS samples for 1900 and 1910. The specifications in Panel A include controls for share literate, share holding white collar jobs, and dummies for five age categories (21-30, 30-40, 40-50, 50-60, over 60). The specifications also include year fixed effects only because the wards were redistricted shortly after the 1900 census. The turnout and share registered specifications include an additional control for ward population. Mayoral turnout is computed as the number of ballots cast in each election as a share of registered voters. The share registered is computed as the number of registered voters as a share of men aged 21 and above. The specifications in Panel B include controls for share literate, share holding white collar jobs, and dummies for five age categories (21-30, 30-40, 40-50, 50-60, over 60). The specifications also include year and county fixed effects. Presidential and congressional turnout is computed as the number of ballots cast as a share of men aged 21 and above. The omitted demographic group in the voter turnout and share registered regressions in both panels is non-white men aged 21 and above. *** p<0.01, ** p<0.05, * p<0.1

Table 3. Immigrant Electorate Share and Political Mobilization: Main Results

Dependent variable = 1 if immigrant applied for or obtained citizenship

	All Enclaves	Own+Irish ≥ 30%	Own+Irish < 30%	Own+Irish ≥ 40%	Own+Irish < 40%	Own+Irish+ Germ ≥ 30%	Own+Irish+ Germ < 30%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Electorate Share	2.244** (0.685)	2.867*** (0.837)	1.459 (1.266)	5.711*** (1.273)	0.972 (0.740)	3.032** (0.945)	0.912 (0.912)
Electorate Share Squared	-6.034** (1.988)	-7.755** (2.463)	-3.736 (3.584)	-16.100*** (3.329)	-2.149 (2.141)	-8.203** (2.725)	-1.601 (2.632)
Ward Electorate Size (1000s)	0.012** (0.004)	0.016** (0.005)	0.008 (0.008)	0.025 (0.016)	0.011** (0.004)	0.015** (0.006)	0.011 (0.006)
Literate	0.143*** (0.022)	0.149*** (0.025)	0.127*** (0.035)	0.145*** (0.035)	0.141*** (0.025)	0.132*** (0.025)	0.152*** (0.031)
Joint Significance of Group Share and Group Share Sqd	0.003	0.001	0.495	0.000	0.167	0.003	0.183
Pseudo R-squared	0.231	0.21	0.324	0.209	0.252	0.218	0.269
N	5784	4158	1626	1874	3910	3369	2415

Notes: See Table 2 for sample details. Reported coefficients are average marginal effects from a probit regression. Individual controls in the regression include literacy in any language, age, and a series of dummies for years lived in U.S. All regressions include year, ward, and group fixed effects. Standard errors are clustered at the ward-group level. Electorate share is computed using the number of foreign-born men from that group aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. Foreign-born men who have lived in the U.S. for less than two years and are thus ineligible for citizenship are excluded from the electorate. The dependent variable is equal to one if the immigrant has applied for first or second papers. “Own + Irish” is the share of the electorate composed of members of one’s own ethnic group plus the share of the electorate composed of individuals of Irish descent in 1900. “Own + Irish + German” adds the share of the electorate composed of second-generation Germans in 1900. Immigrants are defined as living in an enclave if the ward population of their ethnic group in 1900 contained at least 400 individuals who have lived in the United States since 1890. *** p<0.01, ** p<0.05, * p<0.1

Table 4. Immigrant Electorate Share and Political Mobilization: Robustness Checks

Dependent variable = 1 if immigrant applied for or obtained citizenship

	Baseline (≤ 15 years)	≤ 10 years	≤ 20 years	No German Baseline	Baseline with City- by-Year FE
	(1)	(2)	(3)	(4)	(5)
Panel A: All Enclaves					
Electorate Share	2.244** (0.685)	2.106** (0.733)	1.952*** (0.545)	2.272* (0.920)	2.343*** (0.648)
Electorate Share Squared	-6.034** (1.988)	-5.286* (2.078)	-5.240*** (1.572)	-5.759* (2.773)	-6.501*** (1.822)
Ward Electorate Size (1000s)	0.012** (0.004)	0.014*** (0.003)	0.010** (0.003)	0.014 (0.009)	0.012*** (0.004)
Joint Significance of Group Share and Group Share Sqd	0.003	0.004	0.001	0.013	0.001
Pseudo R-squared	0.231	0.196	0.281	0.227	0.234
N	5784	3949	8262	3305	5784
Panel B: Own+Irish $\geq 30\%$ Enclaves					
Electorate Share	2.867*** (0.837)	2.759** (0.856)	2.244*** (0.635)	3.305** (1.099)	2.680** (0.816)
Electorate Share Squared	-7.755** (2.463)	-7.052** (2.472)	-6.138*** (1.862)	-8.245* (3.220)	-7.498** (2.316)
Ward Electorate Size (1000s)	0.016** (0.005)	0.021*** (0.004)	0.011* (0.004)	0.034** (0.012)	0.015** (0.005)
Joint Significance of Group Share and Group Share Sqd	0.001	0.000	0.001	0.005	0.005
Pseudo R-squared	0.21	0.179	0.264	0.215	0.214
N	4158	2881	5883	2406	4158

Notes: See Table 2 for sample details. Reported coefficients are average marginal effects from a probit regression. Individual controls in the regression include literacy in any language, age, and a series of dummies for years lived in U.S. All regressions include year, ward, and group fixed effects. Standard errors are clustered at the ward-group level. Electorate share is computed using the number of foreign-born men from that group aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. Foreign-born men who have lived in the U.S. for less than two years and are thus ineligible for citizenship are excluded from the electorate. The dependent variable is equal to one if the immigrant has applied for first or second papers. "Own + Irish" is the share of the electorate composed of members of one's own ethnic group plus the share of the electorate composed of individuals of Irish descent in 1900. Immigrants are defined as living in an enclave if the ward population of their ethnic group in 1900 contained at least 400 individuals who have lived in the United States since 1890. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5. Total Immigrant Electorate Share

Dependent variable = 1 if immigrant applied for or obtained citizenship

	All Enclaves	Own+Irish \geq 30% Enclaves	Own+Irish < 30% Enclaves	Non-German Enclaves	Own+Irish \geq 30% non- German Enclaves	Own+Irish < 30% non- German Enclaves
	(1)	(2)	(3)	(4)	(5)	(6)
Total Immigrant Electorate Share	0.659 (0.580)	0.62 (0.657)	1.438 (1.437)	2.156*** (0.578)	2.343*** (0.615)	2.131 (1.993)
Total Immigrant Electorate Share Sqd.	-0.823 (0.586)	-0.74 (0.644)	-2.191 (1.690)	-2.480*** (0.718)	-2.463*** (0.689)	-3.533 (2.100)
Ward Electorate Size (1000s)	0.011** (0.004)	0.014* (0.005)	0.009 (0.010)	0.015 (0.009)	0.033* (0.014)	-0.008 (0.020)
Joint Significance of Size and Share Vars	0.319	0.472	0.285	0.001	0.001	0.006
Pseudo R-squared	0.228	0.206	0.325	0.227	0.213	0.296
N	5784	4158	1626	3305	2406	899

Notes: See Table 2 for sample details. Reported coefficients are average marginal effects from a probit regression. Individual controls in the regression include literacy in any language, age, and a series of dummies for years lived in U.S. All regressions include year, ward, and group fixed effects. Standard errors are clustered at the ward-group level. Total immigrant electorate share is computed using the number of foreign-born Czech, German, Greek, Italian, Polish, and Russian immigrants aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. Foreign-born men who have lived in the U.S. for less than two years and are thus ineligible for citizenship are excluded from the electorate. The dependent variable is equal to one if the immigrant has applied for first or second papers. "Own + Irish" is the share of the electorate composed of members of one's own ethnic group plus the share of the electorate composed of individuals of Irish descent in 1900. Immigrants are defined as living in an enclave if the ward population of their ethnic group in 1900 contained at least 400 individuals who have lived in the United States since 1890 *** p<0.01, ** p<0.05, * p<0.1

Table 6. Electorate Share and Political Mobilization: Immigrants Living outside of Enclaves

	Dependent variable = 1 if immigrant applied for or obtained citizenship				
	Not in Enclave	Not in Enclave	Not in Enclave and Own+Irish $\geq 30\%$	Not in Enclave	Enclave and Not in Enclave Combined
	(1)	(2)	(3)	(4)	(5)
Electorate Share	-5.429*	-1.649*	-1.946		2.069**
	(2.451)	(0.750)	(1.186)		(0.656)
Electorate Share Squared	40.805				-5.670**
	(25.694)				(1.901)
Ward Electorate Size (1000s)	-0.005	-0.004	-0.008	-0.004	0.007*
	(0.005)	(0.005)	(0.005)	(0.005)	(0.003)
Total Immigrant Electorate Share				0.593	
				(0.337)	
Not in Enclave					0.576***
					(0.123)
Not in Enclave * Electorate Share					-7.825**
					(2.858)
Not in Enclave * Electorate Share Squared					46.962
					(29.506)
Joint Significance of Share Vars	0.251				
Pseudo R-squared	0.014	0.25	0.222	0.25	0.244
N	1796	1796	1335	1796	7581

Notes: See Table 2 for sample details. Reported coefficients are average marginal effects from a probit regression. Individual controls in the regression include literacy in any language, age, and a series of dummies for years lived in U.S. All regressions include year, ward, and group fixed effects. Standard errors are clustered at the ward-group level. Electorate share is computed using the number of foreign-born men from that group aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. Total immigrant electorate share is computed using the number of foreign-born Czech, German, Greek, Italian, Polish, and Russian immigrants aged 21 and over as the numerator and the total number of men aged 21 and over living in the ward as the denominator. Foreign-born men who have lived in the U.S. for less than two years and are thus ineligible for citizenship are excluded from the electorate. The dependent variable is equal to one if the immigrant has applied for first or second papers. “Own + Irish” is the share of the electorate composed of members of one’s own ethnic group plus the share of the electorate composed of individuals of Irish descent in 1900. Immigrants are defined as living in an enclave if the ward population of their ethnic group in 1900 contained at least 400 individuals who have lived in the United States since 1890 and outside an enclave if there are fewer than 400 such individuals. *** p<0.01, ** p<0.05, * p<0.1

Data Appendix

A. Panel dataset creation

The ward maps of Baltimore, Boston, Chicago, the Manhattan Borough of New York City, and Philadelphia were provided by the Center for Population Economics at the University of Chicago. I used these maps to determine which wards remained unchanged over the 1900 and 1910 censuses. Philadelphia and Boston engaged in only minor changes to their ward systems between 1900 and 1910, mainly annexing or splitting outlying wards. Baltimore did not change ward boundaries but renumbered the ward system during the decade. Chicago and Manhattan redistricted their entire ward systems directly after the 1900 census. I employed enumeration districts, which were small (two to four city blocks) administrative units used internally by the Census Bureau, to make a correspondence between the 1900 and 1910 ward systems for Chicago and Manhattan. I used the 1901 to 1910 borders because they represented the political units in place when the recently arrived immigrants I study in this paper were deciding whether or not to naturalize. Specifically, I use the 1900 census enumeration districts to construct synthetic 1910 wards for the year 1900, which I then use to estimate the population characteristics of the 1910 wards had they been in place in 1900. Using these synthetic 1910 wards I am able to construct a panel dataset with the 1910 wards as the geographic unit of observation for both 1900 and 1910. Enumeration districts from the 1900 census that did not map entirely into a 1910 ward were assigned to the ward in which the majority of the enumeration district was located. There are relatively few such cases since enumeration districts, like wards, tended to follow main roads. I use the 1910 wards as the unit of analysis in the paper because they were in place for nearly the entire decade I study.

To be included in the panel dataset, a ward needed to have at least one recent (arrived within the past 15 years) immigrant from the sending countries studied in the paper in both 1900 and 1910: Bohemia (present-day Czech Republic), Germany, Greece, Italy, Poland, and Russia. The outlying wards that were excluded because of changing borders were often sparsely populated and contained few or no recent immigrants from these countries immigrants. Out of the 162 total wards, 104 wards had at least one new immigrant and stable borders. They are listed below:

Baltimore: 1, 2, 3, 6, 7, 10, 11, 14, 18, 19, 21, 23, 24

Boston: 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22
Chicago: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 28
Manhattan*: 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 19, 20, 21, 22, 23
Philadelphia: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 26, 28, 30, 31, 32, 36, 38, 37

* Manhattan used assembly districts to elect aldermen, so I use assembly districts instead of wards for this city.

B. Ethnic group share computation

The ethnic share variables are computed from a 100% sample of digitized individual census records of the population of panel cities. These records, including the place of birth of every resident of each city ward, were collected from the genealogy website AncestryLibrary.com. The full sample covers 9 million records from the AncestryLibrary.com database. Total sample counts line up closely with city population tallies published by the census for both 1900 and 1910, although some of the records are illegible and could not be included in the sample.²¹ The pre-WWI map of Europe coupled with changing instructions to census takers necessitates a multi-step approach to constructing ethnic group shares from the raw place of birth data. The main immigrant groups in the sample of cities are English, Germans, Irish, Czechs, Greeks, Poles, Italians, and Russians. Jewish immigrants had a large presence in cities such as New York, but separately identifying them using only their name and place of birth is difficult. Because most Russian immigrants during this period were in fact Jewish, the Russian-born group is a reasonable proxy for the Jewish population.

I create the ethnic groups from the census data in both census years by aggregating the relevant countries of birth listed by census takers. However, the list of allowable responses for places of birth in central Europe changed between 1900 and 1910. In 1900, respondents born in the Austro-Hungarian, German, or Russian empires were permitted to give their place of birth as Russian Poland, German Poland, Austrian Poland, Bohemia, Austria, Germany or Russia. In 1910, respondents were only permitted to give their place of birth as Austria, Germany, or Russia. As a consequence, ethnic Poles and Czechs are counted as Germans, Austrians, or Russians in the 1910 census. To recover estimates of the true distribution of immigrant ethnic groups in my sample cities in 1910, I first construct a series of ethnic surname indices in the spirit of Fryer and Leavitt (2004) using the mother tongue variable from IPUMS samples from 1910-1930. These indices quantify how likely an individual is to have a given surname conditional on his or her mother tongue. Because

²¹ Less than 5 percent of the census records are illegible in the sample.

of the small sample sizes of the IPUMS data in these years (1-1.4%), I am unable to use the ethnic name indices to assign individuals from the AncestryLibrary.com data to ethnic groups using only their name. However, I use these indices to confirm the place(s) of birth commonly given by ethnic Poles and Czechs in the 1910 census.

The name indices demonstrate that ethnic Poles are distributed across the German, Russian, and Austrian categories in 1910 while ethnic Czechs are usually counted as Austrian. To estimate the true number of Russian, Polish, Austrian, Czech, and Germans, I assume that the relative shares of each group are fixed between 1900 and 1910. For instance, suppose the population of a sample ward is 10% Austrian Polish, 20% Austrian, and 10% Bohemian in 1900. Further suppose that the population of the same ward is 50% Austrian in 1910. The Austrian category in 1910 contains ethnic Poles and ethnic Czechs in addition to German-speaking Austrians. The relative share of the combined group has grown from 40% (10%+20%+10%) to 50% over the first decade of the 1900s. Assuming the relative shares within the Austrian group are fixed, the Austrian Poland group is now 12.5% of the ward population, the Austrian group is 25%, and the Czech 12.5%.

I use these estimates of the true number of individuals from each 1900 category in 1910 to generate a consistent set of ethnic groups in both census years. The number of ethnic Poles in 1900 is defined to be the sum of Austrian Poles, German Poles, and Russian Poles. The number of Czechs in 1900 is defined to be the number of people born in Bohemia. The German, Russian, and Austrian numbers are computed as the number of individuals with that place of birth, net of those assigned to the Czech and Polish groups in 1910. The number of Scandinavians is the sum of respondents who give their place of birth as Sweden, Denmark, or Norway. Italians and the Irish are computed simply as the number of individuals with each respective country of birth.