doi:10.1017/S0003055412000494

Who Gets a Swiss Passport? A Natural Experiment in Immigrant Discrimination

JENS HAINMUELLER *Massachusetts Institute of Technology*
DOMINIK HANGARTNER *London School of Economics & University of Zurich*

We study discrimination against immigrants using microlevel data from Switzerland, where, until recently, some municipalities used referendums to decide on the citizenship applications of foreign residents. We show that naturalization decisions vary dramatically with immigrants' attributes, which we collect from official applicant descriptions that voters received before each referendum. Country of origin determines naturalization success more than any other applicant characteristic, including language skills, integration status, and economic credentials. The average proportion of "no" votes is about 40% higher for applicants from (the former) Yugoslavia and Turkey compared to observably similar applicants from richer northern and western European countries. Statistical and taste-based discrimination contribute to varying naturalization success; the rewards for economic credentials are higher for applicants from disadvantaged origins, and origin-based discrimination is much stronger in more xenophobic municipalities. Moreover, discrimination against specific immigrant groups responds dynamically to changes in the groups' relative size.

Immigration has emerged as a divisive political issue in many countries in recent decades. One of the most controversial debates over immigration policy involves the integration of already-settled migrants and, in particular, their access to citizenship.[1] In the U.S., there are heated debates about restricting birthright citizenship for children of unauthorized immigrants.[2] Throughout Europe, right-wing parties use citizenship policies as a vehicle to mobilize voters against immigration with campaigns that emphasize the societal dangers of naturalizing increasing numbers of immigrants (Dancygier 2010; Helbling 2008; Howard 2009). These groups reject the integration of foreigners as citizens because they view immigrants as undeserving outsiders who poach jobs from native workers, unsettle local communities, and undermine traditional values; such outsiders should not be rewarded with equal access to the political and social rights of the host country (Brubaker 1989; Givens 2007; Koopmans et al. 2005). Intense debates over naturalization policies are likely to escalate further in the years ahead in light of increased migration flows; immigrants already account for about 10% of the population across advanced industrialized countries (Dumont, Spielvogel, and Widmaier 2010).

Why do some natives oppose and others favor immigration and naturalization of immigrants? Do natives discriminate against particular types of immigrants, and if so, which immigrants are welcomed and which immigrants are rejected? A large body of literature has examined attitudes toward immigration in Europe, the U.S., and several other countries, but scholars still disagree about the prevalence and causes of anti-immigrant sentiment (Ceobanu and Escandell 2010; Hainmueller and Hopkins 2012). One important limitation of existing research is the absence of detailed behavioral data on anti-immigrant sentiment. Most published studies to date are based on attitudinal measures from public opinion surveys, which have their merits, but also impose important limits on the inferences we can draw. For example, most existing surveys are fairly blunt instruments that ask respondents only to describe their attitudes toward immigration in general, although we expect that natives' views vary in important ways across different types of immigrants (e.g., country of origin, skill level, etc.).[3] Another limitation is that many studies rely on

Jens Hainmueller is Associate Professor, Department of Political Science, 77 Massachusetts Avenue, Cambridge, MA 02139 (jhainm@mit.edu).

Dominik Hangartner is Lecturer, Department of Methodology, Houghton Street, London WC2A 2AE, and Institute of Political Science, Affolternstrasse 56, 8050 Zurich (d.hangartner@lse.ac.uk).

This article received the 2012 Robert H. Durr Award from the Midwest Political Science Association for "the best paper applying quantitative methods to a substantive problem." We thank Ken Benoit, Suzanne Berger, Adam Berinsky, Catherine De Vries, Marc Girardelli, Marc Helbing, Gabe Lenz, Rick Locke, Ben Rissig, Didier Ruedin, Lily Tsai, the editors, four anonymous reviewers, and participants in seminars at Princeton, Harvard, Stanford, MIT, the University of Bern, the European University Institute, and the Midwest Political Science Meeting for helpful comments. For excellent research assistance, we thank Andreas Besmer, Matthias Christen, Roman Kuster, Fabian Morgenthaler, Emilia Pasquier, Giuseppe Pietrantuono, Rocco Pietrantuono, Livio Raccuia, Mirjam Rütsch, Laura Schmid, and Tess Wise. We especially would like to thank Marco Steenbergen for his valuable support and all the municipality officials for participating in our survey. Funding for this research was generously provided by Swiss National Science Grant No. 100017_132004. The usual disclaimer applies.

[1] The supplementary online appendices A, B, and C for this article are posted on the authors' home page at http://www.mit.edu/jhainm/Paper/passportappendix.pdf .

[2] See, for example, Marc Lacey, "Birthright Citizenship Looms as Next Immigration Battle," *The New York Times*, January 4, 2011. Julia Preston, "Citizenship From Birth Is Challenged on the Right," *The New York Times*, August 6, 2010.

[3] Exceptions include recent survey experiments that differentiate immigrants with different attributes such as Brader, Valentino, and Suhay (2008); Sniderman, Hagendoorn, and Prior (2004); Hainmueller and Hiscox (2010); Hopkins (2011); Harell, Soroka, and Iyengar (2011). Due to constraints on survey design, these studies

cross-sectional surveys, which makes it difficult to assess how hostility toward immigrant groups varies over time.[4] Moreover, surveys put participants in an artificial research setting where responses have almost no real-life consequences, and therefore often boil down to "top of the head" reactions that may inaccurately capture true beliefs (Bertrand and Mullainathan 2001; Taylor and Fiske 1978). Another well-recognized problem is that answers to sensitive questions about immigration and racial policies can be biased by social desirability effects, because respondents are unwilling to admit to discriminatory attitudes in times when discrimination has become illegal and socially unacceptable in many countries (Berinsky 1999; Kuklinski, Cobb, and Gilens 1997).[5]

In light of these problems, some scholars have turned to field experiments such as audit studies to behaviorally measure racial discrimination in the labor market and other economic domains (Adida, Laitin, and Valfort 2010; Bertrand and Mullainathan 2004; Jowell and Prescott-Clarke 1970; List 2004). We take a complementary approach and study discrimination in naturalization decisions, drawing upon a natural experiment from Switzerland that allows us to overcome some of the inferential challenges mentioned above and illuminates how discrimination against immigrants varies across different types of immigrants and over time.

In Switzerland, each municipality autonomously decides on the naturalization applications of its foreign residents who seek Swiss citizenship. We focus on the group of municipalities that until 2003 used referendums[6] with closed ballots to decide on naturalization requests. A typical naturalization referendum involved two stages. Local voters first received official voting leaflets that explained the pending naturalization request with a detailed description of each immigrant applicant. Voters then cast a secret ballot on each individual request, and applicants with a majority of "yes" votes were granted Swiss citizenship. Drawing upon local municipality archives, we collected a new dataset that contains applicant characteristics and voting outcomes for the 2,400 recorded naturalization referendums held between 1970 and 2003 in the 44 Swiss municipalities that used secret ballot referendums with voting leaflets. We use these data to examine how applicant characteristics affect the outcome of naturalization referendums.

This research design has at least three advantages compared to previous work. First, naturalization referendums enable us to measure revealed preferences regarding immigrants based on actual behavior in a real-world setting. Social desirability bias is not a concern, because voters used secret ballots and needed to provide no justification for their votes. Voters also had to face the consequences of their voting behavior, as naturalized immigrants instantly acquired the same rights as existing members of the local citizenry (including the right to vote and permanently stay in the municipality). The data should therefore reveal a fairly accurate assessment of the immigration preferences of the local voting population. As Bell Jr. (1978, 14) put it, referendum voting "enables voters' racial beliefs and fears to be recorded and tabulated in their pure form." Second, much like a real-world vignette experiment, our data covers comparable application decisions regarding thousands of immigrants with radically different attributes and at different points in time, allowing us to pinpoint particular immigrant attributes that are valued or disliked by local voters. This data set also allows us to examine how discrimination against particular immigrant groups varies over time in response to immigration waves. Third, our design enables us to minimize potential omitted variable bias, since we measure and control for the same applicant information from the official voting leaflets that voters had at their disposal when they decided on the naturalization requests. We also show that our main results are insensitive to hidden bias that could arise from the fact that some knowledgeable voters decided based on private information about particular applicants that extended beyond the information provided in the leaflets.

When interpreting our results, it is important to emphasize the we capture only the effects of the applicant characteristics in the last hurdle of the application process, once a naturalization request was put to a popular vote. Since we do not capture additional forms of potential discrimination that may have deterred immigrants from applying for citizenship in the first place, our estimates are best understood as a lower bound on the overall prevalence of discrimination in naturalization outcomes in the sample municipalities.

We find that naturalization outcomes vary dramatically across and within municipalities. Country of origin is by far the most important determinant of naturalization success. The average proportion voting "no" in the naturalization referendums is about 13–15 percentage points higher for applicants from (the former) Yugoslavia and Turkey compared to observably similar applicants from richer northern and western European countries who apply in the same municipality at the same time; this corresponds to a 40% increase over the average proportion of "no" votes (or about a 120% increase over the average probability of being rejected). This massive origin disadvantage is very similar in smaller and larger municipalities and insensitive to unobserved confounders with Rosenbaum Gamma values between 9 and 11, indicating that it would take an enormous hidden bias to explain away the origin effects. We also find smaller origin penalties for applicants from other groups, including applicants from central and eastern European countries (6 percentage points), Asia (3 percentage points), and other

typically distinguish only a small number of attributes (but see Hainmueller and Hopkins (2012)).

[4] Exceptions include studies such as Scheve and Slaughter (2001); Semyonov, Raijman, and Gorodzeisky (2006); Hopkins (2010).

[5] A recent report from the National Research Council's Committee on National Statistics summarizes these inferential problems in racial discrimination (Blank, Dabady, and Citro 2004).

[6] We use "referendums" rather than "referenda" as the plural following the *Oxford English Dictionary* and previous literature.

non-European countries (7 percentage points), but no disadvantage for applicants from southern Europe. Taken together, origin alone accounts for about 40% of the within-municipality variation in the proportion of "no" votes.

Other immigrant characteristics also influence the naturalization success. Voters systematically prefer applicants with better economic credentials (as measured by occupational skill, education, and prior unemployment), applicants born in Switzerland, and applicants with longer residency, but the effects of these characteristics are very small compared to the origin effects. We also find that language skills have almost no effect on naturalization success. Even applicants who are described to voters as "perfectly fluent" in the Swiss-German dialect earn no significant advantage. Similarly, the assessed integration status of the applicant plays very little role overall (the exception is applicants who earn a slight advantage because they are described to voters as being "completely indistinguishable" from a Swiss native).

We use additional tests that consider statistical and taste-based discrimination theories to illuminate the mechanisms that may explain the varying treatment of applicants based on their country of origin. Theories of statistical discrimination (Arrow 1972; Phelps 1972) suggest that if the average integration level of immigrants varies by origin group, then voters, even if all they care about is that applicants are sufficiently well integrated, find it optimal to place some weight on an applicant's origin to make a better guess about her true integration level (which is measured with noise in the voting leaflets). This logic implies that voters will reward an applicant more strongly for additional observable credentials that are informative about her integration status (such as higher educational attainment) if the applicant belongs to an origin group that is believed to have a lower average integration level. Consistent with this theoretical expectation, better economic credentials strongly decrease the proportion of "no" votes among applicants from Turkey and (the former) Yugoslavia but have no effect among applicants from richer northern and western European countries.

We also find evidence for theories of taste-based discrimination (Allport 1979; Becker 1971) where a "taste for discrimination" directly enters the utility function of voters who are assumed to hold xenophobic animus against immigrants from particular origin groups. Consistent with this logic, we find that origin-based discrimination steeply increases with the xenophobic preferences of the local population (as measured by vote shares from federal anti-immigration referendums); the origin penalty for applicants from (the former) Yugoslavia and Turkey almost triples in the most, compared to the least, xenophobic municipalities. Overall, these results indicate that statistical discrimination may account for about 40% and taste-based discrimination for about 60% of the origin-based discrimination in our sample.

Consistent with group conflict theories that link the rise of xenophobic animus to a defensive reaction of natives who view immigrant out-groups as a threat to the natives' dominant position (Blalock 1967; Blumer 1958; Quillian 1995), we also find that origin-based discrimination is dynamically correlated to changes in the relative sizes of the different origin groups. While discrimination against applicants from Turkey and (the former) Yugoslavia increases following the rapid growth of these groups during the 1990s, discrimination against immigrants from southern European origins abates as the relative size of this group decreases.

Our study contributes to several literatures. First, our findings have important implications for the research that studies the prevalence and drivers of anti-immigrant sentiment (e.g., Brader, Valentino, and Suhay 2008; Dustmann and Preston 2007; Hainmueller and Hiscox 2007; 2010; Sides and Citrin 2007; Sniderman, Hagendoorn, and Prior 2004). Although most studies to date are based on survey data and consider only attitudes toward immigration in general, our results provide clear behavioral evidence that natives do not treat all immigrants equally but instead draw important distinctions between different types of immigrants and that these preferences are not static but vary over time. Our results also show that measurement matters: the immigrant preferences revealed in our behavioral data contrast sharply with immigration preferences as measured by comparable public opinion surveys, which are prone to social desirability bias. Second, our findings resonate with the literature on racial discrimination (e.g., Altonji and Blank 1999; Blank, Dabady, and Citro 2004; Pager and Shepherd 2008). While most of this work has focused on race- and gender-based discrimination in the labor market, our results demonstrate that naturalization decisions for resident aliens can be subject to similar types of discrimination, and that similar theoretical mechanisms provide explanatory leverage to account for this discrimination. Third, by comparing microlevel data about individual naturalization decisions across several municipalities, our study adds to the small but growing literature in immigration studies that has begun to examine outcomes and policies at the local level, where more focused comparisons are less vulnerable to biases from unobserved heterogeneity that often plague cross-national research (e.g., Adida 2011; Dancygier 2010; Helbling 2008; Hopkins 2010). Fourth, our findings add new empirical evidence to the extensive literature and policy debates about citizenship policies and the integration of already settled immigrants (e.g., Freeman 2004; Givens 2007; Hochschild and Mollenkopf 2009). Finally, our study contributes to the literature that studies the relationship between direct democracy and the protection of minorities' civil rights (e.g., Frey and Goette 1998; Gamble 1997; Hajnal, Gerber, and Louch 2002; Maskin and Tirole 2004). Our results provide evidence that, in the absence of other institutional safeguards, referendum voting can result in systematic discrimination against particular minority groups who find themselves at the whim of the native majority. This finding informs ongoing policy debates about reforming the Swiss naturalization system.

CITIZENSHIP POLICY IN CONTEXT

Before we turn to the empirical analysis, it is helpful to put the Swiss naturalization system in a comparative perspective and discuss the potential benefits of obtaining Swiss citizenship.

The Swiss Naturalization System

Ever since classical Athens, states have used citizenship as a closure mechanism to define a select group of members who belong to a polity and enjoy special privileges denied to nonmembers. Historically, eligibility criteria for citizenship often included attributes such as class, wealth, ethnicity, race, and gender, and requirements frequently changed over time to accommodate developments in state capacity (Bellamy 2008). In Switzerland, this link between citizenship and state building gave rise to a system of triple citizenship, which defines Swiss citizenship based on citizenship in a municipality, a canton, and the Confederation (Helbling 2008, 12–17). This three-tiered system is unique in that it delegates responsibility for naturalizing foreigners largely to the municipal level. Federal laws impose formal naturalization requirements, but an immigrant cannot obtain a Swiss passport without acquiring citizenship of a municipality, and municipalities enact the naturalization procedures and ultimately decide on the applications.[7] This contrasts with many other countries where naturalization procedures and criteria are typically defined at the federal level and implemented by federal ministries or agencies (as in the U.S., France, Canada, and Belgium). Other countries have hybrid regimes where rules are stipulated at the federal level, but applications are checked and decided at the regional level (as in Germany and Austria).[8]

In general, Switzerland is often categorized as part of the group of countries with relatively restrictive citizenship regimes, such as Germany, Denmark, Austria, and Greece (Goodman 2010). In the other pool are countries with more liberal citizenship regimes such as France, the UK, Belgium, and the U.S. Although naturalization regimes are complex and generally difficult to compare across countries, the more restrictive countries are typically characterized by the fact that they rely on the *jus sanguinis* principle, which implies that citizenship is passed on from the citizenship of the parents, rather than granted based on the place of birth. More liberal countries also typically require around 5 years of permanent residence, while more restrictive regimes require up to 8 to 10 years before resident immigrants become eligible for citizenship.[9] More restrictive regimes also typically require renunciation of prior citizenship and do not allow naturalized immigrants to hold multiple passports. Switzerland introduced multiple citizenship for naturalized immigrants in 1992, in contrast to many of the traditionally more restrictive countries. Almost all Western countries, including Switzerland, also have additional naturalization criteria that require a clean criminal record, some evidence of financial self-sufficiency, and, in many cases, demonstrated mastery of the country's official language(s). Several countries, such as Switzerland, also require that applicants demonstrate knowledge of the country and meet a standard of integration.[10]

About 2 in 100 foreigners were naturalized in Switzerland in 2000. Although southern European countries like Spain, Italy, and Portugal experienced even lower naturalization rates in the same year, several OECD countries had higher rates with 2.5% in Germany, 3% in the U.S., and 4% in the UK (OECD 2003, 93). Despite the relatively low naturalization rate, Switzerland has experienced a sizeable immigration inflow over the last three decades. By 2000, the share of the non-naturalized immigrant population reached 25% in Switzerland, by far the highest level among all other Western countries except Luxembourg; for comparison, the share of the foreign-born population in the same year was 15% in the United States, 13% in Germany, and 9% in the UK (Dumont, Spielvogel, and Widmaier 2010).

With the increased immigration flows in recent decades, citizenship policies have become heavily politicized in many Western countries, as right-wing parties have discovered the topic is an effective springboard for mobilizing voters against immigration. In Switzerland, the Swiss People's Party has repeatedly emphasized the need to restrict access to citizenship and immigration inflows, campaigning against "mass naturalizations" with signs that portray brown, black, and white hands snatching Swiss passports. Anti-immigrant political movements such as the Freedom Party in Austria, the National Front in France, the DVU in Germany, and the Danish People's Party in Denmark have similarly mobilized voters against immigration by highlighting the societal dangers of liberal citizenship policies. Conflicts over naturalization policy are therefore an important part of the general phenomenon

[7] The federal level exclusively controls access to Swiss citizenship through descent, marriage, and adoption. Cantons rarely regulate local naturalization policies, with the exception of Geneva where naturalizing foreigners is centralized at the canton level.

[8] Some studies suggest that significant within-country variation exists in the handling of naturalization applications. Such differences have been found between German Länder, Austrian regions, French regional offices, and even U.S. district offices (Helbling 2008, 18–19).

[9] Switzerland requires 12 years of residence, but years between ages 10 and 20 count double; at least 3 of the 12 years must fall within the 5 years preceding the naturalization request (Bürgerrechtsgesetz, Chap. 15).

[10] In Switzerland the federal requirements for ordinary naturalization are as follows: the applicant is integrated into the Swiss context, is familiar with the Swiss way of life, adapts to the laws, traditions, and customs, respects the legal order, and poses no threat to the internal and external security of Switzerland (Bürgerrechtsgesetz, Chap. 14). Regarding the integration requirement, Switzerland may be most comparable to countries such as Austria, the Netherlands, Luxembourg, and Germany that have explicit or implicit integration requirements for applicants. France requires "assimilation." The U.S. requires applicants to demonstrate English proficiency and basic knowledge of U.S. history and government. The U.S. also requires that applicants are of "good moral character," which is usually defined to mean that applicants are law abiding and provide truthful information during the interviews. See Goodman (2010) for a summary.

of anti-immigrant sentiment (Brubaker 1989; Dancygier 2010; Givens 2007; Howard 2009; Koopmans et al. 2005).[11]

The Benefits of Swiss Citizenship

Why would immigrants seek Swiss citizenship? For the 1970–2003 period covered in our study, almost all eligible immigrants applying for ordinary naturalization have a settlement permit, and therefore share many of the same rights and benefits as Swiss citizens, such as the right to choose their employers, access to health benefits, the right to travel and return, and the responsibility to pay taxes. However, Swiss citizenship still carries an important symbolic value as a visible marker of full membership in the host country. Citizenship also comes with several tangible benefits. First, only citizens have the right to vote in the many local, cantonal, and federal referendums and elections, and the right to run for office or express their concerns at municipality assemblies.[12] Second, only children born to citizens automatically receive Swiss citizenship at birth; children born to foreign residents have to apply through naturalization procedures. Third, only citizens have the right to stay in Switzerland indefinitely, while the settlement permit can theoretically be challenged if immigrants return to their home country for more than 6 months (Wanner and Piguet 2002, 919). Fourth, certain jobs formally require Swiss citizenship.[13] Fifth, citizenship may improve immigrants' economic prospects. Correlational studies from several countries document a positive relationship between naturalization and higher wages and employment (see, for example, OECD 2011). Citizenship can signal to employers higher levels of human capital and lower risk of return migration. Citizenship can also give immigrants an edge in the hiring process when employers discriminate based on nationality. Fibbi, Kaya, and Piguet (2003) document strong discrimination against non-naturalized immigrants among Swiss employers. In sum, a Swiss passport provides more than just symbolic value for immigrants. Citizenship marks the difference between being a tolerated resident who may express her views and being "entitled to have them heard on an equal basis" (Bellamy 2008, 12).[14] Naturalization therefore provides an important indicator for the level of societal integration and reciprocity between natives and immigrant populations.

EXPLAINING NATURALIZATION DECISIONS

Immigrants who seek Swiss citizenship have to apply via the ordinary naturalization procedure at three administrative levels: federal, cantonal, and municipal.[15] Although the federal and cantonal authorities check if an applicant fulfills the basic eligibility requirements such as the residency period and clean criminal record, each municipality evaluates the merits of its applicants and ultimately decides on naturalization requests. In our sample period, 1973–2003, municipalities used a wide variety of institutions to vote on local naturalization requests. Most municipalities used direct democratic arrangements in which citizens voted on applications in popular votes by hand-raising at regular meetings of the citizens' assembly. Other municipalities delegated the naturalization decision to the elected municipality council where politicians voted on the applications (see Hainmueller and Hangartner 2012 for an overview of the various institutions).

In this study, we focus on the relatively small subsample of "ballot box" municipalities that used popular votes with secret ballots to decide on citizenship applications. This institutional arrangement provides perhaps the purest form of direct democracy and resonates with the political culture in Switzerland, which emphasizes local autonomy and direct democratic principles. This arrangement also has historical antecedents in the *polis* of Athens.[16] A typical naturalization referendum in our ballot box municipalities involved a two-step process in which citizens received an official voting leaflet with résumés that detailed information about each immigrant applicant (below we provide a list of reported applicant characteristics). Voters then cast a secret ballot to reject or approve each naturalization request, and applicants with a majority of "yes" votes were granted Swiss citizenship. Voting on citizenship requests was part of the typical Swiss direct democratic routine in which referendums were used at regular intervals to decide on a wide variety of municipal,

[11] This link between immigration and naturalization policy is also present in public opinion data. For example, in the U.S. a 2006 Gallup poll found that among respondents who supported a decrease in the level of immigration, 60% were also in favor of denying birthright citizenship to children of unauthorized immigrants (compared to only 29% among respondents who favored an increase in immigration levels). In Switzerland, voting results from referendums that involve restrictions on immigration are typically highly correlated with voting results from referendums that involve changes to naturalization policy.

[12] Only very few (and none of our sample) municipalities allow immigrants with settlement permits to vote at the municipal or cantonal level.

[13] For example, several public employers only hire Swiss citizens: the military, publicly owned defense companies, several cantonal police forces, the border guard corps, and the Foreign Service.

[14] Although rejected applicants keep their permit, at the moment we can only speculate about how a rejection may affect an immigrant's life. In a follow-up project, we use a regression discontinuity design to study the impacts of citizenship by surveying immigrants whose applications were narrowly decided.

[15] Here and for the rest of the study, we focus on "ordinary" naturalization which is by far the most common naturalization mode. We do not consider "facilitated" naturalization granted by a special process that does not involve the municipality. This special track is open only for immigrants who have been married to a Swiss citizen for at least three years and have been living in Switzerland a total of five years. Also notice that children who are born to a Swiss mother or Swiss father are typically granted citizenship at birth. This is not the case for children who are born in Switzerland to immigrant parents. Such children typically have to apply through the regular process for "ordinary" naturalization and are thus included in our analysis.

[16] In ancient Athens, the citizens' assembly *ecclesia* decided on the naturalization applications of individuals and sometimes even whole groups (e.g., after outstanding services in wars) by closed ballot voting (cf. (Pseudo-)Demosthenes against Neaera (Demosthenes 1949)).

cantonal, and federal matters. Typically, voters cast their ballots at the local polling place, and naturalization referendums appeared on the ballots alongside other referendums that took place on the same day.[17]

Although, historically, relatively few municipalities used naturalization referendums to decide on citizenship applications, the practice recently sparked political debates following media reports about seemingly discriminatory rejection of applicants. One such case was brought before the Swiss Federal Court, which in July 2003 ruled that closed ballot voting for naturalization referendums violates the Swiss Constitution (BGE 129 I 232 and BGE 129 I 217). The Federal Court argued on two different levels. The key reason for ruling against naturalization referendums was that immigrants have the right to appeal rejected applications (BGE 129 I 217), and therefore the decision-making body is obligated to provide justification for the rejection.[18] Since the very nature of closed ballot referendums means that voters do not have to justify their decisions, the court reasoned that such procedures cannot be used for naturalization. Interestingly, the Federal Court also explicitly mentioned the danger that an applicant may be rejected simply because of her affiliation in a certain "ethnic-cultural group" (BGE 129 I 232: 241), which violates the antidiscrimination clause provided by the Swiss Constitution.[19] In response to the Federal Court rulings, ballot box municipalities changed their naturalization procedures, and most transferred the authority for naturalization decisions to the municipality council.[20]

The court rulings triggered heated debates about the use of closed ballot naturalization referendums. The Swiss People's Party launched persistent campaigns arguing that "the people" should have full discretion over the naturalization process, and public support for this position remains strong.[21] In 2006, the Swiss People's Party successfully collected the 100,000 signatures necessary for a federal initiative that, by changing the Swiss Constitution, would grant municipalities full discretion over naturalization (including, of course, secret ballot voting) and remove the rejected applicant's right to appeal. Although this particular initiative "for democratic naturalization" was rejected by 64% of voters in 2008, related popular initiatives at the cantonal level are already being prepared and will ensure continuing politicization of the issue in the ongoing reform debates about naturalization policy.

Empirical Strategy

Closed ballots and voting leaflets are the two main features of the research design that allow us to overcome some of the inferential challenges typically associated with studying immigrant discrimination (Blank, Dabady, and Citro 2004). The first feature addresses the measurement problem: the anonymity of closed ballot voting guards against social desirability effects. Unlike surveys in which answers bear almost no real-life consequences for respondents, in our case, preferences are revealed by voters in a real-world setting where the respondents are not aware of the research context and must face the consequences of their voting behavior.

The second feature addresses the causal identification problem: Official voting leaflets summarizing the applicant characteristics were sent to all citizens usually about two to six weeks before each naturalization referendum. Since we retrieved the voting leaflets from the municipal archives, we measure the same applicant information from the leaflets that the citizens observed when they voted on the citizenship applications. Since most voters simply draw on the leaflets to decide on the applicants, this design enables us to greatly minimize potential omitted variable bias and attribute differences in naturalization outcomes to the effects of differences in measured applicant characteristics. For example, imagine that voters are faced with observably similar applicants who only differ in their country of origin, say Italy and (the former) Yugoslavia. If voters reject the Yugoslavian applicants at a higher rate than Italians, then we can attribute the difference in naturalization success to the difference in the country of origin, based on the assumption that a typical voter has no private information about the applicants that goes beyond the information provided in the leaflets and can be used to systematically discriminate between the applicants. Notice that this assumption may be violated for a subset of knowledgeable voters who cast their ballot based on private information about an applicant, for example, because they are friends with the applicant or have been exposed to gossip about the applicant that goes beyond the information provided in the leaflet. We discuss this possibility in separate sections below

[17] Although the format of the voting leaflets varied somewhat across our ballot box municipalities, the leaflets contained broadly similar information about the applicants. The ballots used to vote on citizenship requests were also broadly similar, but there was some variation in the amount of applicant information listed on the ballot. Some ballots just listed the applicant's name while others included more characteristics drawn from the voter leaflets, such as age, country of origin, or job title. To the best of our knowledge, ballots never included additional applicant information that was not included in the leaflets. The format of the leaflets and ballots typically did not change over time in a given municipality in our sample period. These time-invariant factors will therefore be absorbed into the municipality fixed effects in the regression analysis. Appendix C shows examples of leaflets and ballots that we extracted from municipal archives.

[18] Otherwise, the decision-making body violates paragraph §29 II of the Swiss Constitution that covers general procedural safeguards.

[19] The relevant paragraph §8 II of the Swiss Constitution states: Nobody may be discriminated against, namely, because of origin, race, gender, age, language, social position, or way of life; religious, ideological, or political convictions, or because of a physical or mental disability.

[20] In a follow-up project, we exploit this shift to identify the effects of different institutional regimes on naturalization outcomes (Hainmueller and Hangartner 2012).

[21] In a 2008 poll, 47% of Swiss voters agreed that naturalization must be decided by the Swiss people ("Über Einbürgerungen muss das Schweizer Volk entscheiden können" Vox poll 06/01/2008. Item: arg01x). In a 2004 poll, 40% of Swiss voters agreed that the federal level should not interfere with cantonal and municipal autonomy to regulate naturalization policy ("Der Bund hat sich nicht in die Kompetenzen der Kantone und Gemeinden auf dem Gebiet des Einbürgerungswesens einzumischen" Vox poll 09/26/2004. Item: arg06x).

and show that our main results are robust to hidden bias that may arise from private information.

Before we proceed to the estimation, we remind readers that the scope of our analysis is limited to estimating the effects of applicant characteristics, conditional on the fact that the application was put to a popular vote. The internal validity of our estimates is therefore not compromised by the selection of immigrants into applying for citizenship in the first place. Once an application was put to the vote, we observe and control for the same applicant characteristics that voters learned about from the voting leaflets. That said, the fact that we condition on the voting stage implies that we can detect potential discrimination only among the group of fairly well-integrated immigrants who have completed the eligibility criteria and chosen to apply for citizenship. Our study is not designed to capture additional forms of discrimination that may deter eligible immigrants from applying for citizenship in the first place because they are discouraged by municipality officials, anticipate a discriminatory voting outcome, or deem the costs of applying to be higher than the expected benefits (Steiner and Wicker 2004). Our results are therefore best interpreted as a lower bound for the overall prevalence of discrimination against immigrants in the naturalization process of ballot box municipalities.[22]

Data and Sample

To construct our data, we first identified ballot box municipalities that used referendum voting with secret ballots to decide on naturalization requests before the court ruling in 2003. Since data on municipal decision making was unavailable, we compiled a list of all municipality offices and fielded a survey to the *Gemeindeschreiber* (head secretaries) to collect information about the history of the local naturalization process. This survey yielded an overall response rate of 60%; the coverage was 74% for larger municipalities that had at least 10 naturalizations in 2000.[23] To complement the data, we also contacted canton officials and searched newspaper archives and municipality websites for additional reports about municipalities with naturalization referendums.[24] Overall, we identified 44 ballot box municipalities, which are defined as municipalities that (1) used secret ballot naturalization referendums at some point before 2003 and (2) sent voters leaflets with information about applicants. To the best of our knowledge, this constitutes a complete list.[25] Members of the research team then visited each municipality and extracted the official voting leaflets with applicant information and the vote counts for all ordinary naturalization requests documented in the municipality archive for the period from 1970 to 2003.

Table 1 displays basic information about the sample. Ballot box municipalities were located in seven different cantons, and all were in the German-speaking region. The average municipality had 4,029 registered voters (in 2003), although the size varied considerably from 563 registered voters in Oberiberg to 22,441 voters in Chur. Overall, the sample includes 2,429 naturalization referendums. The period coverage varies somewhat due to differences in data availability, but for most municipalities, we collected data on all naturalization referendums going back to the 1970s and 1980s. The average municipality had about 55 naturalization referendums in our sample period, and the number of referendums was strongly proportional to the municipality size (a bivariate regression indicates that a 1% increase in the number of voters is associated with about a 1.1% increase in the number of applications (t value > 8.6)).

Although all municipalities in our sample used popular votes with secret ballots to decide on naturalization requests, the details of the voting process varied somewhat. In 70% of the municipalities, voters cast their secret ballots for the naturalization referendums at the local polling place and usually with their votes on other contemporaneous municipal, cantonal, or federal referendums.[26] Turnout for such naturalization referendums was about 40% on average, and was mainly driven by the turnout for referendums on the other municipal, cantonal, and federal matters that were voted on the same day.[27] In a small

[22] Empirically, the number of applications in a municipality is closely proportional to its size, which suggests that the selection into applying is mostly driven by the demand side and does not vary much across municipalities. One reason is that the spatial mobility of immigrant applicants is very limited. For the pre-2003 period covered by this study, immigrants were required to have a job in Switzerland before entering the country and therefore chose the area for their initial settlement mainly based upon geographic proximity to their workplace. Moreover, immigrants whose naturalization requests were rejected could not simply move to a neighboring municipality and immediately re-apply for citizenship. Instead, they had to wait for several years because municipalities commonly require that applicants have to reside in the municipality for four to six years before applying for citizenship. Also note that once an applicant has reached the voting stage, withdrawals of applications are extremely rare (one case out of the 2,430 applicants in our sample).

[23] We fielded the survey in 2010 using an online survey tool. The questionnaire is available upon request. The included municipalities capture about 80% of the Swiss population since the nonresponse is concentrated among the smallest municipalities that had no naturalization requests during our period and therefore did not complete our survey.

[24] We searched the archives of the *Neue Zürcher Zeitung* and *Tagesanzeiger* as well as the website of the watchdog group GRA.

[25] One exception is the recently merged municipalities Glarus, Glarus Nord, and Glarus Süd, which were not able to locate the applicant data after the merger. We also did not include a few very small municipalities that had fewer than four applicants in this time period.

[26] Voters typically received the ballots by mail so that they could fill them out at home before submitting them at the local polling place.

[27] Average turnout for federal referendums was about 44–46% during our sample period. To investigate the link between federal referendums and local naturalization referendums, we merged the turnout data for our naturalization referendums with municipality-level turnout for federal referendums that were voted on during the same day and found that both are very highly correlated. A one percentage point increase in turnout for federal referendums is associated with about a one percentage point increase in turnout for naturalization referendums (t value > 6), and the link gets even stronger when municipality and year fixed effects are included in the regression (t value > 13). This suggests that similar voters typically participated in both types of referendums.

TABLE 1. Ballot Box Municipalities with Naturalization Referendums

Municipality	Canton	Constituency	Voting Location	Period	Voters	Referendums
Altdorf	UR	All voters	Polling place	1986–2003	6,002	72
Altendorf	SZ	All voters	Polling place	1979–2003	3,287	53
Arth	SZ	All voters	Polling place	1977–2003	1,299	79
Beckenried	NW	All voters	Citizen assembly	1987–2003	2,133	8
Bühler	AR	All voters	Polling place	1979–2003	965	29
Buochs	NW	All voters	Citizen assembly	1980–2003	3,586	34
Chur	GR	Burghers only	Polling place	1978–2003	22,441	240
Dallenwil	NW	All voters	Citizen assembly	1983–2002	1,204	14
Davos	GR	Burghers only	Burgher assembly	1978–2002	6,969	159
Einsiedeln	SZ	All voters	Polling place	1977–2003	8,904	78
Emmen	LU	All voters	Polling place	1999–2003	15,767	87
Ennetmoos	NW	All voters	Citizen assembly	1982–2003	1,386	6
Feusisberg	SZ	All voters	Polling place	1979–2003	2,765	48
Freienbach	SZ	All voters	Polling place	1992–2003	9,377	102
Gais	AR	All voters	Polling place	1978–2002	1,948	20
Galgenen	SZ	All voters	Polling place	1987–2003	2,781	32
Gersau	SZ	All voters	Polling place	1984–2003	1,339	31
Heiden	AR	All voters	Polling place	1973–1992	2,551	35
Hergiswil	NW	All voters	Citizen assembly	1978–2003	3,915	62
Ingenbohl	SZ	All voters	Polling place	1970–2003	5,201	113
Küssnacht	SZ	All voters	Polling place	1972–2003	7,778	124
Lachen	SZ	All voters	Polling place	1971–2003	4,203	156
Malters	LU	All voters	Polling place	1982–2003	4,188	35
Morschach	SZ	All voters	Citizen assembly	1992–1997	591	4
Oberiberg	SZ	All voters	Polling place	1995–2003	563	4
Reichenburg	SZ	All voters	Polling place	1990–2003	1,781	25
Rothenthurm	SZ	All voters	Polling place	1976–2003	1,331	13
Schübelbach	SZ	All voters	Polling place	1970–2003	4,338	59
Schwyz	SZ	All voters	Polling place	1972–2003	9,589	178
Speicher	AR	All voters	Polling place	1978–2003	2,808	24
St. Margrethen	SG	All voters	Polling place	1982–2002	2,678	65
Stans	NW	All voters	Citizen assembly	1978–2003	5,172	55
Stansstad	NW	All voters	Citizen assembly	1978–2003	3,344	42
Steinen	SZ	All voters	Polling place	1980–2003	1,984	9
Teufen	AR	All voters	Mixed	1978–2002	4,145	65
Trogen	AR	All voters	Citizen assembly	1978–2003	1,274	39
Tuggen	SZ	All voters	Polling place	1994–2003	1,800	34
Unteriberg	SZ	All voters	Polling place	2002	1,559	4
Urnäsch	AR	All voters	Polling place	1979–2003	1,536	25
Walzenhausen	AR	All voters	Polling place	1979–2002	1,346	13
Wangen	SZ	All voters	Polling place	1987–2003	3,046	41
Weggis	LU	All voters	Polling place	1979–2002	2,500	17
Wolfenschiessen	NW	All voters	Citizen assembly	1997–2003	1,385	5
Wollerau	SZ	All voters	Polling place	1977–2003	4,495	86
Mean					4,029	55

Note: Teufen voted on naturalization requests at the polling place. Cantons are Appenzell Outer-Rhodes (AR), Grisons (GR), Lucerne (LU), Nidwalden (NW), Schwyz (SZ), St. Gall (SG), and Uri (UR). Voting location refers to the place where voters submit their secret ballots. Number of voters is measured in 2003. Referendums refers to the total number of collected naturalization referendums that were voted on in a given municipality over the period. See text for details.

number of our municipalities, voting on local matters—including citizenship requests—took place at the citizens' assembly. Secret ballots were also used in these cases, but the average turnout was lower (around 18%) since fewer citizens typically attended the assembly meetings. Two municipalities, Chur and Davos, further restricted the voting on naturalization requests to the Burghers, a select group of about 20% of families who have lived in the municipality for a long time.

Before we turn to the empirical analysis, we consider how the sample of ballot box municipalities compares with other Swiss municipalities. Overall, our sample covers about 4% of all municipalities and about 4% of the Swiss population in our time period. One concern for external validity is that the municipal naturalization procedure is endogenous to the local community's immigration preferences. If, for example, more xenophobic municipalities opted for popular votes because this institution makes it easier to discriminate against

TABLE 2. Ballot Box Municipalities in Comparison

	Ballot Box Municipalities	All Other Swiss Municipalities	Other German Speaking Municipalities	Other Non-German Speaking Municipalities
Proportion foreign born (0-1)	0.15	0.20	0.16	0.29
Naturalization rate (0-1)	0.01	0.01	0.01	0.01
Proportion aged 65+ (0-1)	0.14	0.16	0.15	0.16
Proportion high education (0-1)	0.20	0.24	0.23	0.26
Proportion high skill (0-1)	0.05	0.07	0.07	0.08
Female labor force participation (0-1)	0.47	0.46	0.48	0.44
Unemployment rate (0-1)	0.01	0.02	0.02	0.03
SVP vote share (0-1)	0.07	0.11	0.15	0.05
Anti-immigration vote share (0-1)	0.31	0.33	0.33	0.30
Municipality size (#)	5,539	2,179	2,928	1,802

Note: Covariates are measured in the year 1990 except for SVP vote share which is measured in 1991, the anti-immigration vote share which is measured in 1988, and the age distribution, the proportion of citizens with high education (qualification required for university entrance), and the female labor force participation which are all based on the 2000 census. All means are weighted by the size of the native population except for municipality size.

immigrants, then our results may be best interpreted as an upper bound for the overall level of discrimination (compared to other Swiss municipalities). Although systematic data on this issue has not been collected, the available anecdotal evidence suggests that municipalities commonly chose their naturalization procedures many decades before our sample period when immigration became politicized and presumably did not radically alter their institutions until forced to do so by the 2003 Federal Court decision (Argast 2006).[28]

In Table 2, we compare ballot box municipalities with other Swiss municipalities on various characteristics in 1990 (roughly the middle of our study period). We find that ballot box municipalities are fairly similar to the rest of Switzerland regarding the share of the foreign-born population, the naturalization rate, the proportion of elderly, highly educated, and highly skilled, the female labor force participation, and the unemployment rate. The average vote share of the Swiss People's Party in the 1991 federal elections and support for a federal anti-immigration referendum advocating restrictive immigration laws in 1988 are lower in ballot box municipalities than in the rest of Switzerland, indicating that the former are on average perhaps slightly less xenophobic. The only considerable difference is that ballot box municipalities are somewhat larger on average. Most municipalities in Switzerland are fairly small, while our sample includes a relatively high share of larger towns such as Chur, Emmen, and Schwyz. In sum, the comparison reveals that ballot box municipalities are not very different for a range of relevant characteristics from other Swiss municipalities, in particular municipalities in the German-speaking region.

[28] For example, based on our municipality survey, about 90% of all Swiss municipalities did not change their naturalization institution between 1990 and 2003.

Outcome and Explanatory Variables

The goal of our analysis is to examine how immigrant attributes affect the outcome of naturalization referendums, conditional on applying. For our main dependent variable, we focus on the proportion of "no" votes, which for each applicant is defined as the fraction of "no" votes to total valid votes. Since referendums were decided by simple majority rule, a naturalization request was rejected if the proportion of "no" votes exceeded 50%. We also replicate the regressions using a binary dependent variable coded as 1 for rejected and 0 for accepted applications; the results from this alternative measure are very similar. We prefer the proportion of "no" votes as our main measure, because it captures information about the intensity with which voters rejected an application.

We measure an array of personal characteristics from the voting leaflets that described each applicant to the voters. We manually code the covariates mentioned in the applicant descriptions, using a consistent set of coding rules. Descriptive statistics for the variables are reported in Appendix A. These variables fall into four categories. The first category involves sociodemographic information such as the applicant's gender, age, marital status, number of children, and our research assistants' binary coding of the picture (attractive or average).[29] The second category captures the applicant's integration status. Prospective applicants were interviewed by municipality officials who evaluated whether the applicant was sufficiently well integrated. Officials tested the applicant's language skills and assessed whether the applicant was sufficiently familiar with Swiss habits, customs, and traditions. The results of these assessments were reported in the voter

[29] For a random sample of applicants, we also experimented with more complex codings, including rankings derived from contests between randomly paired candidates scored by multiple coders, but the substantive results were similar to those from the simple binary coding.

leaflets. We classify applicants according to whether their assessed language skills were described to voters as "excellent," "good," "sufficient," or "insufficient" command of Swiss-German. We also code several variables that measure the applicant's integration status, differentiating between candidates who were described to voters as "assimilated" (1 if assimilated, 2 if highly assimilated), "integrated" (1 if integrated, 2 if highly integrated), "adjusted," "indistinguishable from a Swiss citizen," and "familiar with Swiss customs and traditions." These variables capture the definition of the language and integration requirements in the federal citizenship law.[30]

The third set of characteristics measures the applicant's immigration history. This includes an indicator for whether the applicant was born in Switzerland, a variable that measures the number of years the applicant has lived in Switzerland before the application, an indicator for whether the applicant entered Switzerland as a refugee, and a variable that captures the number of applications (a few immigrants re-applied). We also record the country of origin and classify applicants into the following groups: applicants from richer northern and western European countries (Germany, the UK, Netherlands, Austria, Scandinavia, etc.); southern European countries (Italy, Spain, Portugal); (the former) Yugoslavia;[31] Turkey; other central and eastern European countries (Hungary, Poland, the Czech Republic, Russia, etc.); Asian countries (Vietnam, Tibet, the Philippines, etc.), and a residual category of other non-European countries (Latin American countries, African countries, the Middle East, etc.). This grouping is based on immigration history and roughly follows the frequency distribution of the origin countries. Applicants from Turkey and (the former) Yugoslavia are coded separately because they constitute the largest recent immigrant groups and are often at the center of the current Swiss immigration debate. Applicants from Italy, Spain, and Portugal are grouped together because these were historically the sending countries of the early waves of immigrants in the 1970s. Overall, about 21% of the applicants in our sample are from richer northern and western European countries, 18% are from southern European countries, 31% are from (the former) Yugoslavia, 15% are from Turkey, 6% are from other central and eastern European countries, 7% are from Asia, and 2% are from other non-European countries.

The fourth set of characteristics measures the applicant's economic and social credentials. We measure the number of years of schooling and code three categories: low education (9 years or less of schooling), medium education (between 10 and 14 years, corresponding to a vocational school degree), and high education (more than 14 years, corresponding to a university degree). We also record the applicant's skill level, which is coded from the first digit of the ISCO-88 occupational classification code. We combine the first two categories (managers and professionals) as highly skilled, groups three to five (technicians and associate professionals, clerical support workers, service and sales workers) as medium skilled, and the rest (craft workers, assemblers, elementary occupations) as low skilled. We also include a binary indicator for whether the applicant's description mentioned any period of unemployment.[32]

RESULTS

Opposition to Naturalization Requests

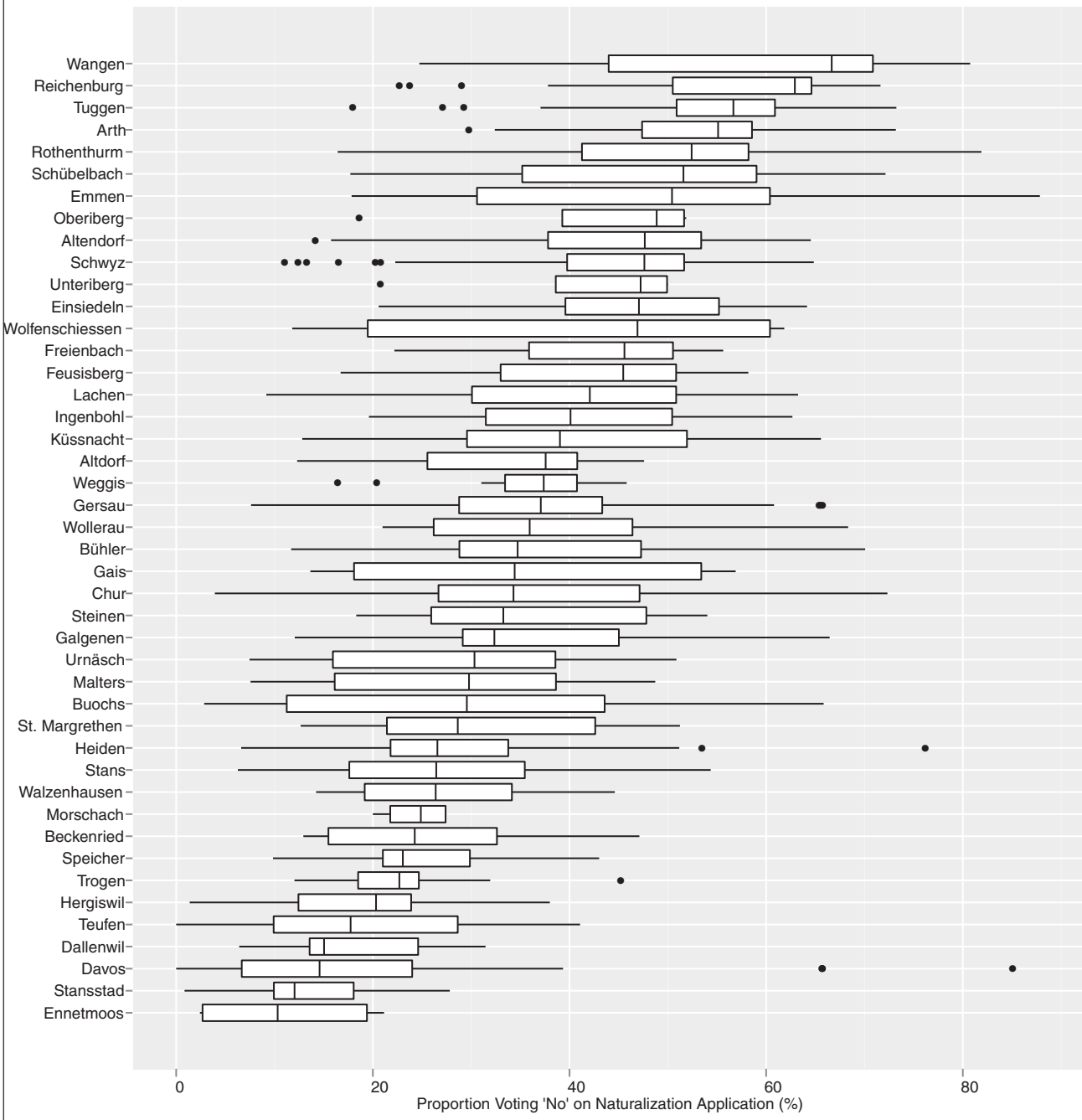
The box plots in Figure 1 visualize for each municipality the distribution of the proportion of "no" votes in the naturalization referendums over the entire study period. We find a striking variation across and within municipalities (the between variation is about as large as the within variation). The average proportion of "no" votes is 37%, but some municipalities such as Wangen (the average proportion of "no" votes is 58%) are much more opposed to naturalizing immigrants than other municipalities such as Stansstad (the average proportion of "no" votes is 12%). This is remarkable given that these two municipalities are less than 80 kilometers apart, are very similar in size, and have almost the exact same number of naturalization requests (cf. Table 1). This between variation may reflect systematic differences in the pool of applicants, the preferences of the local electorate, and/or residual variation in the institutional process. One apparent difference is that municipalities where voting in the naturalization referendums took place at the citizens' assembly have somewhat weaker opposition to naturalization compared to the larger group of municipalities where ballots were cast at the local polling place (recall that all municipalities used voting leaflets and closed ballots). This difference is partly driven by the fact that the former group of municipalities has a lower share of

[30] Notice that there is potentially some heterogeneity in the integration assessments across municipalities because interviews were conducted by the local municipality official. However, we do not expect much over time variation in the heterogeneity of the assessments in a given municipality since turnover among local municipality officials was very limited in our sample period and assessments were therefore typically handled by the same official. Notice that the between-municipality heterogeneity in the assessments will be absorbed in the municipality fixed effects that we include in the regressions.

[31] This includes applicants from the Socialist Federal Republic of Yugoslavia, Slovenia, Croatia, Bosnia and Herzegovina, Montenegro, Serbia, Kosovo, and Macedonia.

[32] Due to variations in the format of the voting leaflets, some applicant characteristics were not reported to voters in some municipalities in certain periods. Note that this is not missing data in the traditional sense; voters simply could not observe this information. We therefore do not use common missing data techniques (such as multiple imputation), but follow Rosenbaum (2009, 241) and augment the covariate set for the regressions with missingness indicators so that we can use the complete data for the estimation. Each missingness indicator is coded as 1 if information on a particular characteristic was not reported to voters and 0 otherwise. Additionally, we fill in the missing data for the original variables that measure the respective characteristics with arbitrary fixed values that are not observed for any applicant (such as −1 for age). Notice that these fill-in values affect only the coefficients on the missingness indicators (which are arbitrary and therefore not shown in the regression tables) but not the coefficients on the actual applicant characteristics.

FIGURE 1. Opposition to Naturalization Requests



Note: Distribution of proportion of "no" votes across naturalization referendums in each ballot box municipality. Width of box measures the interquartile range, the vertical line decodes the median.

applicants from (the former) Yugoslavia and Turkey who—as we show below—have the highest proportion of "no" votes.[33] Apart from the variation between municipalities, the most striking feature in Figure 1 is that

[33] Other factors may have contributed to this difference. Turnout was typically lower at the citizens' assembly since fewer voters were willing to sit through the meetings. This selection effect could have increased the proportion of "no" votes if the meetings attracted more voters concerned about voting against immigrants. However, meetings were typically dominated by decisions about other municipal affairs (e.g., budget, expenditures, etc.) and therefore may have attracted citizens with more political interest. Empirical data on attendance is limited, but according to a survey of municipality officials by Ladner et al. (2009), older residents and residents who have lived in a community for a long time are typically over-represented at assembly meetings, while residents with higher incomes and education levels are typically under-represented. This suggests that the selection effect increased opposition to naturalization requests

opposition to naturalization requests also varies dramatically within each municipality. The interquartile range of the proportion of "no" votes is about 20 percentage points on average, which suggests that aside from the general differences between municipalities, local voters reveal very heterogenous preferences for different types of immigrants who apply in the same municipality.

Effects of Immigrant Attributes

Why do natives regard some immigrant applicants as worthy of earning Swiss citizenship while rejecting others? To explore the revealed immigration preferences, we regress the proportion of "no" votes on the applicant characteristics and a full set of municipality fixed effects so that the effects of the applicant characteristics are identified purely based on the within-municipality variation. We also include a full set of decade fixed effects to account for common temporal trends in the naturalization rate and cluster standard errors at the municipality level. Model 1 in Table 3 presents the regression results. To facilitate the interpretation, Figure 2 plots the marginal effects with 95% confidence intervals.

The applicant's country of origin has the most important impact on the outcome of naturalization referendums. Holding other characteristics constant, the proportion of "no" votes for applicants from (the former) Yugoslavia is about 15 percentage points higher (t value > 14.5) than for observably similar applicants from richer northern and western European countries (the reference category). This constitutes an increase of about 40% over the average proportion of "no" votes. Turkish applicants fare just as poorly with an average proportion of "no" votes that is 13 percentage points higher (t value > 10.7), a 35% increase over the average level of opposition. We find similar penalties of about 6 percentage points (t value > 5.2) for applicants from other central or eastern European countries, about 3.5 percentage points (t value > 2.3) for applicants from Asian countries, and about 7 percentage points (t value > 4.7) for applicants from other non-European countries. Applicants from southern European countries are the only ones who earn a lower proportion of "no" votes compared to observably similar applicants from richer northern and western European countries, although the premium is small at about 1.4 percentage points and falls short of conventional significance levels. Taken together, country of origin accounts for about 40% of the within-municipality variation in the levels of opposition to naturalization requests.

What else affects the likelihood of being rejected for citizenship? We find that sociodemographics such as age, gender, marital status, attractiveness, or children have little effect overall. If anything, middle-aged applicants (21–60 years) earn a penalty of about 2 percentage points compared to the reference category of younger applicants ($\leq$20 years), but there is no such penalty for older applicants ($\geq$60 years).

The applicant's immigration history matters somewhat for the naturalization success. Applicants who are born in Switzerland earn a premium of about 2 percentage points (t value > 2.7) compared to foreign-born applicants. This effect may seem surprisingly small from a comparative perspective given that place of birth is the main requirement for granting citizenship in *jus soli* countries such as the United States. Natives also reward applicants for longer residency in Switzerland, but the rewards are rather paltry. A 10-year increase in residency decreases the proportion of "no" votes by merely 1.7 percentage points on average (t value > 4.4); given this modest effect size, even an implausibly large increase from the shortest to the longest residency in our sample (75 years) would not be sufficient to compensate for the disadvantage that applicants from (the former) Yugoslavia and Turkey face due to the country of origin effects. History as a refugee and the number of prior applications have no consistent effects on the level of opposition.

We find that voters systematically reward applicants for better economic credentials. Applicants in the highest occupational skill category (managers, senior officials, professionals, etc.) earn a premium of about 2.6 percentage points compared to applicants in the lowest skill category (elementary occupations, assemblers, etc.). Similarly, immigrants with high educational attainment earn a premium of about 1.2 percentage points compared to observably similar applicants with low education levels, again a very modest gain compared to the magnitude of the origin disadvantages.[34] Applicants who experienced a period of unemployment face a penalty of about 6 percentage points, suggesting that voters have a rather strong distaste for such applicants. This effect is fairly robust but not very precisely estimated since there are few applicants with unemployment experience in our sample.

Assessed language skills have almost no effect on naturalization success. There are no significant differences in the proportion of "no" votes for applicants who are described to voters as having sufficient or a good command of German. Even applicants who speak the local Swiss-German dialect perfectly ("*perfekt Mundart*") earn no significant advantage. The only exceptions are applicants for whom officials describe their language skills as insufficient. The proportion of "no" votes for this group is 20 percentage

(in survey studies, education and income are commonly negatively correlated, and age is positively correlated with anti-immigrant sentiment). Finally, social interaction at the assembly meetings could have also affected the votes in subtle ways. Voters may have felt a greater sense of scrutiny by others, and this social pressure could have affected votes even though voting occurred by closed ballots and naturalization requests were rarely openly discussed.

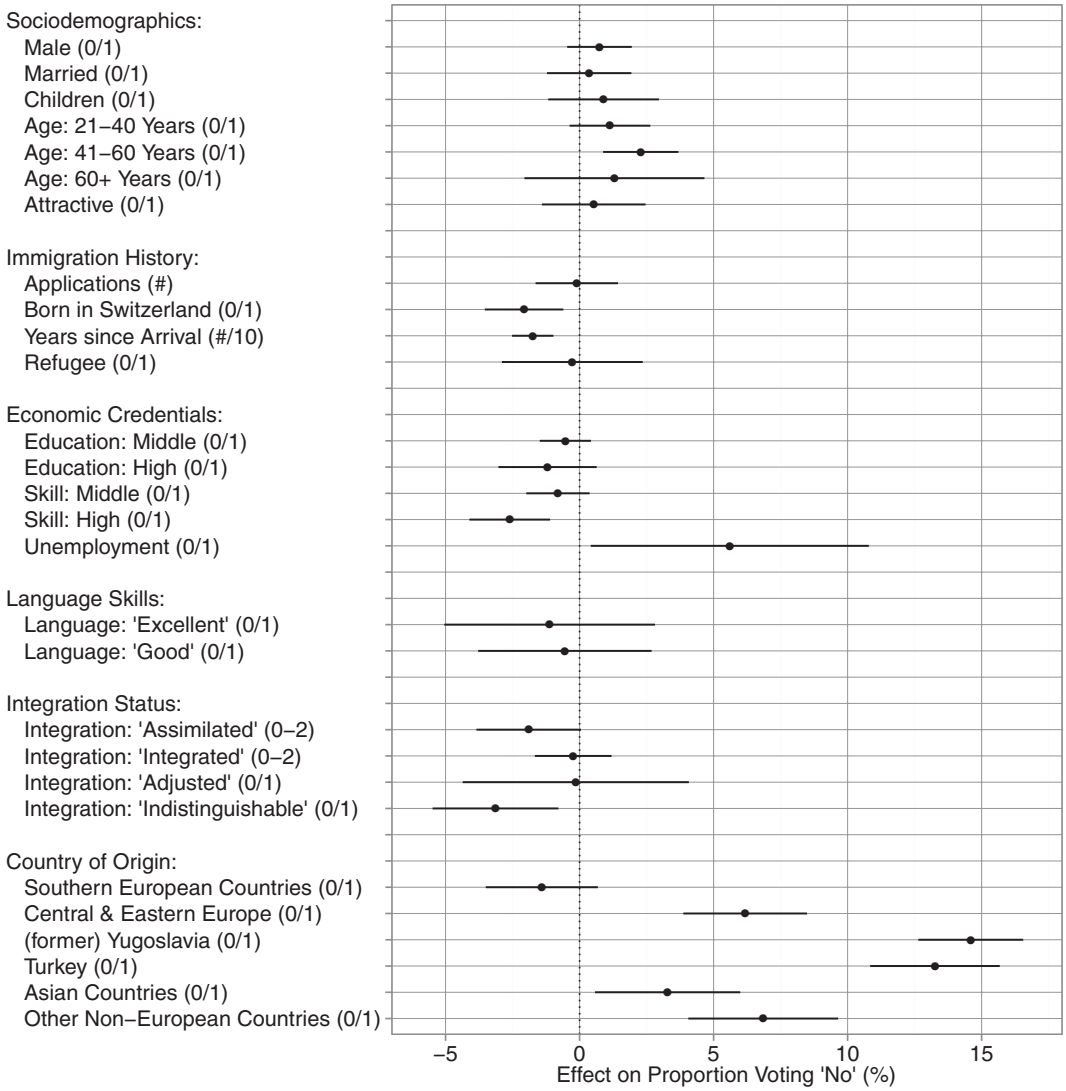
[34] The results are similar if we use the continuous years of schooling measure; for example, it would require an implausible 56 years of education for an applicant from Turkey to make up for her origin-based disadvantage.

TABLE 3. Effect of Applicant Characteristics on Opposition to Naturalization Request

Model No.	(1)		(2)	
Dependent Variable	Proportion Voting "No" (0–100)		Rejected (0/1)	
Mean	36.7		0.24	
	Coefficient	Std. Error	Coefficient	Std. Error
Year: 1980s (0/1)	0.34	(1.54)	0.00	(0.02)
Year: 1990s (0/1)	−0.31	(2.83)	0.01	(0.05)
Year: 2000s (0/1)	−1.09	(4.33)	0.01	(0.08)
Sociodemographics:				
Male (0/1)	0.74	(0.61)	−0.02	(0.02)
Married (0/1)	0.36	(0.80)	0.02	(0.03)
Children (0/1)	0.90	(1.05)	0.02	(0.03)
Age: 21–40 years (0/1)	1.13	(0.77)	0.03	(0.03)
Age: 41–60 years (0/1)	2.28	(0.72)	0.05	(0.03)
Age: 60+ years (0/1)	1.30	(1.71)	0.10	(0.07)
Attractive (0/1)	0.53	(0.99)	−0.02	(0.03)
Immigration History:				
Applications (#)	−0.10	(0.78)	0.02	(0.03)
Born in Switzerland (0/1)	−2.07	(0.75)	−0.07	(0.03)
Years since Arrival (#/10)	−1.75	(0.39)	−0.03	(0.01)
Refugee (0/1)	−0.27	(1.34)	−0.04	(0.05)
Economic Credentials:				
Education: Middle (0/1)	−0.53	(0.49)	−0.05	(0.02)
Education: High (0/1)	−1.20	(0.93)	−0.09	(0.04)
Skill: Middle (0/1)	−0.81	(0.60)	−0.02	(0.02)
Skill: High (0/1)	−2.61	(0.77)	−0.06	(0.03)
Unemployment (0/1)	5.60	(2.65)	0.20	(0.06)
Language Skills:				
Language: Excellent (0/1)	−1.12	(2.01)	0.03	(0.16)
Language: Good (0/1)	−0.55	(1.65)	0.07	(0.17)
Language: Insufficient (0/1)	20.35	(9.78)	0.20	(0.17)
Integration Status:				
Integration: "Assimilated" (0–2)	−1.90	(0.99)	−0.05	(0.03)
Integration: "Integrated" (0–2)	−0.24	(0.73)	−0.00	(0.03)
Integration: "Adjusted" (0/1)	−0.14	(2.15)	0.09	(0.05)
Integration: "Indistinguishable" (0/1)	−3.14	(1.20)	−0.13	(0.04)
Country of Origin:				
Southern European Countries (0/1)	−1.41	(1.07)	−0.01	(0.02)
Central & Eastern Europe (0/1)	6.18	(1.18)	0.09	(0.04)
(former) Yugoslavia (0/1)	14.59	(1.00)	0.30	(0.05)
Turkey (0/1)	13.26	(1.23)	0.29	(0.04)
Asian Countries (0/1)	3.29	(1.38)	−0.07	(0.04)
Other Non-European Countries (0/1)	6.85	(1.43)	0.02	(0.04)
Constant	37.42	(3.29)	0.28	(0.19)
Fixed Effects for Municipalities	Yes		Yes	
P Value from Joint Tests				
Sociodemographics	0.01		0.06	
Immigration history	0.00		0.05	
Economic credentials	0.00		0.00	
Language skills	0.23		0.58	
Integration status	0.04		0.00	
Country of origin	0.00		0.00	
Applications	2,429		2,429	
Municipalities	44		44	
R squared	0.67		0.41	

Note: Point estimates and parenthesized standard errors (clustered by municipality) shown from OLS regressions with municipality fixed effects. The dependent variable is the proportion of "no" votes in Model 1 and a binary indicator coded as 1 for rejected and 0 for accepted applications in Model 2. The reference categories for the various contrasts are as follows: an indicator for the years 1970–1979, applicants with age <20 years, with low education, in low skilled jobs, with "sufficient" command of one of the Swiss languages, who are familiar with "Swiss traditions and customs," and originating from a richer northern and western European country. *P* values shown from an *F* test for joint significance of the batch of variables for sociodemographics, immigration history, economic credentials, language skills, integration status, and country of origin, respectively.

FIGURE 2. Effect of Applicant Characteristics on Opposition to Naturalization Requests



Note: Marginal effect estimates with robust 95% confidence intervals based on OLS regression of proportion of "no" votes on applicant characteristics and municipality and decade fixed effects (Model 1 in Table 3). The reference categories are as follows: applicants with age <20 years, low education, in low skilled jobs, "sufficient" command of one of the Swiss languages, who are familiar with "Swiss traditions and customs," and originating from a richer northern and western European country. The average proportion of "no" votes is 37%.

points higher (t value > 2) compared to applicants with sufficient language skills (the reference category). We need to be careful in drawing strong conclusions from this finding, since we have only six applicants with insufficient skills in our sample; thus the estimate is very imprecise with a 95% confidence interval of [1.2; 39.5].[35] Moreover, we cannot reject the null that all the language dummies are jointly insignificant at conventional levels, which adds further evidence that language skills are inconsequential for naturalization success once other applicant characteristics are controlled for.

[35] This is why we omitted this estimate from Figure 2.

We find some evidence that the assessed immigration status affects opposition to naturalization requests, but again the impact of this factor is fairly small. We find no significant differences in the proportion of "no" votes for applicants who are described as "integrated," "adjusted," or "well familiar with Swiss traditions and customs" (the reference category), but immigrants who are described to voters as completely "indistinguishable" from a Swiss native receive a premium of about 3 percentage points.

Model 2 in Table 3 replicates the same specification with a linear probability model that replaces the proportion of "no" votes with a binary dependent variable that measures whether the naturalization application

was rejected or accepted. The overall results from this model are very similar. The main country of origin effects are, if anything, slightly stronger: applicants from Turkey and (the former) Yugoslavia have about a 30-percentage-point higher probability of being rejected for citizenship compared to observably similar applicants from richer northern and western European countries—a whopping 120% increase over the average probability of being rejected. The only difference in the origin effects is that the penalties for the small groups of applicants from Asian and other non-European countries are no longer significant at conventional levels, which suggests that for these groups the findings are not robust.

Overall, the results from both measures yield a clear picture. Naturalization referendums are mostly decided based on the applicant's country of origin. The origin effects are more important than other applicant characteristics for which we find significant effects, such as economic credentials and immigration history. Once these factors are controlled for, language skills and integration status play only a minor role.

Robustness: Private Information

How robust are the country of origin effects? One potential concern is that some voters may act upon private information that they possess about certain applicants that goes beyond the information provided in the leaflet. The effect of private information is theoretically ambiguous and depends on whether it leads voters to be more or less inclined to vote for a particular applicant. For example, an immigrant whose application is being voted on could try to mobilize her Swiss friends to vote for her. Many of the differences in such mobilization efforts are presumably captured by various covariates (e.g., the years since arrival, born in Switzerland, education level, etc.). However, residual differences in unobserved mobilization efforts may still bias our country of origin effects if, for example, immigrants from Turkey and (the former) Yugoslavia are more or less effective in activating their network of friends to vote for them compared to immigrants from richer northern and western European countries.

Another form of private information that could affect the naturalization outcome is gossip. If an applicant has a personal enemy in town who spreads negative gossip against her that extends beyond the information on the leaflet, then this could sway some voters to reject the application. Such gossip effects do not necessarily constitute an ordinary omitted variable bias. In fact, to the extent that negative gossip is systematically targeted toward applicants from particular origin groups, such as immigrants from (the former) Yugoslavia and Turkey, it should be considered part of the origin effect that the regression intends to capture since in such cases applicants face a penalty *because* of their origin.

We can exploit variation in municipality size to test how sensitive our results are to potential bias induced by the presence of private information. Assume that voters in each municipality can be partitioned into two types: "knowledgeable" voters who are exposed to private information beyond the applicant characteristics reported in the leaflet, and "ignorant" voters who are exposed only to the information in the leaflet.[36] Since the reach of private information is limited, we can expect that the proportion of knowledgeable voters declines as the size of the electorate increases. For example, an applicant may be able to mobilize a fixed number of friends to vote for her, but the impact of these votes on the outcome of the referendum will be increasingly negligible in larger municipalities. Similarly, gossip against an applicant may reach a considerable fraction of voters in small municipalities, but is unlikely to affect a significant fraction of voters in large municipalities such as Chur, Emmen, and Schwyz.

In Table 4, we replicate our benchmark model for three subsamples: large municipalities with more than 5,000 voters, smaller municipalities with less than 5,000 voters, and municipalities where votes were cast at the polling place. If private information is an important confounder, then we would expect that the origin effects vary strongly between small and large municipalities. Instead, we find that the origin effects are almost identical across subsamples for the proportion of "no" votes (Models 1–3) and the binary rejection indicator (Models 4–6). If anything, the origin disadvantage for immigrants from (the former) Yugoslavia and Turkey is slightly larger in the larger municipalities. This strongly suggests that our results are not driven by omitted variable bias that may arise from private information.

The limited effects of private information are perhaps not surprising for several reasons. First, during our fieldwork we did not find any systematic evidence that applicants invested significant effort to campaign for their naturalization requests. Second, we may expect that large effects from gossip are not systematic, but rather limited to a few extreme cases. Third, for voters in our ballot box municipalities, voting in naturalization referendums was part of their usual direct democratic routine in which they were frequently asked to decide on municipal, cantonal, and federal referendums dealing with all sorts of issues, and turnout for local naturalization referendums was commonly driven by turnout for other, potentially more important, referendums voted on the same day. Presumably then, voters rarely had an incentive to treat naturalization referendums as a special event and seek out additional information about applicants beyond what was provided in the leaflets.

Robustness: General Hidden Bias

An alternative method for examining how robust the results are to hidden bias from unobserved confounders is to conduct a formal sensitivity analysis following the methods developed in Rosenbaum (2002). We compare applicants from (the former) Yugoslavia

[36] We thank the editor for suggesting this distinction.

TABLE 4. Effect of Applicant Characteristics on Opposition to Naturalization Request in Large and Small Municipalities

Dependent Variable	Proportion Voting "No" (0–100)			Rejected (0/1)		
Included Municipalities:	Large	Small	Polling Place	Large	Small	Polling Place
Model No.	(1)	(2)	(3)	(4)	(5)	(6)
Year: 1980s (0/1)	−0.83	1.70	−0.12	−0.01	−0.03	−0.01
	(0.69)	(2.86)	(1.92)	(0.02)	(0.04)	(0.03)
Year: 1990s (0/1)	−4.26	3.33	1.24	−0.09	0.04	0.02
	(2.59)	(3.37)	(3.93)	(0.06)	(0.05)	(0.07)
Year: 2000s (0/1)	−6.70	4.23	−0.32	−0.10	0.05	0.03
	(5.77)	(2.99)	(5.95)	(0.12)	(0.06)	(0.11)
Sociodemographics:						
Male (0/1)	1.52	−0.03	1.22	−0.03	−0.01	−0.01
	(0.92)	(0.61)	(0.56)	(0.03)	(0.02)	(0.02)
Married (0/1)	0.66	0.12	0.88	0.07	−0.03	0.04
	(1.16)	(1.06)	(0.93)	(0.04)	(0.04)	(0.03)
Children (0/1)	0.90	0.34	1.08	−0.01	0.03	0.03
	(1.81)	(0.96)	(1.33)	(0.04)	(0.03)	(0.03)
Age: 21–40 years (0/1)	2.17	−0.02	1.25	−0.01	0.08	0.05
	(1.26)	(0.89)	(0.79)	(0.04)	(0.04)	(0.04)
Age: 41–60 years (0/1)	3.49	0.70	2.11	0.02	0.07	0.06
	(0.89)	(1.03)	(0.63)	(0.03)	(0.05)	(0.04)
Age: 60+ years (0/1)	1.11	0.95	1.01	0.06	0.17	0.10
	(2.60)	(2.25)	(2.07)	(0.09)	(0.10)	(0.09)
Attractive (0/1)	0.65	0.14	0.56	−0.02	−0.05	−0.03
	(1.81)	(0.93)	(1.05)	(0.06)	(0.05)	(0.03)
Immigration History:						
Applications (#)	−0.85	−0.44	−0.29	0.01	−0.02	−0.01
	(0.61)	(1.16)	(0.85)	(0.04)	(0.05)	(0.03)
Born in Switzerland (0/1)	−3.04	0.77	−2.06	−0.08	−0.01	−0.05
	(0.89)	(1.27)	(0.81)	(0.04)	(0.04)	(0.02)
Years since Arrival (#/10)	−1.14	−1.96	−1.70	−0.02	−0.03	−0.02
	(0.51)	(0.71)	(0.42)	(0.02)	(0.01)	(0.01)
Refugee (0/1)	2.60	−5.19	0.90	−0.01	−0.14	−0.01
	(0.99)	(1.57)	(1.10)	(0.07)	(0.05)	(0.06)
Economic Credentials:						
Education: Middle (0/1)	−1.06	−0.16	−0.61	−0.02	−0.07	−0.05
	(0.66)	(0.75)	(0.55)	(0.02)	(0.03)	(0.02)
Education: High (0/1)	−2.40	0.02	−1.35	−0.11	−0.08	−0.09
	(1.57)	(1.19)	(1.12)	(0.05)	(0.05)	(0.04)
Skill: Middle (0/1)	−1.78	0.19	−0.68	−0.04	0.02	−0.02
	(0.63)	(0.84)	(0.66)	(0.02)	(0.02)	(0.02)
Skill: High (0/1)	−2.59	−2.62	−2.46	−0.08	−0.03	−0.06
	(0.99)	(1.10)	(0.94)	(0.05)	(0.03)	(0.03)
Unemployment (0/1)	9.17	2.06	5.42	0.29	0.08	0.19
	(4.13)	(2.52)	(2.71)	(0.07)	(0.08)	(0.06)
Language Skills:						
Language: Excellent (0/1)	1.92	−6.62	−0.52	0.17	−0.15	0.07
	(2.92)	(2.60)	(2.22)	(0.26)	(0.10)	(0.18)
Language: Good (0/1)	1.59	−6.20	−0.31	0.24	−0.21	0.12
	(2.15)	(3.13)	(1.76)	(0.23)	(0.13)	(0.17)
Language: Insufficient (0/1)	18.89		20.09	0.17		0.23
	(10.12)		(9.74)	(0.20)		(0.15)
Integration Status:						
Integration: "Assimilated" (0–2)	−0.60	−3.05	−1.70	−0.03	−0.08	−0.03
	(0.49)	(0.88)	(1.25)	(0.01)	(0.03)	(0.03)
Integration: "Integrated" (0–2)	−0.39	−0.74	−0.42	−0.02	0.00	−0.01
	(1.67)	(0.74)	(0.71)	(0.05)	(0.04)	(0.03)
Integration: "Adjusted" (0/1)	−3.63	3.36	−0.74	0.00	0.15	0.06
	(1.28)	(1.13)	(1.89)	(0.05)	(0.03)	(0.04)
Integration: "Indistinguishable" (0/1)	−2.26	−4.62	−2.68	−0.17	−0.08	−0.10
	(1.92)	(1.36)	(1.30)	(0.06)	(0.07)	(0.05)

TABLE 4. Continued.

Dependent Variable	Proportion Voting "No" (0–100)			Rejected (0/1)		
Included Municipalities:	Large	Small	Polling Place	Large	Small	Polling Place
Model No.	(1)	(2)	(3)	(4)	(5)	(6)
Country of Origin:						
Southern European Countries (0/1)	−1.16	−2.16	−1.54	−0.02	−0.02	−0.03
	(1.60)	(1.26)	(1.06)	(0.03)	(0.03)	(0.03)
Central & Eastern Europe (0/1)	8.15	3.60	6.40	0.11	0.07	0.12
	(1.37)	(1.61)	(1.29)	(0.07)	(0.04)	(0.05)
(former) Yugoslavia (0/1)	15.63	13.44	15.55	0.32	0.28	0.39
	(1.42)	(1.44)	(1.09)	(0.09)	(0.05)	(0.05)
Turkey (0/1)	13.18	13.50	13.64	0.29	0.27	0.33
	(1.79)	(1.63)	(1.31)	(0.08)	(0.06)	(0.05)
Asian Countries (0/1)	2.79	4.12	2.85	−0.05	−0.05	−0.08
	(1.77)	(1.62)	(1.57)	(0.05)	(0.06)	(0.05)
Other Non-European Countries (0/1)	7.39	6.17	5.74	−0.01	0.04	0.03
	(2.51)	(1.79)	(1.90)	(0.08)	(0.04)	(0.06)
Constant	38.41	43.01	37.82	0.41	0.36	0.21
	(4.73)	(4.32)	(4.18)	(0.29)	(0.16)	(0.20)
Fixed Effects for Municipalities	yes	yes	yes	yes	yes	yes
Applications	1,208	1,221	1,917	1,208	1,221	1,917
Municipalities	10	34	31	10	34	31
R^2	0.64	0.73	0.58	0.39	0.49	0.41

Note: Point estimates and parenthesized standard errors (clustered by municipality) shown from OLS regressions with municipality fixed effects. The dependent variable is the proportion of "no" votes in Models 1–3 and a binary indicator coded as 1 for rejected and 0 for accepted applications in Models 4–6. Models 1 and 4 are based on large municipalities with more than 5000 voters in 2003, Models 2 and 5 are based on small municipalities with less than 5000 voters in 2003, and Models 3 and 6 are only based on municipalities where the ballots were cast at the polling place. The reference categories for the various contrasts are as follows: an indicator for the years 1970–1979, applicants with age <20 years, with low education, in low skilled jobs, with "sufficient" command of one of the Swiss languages, who are familiar with "Swiss traditions and customs," and originating from a richer northern and western European country. For all models, the standard errors are virtually identical if the block (by municipality) bootstrap is used, and about 50% smaller if no clustering is used.

and Turkey with applicants from richer northern and western European countries and first nonparametrically adjust for the observed applicant characteristics from the benchmark model using Genetic Matching (Diamond and Sekhon 2006; Sekhon 2011). The origin effect estimates from the (bias-adjusted) matching are shown in Table 5. They confirm that applicants from Turkey and (the former) Yugoslavia receive a much higher proportion of "no" votes and are much more likely to be rejected compared to observably similar applicants from richer northern and western European countries (the effect sizes are very similar compared to those from the regressions in Table 3). Next, we conduct Rosenbaum sensitivity tests to pinpoint the degree of hidden bias due to an unobserved confounder that would be needed to explain away these origin effects.

Borrowing from the causal inference literature, we can define applicants who report (the former) Yugoslavia or Turkey as their origin in the leaflet as the "treatment group," and applicants who report a richer northern and western European country as their origin in the leaflet as the "control group" (the "treatment" therefore consists of manipulating the reported origin that voters observe). The degree of hidden bias is measured with the Rosenbaum Gamma, Γ. This parameter is defined as the upper bound on the degree to which observably similar applicants from the two different origin groups may nonetheless differ in their *a priori* odds of receiving the treatment due to differences in a powerful omitted variable that is a near-perfect predictor of naturalization success.[37] Notice that if $\Gamma = 1$, the comparison between observably similar applicants from the two origin groups is assumed to be free of

[37] Consider two observably similar applicants i and j. Let π_i be the probability that applicant i is assigned to the treatment; then Γ is defined as the upper bound on the odds ratio: $\frac{1}{\Gamma} \leq \frac{\pi_i(1-\pi_j)}{(1-\pi_i)\pi_j} \leq \Gamma$. Rosenbaum shows that Γ is also equivalent to the upper bound on the coefficient δ that measures the effect of the unobserved confounder u_i on the unit's log odds of being treated, $\log\left(\frac{\pi_i(1-\pi_j)}{(1-\pi_i)\pi_j}\right) = \delta(u_i - u_j) \leq \log(\Gamma)$. The unobserved confounder u_i is assumed to be almost perfectly predictive of the outcome and bounded between 0 and 1. See Rosenbaum (2002) for details.

TABLE 5. Effect of Applicant Characteristics on Opposition to Naturalization Request: Matching Results and Sensitivity Analysis

Origin Group	Turkey	Yugoslavia
Outcome	Proportion Voting "No" (0–100)	
Origin Penalty	11.49	14.8
Std. Error	1.70	1.21
Lowest Rosenbaum Gamma (Γ): Wilcoxon Sign Rank Test Insignificant ($p > 0.05$)	10.5	8.7
Outcome	Rejected (0/1)	
Origin Penalty	0.31	0.27
Std. Error	0.05	0.04
Lowest Rosenbaum Gamma (Γ): McNemar's Test Insignificant ($p > 0.05$)	10.9	10.4

Note: The origin penalty refers to the estimated difference in the proportion of "no" votes (upper panel) or the probability of being rejected (lower panel) between applicants from (the former) Yugoslavia or Turkey and observably similar applicants from richer northern and western European countries. Estimated differences are based on average treatment effect (ATE) estimates from 1:1 bias-adjusted genetic matching (with replacement) with Abadie-Imbens standard errors. For all models, only applicants originating from richer northern and western European countries or the former Yugoslavia and Turkey are used. The matching and bias adjustments include all covariates from the benchmark model. Below the ATE estimates and standard errors the table also displays results for the Gamma estimates from Rosenbaum sensitivity tests. The Rosenbaum Gamma (Γ) measures the degree of departure from a study that is free of bias; it is equivalent to the size of the log of the coefficient on an unobserved confounder. For the proportion of "no" measure, these tests refer to the lowest Rosenbaum Gamma (Γ) at which the upper bound of the p value from the Wilcoxon Sign Rank Test turns insignificant ($p > 0.05$). For the binary rejection measure the results refer to the lowest Gamma at which the upper bound of the McNemar's test turns insignificant ($p > 0.05$).

hidden bias as the odds of treatment assignment is identical for the groups (as in a randomized experiment). A value of $\Gamma = 2$ allows for considerable hidden bias; of two observably similar applicants, one could be up to twice as likely to receive the treatment due to differences on the omitted variable.

How sensitive are the matching estimates to hidden bias? The rows below the effect estimates in Table 5 report the lowest Γ at which the effect estimates turn insignificant at the 95% confidence level (Keele 2010). We find that the results are very robust to hidden bias with Γ values ranging between 9 and 11. This implies that only an enormous hidden bias could explain away the origin effects. Net of the observed covariates, an unmeasured confounder would need to be a near-perfect predictor of naturalization success and produce a 9- to 11-fold increase in the odds of treatment assignment. This level of insensitivity to hidden bias far exceeds those typically found for social science studies where Γ values are commonly in the range of 1–2 (DiPrete and Gangl 2004; Keele 2010; Rosenbaum 2002; 2005).[38]

[38] Cornfield et al. (1959), in their famous sensitivity analysis for observational studies of smoking as a cause of lung cancer, found that to explain away the effects an unmeasured confounder would need to be an almost perfect predictor of lung cancer and about nine times more likely among smokers than among nonsmokers.

Robustness: Further Issues

We conducted various additional checks that further support the robustness of our main findings (results are reported in Appendix B). In particular, Tables B.1 and B.2 replicate the benchmark models for the different municipality samples (all, large, and polling place) using several other control strategies, including year fixed effects, quadratic time trends, and linear and quadratic municipality specific time trends to absorb smooth trends in unobserved confounders that vary at the municipality level. The results are remarkably stable across the specifications for all subsamples. In Table B.3, we control for the lagged share of applicants from (the former) Yugoslavia and Turkey in each municipality (three-year moving average) and the number of applicants who appear on the ballots[39] and the results are unaffected. Next, we estimate a series of models where in each municipality we regress the proportion of "no" votes on the country of origin indicators and a streamlined set of covariates (gender, marital status, age, born in Switzerland, years of residency, and years of schooling) to accommodate the smaller sample sizes (we exclude municipalities with fewer than 15 applications). In Figure B.1, we plot

[39] The average municipality put about five applicants on the same ballot (the median is 4).

the municipality-specific origin effects with 95% robust confidence intervals for applicants from Turkey and (the former) Yugoslavia. The effect estimates are positive, sizable, and significant, revealing that Turkish and Yugoslavian applicants face a considerable penalty compared to observably similar applicants from richer northern and western European countries in almost all of the ballot box municipalities; the estimated increase in the proportion of "no" votes is between 12 and 24 percentage points in most municipalities (about a 32–64% increase over the average proportion of "no" votes). Finally, we investigate the model dependency of the origin effects in the full sample across a wide range of possible specifications. In particular, we fit 15,000 regressions of the proportion voting "no" on the origin indicators and a subset of the control variables that we randomly draw from the set of all possible subsets of the covariates from the benchmark model and all their first-order interactions (and squared terms for continuous variables). Figure B.2 shows the distribution of the origin effect estimates. The results from this extreme bound analysis suggest that the origin effects are remarkably robust with effect sizes clustering closely around the magnitudes estimated in the main regression.

Comparison with Attitudinal Data

We briefly contrast our findings with comparable public opinion data. In 2002, the European Social Survey, a widely used survey in the comparative literature on immigration attitudes (Ceobanu and Escandell 2010), measured the views of Swiss voters about immigrants from different source countries. Seventy-four percent of respondents said that they are in favor of allowing more immigrants from poorer European countries to come and settle in Switzerland, while only 69% of respondents supported more immigration from richer European countries. Sixty-nine percent were in favor of more immigrants from poorer non-European countries, and only 64% in favor of immigrants from richer non-European countries. Clearly, our behavioral data suggest different preferences, as applicants from Turkey, (the former) Yugoslavia, and other central or eastern European countries are rejected at much higher rates than applicants from richer northern and western European countries. These differences may stem from social desirability bias if survey respondents are unwilling to admit that they actually prefer immigrants from richer origins. More recent survey data point to a similar contrast between public opinion and behavioral data in voter preferences. In a 2008 poll, 88% of Swiss voters agreed that naturalization decisions should be free of discrimination based on country of origin.[40] This sharply contrasts with our finding that country of origin is the single most important determinant of naturalization success.

[40] The original question wording was "Beim Einbürgerungsverfahren darf es nicht zu Diskriminierungen nach der Herkunft der Einbürgerungswilligen kommen." (Vox poll 06/01/2008. Item: arg04x.)

INTERPRETATION

The results raise two important questions for the interpretation. First, does the consistently higher level of opposition for applicants from certain origins imply that native voters discriminate against these applicants? If so, how do our findings relate to theories of discrimination?

Country of Origin Effects as Discrimination

Our results imply that applicants who differ only in their country of origin and are otherwise similar on all measured characteristics face much different probabilities of being rejected when applying in the same municipality, under the same institutional rules, and in the same time period. Are these findings consistent with a nondiscriminatory selection rule that is blind to the origin of the applicant? As detailed above, the naturalization law implies that candidates for naturalization have to meet a list of requirements. Federal authorities always check that applicants meet the residency and criminality requirements so the differential treatment cannot be accounted for by these factors (voters are aware that applicants have cleared these hurdles). Moreover, language requirements and integration status and familiarity with Swiss values and traditions are controlled for in our analysis using assessments by the municipality officials who interview the applicants and inform voters about the assessments. A selection rule that is neutral to country of origin would therefore imply that, conditional on these observed characteristics, the probability of being rejected should be similar across applicants of different origins. Instead, we find that otherwise observably similar applicants face dramatically different rejection rates depending on their country of origin. In fact, the applicants' country of origin is by far the most important predictor of the naturalization outcome compared to all other observed characteristics, which implies that voters distinguish between applicants in part based on their origin. This matches the legal definition of discrimination as stated in the antidiscrimination clause in the Swiss Constitution.

Causes of Discrimination

As Pager and Shepherd (2008, 12) put it in their recent review, "Measuring the prevalence of discrimination is difficult; identifying its causes is far more so." Nonetheless, it is worth asking which mechanisms may underlie the discrimination that we find. Below, we try to distinguish between the main theories of discrimination by testing additional observable implications.

The literature commonly distinguishes two main theories: statistical discrimination and taste-based discrimination.[41] Theories of statistical discrimination

[41] For recent reviews of social theories of discrimination, see Pager and Shepherd (2008); Altonji and Blank (1999); Lang and Lehmann (2010).

(Arrow 1972; Phelps 1972) emphasize how discrimination can arise due to problems of limited information. Assume that voters have a utility function such that they hold no animus against particular origin groups but care only about naturalizing applicants with a sufficiently high level of integration (which may encompass sufficient language skills and familiarity with Swiss values and traditions as stipulated by the naturalization law). Voters also take it for an empirical fact that the *average* integration levels vary by origin, for example, voters presume true that the integration level among immigrants from Turkey and (the former) Yugoslavia is lower on average compared to immigrants from richer northern and western European countries.[42] Since integration levels are inherently difficult to measure, these voters face a signal extraction problem when deciding how to vote in the naturalization referendums. The voters would like to evaluate an applicant based purely on her true level of integration, but this true level is unobserved and needs to be inferred from the noisy signal of the assessed integration level reported in the voter leaflet. To solve this signal extraction problem, rational voters place weight on the noisy signal *and* prior information about the origin group to which an applicant belongs. In other words, it is optimal for voters to use their knowledge about an origin group generally to evaluate whether a particular applicant from that group is likely to be sufficiently integrated since the most accurate estimate of an applicant's actual integration level is a weighted average of his assessed integration level from the leaflet and the average integration level of his origin group. This may explain why, even when faced with applicants who report the same assessed integration level, voters still estimate the actual integration level of individual Turkish and (former) Yugoslavian applicants as relatively lower, because voters evaluate such applicants more like the average Turkish or Yugoslavian immigrant.[43]

If the differences in naturalization success stem from statistical discrimination, then we would expect that Turkish and Yugoslavian applicants earn relatively higher returns for other observable credentials such as education that can be informative about the applicant's actual integration status. From the perspective of voters who are solving the signal extraction problem, learning that a particular applicant is highly educated or highly skilled should lead to a larger increase in the estimated integration level for applicants from (the former) Yugoslavia and Turkey compared to applicants from richer northern and western European countries, if voters presume that the former origin group has a lower average integration level. To test this implication, we re-estimate our benchmark model while allowing the effects of economic credentials to vary across the applicant's origin. For tractability, we restrict the sample to contrast applicants from richer northern and western European countries and applicants from (the former) Yugoslavia and Turkey, and we combine the latter into a single origin group.

Table 6 displays the results. Consistent with statistical discrimination, the interaction terms between origin and high occupational skills or high educational attainment are negative and significant, which implies that (former) Yugoslavian and Turkish applicants earn relatively higher returns for economic credentials. For example, Model 1 reveals that among immigrants from (the former) Yugoslavia and Turkey the average proportion of "no" votes for highly skilled applicants is about 5.3 percentage points lower compared to low-skilled applicants (t value > 2.8). In contrast, skill level has no impact on the proportion of "no" votes among immigrants from richer northern and western European countries (the effect estimate on the lower-order term is close to zero). We find similar differential returns to education (Model 2), and the results are similar when we restrict the sample to polling place municipalities (Models 3 and 4). Although these results are consistent with statistical discrimination, they also reveal that statistical discrimination can only partly account for origin-based discrimination. Even taking the differential returns to economic credentials into account, highly skilled applicants from (the former) Yugoslavia and Turkey still face a penalty that is about 7–8 percentage points higher compared to observably similar applicants from richer northern and western European countries. This observation suggests that statistical discrimination may account for at least about 40% of the overall origin effect.

What else besides statistical discrimination may explain the discriminatory outcomes that we find? The other leading alternative are taste-based theories of discrimination (Becker 1971; Quillian 2006) that operate on the assumption that natives have real prejudice and animus against particular origin groups. In these models, discrimination arises not from uncertainty, but from presumed xenophobic tastes built into the voters' utility function. Such xenophobic tastes may include a wide range of feelings or beliefs that certain immigrant groups, such as applicants from (the former) Yugoslavia and Turkey, are culturally inferior and socially

[42] Government reports and studies have consistently documented that, given limited opportunities and disadvantages, Turkish and Yugoslavian immigrants in Switzerland have considerably lower levels of education and language acquisition on average compared to immigrants from richer northern and western European countries (Bundesamt für Migration 2006; Rommel 2006). For example, in 2003 the fraction of immigrants with tertiary education was 55% among employed immigrants from richer northern and western European countries, compared to 9% among employed immigrants from Turkey and the West Balkans. See Bundesamt für Statistik, Schweizerische Arbeitskräfteerhebung (SAKE) 2003. Education and language are often seen as important determinants of immigrants' social integration.

[43] A similar result occurs even if voters take for a fact that different immigrant groups have the same average level of integration, but simply find the integration status of Turkish and Yugoslavian immigrants more difficult to assess, and therefore their signal is presumed noisier. See Lang and Lehmann (2010) for a formal review of theories of statistical discrimination. Notice that statistical discrimination still qualifies as discrimination in a legal sense. The key difference to models of taste-based discrimination discussed below is that statistical discrimination is based on uncertainty, not taste. Although conceptually distinct, the two models could be combined if, for example, we assume that voters' assessments of the differences in the average integration levels of different origin groups are based on prejudice rather than empirical facts.

TABLE 6. Statistical Discrimination: Interaction Effect of Economic Credentials and Country of Origin on Opposition to Naturalization Request

Dependent Variable	Proportion Voting "No" (0–100)			
Included Municipalities:	All		Polling Place	
Model No.	(1)	(2)	(3)	(4)
Year: 1980s (0/1)	−0.17	−0.16	−0.87	−0.97
	(1.64)	(1.63)	(1.92)	(1.88)
Year: 1990s (0/1)	0.38	0.32	2.10	2.01
	(2.62)	(2.65)	(3.40)	(3.46)
Year: 2000s (0/1)	1.29	1.23	2.24	2.13
	(4.19)	(4.27)	(5.49)	(5.61)
Male (0/1)	0.57	0.55	0.88	0.89
	(0.75)	(0.74)	(0.76)	(0.76)
Married (0/1)	0.29	0.28	0.89	0.85
	(0.95)	(0.96)	(1.11)	(1.12)
Children (0/1)	1.98	1.82	1.98	1.81
	(0.99)	(0.96)	(1.13)	(1.12)
Age: 21−40 years (0/1)	1.64	1.61	1.88	1.81
	(0.79)	(0.81)	(0.77)	(0.79)
Age: 41−60 years (0/1)	2.38	2.38	2.29	2.28
	(0.95)	(0.95)	(0.93)	(0.94)
Age: 60+ years (0/1)	4.27	3.61	3.60	2.60
	(2.18)	(2.24)	(2.72)	(2.73)
Attractive (0/1)	0.70	0.48	0.66	0.46
	(1.06)	(1.01)	(1.14)	(1.07)
Applications (#)	−0.82	−0.78	−1.02	−1.00
	(0.82)	(0.85)	(0.90)	(0.91)
Born in Switzerland (0/1)	−1.35	−1.36	−1.43	−1.38
	(1.14)	(1.15)	(1.49)	(1.47)
Years since Arrival (#/10)	−1.65	−1.68	−1.61	−1.59
	(0.64)	(0.62)	(0.76)	(0.75)
Refugee (0/1)	−5.07	−4.84	−2.91	−2.71
	(2.36)	(2.36)	(2.37)	(2.33)
Education: Middle (0/1)	−0.92	1.38	−0.95	2.08
	(0.62)	(1.45)	(0.67)	(1.14)
Education: High (0/1)	−2.71	0.41	−2.52	1.20
	(0.95)	(1.73)	(1.03)	(1.64)
Skill: Middle (0/1)	0.62	−0.11	1.14	0.45
	(1.35)	(0.73)	(1.57)	(0.77)
Skill: High (0/1)	0.54	−2.39	0.57	−2.22
	(1.52)	(1.08)	(1.85)	(1.23)
Unemployment (0/1)	6.48	5.84	5.90	5.33
	(2.70)	(2.81)	(2.79)	(2.82)
Language: Excellent (0/1)	−0.45	−0.51	−0.14	−0.20
	(2.65)	(2.68)	(2.70)	(2.76)
Language: Good (0/1)	0.19	0.22	0.14	0.15
	(2.53)	(2.53)	(2.50)	(2.52)
Language: Insufficient (0/1)	28.40	28.41	28.88	28.81
	(3.09)	(3.06)	(3.03)	(3.03)
Integration: "Assimilated" (0–2)	−2.66	−2.58	−2.07	−1.93
	(1.37)	(1.39)	(1.56)	(1.54)
Integration: "Integrated" (0−2)	0.49	0.53	0.12	0.12
	(0.65)	(0.66)	(0.61)	(0.61)
Integration: "Adjusted" (0/1)	−0.82	−0.78	−1.34	−1.36
	(3.38)	(3.42)	(2.93)	(2.98)
Integration: "Indistinguishable" (0/1)	−3.53	−3.46	−3.17	−3.12
	(1.31)	(1.28)	(1.35)	(1.30)
(former) Yugoslavia & Turkey (0/1)	13.51	14.31	14.02	15.66
	(1.19)	(1.36)	(1.46)	(1.51)
Skill: High × Yugoslavia & Turkey	−5.32		−4.88	
	(1.90)		(2.32)	

TABLE 6. Continued.

Dependent Variable	Proportion Voting "No" (0–100)			
Included Municipalities:	All		Polling Place	
Model No.	(1)	(2)	(3)	(4)
Skill: Middle × Yugoslavia & Turkey	−0.83		−0.80	
	(1.58)		(1.92)	
Education: High × Yugoslavia & Turkey		−4.86		−5.19
		(2.10)		(2.36)
Education: Middle × Yugoslavia & Turkey		−2.95		−3.76
		(1.71)		(1.51)
Constant	37.35	37.07	36.23	35.11
	(3.72)	(3.87)	(4.07)	(4.14)
Fixed Effects for Municipalities	Yes	Yes	Yes	Yes
Observations	1,617	1,617	1,294	1,294
Municipalities	43	43	31	31
R^2	0.70	0.70	0.61	0.61
Joint Significance Test	0.027	0.073	0.13	0.042

Note: Point estimates and parenthesized standard errors (clustered by municipality) shown from OLS regressions with municipality fixed effects. For all models, only applicants originating from richer northern and western European countries or (the former) Yugoslavia and Turkey are used. Models 1 and 2 are based on the full sample of ballot box municipalities, Models 3 and 4 are based on municipalities where the ballots were cast at the polling place.

undesirable, and perceptions that such groups threaten the prevailing way of life or even reject Swiss culture and refuse to assimilate (Allport 1979; Blumer 1958; Dovidio et al. 1997; Kinder and Sears 1981; Tajfel 1982). Testing the model of taste-based discrimination requires a measure of voters' xenophobic tastes. We cannot measure the tastes of individual voters, but we can exploit the variation in xenophobic tastes across municipalities using municipality-level vote shares from a 1982 federal anti-immigration referendum that called for removing restrictions on immigration. The share of "no" votes from this referendum, which occurred close to the beginning of our sample period, is a good proxy for the xenophobic tendencies of the local electorates. If the discrimination is driven by taste, we would expect that the intensity of origin-based discrimination—as measured by the size of the disadvantage for Yugoslavian and Turkish applicants—increases with the local level of xenophobia.

In Table 7, we test this hypothesis by re-estimating our benchmark model with an interaction term between the anti-immigrant vote share and the country of origin indicator (we again restrict the sample as above). We use a fixed effects specification (Models 1 and 3) and a multilevel model in which we also allow the origin effect to vary by municipality (Models 2 and 4). The results support taste-based discrimination as the interaction terms are positive and highly significant across specifications. The magnitudes imply that a one percentage point increase in the anti-immigration vote share is associated with about a 0.5–0.7 percentage point increase in the relative origin-based disadvantage for applicants from (the former) Yugoslavia and Turkey. This result suggests that taste-based discrimination may account for about 60% of the overall origin-based discrimination. To give a clear interpretation of the interaction in Figure 3 we plot the estimated origin-based disadvantage as a function of the (demeaned) anti-immigrant vote shares (based on Model 2). In municipalities with the highest levels of xenophobia, Yugoslavian and Turkish applicants face a penalty of about 20–30 percentage points compared to observably similar applicants from richer northern and western European countries. This penalty is much lower at about 3–10 percentage points in the least xenophobic municipalities. Also consistent with taste-based discrimination, the models reveal that the level of xenophobia is uncorrelated with the proportion of "no" votes for applicants from richer northern and western European countries (the lower-order terms for the anti-immigrant vote are close to zero). As a robustness check, Table B.2 in the appendix replicates the models using two alternative measures of xenophobic tastes, the municipality-level vote shares from similar federal anti-immigration referendums in 1983 and 1988, and the patterns are very similar. Taken together, these results indicate that origin-based discrimination is largely driven by local voters' xenophobic prejudice. We would not expect such strong patterns if the discrimination were purely statistical.[44]

[44] We also conducted additional tests to see if the origin effect similarly interacts with the local unemployment rate, a good proxy for local economic conditions. We find that the interaction effect is zero and highly insignificant (Table B.5 in the Appendix). These findings

TABLE 7. Taste-Based Discrimination: Interaction Effect of Xenophobic Preferences and Country of Origin on Opposition to Naturalization Request

Dependent Variable	Proportion Voting "No" (0–100)			
Included Municipalities:	All		Polling Place	
Model No.	(1)	(2)	(3)	(4)
Year: 1980s	−0.74	−0.64	−0.53	−0.91
	(1.67)	(1.15)	(1.98)	(1.25)
Year: 1990s	0.67	0.73	3.50	2.92
	(2.74)	(1.31)	(3.41)	(1.44)
Year: 2000s	1.69	1.48	3.67	2.90
	(4.20)	(1.36)	(5.43)	(1.51)
Male (0/1)	0.59	0.45	0.71	0.57
	(0.74)	(0.59)	(0.79)	(0.65)
Married (0/1)	0.34	0.40	1.03	1.10
	(0.87)	(0.88)	(1.03)	(0.99)
Children (0/1)	1.99	1.99	1.70	1.69
	(0.94)	(0.82)	(1.05)	(0.95)
Age: 21–40 years	1.63	1.63	1.80	1.73
	(0.80)	(0.78)	(0.78)	(0.87)
Age: 41–60 years	2.13	1.99	2.18	2.09
	(1.00)	(0.97)	(0.99)	(1.14)
Age: 60+ years	3.32	3.43	3.30	2.93
	(2.03)	(1.60)	(2.51)	(1.91)
Attractive (0/1)	0.51	0.04	0.62	0.26
	(1.01)	(0.73)	(1.09)	(0.74)
Applications (#)	−1.20	−1.14	−1.20	−1.14
	(0.79)	(0.60)	(0.85)	(0.60)
Born in Switzerland (0/1)	−1.40	−0.83	−1.53	−1.08
	(1.19)	(0.87)	(1.55)	(0.97)
Years since Arrival (#/10)	−1.45	−1.51	−1.62	−1.59
	(0.64)	(0.43)	(0.74)	(0.46)
Refugee (0/1)	−5.39	−3.56	−2.30	−2.74
	(2.59)	(2.02)	(2.08)	(2.15)
Education: Middle (0/1)	−0.69	−0.78	−0.93	−0.94
	(0.63)	(0.65)	(0.73)	(0.68)
Education: High (0/1)	−2.11	−2.01	−2.37	−1.97
	(1.00)	(1.18)	(1.08)	(1.25)
Skill: Middle (0/1)	0.11	0.03	0.65	0.54
	(0.66)	(0.65)	(0.73)	(0.72)
Skill: High (0/1)	−2.09	−2.55	−1.91	−2.42
	(1.07)	(0.93)	(1.28)	(0.99)
Unemployment (0/1)	5.54	5.25	4.95	4.70
	(2.86)	(2.00)	(2.84)	(2.02)
Language: Excellent (0/1)	−0.65	−1.21	−0.31	−0.92
	(2.67)	(2.51)	(2.62)	(2.51)
Language: Good (0/1)	0.25	−0.23	0.15	−0.58
	(2.49)	(2.73)	(2.35)	(2.76)
Language: Insufficient (0/1)	28.38	26.10	28.95	26.17
	(2.97)	(5.93)	(2.93)	(5.90)
Integration: "Assimilated" (0–2)	−2.10	−2.20	−1.54	−1.80
	(1.28)	(0.70)	(1.40)	(0.71)
Integration: "Integrated" (0–2)	0.29	−0.28	0.00	−0.50
	(0.66)	(0.78)	(0.64)	(0.78)
Integration: "Adjusted" (0/1)	−0.85	−1.02	−1.14	−1.48
	(3.38)	(2.53)	(2.97)	(2.51)
Integration: "Indistinguishable" (0/1)	−3.27	−3.30	−3.17	−3.28
	(1.18)	(1.42)	(1.25)	(1.41)
(former) Yugoslavia & Turkey (0/1)	13.31	13.62	12.01	12.99
	(1.20)	(1.20)	(1.46)	(1.34)
Anti-immigrant vote share in 1982 (%)		0.05		−0.15
		(0.12)		(0.17)

TABLE 7. Continued.

Dependent Variable	Proportion Voting "No" (0–100)			
Included Municipalities:	All		Polling Place	
Model No.	(1)	(2)	(3)	(4)
Yugoslavia & Turkey × vote share	0.51	0.47	0.75	0.58
	(0.14)	(0.12)	(0.21)	(0.17)
Voting Location: Assembly (0/1)		−10.25		
		(2.10)		
Constituency: All voters (0/1)		−0.52		−4.38
		(3.47)		(4.99)
Constant	37.15	40.28	35.86	42.84
	(4.01)	(4.81)	(4.13)	(5.96)
Effects for Municipalities	Fixed	Random	Fixed	Random
Applications	1,617	1,617	1,294	1,294
Municipalities	43	43	31	31
R^2	0.70		0.62	
Variance of varying intercepts		18.99		13.68
Variance of varying slopes		29.53		18.17
Residual variance		79.83		78.08

Note: Point estimates and parenthesized standard errors shown. Models 1 and 3 are OLS regressions with municipality fixed effects and standard errors clustered by municipality. Models 2 and 4 are restricted maximum likelihood multilevel regressions with varying intercepts and slopes for the country of origin indicator. The random effects are allowed to vary by municipality and their correlation is unrestricted. The random effect models include dummies for the municipality specific institutional features (i.e., voting location and constituency, respectively). For all models, only applicants originating from richer northern and western European countries or (the former) Yugoslavia and Turkey are used. Models 1 and 2 are based on the full sample of ballot box municipalities, Models 3 and 4 are based on municipalities where the ballots were cast at the polling place.

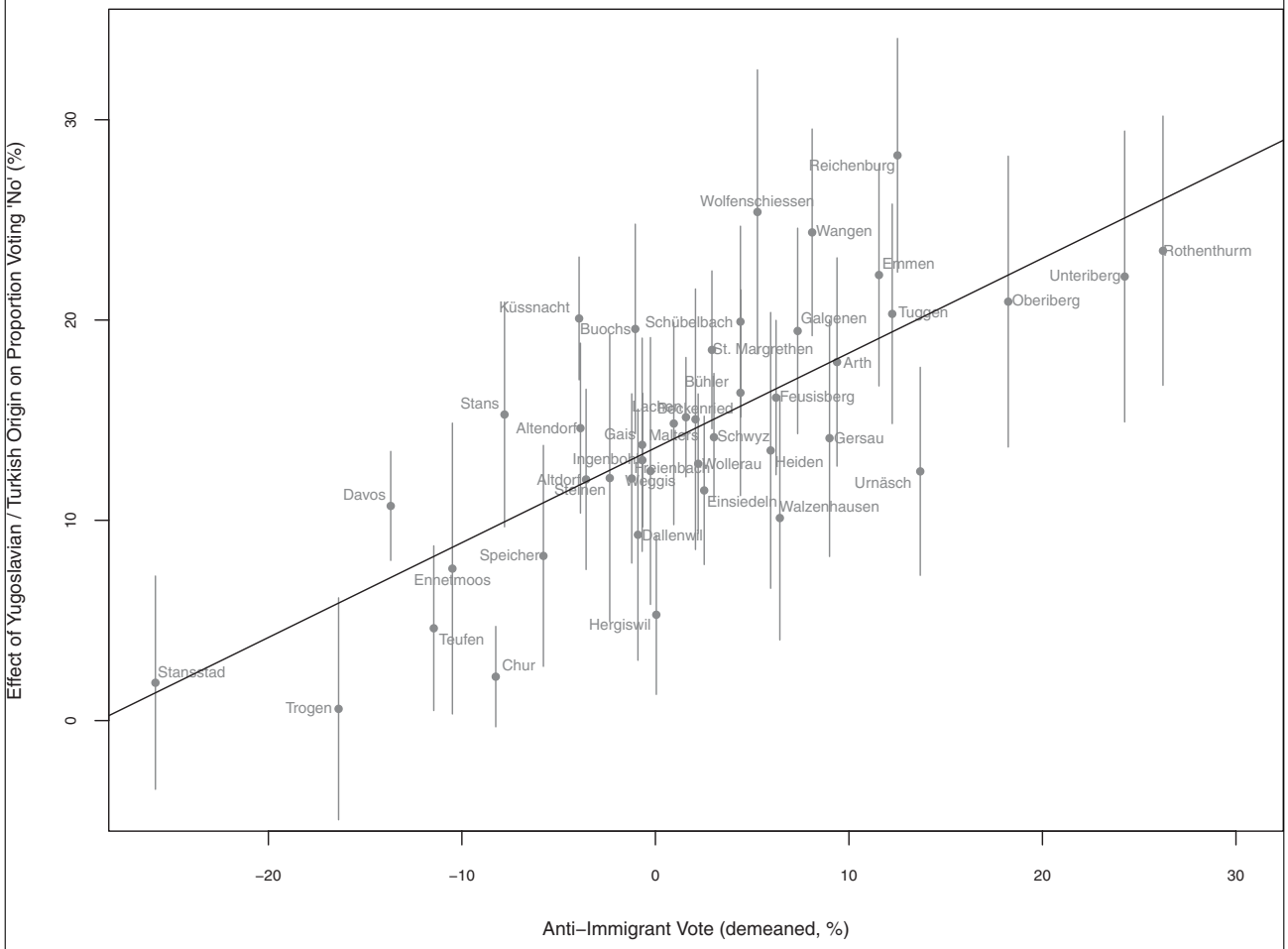
The results thus far suggest that origin-based discrimination in naturalization referendums is driven by statistical and taste-based discrimination, and that the latter mechanism is perhaps more important. Although models of taste-based discrimination commonly treat tastes as exogenous, one interesting follow-up question involves the origins of voters' xenophobic prejudice. A detailed examination of this issue is beyond the scope of this study, but the data allow us to briefly speculate about potential mechanisms.

One potential hypothesis is that animus against applicants from (the former) Yugoslavia and Turkey is driven by differences in religion if voters perceive these immigrants as Muslim (Adida, Laitin, and Valfort 2010). We cannot test this claim directly since the voting leaflets typically do not contain information about the applicant's religion. However, for the group of applicants from (the former) Yugoslavia we can exploit the fact that applicants from Bosnia and Herzegovina, Kosovo, and Macedonia are more likely to be Muslim compared to applicants from Serbia and Montenegro, Macedonia, and Slovenia, since the share of Muslims is much higher in the former group of countries. If the prejudicial taste against applicants from (the former) Yugoslavia is primarily driven by Islamophobia, we would expect strong differences in the origin-based discrimination that these groups face. However, when we replicate the benchmark model with dummy variables for the groups of high and low Muslim countries, we find that the country of origin disadvantages are fairly similar (Table B.4 in the Appendix). Opposition to naturalization requests is slightly higher for applicants from high compared to low Muslim origins, but the differences are substantivally small and not consistently significant. Taken together, these admittedly limited tests suggest that Islamophobia is perhaps not the main source of animus propelling taste-based discrimination.

A perhaps more prominent explanation in the literature is group conflict theory, which posits that xenophobic prejudice arises as a defensive reaction by natives who view immigrant out-groups as a threat to the natives' dominant position (Blalock 1967; Blumer 1958; Quillian 1995). Such threats may operate at an economic level, if natives are concerned about competing with immigrants for jobs and other scarce resources (Olzak 1994; Scheve and Slaughter 2001), or at a cultural level, if natives fear that particular immigrant groups "constitute a threat to the collective identity and

might suggest that the cultural threat is perhaps more important than the economic threat.

FIGURE 3. Municipality Specific Country of Origin Effects and Local Xenophobia



Note: Marginal effect estimate for the interaction of Yugoslavian and Turkish origin and municipal anti-immigrant vote share based on multilevel regression. The plot builds on the estimates of multilevel Model 2 of Table 7 which regresses the proportion of "no" votes on applicant characteristics, municipal characteristics, and (de-meaned) anti-immigration vote share in the 1982 referendum. Random intercepts and slopes for the country of origin indicator allowed to vary unrestrictedly by municipality. Random effects for each municipality are shown along with 90% prediction intervals.

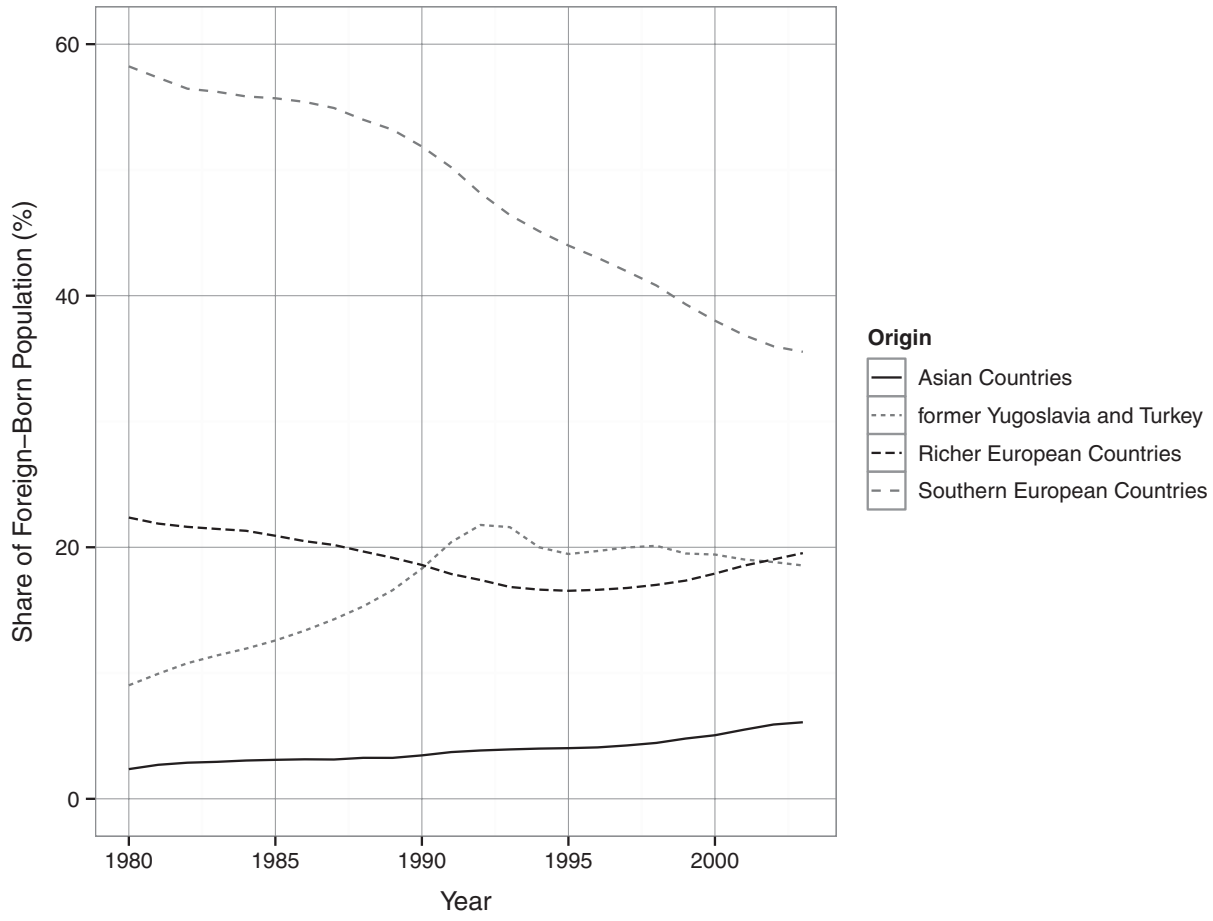
the cultural, national, and ethnic homogeneity of the society" (Semyonov, Raijman, and Gorodzeisky 2006, 428).[45] One of the main predictions from the group conflict model is that prejudice dynamically responds to a rising threat associated with rapid growth in the size of the out-group. Another prominent view in the literature is contact theory, which implies the opposite prediction. According to this model, an increase in the out-group can actually decrease prejudice over time because more frequent intergroup interactions help to dissolve natives' stereotypes and preconceived judgments (Allport 1979; Pettigrew and Tropp 2006).

Our data provide a unique opportunity to evaluate these claims, since we behaviorally measure discrimination against immigrants from multiple origin groups over time, and Switzerland—apart from the general increase in immigration—also experienced rather dramatic shifts in its immigration composition during our time period. Figure 4 shows the trends in the shares of origin groups of the total foreign-born population over the 1980–2003 period.[46] The threat mechanism suggests that discrimination against applicants from Turkey and (the former) Yugoslavia should increase over time, since this immigrant group is relatively new and its relative size doubled during our time period. In contrast,

[45] In our case, the economic threat is perhaps less potent since average unemployment was very low in our municipalities (e.g., 1.3% in 1990), and, if anything, immigrants from richer northern and western European countries should be more threatening to the job prospects of the local median voter, compared to Turkish and (former) Yugoslavian immigrants who have lower average skill and education levels and mostly work in more segmented labor markets. In contrast, the cultural threat could be more potent if voters view the behaviors, customs, and values of immigrants from (the former) Yugoslavia and Turkey as less compatible with the Swiss identity, compared to the cultural norms shared by immigrants from Germany, France, and other richer northern and western European countries.

[46] Detailed data on foreign-born stocks by country of origin before 1980 are unavailable, to our knowledge.

FIGURE 4. Immigration Trends in Switzerland



Note: Plot shows the shares of immigrants from different origins on the total foreign-born population (Source: PETRA Database from Swiss Federal Office of Statistics).

discrimination against applicants from southern European should abate over time, since this origin group has a much longer immigration history in Switzerland and the group's relative size decreases considerably during our time period. The contact mechanism anticipates the opposite pattern.

In Table 8, we re-estimate the benchmark model for three periods (1970–1989, 1990–1999, and 2000–2003); Models 1–3 use all available data, and Models 4–6 restrict the sample to municipalities for which data are available in all periods. The results are more consistent with the dynamic threat mechanism as discrimination against different immigrant origin groups is positively correlated with growth in their relative sizes. Although the origin penalty for Turkish and (former) Yugoslavian applicants is about 5–7 percentage points in the 1970s and 1980s, it climbs to about 13–18 percentage points in the post-1990 period following the rapid influx of immigrants from these countries. In contrast, discrimination against applicants from southern Europe strongly decreases over time as the relative size of this group plummets. In fact, in the most recent period applicants from this group earn a premium of 4–5 percentage points compared to observably similar applicants from richer northern and western European countries (the rejection rates for this latter group remain fairly stable). This bifurcation indicates that natives' discriminatory attitudes toward particular outgroups are not static, but dynamically correlate with the differential trends in the relative sizes of the origin groups. The threat mechanism might operate as a two-way street: rapid growth in the relative size of an outgroup can stoke prejudice against it, but rapid decline in the group's relative size may also help to attenuate prejudice over time.[47]

[47] We also considered whether the size of the origin disadvantage for applicants from Turkey and (the former) Yugoslavia responds to changes in the lagged share of applicants from these origins in a given municipality. The results from this "localized" test of the dynamic threat hypothesis are consistent with the previous result; the origin penalty for applicants from Turkey and (the former) Yugoslavia is larger the higher the local share of (former) Yugoslavian or Turkish applicants in the preceding three years (see Table B.7 in the Appendix).

TABLE 8. Dynamics of Country of Origin Effects

Dependent Variable	Proportion Voting "No" (0–100)					
Years	1970–1989	1990–1999	2000–2003	1970–1989	1990–1999	2000–2003
Model No.	(1)	(2)	(3)	(4)	(5)	(6)
Southern European Countries	1.64	−1.35	−4.18	1.10	−0.56	−5.48
	(1.19)	(1.11)	(1.45)	(1.22)	(1.20)	(1.44)
Central & Eastern Europe	1.59	7.22	11.74	2.65	7.03	8.69
	(2.14)	(1.40)	(2.98)	(1.95)	(1.43)	(2.78)
(former) Yugoslavia	5.77	14.82	17.91	5.31	14.53	16.12
	(1.73)	(1.39)	(2.16)	(1.72)	(1.46)	(2.04)
Turkey	7.29	15.01	14.96	7.44	14.23	12.99
	(2.55)	(1.84)	(1.82)	(2.46)	(1.82)	(1.67)
Asian Countries	−1.56	4.73	4.67	−1.19	5.61	4.21
	(3.13)	(1.91)	(2.82)	(3.35)	(1.98)	(3.26)
Other Non-European Countries	2.32	4.32	12.31	2.55	4.57	11.92
	(2.34)	(2.59)	(2.34)	(2.25)	(3.06)	(2.73)
Constant	35.04	33.12	36.47	35.40	32.13	40.86
	(6.20)	(3.81)	(4.90)	(6.34)	(4.22)	(5.58)
Observations	683	860	886	647	723	651
Municipalities	31	42	42	29	29	29
R squared	0.55	0.78	0.84	0.57	0.79	0.86

Note: Point estimates and parenthesized standard errors (clustered by municipality) shown from OLS regressions. The models replicate the benchmark model for different time periods. Model 1 and 4 are based on applications in the years 1970–1989, Models 2 and 5 are based on applications in the years 1990–1999, and Models 3 and 6 are based on applications in the years 2000–2003. Models 1–3 are based on all available data; Models 4–6 are restricted to the same 29 municipalities for which data are available in all periods. All models are estimated with the full set of benchmark covariates and fixed effects for each municipality (coefficients not shown). Models 1 and 4 also include a decade fixed effect for the 1980s.

CONCLUSION

Many studies of anti-immigration sentiment are based on subjective survey data and limited to examining attitudes toward immigration in general. Using behavioral data from naturalization referendums in Swiss municipalities, our analysis demonstrates that immigration preferences in fact vary dramatically regarding different types of immigrants and over time. In particular, we show that observably similar applicants face dramatically different rejection rates depending on the applicants' country of origin, which matches the legal definition of discrimination according to the Swiss Constitution.

In particular, we find that immigrants from (the former) Yugoslavia and Turkey face the highest probability of being rejected compared to immigrants from all other origins. Other immigrant attributes, such as immigration history and economic credentials, also affect naturalization success, but to a much lesser degree. Language skills and an immigrant's assessed immigration status play almost no role in naturalization success. Disentangling the causal pathways of origin-based discrimination, the results suggest that about 40% of the measured differences in the opposition to naturalization requests may be attributable to statistical discrimination and about 60% to taste-based discrimination. Overall, these results are consistent with arguments linking anti-immigrant sentiment to widespread prejudice against particular immigrant groups (Dustmann and Preston 2007; Hainmueller and Hiscox 2007; Kinder and Sears 1981; Sides and Citrin 2007).

How generalizable are our results? The data indicate that the municipalities in our sample are not very different from municipalities in other parts of Switzerland, and our results are consistent across subsamples. Hence, our main findings may generalize to the country as a whole, or at least to the German-speaking regions. External validity beyond Switzerland is much more difficult to judge, and we advise against over- or under-generalizing the results to a cross-national context. On the one hand, Switzerland is unique in many respects. Given the fierce immigration debates and the lasting success of the Swiss People's Party, the discrimination against immigrant out-groups that we found might represent an upper bound compared to other countries where right-wing parties have been less successful in recent decades. On the other hand, Switzerland, given its exceptionally large immigrant population and varied history involving the peaceful integration of four different language traditions, is a vanguard, rather than a laggard, country in terms of cultural heterogeneity (Linder 2010). Another interpretation of our findings, then, is that cultural and ethnic tensions between the native and immigrant populations in Switzerland are perhaps not that different from the xenophobic rifts

emerging in many other European countries similarly struggling with conflicts about immigration and citizenship policies. Studies of anti-immigrant sentiment have consistently shown that prejudices against immigrants run high in many other European countries (Dustmann and Preston 2007; Hainmueller and Hiscox 2007), and right-wing parties have also experienced significant electoral support in several countries. It is therefore not readily apparent why we would expect to see dramatically different results if voters in these countries were given the opportunity to voice their preferences regarding immigrants in popular votes. In the end, external validity is of course best addressed by comparing the results of several internally valid studies conducted in different circumstances and at different times, and thus we hope this study will stimulate more behavioral research on anti-immigrant sentiment and discrimination in other countries.

Our results also have implications for the sizable literature on direct democracy in which scholars still profoundly disagree about the impact of direct democracy on minority interests (Frey and Goette 1998; Gamble 1997; Hajnal, Gerber, and Louch 2002; Maskin and Tirole 2004). Given the specific focus of our study, concluding that referendums generally harm minorities would be unwise. However, our microlevel results shed light on at least one central issue: access to citizenship in a country where local voters used their direct democratic means to discriminate against particular minority groups. The profound disadvantage in naturalization success for applicants from (the former) Yugoslavia and Turkey emphasizes concerns raised by previous studies that primarily out-group minorities suffer when their civil rights are put to a popular vote (Vatter and Danaci 2010). These concerns are further supported by a follow-up study in which we exploit the Federal Court ruling and examine how naturalization outcomes changed, once the ballot box municipalities were forced to transfer the decision about naturalization requests from popular referendums to an elected municipality council (Hainmueller and Hangartner 2012). There we found that naturalization rates soared once accountable legislators, rather than the people, voted on naturalization requests. Moreover, the increase in naturalization rates resulting from replacing direct with representative democracy was largest for immigrants from (the former) Yugoslavia and Turkey, the groups that fared the worst in naturalization referendums. More research is clearly needed, but taken together, this evidence helps to empirically ground the heated policy debates about naturalization procedures in Switzerland and raises concerns about recent proposals to restore secret ballot referendums to decide on naturalization requests.

REFERENCES

Adida, C. L. 2011. "Too Close for Comfort? Immigrant Exclusion in Africa." *Comparative Political Studies* 44 (10): 1370–96.

Adida, C. L., D. D. Laitin, and M. A. Valfort. 2010. "Identifying Barriers to Muslim Integration in France." *Proceedings of the National Academy of Sciences* 107 (52): 223–84.

Allport, G. W. 1979. *The Nature of Prejudice*. New York: Basic Books.

Altonji, J. G., and R. M. Blank. 1999. "Race and Gender in the Labor Market." *Handbook of Labor Economics* 3: 3143–259, New York: Elsevier.

Argast, Regula. 2006. *Staatsbürgerschaft und Nation. Ausschliessungs- und Integrationsprozesse in der Schweiz 1848-1928*. Göttingen: Vandenhoeck & Ruprecht.

Arrow, K. J. 1972. *Racial Discrimination in Economic Life*. Lexington, MA: D.C. Heath, 187–204.

Becker, G. S. 1971. *The Economics of Discrimination*. Chicago: University of Chicago Press.

Bell, Jr., D. A. 1978. "The Referendum: Democracy's Barrier to Racial Equality." *Washington Law Review* 54: 1.

Bellamy, R. 2008. *Citizenship: A Very Short Introduction*. New York: Oxford University Press.

Berinsky, A. J. 1999. "The Two Faces of Public Opinion." *American Journal of Political Science* 43 (4): 1209–30.

Bertrand, M., and S. Mullainathan. 2001. "Do People Mean What They Say? Implications for Subjective Survey Data." *American Economic Review* 91 (2): 67–72.

Bertrand, M., and S. Mullainathan. 2004. "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination." *American Economic Review* 94 (4): 991–1013.

Blalock, H. M. 1967. *Toward a Theory of Minority-Group Relations*. New York: Wiley.

Blank, R. M., M. Dabady, and C. F. Citro. 2004. *Measuring Racial Discrimination*. Washington DC: National Academy Press.

Blumer, H. 1958. "Race Prejudice as a Sense of Group Position." *The Pacific Sociological Review* 1 (1): 3–7.

Brader, T., N. A. Valentino, and E. Suhay. 2008. "What Triggers Public Opposition to Immigration? Anxiety, Group Cues, and Immigration Threat." *American Journal of Political Science* 52 (4): 959–78.

Brubaker, W. R. 1989. *Immigration and the Politics of Citizenship in Europe and North America*. University Press of America.

Bundesamt für Migration. 2006. *Probleme der Integration von Ausländerinnen und Ausländern in der Schweiz*. Bern: BFM (Bundesamt für Migration).

Ceobanu, A. M., and X. Escandell. 2010. "Comparative Analyses of Public Attitudes Toward Immigrants and Immigration Using Multinational Survey Data: A Review of Theories and Research." *Annual Review of Sociology* 36: 309–28.

Cornfield, J., W. Haenszel, E. C. Hammond, A. M. Lilienfeld, M. B. Shimkin, and E. L. Wynder. 1959. "Smoking and Lung Cancer: Recent Evidence and a Discussion of Some Questions." *Journal of the National Cancer Institute* 22: 173–203.

Dancygier, R. M. 2010. *Immigration and Conflict in Europe*. Cambridge, England: Cambridge University Press.

Demosthenes. 1949. *Demosthenes with an English Translation by Norman W. DeWitt and Norman J. DeWitt*. Cambridge, MA: Harvard University Press.

Diamond, Alexis J., and Jasjeet Sekhon. 2006. "Genetic Matching for Causal Effects: A General Multivariate Matching Method for Achieving Balance in Observational Studies." Working Paper.

DiPrete, T. A., and M. Gangl. 2004. "Assessing Bias in the Estimation of Causal Effects: Rosenbaum Bounds on Matching Estimators and Instrumental Variables Estimation with Imperfect Instruments." *Sociological Methodology* 34 (1): 271–310.

Dovidio, J. F., K. Kawakami, C. Johnson, B. Johnson, and A. Howard. 1997. "On the Nature of Prejudice: Automatic and Controlled Processes." *Journal of Experimental Social Psychology* 33: 510–40.

Dumont, J. C., G. Spielvogel, and S. Widmaier. 2010. "International Migrants in Developed, Emerging and Developing Countries: An Extended Profile." *OECD Social, Employment and Migration Working Papers*.

Dustmann, Christian, and Ian P. Preston. 2007. "Racial and Economic Factors in Attitudes to Immigration." *The B.E. Journal of Economic Analysis & Policy* 7 (1): Article 62.

Fibbi, Rosita, Bülent Kaya, and Etienne Piguet. 2003. "Le Passeport ou le Diplome? Etude des Discri-Minations a L'embauche des Jeunes Issus de la Migration." *Neuchatel: SFM*.

Freeman, G. P. 2004. "Immigrant Incorporation in Western Democracies." *International Migration Review* 38 (3): 945–69.

Frey, B. S., and L. Goette. 1998. "Does the Popular Vote Destroy Civil Rights?" *American Journal of Political Science* 42 (4): 1343–8.
Gamble, B. S. 1997. "Putting Civil Rights to a Popular Vote." *American Journal of Political Science* 41 (1): 245–69.
Givens, T. E. 2007. "Immigrant Integration in Europe: Empirical Research." *Annual Review of Political Science* 10 (1): 67.
Goodman, S. W. 2010. "Naturalisation Policies in Europe: Exploring Patterns of Inclusion and Exclusion." *EUDO CITIZENSHIP Observatory*.
Hainmueller, J., and D. Hangartner. 2012. "Does Direct Democracy Hurt Immigrant Minorities? Evidence from Naturalization Decisions in Switzerland." *MIT Political Science Department Research Paper No. 2012-4*.
Hainmueller, J., and M. J. Hiscox. 2010. "Attitudes Toward Highly Skilled and Low-Skilled Immigration: Evidence from a Survey Experiment." *American Political Science Review* 104 (1): 61–84.
Hainmueller, Jens, and Michael J. Hiscox. 2007. "Educated Preferences: Explaining Attitudes Toward Immigration in Europe." *International Organization* 61 (2): 399–442.
Hainmueller, J., and D. Hopkins. 2012. "The Hidden American Immigration Consensus: A Conjoint Analysis of Attitudes Toward Immigrants." *MIT Political Science Department Research Paper No. 2012–22*.
Hajnal, Z. L., E. R. Gerber, and H. Louch. 2002. "Minorities and Direct Legislation: Evidence from California Ballot Proposition Elections." *Journal of Politics* 64 (1): 154–77.
Harell, Allison, Stuart Soroka, and Shanto Iyengar. 2011. "Attitudes toward Immigration and Immigrants: The Impact of Economic and Cultural Cues in the US and Canada." Paper presented at the Annual Meeting of the American Political Science Association, Seattle, WA.
Helbling, M. 2008. *Practising Citizenship and Heterogeneous Nationhood: Naturalisations in Swiss Municipalities*. Amsterdam: Amsterdam University Press.
Hochschild, J. L., and J. H. Mollenkopf. 2009. *Bringing Outsiders In: Transatlantic Perspectives on Immigrant Political Incorporation*. Ithaca: Cornell University Press.
Hopkins, Daniel J. 2011. "The Upside of Accents: Language, Skin Tone, and Attitudes towards Immigration." Social Science Research Network, Working Paper 1879965.
Hopkins, D. J. 2010. "Politicized Places: Explaining Where and When Immigrants Provoke Local Opposition." *American Political Science Review* 104 (01): 40–60.
Howard, M. M. 2009. *The Politics of Citizenship in Europe*. Cambridge, England: Cambridge University Press.
Jowell, R., and P. Prescott-Clarke. 1970. "Racial Discrimination and White-Collar Workers in Britain." *Race & Class* 11 (4): 397.
Keele, L. 2010. "An Overview of Rbounds: An R Package for Rosenbaum Bounds Sensitivity Analysis with Matched Data." White Paper. Columbus, OH, 1–15.
Kinder, D. R., and D. O. Sears. 1981. "Prejudice and Politics: Symbolic Racism Versus Racial Threats to the Good Life." *Journal of Personality and Social Psychology* 40 (3): 414–31.
Koopmans, R., Paul Statham, Marco Giugni, and Florence Passy. 2005. *Contested Citizenship: Immigration and Cultural Diversity in Europe*. Minneapolis: University of Minnesota Press.
Kuklinski, J. H., M. D. Cobb, and M. Gilens. 1997. "Racial Attitudes and the New South." *The Journal of Politics* 59 (02): 323–49.
Ladner, A., R. Steiner, K. Horber-Papazian, J. Fiechter, C. Jacot-Descombes, and C. Kaiser. 2009. *Gemeindeschreiberbefragung 2009*. Lausanne/Bern: Institut de Hautes Etudes en Administration Publique/Kompetenzzentrum für Public Management.
Lang, K., and J. Y. K. Lehmann. 2010. Racial Discrimination in the Labor Market: Theory and Empirics. Technical report. Boston University Working Paper.
Linder, Wolf. 2010. *Swiss Democracy. Possible Solutions to Conflict in Multicultural Societies*. London: Macmillan.
List, J. A. 2004. "The Nature and Extent of Discrimination in the Marketplace: Evidence from the Field." *The Quarterly Journal of Economics* 119 (1): 49–89.
Maskin, E., and J. Tirole. 2004. "The Politician and the Judge: Accountability in Government." *The American Economic Review* 94 (4): 1034–54.
OECD. 2003. "Trends in International Migration." *Paris: Organisation for Economic Cooperation and Development*.
OECD. 2011. *Naturalisation: A Passport for the Better Integration of Immigrants?* Paris: Organisation for Economic Cooperation and Development Publishing.
Olzak, S. 1994. *The Dynamics of Ethnic Competition and Conflict*. Stanford: Stanford University Press.
Pager, D., and H. Shepherd. 2008. "The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets." *Annual Review of Sociology* 34: 181.
Pettigrew, T. F., and L. R. Tropp. 2006. "A Meta-Analytic Test of Intergroup Contact Theory." *Journal of Personality and Social Psychology* 90 (5): 751.
Phelps, E. S. 1972. "The Statistical Theory of Racism and Sexism." *The American Economic Review* 62 (4): 659–61.
Quillian, L. 1995. "Prejudice as a Response to Perceived Group Threat: Population Composition and Anti-Immigrant and Racial Prejudice in Europe." *American Sociological Review* 60 (4): 586–611.
Quillian, L. 2006. "New Approaches to Understanding Racial Prejudice and Discrimination." *Sociology* 32 (1): 299.
Rommel, Alexander, Caren Weilandt Eckert Josef. 2006. *Gesundheitsmonitoring der Schweizerischen Migrationsbevölkerung. Endbericht an das Bundesamt für Gesundheit und das Bundesamt für Migration*. Bonn: Wissenschaftliches Institut der Ärzte Deutschlands.
Rosenbaum, Paul R. 2002. *Observational Studies*. 2nd ed. New York: Springer-Verlag.
Rosenbaum, P. 2005. *Encyclopedia of Statistics in Behavioral Science*. Chichester: John Wiley & Sons, 1809–1814.
Rosenbaum, P. R. 2009. *Design of Observational Studies*. Berlin: Springer-Verlag.
Scheve, K., and M. J. Slaughter. 2001. "Labor Market Competition and Individual Preferences Over Immigration Policy." *Review of Economics and Statistics* 83 (1): 133–45.
Sekhon, J. S. 2011. "Multivariate and Propensity Score Matching Software with Automated Balance Optimization: The Matching Package for R." *Journal of Statistical Software* 42 (7): 1–52.
Semyonov, M., R. Raijman, and A. Gorodzeisky. 2006. "The Rise of Anti-Foreigner Sentiment in European Societies, 1988–2000." *American Sociological Review* 71 (3): 426.
Sides, John, and Jack Citrin. 2007. "European Opinion about Immigration: The Role of Identities, Interests, and Information." *British Journal of Political Science* 37: 477–504.
Sniderman, P. M., L. Hagendoorn, and M. Prior. 2004. "Predisposing Factors and Situational Triggers: Exclusionary Reactions to Immigrant Minorities." *American Political Science Review* 98 (01): 35–49.
Steiner, Pascale, and Hans-Rudolf Wicker, eds. 2004. *Paradoxien im Bürgerrecht*. Zürich: Seismo Verlag.
Tajfel, H. 1982. "Social Psychology of Intergroup Relations." *Annual Review of Psychology* 33 (1): 1–39.
Taylor, S. E., and S. T. Fiske. 1978. "Salience, Attention, and Attribution: Top of the Head Phenomena." *Advances in Experimental Social Psychology* 11: 249–88.
Vatter, Adrian, and Deniz Danaci. 2010. "Mehrheitstyrannei durch Volksentscheide?" *Politische Vierteljahresschrift* 51: 205–22.
Wanner, P., and É. Piguet. 2002. "The Practice of Naturalization in Switzerland: A Statistical Overview." *Population (English Edition)* 57 (6): 917–26.