Does Direct Democracy Hurt Immigrant Minorities? Evidence from Naturalization Decisions in Switzerland

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Abstract

Do minorities fare worse under direct democracy than under representative democracy? We provide new evidence by studying naturalization requests of immigrants in Switzerland, which were typically decided with referendums in each municipality. Using panel data from 1,400 municipalities for the 1991–2009 period, we exploit recent Federal court rulings that led municipalities to transfer the naturalization decisions to an elected municipality council. We show that naturalization rates surged by 50% once politicians in the council, rather than citizens in referendums, began deciding on local naturalization applications. Whereas referendums enable citizens to freely vote on their prejudice, discriminatory rejections are less likely in the council because accountable politicians are constrained to justify potentially arbitrary rejections. Consistent with this mechanism, we find that the increase in naturalization rates caused by switching from direct to representative democracy was much stronger in more xenophobic areas and among more marginalized immigrant groups from Yugoslavia and Turkey.

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I. Introduction

Does direct democracy hurt minorities? This fundamental question has divided scholars of political theory, from the birth of Athenian democracy to current day controversies over the initiative process in American states or popular referendums in Switzerland and other European countries. Although many praise the virtues of direct democracy as the most democratic means of enacting legislation, others have long cautioned that do-it-yourself government by citizens threatens the interests of political, economic, ethnic, racial, religious, or sexual minorities. In the Federalist Papers, Madison famously advocated representative over direct democracy, as he believed that direct democracy led to majority dictatorship, since it contains "nothing to check the inducements to sacrifice the weaker party or an obnoxious individual" (Madison; 1961, 133). Bell expressed this in even stronger terms by claiming that because "direct democracy [...] enables voters' racial beliefs and fears to be recorded and tabulated in their pure form, the referendum has been the most effective facilitator of that bias, discrimination, and prejudice which has marred American democracy from its earliest day" (Bell Jr.; 1978, 14).

Despite these stern warnings and considerable scholarly work on the topic, our understanding of how different forms of democratic government affect minority interests continues to be limited. Although some studies of direct democracy provide evidence for majority tyranny (Gamble; 1997; Schildkraut; 2001; Haider-Markel et al.; 2007; Hajnal; 2009), others suggest that direct democratic decisions do not systematically suppress minorities and may even enable them to protect their interests (Zimmerman and Francis; 1986; Cronin; 1989; Frey and Goette; 1998; Donovan and Bowler; 1998; Hajnal et al.; 2002). In a recent review of the literature, Tolbert and Smith (2006, 32) concluded that the "scholarly debate over the consequences for minority rights in direct democracy contests is far from settled." Another review by Matsusaka (2005, 201) summarized that "there is no convincing evidence–anecdotal or statistical–that minority rights are undermined by direct democracy with a greater regularity than by legislatures."

One important reason for the absence of "convincing evidence" on the effects of direct democracy on minority outcomes is that identifying the causal effect of direct democracy–just as with other political institutions–is a challenging empirical enterprise. Most existing

studies simply count how often minority positions lose in popular votes; however, they lack a control group to infer whether minority outcomes would have been better if the same decisions had been taken under representative democracy (Gerber and Hug; 2001; Matsusaka; 2005). Only a few studies go further and use cross-sectional data to compare minority outcomes in jurisdictions with and without direct democratic provisions. However, this raises common concerns about endogeneity and omitted variable bias because jurisdictions with and without direct democracy differ along many dimensions, such as voter preferences, historical legacies, political culture, etc. that independently affect minority outcomes, but are difficult to measure and control for in cross-sectional statistical analysis.

Common strategies to deal with omitted variable bias, such as fixed effects estimation with panel data, have not been applied to this topic, because constitutional provisions about direct democracy rarely change over time. To our knowledge, thus far, no study has relied on natural experiments that exploit plausibly exogenous changes in direct democracy to identify its impact on minority outcomes. From a policy perspective, this lack of reliable knowledge regarding the impact of direct democracy on minority outcomes is troubling because direct democracy has become increasingly fashionable in recent decades. More than half of all American states and cities already provide for initiatives and referendums, and many Western European and Post-Soviet countries nowadays frequently use referendums for a wide range of important public policy decisions at the federal, regional, or local levels (Hug; 2003; Matsusaka; 2005).

In this study, we address this gap and advance a natural experiment that considers the effect of direct democracy on the naturalization rates of immigrant minorities in Switzerland. Naturalization rates are an important minority outcome because naturalization is the pathway through which immigrant minorities obtain the right to vote, the right to stay in the host country indefinitely, and, as multiple correlational studies have shown, access to better jobs, higher wages, and higher levels of social integration (e.g. OECD (2011)).

Eligible immigrants that seek Swiss citizenship have to apply with the municipality in which they reside. Following a processing period of about three to five years, their applications are put to a vote. Municipalities use two main types of institutional regimes to vote on naturalization applications: direct democracy, where citizens vote on the applications using

referendums and representative democracy, where elected legislators vote on the applications in the municipality council. Over time, this unique configuration has generated a wealth of data that enables us to examine whether immigrant minorities fare better or worse if their naturalization requests are decided by the people or by legislatures. We collected an original annual panel dataset that combines information about the local institutions and naturalization rates for a representative sample of $1,400$ municipalities for the 1991–2009 period. Our identification strategy exploits a series of rulings by the Swiss Federal Court in 2003–2005 that trigged a large scale institutional change from direct to representative democracy in up to 600 municipalities. This unusually large institutional variation over time allows us rule out bias from time-invariant confounders, because we can identify the effect of direct democracy based only on within-municipality variation.

Using a series of fixed effects regression, we find that the sudden transition from direct to representative democracy sharply increased naturalization rates by about 50%. A conservative back-of-the-envelope calculation yields that, in the switching municipalities alone, about 12,000 fewer immigrants would have been naturalized over the last five years if these municipalities had not switched to representative democracy. This effect is robust to various specification checks, including time-varying covariates, linear and quadratic municipality specific time trends to account for smooth local trends in unobserved confounders, and various other specifications. Moreover, given the processing time of about three to five years before a submitted application was put to the vote, applicants could not have anticipated the institutional change and therefore, the sharp increase in naturalization rates cannot be explained by sudden changes in the applicant pool. Essentially, lucky immigrants whose applications were to be decided in the municipality council stood a much better chance of being approved for the Swiss passport as compared to unlucky applicants, who were similarly qualified, but had applied in the same municipality just a few month earlier such that their applications would still be voted on at the citizens' assembly. Consistent with this identification strategy, placebo tests confirm that there are no differential trends in naturalization rates for each of the five years prior to the institutional switch, but much higher naturalization rates for each of the three years following the switch from direct to representative democracy. Overall, immigrants

fare much better when politicians in legislatures, rather than citizen in referendums decide on naturalization applications.

We employ a mixed-method approach to shed light on the causal mechanisms that might explain the large pro-minority effect of switching from direct to representative democracy. The evidence from our semi-structured interviews with over 230 head secretaries of a random sample of the switching municipalities suggests that the main mechanism through which immigrant minorities benefit is the heightened accountability that accompanies the transition of decision-making power from the people to the politicians. Whereas direct democracy allows citizens to vote on the basis of their prejudice without needing to justify their decisions, representative democracy requires that accountable politicians publicly justify their votes and report on the reasons for rejecting the naturalization of an applicant. This institutional constraint reduces the likelihood that applicants are rejected on the basis of prejudicial or discriminatory judgments, even if politicians are potentially as prejudiced against immigrants as voters. Consistent with this accountability mechanism, further quantitative tests confirm that switching from direct to representative democracy is more beneficial for applicants that live in more xenophobic municipalities or belong to more marginalized origins groups. Moreover, successful appeals against arbitrary rejections which raise awareness about judicial oversight result in higher naturalization rates only when politicians instead of voters decide on applications.

Overall, the results present perhaps the most direct evidence to date that, when faced with the same policy decision, direct democracy disadvantages minorities with greater regularity than legislatures. The outcomes for immigrant minorities in Switzerland are systematically more negative if their naturalization applications are decided by people, rather than legislatures. The fact that naturalization rates rise sharply under representative democracy, while the applicant pool remains unchanged, implies that voters in naturalization referendums systematically discriminate against a significant proportion of immigrants that would be approved if legislators were to vote on the same naturalization applications. This evidence suggests that in order to decrease the risk of discriminatory rejections, direct democracy should no longer be used for naturalization decisions. In the conclusion, we further elaborate on the theoretical and policy implications of our findings.

II. Direct Democracy and Minorities

A sizable literature has investigated the relationship between direct democracy and minority interests in the U.S., Switzerland, and other European countries. Early analysts of direct democratic legislation in American states often voiced concerns that popular votes harm the interests of minorities (e.g. Barnett (1915); Key and Crouch (1939)). Initiatives that targeted ethnic and racial minorities around the turn of the century included an Oklahoma initiative that disenfranchised black citizens or a California initiative that limited the property rights of Japanese (Matsusaka; 2005). More recent cases have reinforced concerns among some observers that direct democracy enables a self-interested white majority to infringe on the interests of nonwhite minorities (e.g. Bell Jr. (1978); Guinier (1994); Ellis (2002)). Often cited cases include recent initiatives in California that denied social services to undocumented immigrants and their children, ended affirmative action programs, or eliminated bilingual education (Alvarez and Butterfield; 2000). Similarly, voters in Switzerland passed referendums that have been widely criticized as anti-minority, including a constitutional amendment that bans the construction of minarets and legislation that provides for the deportation of criminal foreigners.

Such examples suggest that minorities might face a threat from unchecked majoritarianism, but more systematical studies have found only mixed support for this claim. Although early studies concluded that direct legislation in America does not systematically disadvantage minorities (Magleby; 1984; Zimmerman and Francis; 1986; Cronin; 1989), Gamble (1997) subsequently showed that initiatives that restrict the civil rights of minorities are passed more often than other types of initiatives. Similarly, Hajnal et al. (2002) concluded that minorities often lose on racially targeted propositions and Moore and Ravishankar (2012) found that minorities tend to be at a disadvantage more often than whites across all sorts of propositions. However, Frey and Goette (1998) found no such anti-minority bias in referendums in Switzerland.[1]

Although these works provide deep insights into the dynamics of direct democracy, their

[1]Donovan and Bowler (1998) argued that direct democracy threatens minorities only in small jurisdictions, a finding subsequently challenged by Haider-Markel et al. (2007). Other studies suggested that minorities are primarily threatened in areas with high racial diversity (Tolbert and Hero; 2001) and that the negative effects of direct democracy vary by target and the direction of the referendum (Vatter and Danaci; 2010).

study designs mostly count how often minorities gain or lose in direct democratic contests. The problem with this counting-up approach is that it does not provide reliable knowledge about the causal effect of direct democracy on minority outcomes, because we lack information about the missing counterfactual. To conduct causal inference, we need to determine how well the same minorities would have fared if the same decisions had been taken under representative democracy (Gerber and Hug; 2001; Matsusaka; 2005; Haider-Markel et al.; 2007). And while critics of direct democracy are quick to cite cases where popular votes have infringed on the interests of minorities, supporters of direct democracy argue that such decisions are often simply window dressing, because legislatures would have passed similar measures even in the absence of the direct democratic vote. As Matsusaka (2005, 201) indicates, "legislatures have harmed minorities, too–almost all Jim Crow laws throughout the South were brought about by legislatures–and elected representatives, not direct democracy, interned Japanese-American citizens during World War II." Similarly, Arizona's legislature recently passed a far-reaching immigration enforcement law which many have criticized as violating the rights of immigrants.

The important, and largely unanswered, question is whether representative democracy is systematically better at protecting minority rights than direct democracy. Very few studies have compared minority outcomes under different regimes. Schildkraut (2001) and Preuhs (2005) examined whether initiative states are more likely to adopt official English laws than non-initiative states and obtained mixed findings. Haider-Markel et al. (2007) counted the outcomes of gay rights legislation in direct democracy contests and state legislative bills and amendments, and found that legislatures are more likely to pass pro-gay measures. Vatter and Danaci (2010) found that referendums on minority issues in Switzerland rarely overturned prior decisions taken by the Swiss parliament. Finally, Helbling and Kriesi (2004) and Helbling (2008) examined naturalization requests of immigrants in a sample of about 100 Swiss municipalities in 2004 and found that direct democracy was positively correlated with rejection rates.

The fundamental problem with the few existing comparative studies is that they are purely correlational and lack an explicit identification strategy for ruling out alternative explanations. In particular, these studies are limited to static, cross-sectional comparisons, which leave ample

room for selection bias and deviate substantially from the ideal experiment that the observational study is attempting to approximate. In the ideal experiment, we would randomly assign jurisdictions to direct and representative democracy such that any difference in the outcomes for minorities could be attributed to the effect of direct democracy per se. However, since direct democratic institutions, such as the initiative process in America or popular votes in Swiss municipalities, are not exogenously assigned, but result from endogenous and complex historical processes, jurisdictions that established direct democracy differ in many ways from jurisdictions that did not, including important geographic, cultural, economic, and political differences that are potentially correlated with minority-related policy outcomes. For example, in America the initiative is much less common in the South, and this geographic imbalance is correlated with various policies regarding ethnic and racial minorities.

The selection bias that results from the endogeneity of political institutions is difficult to control for in purely cross-sectional study designs because important confounding variables cannot be measured, and even if they could be measured, one quickly runs out of comparison cases when dealing with small samples of comparable jurisdictions. Cross-sectional designs also suffer from potential post-treatment bias because they do not allow for a clear distinction between control and outcome variables. If direct democracy places minorities at a disadvantage, then controlling for measures that capture this disadvantage induces post-treatment bias, because we are controlling for the consequences of the treatment variable (direct democracy). The direction of this bias is usually unknown. On the other hand, omitting controls for the pre-existing disadvantages of minorities leads to omitted variable bias. This conundrum is difficult to resolve with cross-sectional data (King; 2010; Green et al.; 2010). Common strategies to deal with unobserved confounders, such as fixed-effects and differences-in-differences approaches, have not been applied to studies that examine minority outcomes because direct democratic institutions rarely change over time.[2]

Overall, the literature review reveals that the existing evidence regarding the effect of direct democracy on minority outcomes is limited and inconclusive. Most studies have examined

[2]For example, when attempting to identify the effect of the initiative in the sample of U.S. states, there are only four institutional changes since 1960, and only one since 1970, Mississippi in 1992, which prohibits the use of state fixed effects to remove bias from time-invariant unobserved heterogeneity.

how well minorities fare in popular votes and have obtained mixed findings. However, the question of whether minorities would have achieved better or worse results under representative democracy still remains unanswered. The few comparative studies that do exist limited their analysis to cross-sectional comparisons that provide suggestive correlational evidence, but are particularly vulnerable to selection and post-treatment bias. In this study, we address this issue by advancing a natural experiment that enables us to exploit plausibly exogenous over-time variation in direct democracy.[3]

III. Naturalizations in Switzerland

A. Background

The goal of our study is to examine the relationship between direct democracy and minority outcomes in the area of naturalizations in Switzerland. Naturalization is an important outcome for immigrant minorities because citizenship gives immigrants access to several direct and indirect benefits. First, only naturalized immigrants have the right to vote, to stay in the host country indefinitely, and to apply for jobs at all public companies. Second, children born to resident aliens do not automatically receive Swiss citizenship at birth, but have to apply for citizenship through regular naturalization procedures. Third, several correlational studies suggest that naturalization allows immigrants to obtain higher wages, better jobs, and higher levels of social integration (e.g. OECD (2011)). As Bellamy (2008, 12) argues, citizenship marks the dividing line between being tolerated as a foreign resident and full membership of the host society, which entitles one to have his voice "heard on an equal basis."

For historical reasons, Switzerland employs a system of triple citizenship, which defines Swiss citizenship on the basis of citizenship in a municipality, a canton, and the Confederation. This three-tiered system is rather unique in that it delegates the responsibility for the ultimate naturalization decision down to the municipal level (see Hainmueller and Hangartner (2013) for details). Applying for Swiss citizenship is a lengthy process. Immigrants have to complete a residency requirement of at least twelve years, after which they can submit their

[3]A small number of studies in economics have exploited natural or actual experiments to estimate the effects of direct democracy on other outcomes, such as government spending and public good provision (Olken; 2010; Hinnerich and Pettersson-Lidbom; 2010; Funk and Gathmann; 2011).

naturalization application to the municipality in which they reside. The municipality then forwards the application to the federal and cantonal authorities for various background checks and if the outcome of this evaluation is positive, the municipality eventually invites the applicant for an interview to asses the applicant's language skills, integration status, and financial situation.[4] Following this local assessment, the application is submitted to the local naturalization institution for the vote on the final decision. Usually between three and five years elapse from the submission of the first application form to the final vote. This lengthy processing period is an important part of our identification strategy because it rules out the possibility that applicants could have anticipated the changes in the institutions that were used to vote on their naturalization request.

Municipalities use different institutional arrangements to autonomously vote on naturalization applications. In the period under investigation (1991–2009), the institutional regimes can be roughly classified into the following categories:

Direct Democracy: Citizens decide on naturalization requests by voting in a referendum on each applicant. Applicants that receive a majority of "yes" votes obtain the Swiss passport. There is some heterogeneity regarding where and how the voting occurs. In most municipalities, the referendums are held at the citizens' assemblies, where citizens meet at regular intervals to decide on various municipal matters. All Swiss residents of voting age are eligible to attend and votes are commonly cast by hand-raising. Prior to 2003, in a small number of municipalities, which we refer to as ballot box municipalities, citizens submitted their ballots for the referendums not at the citizens' assemblies, but at the local polling places. Citizens received leaflets informing them regarding the pending naturalization requests and then voters cast secret ballots to approve or reject the applications (see Hainmueller and Hangartner (2013) for a detailed analysis of these referendums).[5]

Representative Democracy: The naturalization requests are not decided by citizens, but

[4]The main requirements for Swiss citizenship are as follows: residency of 12 years, clean criminal record, some evidence of financial self-sufficiency, integration into the Swiss context, familiarity with the Swiss way of life, respect for the legal order, and demonstrated mastery of at least one of the country's official languages. See Hainmueller and Hangartner (2013) for details.

[5]Some municipalities also use burghers' assemblies where only old-established citizens of the municipality have the right to vote.

by elected politicians who vote on the applications in the legislative or executive branch of the municipality council (the legislative branch is called the municipality parliament in larger municipalities). Politicians are typically elected to serve in the council for a tenure of four years and, typically, there are no term limits. A few municipalities elect council members for six years and restrict the tenure to a maximum of three terms.[6]

Appointed commissions: In a very small number of municipalities, the naturalization decision is delegated to appointed naturalization commissions that operate at the municipal or in some cases the cantonal level. Members are typically appointed by the municipality or cantonal council for long, and sometimes even unlimited, tenures and include a mix of local politicians and regular citizens.

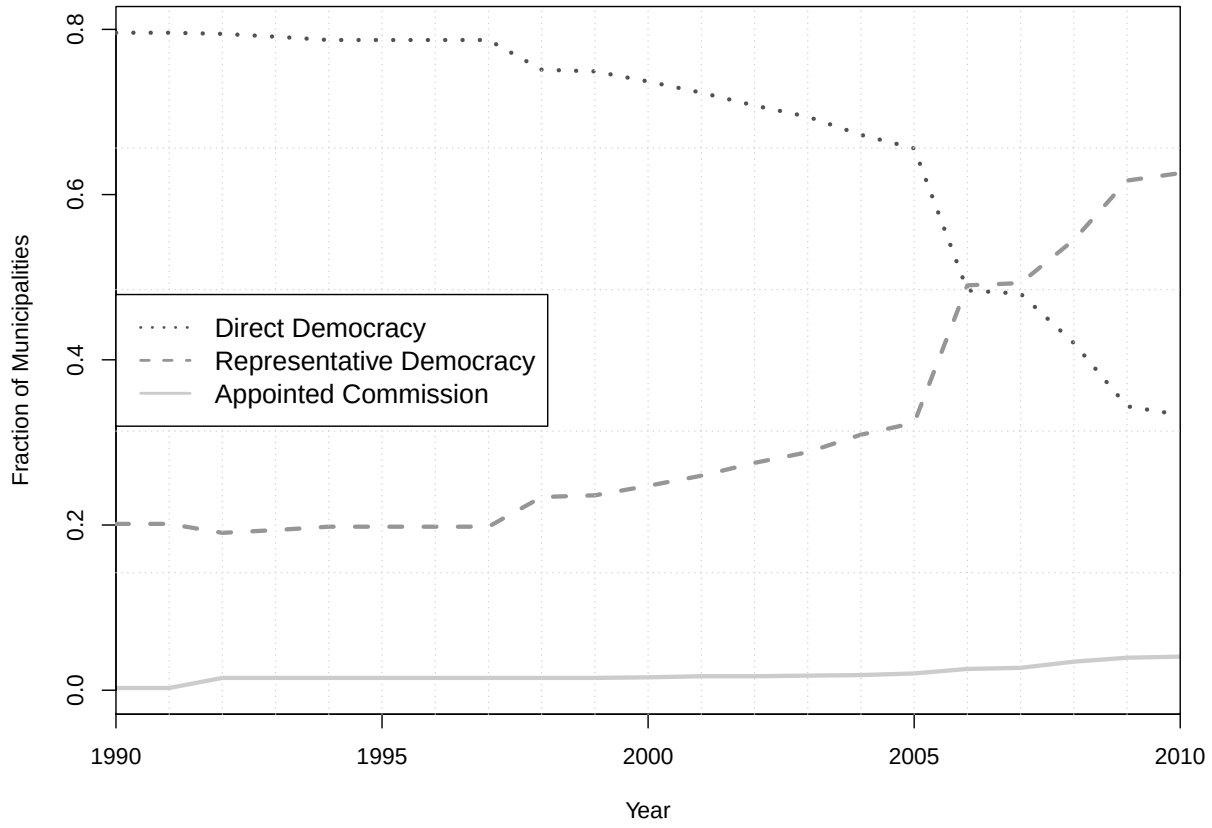
B. Court Rulings and Institutional Change

Figure 1 displays the proportion of municipalities that used direct democracy, representative democracy, and appointed commissions over the sample period from 1990 to 2010. The data is based on a survey we conducted with a representative sample of about $1,400$ municipalities to measure the local naturalization regime.[7] In the early 1990s, approximately 80% of the municipalities used direct democracy, 20% used representative democracy, and only about .1% used appointed commissions to vote on naturalization requests. Barely any institutional change occurred from the 1990s to about 2005, when, triggered by a series of landmark rulings by the Swiss Federal Court, more than 600 municipalities were compelled to suddenly transfer the decision-making authority over naturalization applications from voters to politicians. This unusually large over-time variation provides us with a suitable natural experiment to identify the causal effect of direct versus representative democracy.

[6]Some municipalities have a Burgher's council which is the executive branch of the Burgher's assembly.

[7]We provide details about the survey in the next section. Table B.1 in the appendix provides a detailed breakdown for the different regime subtypes.

Figure 1: Trends in Naturalization Institutions



Note: Plot shows fraction of municipalities that use direct democracy (dotted black line), representative democracy (dashed dark grey line), and appointed commission (solid bright grey line) to decide on local naturalization requests for the years 1990-2010. N=1,360 municipalities. (Source: Own data collection).

The switch to representative democracy was driven by multiple Federal Court rulings. In the early 2000s, media reports sparked debates about seemingly discriminatory rejections of applicants in one of the ballot box municipalities that voted on naturalization applications in secret ballot referendums. A case was brought before the Federal Court which, in July 2003, ruled that secret ballot voting for naturalization referendums violates the Swiss Constitution (BGE 129 I 232 and BGE 129 I 217). The main reason for ruling out secret ballot referendums was that immigrants have the right to appeal rejected applications and therefore, the decision-making body is obligated to provide a justification for a rejection (BGE 129 I 217). Since it

lies in the very nature of closed ballots that voters do not have to justify their decisions, the court reasoned that such procedures cannot be used for naturalizations.

The court emphasized two important additional considerations: First, it explicitly mentioned that in secret ballot referendum voting, an applicant may be rejected simply because of her affiliation to a certain "ethnic-cultural group" (BGE 129 I 232: 241), which violates the anti-discrimination clause provided by the Swiss Constitution.[8] Second, the court argued that referendum voting on naturalization applications in general was highly problematic because of privacy concerns. To make an informed decision (not based on stereotyping), local voters require access to detailed information about the applicant, including his assessed integration status, language skills, criminal record, financial situation, etc. However, revealing this personal data to local voters constitutes a severe intrusion into the applicant's privacy. The court argued that the preferred solution for this dilemma is to not let voters decide on naturalization requests.

Through these two rulings, the Federal Court considerably narrowed the range of permissible institutional regimes that municipalities could use to vote on naturalization applications. As a direct response, the ballot box municipalities immediately had to transfer the authority for naturalization decisions to the municipality council. Many of the other direct democratic municipalities that voted at the citizens' assemblies initially tried to accommodate the court rulings, which required municipalities to justify rejections, by arguing that any concerns that were raised about applicants during the assembly meeting could be used as an ex-post justification for rejections. However, in 2004, the Federal Court issued another ruling (BGE 130 I 140) and argued that such a practice of providing ex-post justifications was highly constitutionally problematic and clarified that it would be tolerated only as a temporary solution until municipalities and cantons revised their naturalization procedures.

This landmark ruling triggered a much larger institutional change as direct democratic municipalities that voted at the citizens' assemblies were compelled to transfer the decision-making power over naturalization requests to the municipality council. Several cantons, mainly

[8]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.

larger ones with numerous naturalization requests, drafted new laws regulating the institutional procedures for granting municipal citizenship. Particularly, the cantons of Bern and Vaud issued laws in 2005, which harmonized current local practice and required that naturalizations be decided by the municipal council. Similarly, in the same year, the canton of Zurich enacted a law stating that naturalizations could no longer be processed by the Burgher's assembly. These new cantonal regulations forced municipalities to switch from direct to representative democracy. Interviews that we conducted with head secretaries of a random sample of switching municipalities confirmed that municipalities were compelled to change the regime. As one secretary expressed "this change was forced upon us from above, we did not switch voluntarily." Other replies included statements like "the new laws dictated that we change the regime" or "the change was inevitable because of the new rules."

Notice that some fraction of municipalities had not made the transition from direct to representative democracy by the end of our sample period. These are located in cantons that had not revised their regulations by 2010; therefore, municipalities in these cantons had not (yet) been compelled to switch. It is important to emphasize that the municipalities that have not switched yet will not influence the internal validity of our effect estimates, because our identification is based only on municipalities that were compelled to switch as a result of the new regulations triggered by the court rulings. Consistent with this identification strategy, placebo tests that we present below confirm that for the switching municipalities, there are no differential trends in naturalization rates for each of the five years prior to the switch.

However, the lack of compliance among some of cantons may influence the external validity of our estimates. In particular, given that the cantons that had not yet switched include some of the more conservative areas (Aargau, Solothurn, Schwyz, and Thurgau), the estimated increase in naturalization rates that we obtain from the sample of switching municipalities presumably provides an underestimate of the (potentially) larger effect expected if all municipalities were to switch to representative democracy (in the next section we show that the effect size is larger in more conservative areas).

IV. Empirical Test

A. Data, Sample, and Methodology

To estimate the effect of direct democracy on the naturalization rate, we collected panel data for each year from 1990–2010 comprising the naturalization rates and institutional data on the local decision-making body for a large sample of Swiss municipalities. To measure the institutional data, we fielded a survey to the *Gemeindeschreiber* (head secretaries) of all Swiss municipalities to collect information about the history of the local naturalization process.[9] This survey yielded an overall response rate of about 60% for a total sample size of 1,474 municipalities, 962 from the German, 417 from the French, and 95 from the Italian language region.[10] The non-response analysis suggested that our sample is representative of the relevant target population. The non-response was concentrated among the smallest municipalities with very few or no naturalization requests during our sample period. Overall, the sample municipalities capture about 82% of the total Swiss population or 75% of municipalities with at least 10 naturalizations in 2000; the sample includes all municipalities with more than 10,000 residents. The coverage is fairly balanced across the language regions; the sample municipalities covered 82%, 84%, and 76% of the total population in the German, French, and Italian language regions, respectively.

The outcome of interest in our analysis is the naturalization rate, which, for each municipality i in a given year t, is defined as the number of naturalizations that occurred during year t divided by the number of eligible foreigners that resided in municipality i at the beginning of year t. We computed the local naturalization rates using the detailed PETRA register data provided to us by the Swiss Federal Statistical Office.[11] Appendix A provides a detailed list of sources for all variables used in the analysis.[12]

[9] We fielded the survey using an online interface during the summer of 2010. The questionnaire is available upon request. We conducted extensive cross-validation by calling and visiting a random sample of municipalities and conducting interviews with canton officials to verify the institutional codings. Notice that we collected the institutional data for the 1990–2010 period; however, naturalization rates are only available for 1991–2009.

[10] For tractability, we included the municipalities from the Romansh language region, which accounted for less than 1% of the Swiss population, in the German language region for the analysis. Our results are substantively similar even when we exclude the Romansh region.

[11] Eligible foreigners are defined as foreigners who have completed the residence requirement, which is 12 years; however, the number of years spent in Switzerland between the ages of 10 and 20 years count double.

[12] To guard against outliers, we excluded a small number of municipalities where the naturalization rate in

The key independent variable is the institutional regime that municipalities use to decide on their naturalization applications. To capture this, we used two binary variables, *Direct Democracy* and *Appointed Commission*, that we coded as 1 if a municipality used direct democracy or an appointed commission respectively as of January 1 in a given year, and zero otherwise. Representative democracy serves as the reference category. Notice that measuring the institutional regime as of January 1 is the most conservative coding that, if anything, biases the results against finding a negative effect of direct democracy on naturalization rates. For example, if a municipality switched from direct to representative democracy on January 2, 2005, then 2005 is still coded as direct democracy in our data, despite the fact that representative democracy was used for almost the entire year. If naturalization rates increase in 2005 due to representative democracy, this increase is credited to direct democracy in our coding and therefore, leads to downward bias. Since all municipalities switched from representative to direct democracy, this timing bias only works against finding a negative effect of direct democracy.[13]

To estimate the effect of direct democracy on the naturalization rate, we used a standard fixed effects regression given by

$$Y_{it} = \eta_i + \delta_t + \alpha\, \textit{Direct Democracy}_{it} + \gamma\, \textit{Appointed Commission}_{it} + X_{it}'\beta + \varepsilon_{it},$$

where Y_{it} is the local naturalization rate, η_i is a municipality fixed effect that controls for time-invariant unobserved factors, δ_t is a year fixed effect to control for common shocks, $\textit{Direct Democracy}_{it}$ and $\textit{Appointed Commission}_{it}$ are our institutional measures, X_{it} is a vector of time-varying covariates, including a constant, and ε_{it} is an idiosyncratic error term. The key quantity of interest is α which captures the effect of switching from direct to representative democracy on the local naturalization rate. Notice that this effect is identified based on the within-municipality variation of naturalization rates among municipalities that switch their regimes over time. By design, this rules out omitted variable bias from unobserved municipality characteristics that are time invariant over our sample period, such as a municipality's geo-

a given year exceeded 50% (equivalent to the 99th percentile) from the estimation sample; this exclusion only affected municipalities that had very small proportions of foreign-born populations, such that a small number of naturalizations could create steep increases in the annual naturalization rate. The results are very similar even if these outlier municipalities are included.

[13]The exception to this are three municipalities that switched in the opposite direction. The results are robust to the exclusion of these three municipalities.

graphic features, its local political culture and history, or its structural demographic, economic, and social composition.

In the robustness checks, we further relax the model specification and estimate

$$Y_{it} = \eta_{0i} + \eta_{i1}t + \eta_{i2}t^2 + \delta_t + \textit{Direct Democracy}_{it} + \gamma\, \textit{Appointed Commission}_{it} + X'_{it}\beta + \varepsilon_{it},$$

where t is a time trend variable. This model includes municipality fixed effects, year fixed effects, and municipality-specific linear and quadratic time trends. Compared to the standard fixed effects model above, this specification further eliminates potential sources of bias because, besides the municipality and year fixed effects and the time-varying covariates, it also captures smooth trends in any unobserved factors that vary over time at the municipality level, such as local trends in voter preferences, ethnic heterogeneity, or migration patterns. This helps to ensure that the variation in naturalization rates captured by α is attributable to the effect of switching from direct to representative democracy, rather than trends in unmeasured confounders. In the robustness section we also use additional specifications and placebo checks, including a dynamic panel model that checks for differential trends prior to the switch and allows for short-term and long-term effects. To account for potential serial correlation and heteroscedasticity, we always cluster the standard errors at the municipality level. To address potential post-treatment bias, we present the results both with and without time-varying covariates.

V. Results

A. Descriptive Statistics and Graphical Analysis

Table 1 reports the average naturalization rates under the three institutional regimes, pooled over the 1991–2009 period. The results lend initial support to the hypothesis that immigrant minorities fare worse under direct democracy than under representative democracy: the average naturalization rate was 2% for the municipalities where citizens decide on citizenship requests, compared to 3% in municipalities where elected politicians decide on applications in the municipality councils.

In Figure 2, we conduct a non-parametric graphical analysis that, akin to a regression discontinuity design, seeks to isolate the extent to which the differences in naturalization rates

Table 1: Average Naturalization Rates by Regime

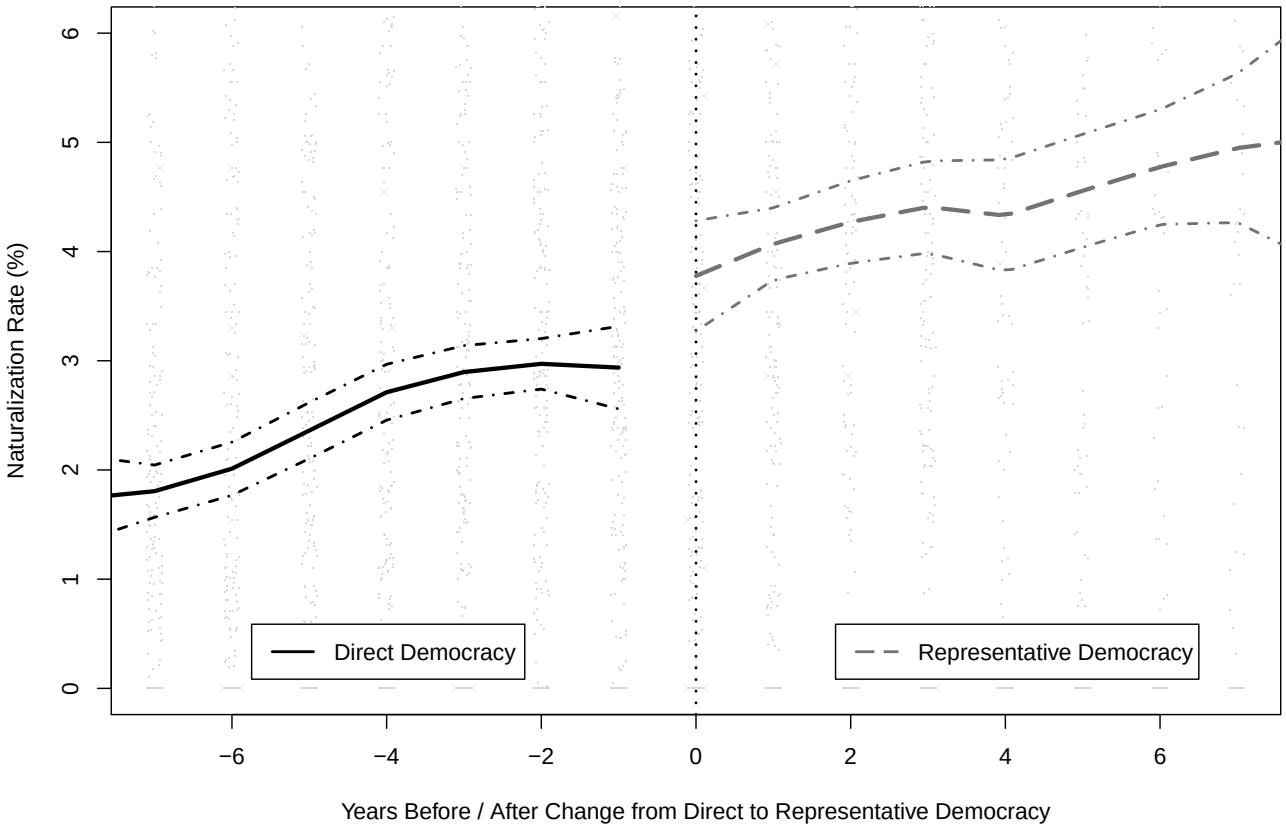
	Naturalization Rate (%)			
Regime Type	Mean	LB	UB	Observations
Appointed Commission	4.23	3.67	4.79	520
Representative Democracy	3.06	2.89	3.22	7,648
Direct Democracy	2.00	1.90	2.10	16,309
Full Sample	2.38	2.29	2.47	24,498

Note: Average naturalization rates by regime, pooled over the 1991-2009 period. LB and UB refer to upper and lower bound of 95 % confidence interval (based on standard errors clustered by municipality).

can be attributed to the effect of direct democracy. For each of the switching municipalities, we plot the naturalization rates for the seven years before and after the municipalities switched from direct to representative democracy (the values are jittered horizontally) as grey dots. The municipalities are arranged such that year zero refers to the first year in which the municipalities used representative democracy to decide on naturalization requests as of January 1. The solid and dashed lines summarize the average naturalization rate in the years under direct and representative democracy, respectively (based on a loess fit with 95% pointwise wise confidence intervals).

The results provide clear evidence that the switch from direct to representative democracy resulted in substantially higher naturalization rates. While the average naturalization rates under direct democracy stabilized in the years leading up to the switch, they surged sharply immediately following the transition of the decision-making power from the people to the municipal council, and continued to rise in the years following the transition. A signed rank test comparing the naturalization rates to the left and the right of the threshold reveals that this jump is significant at conventional levels (p-value $< .03$). The fact that the steep rise in the naturalization rates coincides with the institutional switch suggests that this increase is attributable to the change from direct to representative democracy as opposed to other confounding factors. Given that it takes about three to five years of processing time before a submitted application is put to vote, immigrants had no way of anticipating the switch in the institutional regime; therefore, the increase in naturalization rates cannot be explained by a

Figure 2: Effect of Direct Democracy on Naturalization Rates



Note: Plot shows how naturalization rates change as municipalities switch from direct to representative democracy. Grey dots visualize municipal naturalization rates for seven years before and after a given municipality switched from direct to representative democracy (values are horizontally jittered); year 0 refers to the first year in which representative democracy was used on January 1. The solid and dashed lines summarize the average naturalization rate in the years under direct and representative democracy respectively, using a loess fit (solid line) with its 95% piece-wise confidence intervals (dotted line). $N = 598$ (all switching municipalities). Signed rank test for no change in naturalization rate from $t = -2$ to $t = 0$ is rejected: z-val=2.2, p-val=0.03

sudden increase in the quality of the applicant pool. Instead, lucky immigrants whose naturalization applications were to be evaluated by elected politicians in the council stood a much better chance of getting the Swiss passport as compared to unlucky, but similarly qualified, applicants, who had submitted their naturalization applications in the same municipality just a few months earlier, such that their requests would still be decided by voters under direct democracy.

B. Main Results: Direct Democracy and Naturalization Rates

Table 2 presents the results from the standard fixed effects specification. Model 1, which only uses the *Direct Democracy* indicator to capture the institutional effect, reveals that switching from direct to representative democracy increased naturalization rates by 1.23 percentage points on average. This effect is precisely estimated (t-value ≈ 6.8) and large in substantive terms. The last three rows in Table 2 report the estimated percentage increase over the average naturalization rate under direct democracy, which indicates the substantive magnitude of the effect. The switch from direct to representative democracy resulted is an increase of approximately 62% in the average naturalization rate with a 95% confidence interval from $[44\%, 79\%]$.

Model 2 adds a second indicator, *Appointed Commission*, for the very small group of municipalities where applications are evaluated by appointed naturalization commissions. The results suggest that naturalization rates are higher under this regime compared to representative democracy. However, this effect is based on a very small number of municipalities and is not per se identified by our natural experiment. Not surprisingly, it is also not robust across specifications. In contrast, the effect of direct democracy remains virtually unaffected, which confirms that the increase in naturalization rates found in model 1 is indeed driven by the shift from direct to representative democracy. Models 3 and 4 replicate these specifications while restricting the sample to municipalities in the German language region where the large majority of institutional switches occurred.[14] The results are very similar with slightly larger effect sizes: on average, switching from direct to representative democracy increased naturalization rates by about 78% $[57\%; 98\%]$.

Overall, these findings imply that applicants fare much better if elected politicians in municipal councils, rather than the citizens in referendums, evaluate naturalization requests. A back-of-the-envelope calculation suggests that, in the switching municipalities alone, about 12,000 fewer immigrants would have been naturalized over the last five years if these municipalities had not switched to representative democracy (based on the estimate in model 1).

[14]Notice that, consistent with the absence of major institutional shifts before 2009, we find no effect of direct democracy if the regressions are estimated for the French or Italian subsamples alone.

Table 2: Effect of Direct Democracy on Naturalization Rates

Outcome	Naturalization Rate (%)			
Mean (Direct Democracy)	2.00		2.20	
Sample	All Municipalitites		German Language	
Model	(1)	(2)	(3)	(4)
Direct Democracy	-1.23	-1.21	-1.72	-1.71
	(0.18)	(0.18)	(0.22)	(0.23)
Appointed Commission		0.51		0.11
		(0.58)		(0.71)
Constant	1.81	1.79	2.41	2.41
	(0.16)	(0.16)	(0.23)	(0.23)
Municipality FEs	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓
Observations	24,477	24,477	15,597	15,597
Municipalities	1,360	1,360	874	874
Effect Size (% Δ)	62	61	78	78
95% CI LB	44	43	59	57
95% CI UB	79	78	98	98

Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal rate for ordinary naturalizations, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), and Appointed Commission (1 for appointed commission, 0 otherwise). Representative Democracy is the baseline. The last three rows summarize the increase when switching from direct democracy to representative democracy as the percent change over the average naturalization rate (under direct democracy). LB and UB refer to upper and lower bound of 95 % confidence interval. Models 1-2 refer to the sample of all municipalities and models 3-4 restrict the sample to municipalities in the German language region.

This is a rather conservative calculation, since it is only based on switching municipalities and does not account for the fact that, as shown in the next subsection, the long-term effects of the switch are even larger (see next section).

C. Robustness Checks

How robust are these findings? Here we summarize a variety of robustness checks. First, we checked whether our results are robust to including time-varying covariates and municipality-specific time trends which proxy for time-varying unobserved confounders. The set of time-varying covariates includes economic shocks, captured by the local unemployment rate; demographic shocks, captured by the log population and the lagged ratio of Swiss to foreign born

population; and preference shocks, captured by the municipality level vote shares for the Swiss People's Party (SVP). This vote share variable provides a good proxy for the xenophobic preferences of the local electorate, because the SVP is the main right-wing party in Switzerland and its main political agenda is anti-immigration (Kriesi et al.; 2005). In particular, the SVP has repeatedly campaigned against the "mass naturalization" of immigrants, using campaign posters that portrayed black, yellow, and brown hands grabbing Swiss passports.[15]

Table B.2 in the appendix presents the results for both the full sample (top panel) and the German language region (bottom panel). For both subsamples, the results are highly robust across all specifications; on average, direct democracy decreases the naturalization rate by approximately 53–78%, and this effect is precisely estimated across models. The fact that the results remain very stable with global and municipality-specific time trends reassures us that the effect of direct democracy is not driven by global and or local trends in unobserved confounders. This also rules out the possibility that the effect of switching from direct to representative democracy might have resulted from a general impact of the court rulings on naturalization decisions. Consistent with this, we also found that those municipalities that did not switch did not experience any unusual increase in naturalization rates around the time of the court rulings.

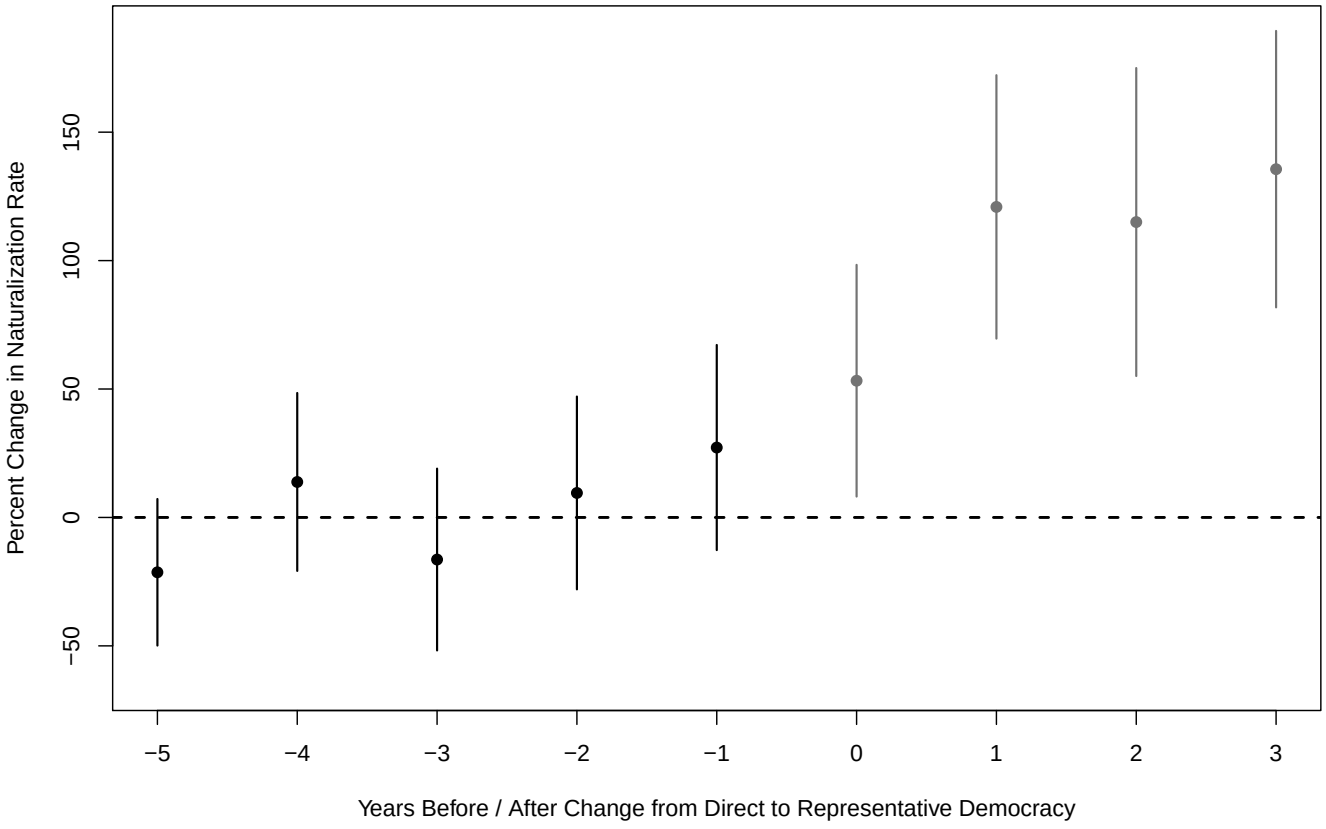
Second, we investigated whether our results are sensitive to the fact that some municipalities did not change their regime during the time period considered in this study. In particular, we replicate the benchmark model for two subsamples, which comprise (1) the municipalities in cantons where the majority of the municipalities switched from direct to representative democracy, and (2) only the municipalities that switched from direct to representative democracy. The results, which are displayed Table B.3 in the appendix, are very similar to the main results across all models with effect sizes ranging from 56–79%.

Third, we examined whether there are differential trends prior to the switch and whether

[15]We computed the SVP vote share at the local level for each federal election in our sample period. Elections are staggered every four years and the local SVP vote shares are highly correlated over time. We linearly interpolated to obtain an annual measure of vote shares; we set the SVP vote share to zero for municipalities in cantons where the SVP did not stage candidates. We acknowledge the possibility that this measure may be influenced by the effect of direct democracy if the increased number of naturalizations fueled support for the SVP. Dancygier (2010) argues that higher naturalization rates fuel anti-immigrant sentiment among voters. All results are substantively very similar even if the SVP vote share variable is omitted.

the effect of switching had different short-term and long-term effects. For this we estimated a dynamic panel model where we coded a binary indicator that captures the change from direct to representative democracy and added three lags and five leads of this indicator to capture the potential effects during the five years before and the three years following the actual switch (the model also includes a full set of municipality and year fixed effects). The effects for the leads and lags (with their 95% confidence intervals) are plotted in Figure 3.

Figure 3: Dynamic Effect of Direct Democracy on Naturalization Rates



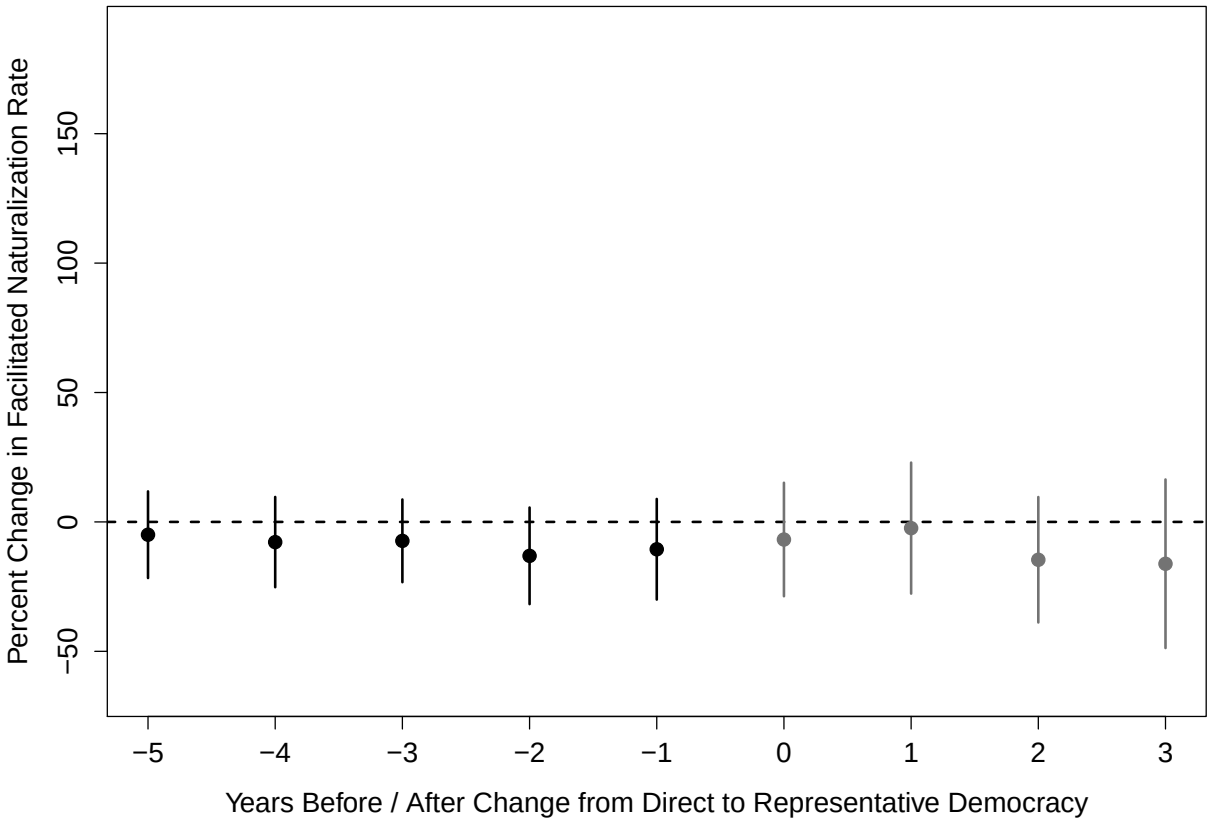
Note: Estimated impact of switching from direct to representative democracy on naturalization rate for years before (black lines) and after (gray lines) the institutional change. Year 0 is the first year in which representative democracy was used on January 1. Point estimates with 95 % confidence intervals (based on robust standard errors clustered by municipality) from dynamic panel regression including municipality and year fixed effects and indicator variables for three leads and five lags. Results are based on $N = 487$ switching municipalities for which complete panels are available.

The results provide strong evidence that the transition from direct to representative democracy considerably increased naturalization rates. We find no significant "placebo" effects for the five years leading up to the switch, which suggests the absence of omitted variables that lead to differential trends prior to the adoption of representative democracy.[16] Most importantly, significant differences in naturalization rates emerge immediately after the regime change and these differences grow considerably larger with estimated increases of up to 115–130% during the three years following the transition. This suggests that the shift from direct to representative democracy resulted in considerably higher naturalization rates in the long term.

As a final robustness check, we replicated our models using the rate of facilitated naturalizations in the municipality as the dependent variable, instead of the rate of ordinary naturalizations, which is by far the most common mode of naturalization. Facilitated naturalizations, which can be applied for only by those immigrants who have been married to a Swiss citizen for at least five years, are an ideal placebo outcome: facilitated and ordinary naturalizations typically follow a similar dynamic because they are influenced by many of the same demand and supply factors. However, facilitated and ordinary naturalizations differ in that the former are decided by the federal office for migration and the municipalities are not involved in the decision. Therefore, switching from direct to representative democracy should have no effect on this placebo outcome unless there are time-varying omitted variables that cause a change in the naturalization rate. Figure 4 replicates the dynamic panel model and confirms that the switch from direct to representative democracy had no effect at all on the rate of facilitated naturalizations, the point estimates are precisely estimated zeros for the differential trends prior to the switch, the short-term, and the long-term effects. Table B.4 in the appendix shows that the same is true for the other sub-samples. These results strongly suggest that the main results are not driven by shocks in unmeasured confounders.

[16]Notice that the (insignificant) positive difference that we find for the year immediately prior to the reform ($t = -1$) is partially driven by the reform itself, and is therefore, mostly an artefact of our conservative coding. Since we measure the institutional regime on January 1 of each year, year 0 refers to the first full year under representative democracy and year -1, while coded as preceding the switch, is in fact, a hybrid that includes several municipalities that switched early or in the middle of the year such that their naturalization rates for year -1 already include many naturalizations that were decided by the municipality council.

Figure 4: Dynamic Effect of Direct Democracy on Facilitated Naturalization Rates (Placebo Outcome)



Note: Estimated impact of switching from direct to representative democracy on facilitated naturalization rate for years before (black lines) and after (gray lines) the institutional change. Year 0 is the first year in which representative democracy was used on January 1. Point estimates with 95 % confidence intervals (based on robust standard errors clustered by municipality) from dynamic panel regression including municipality and year fixed effects and indicator variables for three leads and five lags. Results are based on $N = 487$ switching municipalities for which complete panels are available.

VI. Why Do Immigrants Fare Worse Under Direct Democracy?

The main contribution of this study is to estimate the causal effect of direct democracy on immigrant minorities, improving on existing correlational studies that have examined the relationship between direct democracy and minority outcomes with cross-sectional data. Nevertheless, it seems worthwhile to investigate the mechanisms that might explain why the transition from direct to representative democracy led to better outcomes for minorities. To gain leverage on

this question, we opted for a mixed-method approach and conducted over 230 semi-structured follow-up interviews with the head secretaries of a random sample of the switching municipalities. Head secretaries have an intricate knowledge of the local naturalization process because they typically organize and attend the citizens' assemblies or council meetings and are involved in the processing of the applications.[17]

We considered several possible explanations during this fieldwork. A first hypothesis is that the switch from direct to representative democracy led to higher naturalization rates through a sharp decrease in the processing time. However, we did not find much evidence for this in the data. This hypothesis implies that the switch should produce an immediate and significant short-term effect; however, once the naturalization rate stabilizes at the increased rate, no long-term effects should be evident. The dynamic panel estimates in Figure 3, which show that the long-term effects are even larger than the immediate effects, strongly contradict this implication.

A second potential mechanism is that elected politicians in the municipality council might be less likely to reject naturalization requests compared to voters in referendums because the politicians have more information about the applicants. There is not much evidence to validate this explanation. Although council members usually have substantial information about the applicants, the same is often true for citizens that vote on the applications under direct democracy. For example, in the ballot box municipalities, voters received voting leaflets prior to the referendums, which provided a detailed description of each applicant, including information about origin, immigration history, occupation, education, language skills, integration status, etc. (see Hainmueller and Hangartner (2013)). In municipalities where voting occurred at the citizens' assemblies, applicants often had to appear at the assembly and were interviewed by voters. Therefore, voters had considerable information on the applicants. Even if we do assume that politicians have more information, it is not clear why this would lead them to reject fewer applicants, unless we can explain why they would positively evaluate such information.

A third hypothesis is that the effect of switching from direct to representative democracy might be driven by differences in the preferences of voters and politicians. This mechanism is

[17]Head secretary is a non-partisan position. The interviews were conducted between January–March 2012; respondents were promised anonymity.

based on the premise that politicians are somewhat more pro-immigration compared to voters and therefore, reject fewer applicants. We cannot fully rule out this explanation because systematical data on the preferences of local politicians are not available. However, none of the head secretaries expressed support for this idea during the interviews. Moreover, given that the politicians in the council are elected by the voters in the municipality, the preferences of the median voter in the council should roughly reflect the preferences of the median voter in the electorate.[18] Therefore, it seems doubtful that the differences in the preferences of voters and politicians can account for the large effect of the shift from direct to representative democracy.

Instead, the evidence from the interviews indicates that the main channel through which immigrants benefit from the switch of the regime is the increase in accountability that accompanies the transfer of the decision-making power from the people to the politicians. Notice that by accountability here, we refer to the accountability between the decision maker and the law, not the political accountability of elected politicians to voters. In both regimes, either citizens or politicians are granted the authority to decide on the naturalizations applications; however, at least in theory, the discretion of the decision maker is constrained by the normative requirement that the decision has to be made on non-discriminatory grounds. In particular, the law stipulates that applicants can be rejected on the basis of certain permissible criteria (such as insufficient language skills or integration status), but must not be rejected on the basis of certain impermissible criteria (such as origin, ethnicity, or religion).

The data suggests that this accountability relationship between the decision maker and the law is poorly functioning under direct democracy, because there is no institutional mechanism in place to ensure that voters obey the requirement to exercise their decision-making authority only in a non-discriminatory way. In referendums citizens do not have to justify why they vote for or against a particular applicant and they cannot be held accountable for their decisions. In other words, voters are largely unconstrained to vote on their prejudice and arbitrarily reject applicants based on their origin, religion, or other criteria that are deemed impermissible by the anti-discrimination clause in the Swiss constitution. In contrast, the accountability relationship functions better under representative democracy because politicians holding elected

[18] Consistent with this we found that the local vote share for the SVP in federal elections are highly correlated with the seat share of the SVP in the municipality councils.

office are required to publicly report on the grounds on which they reject an applicant and they might be held accountable for arbitrary rejections if a rejected applicant appeals to the courts, which then evaluate the justification for the rejection. These mechanisms effectively constrain the discretion of politicians and make it more likely that they obey with the requirement for non-discriminatory decisions. This does not mean that application decisions are always discriminatory under direct democracy or always free from discrimination under representative democracy, but it does suggest that, even when the median politician in the council might be just as prejudiced against immigrants as the median voter, the heightened accountability that the politician faces makes it less likely that she will act upon her prejudice and arbitrarily reject an applicant on discriminatory grounds.

Many head secretaries explicitly mentioned this heightened accountability mechanism in the interviews. For example, when asked about potential reasons why the naturalization rate was lower under direct democracy, answers included statements like "in the citizens' assemblies, decisions were often based on pure populism and applicants were arbitrarily rejected based on emotional gut decisions and prejudice: this is a Yugo and we don't like him"; "flawless applicants were sometimes rejected simply because people vented their frustrations"; "legitimate applicants were sometimes rejected purely based on stereotypes, such as 'we like Italians, but not applicants from Kosovo' "; "assembly votes were extremely emotional, based on sympathy or nationality"; or "applicants were often rejected purely based on their origin." When asked about why the naturalization rate might have increased following the switch to representative democracy, many responses included statements like "there is much less discrimination in the council nowadays, as politicians have to carefully justify a rejection and can be held accountable"; "legislators have to look at facts and cannot afford to decide based on emotions like the voters"; "politicians have much less room for arbitrariness, they cannot vote against Yugoslavian applicants on principle"; or "legislators are aware that arbitrary rejections might be challenged in court." Although this evidence for the accountability mechanism is anecdotal, such statements are largely consistent with the statistical results in Hainmueller and Hangartner (2013) who found that naturalization referendums in ballot box municipalities were largely decided based on the applicant's country of origin. For example, applicants from the former

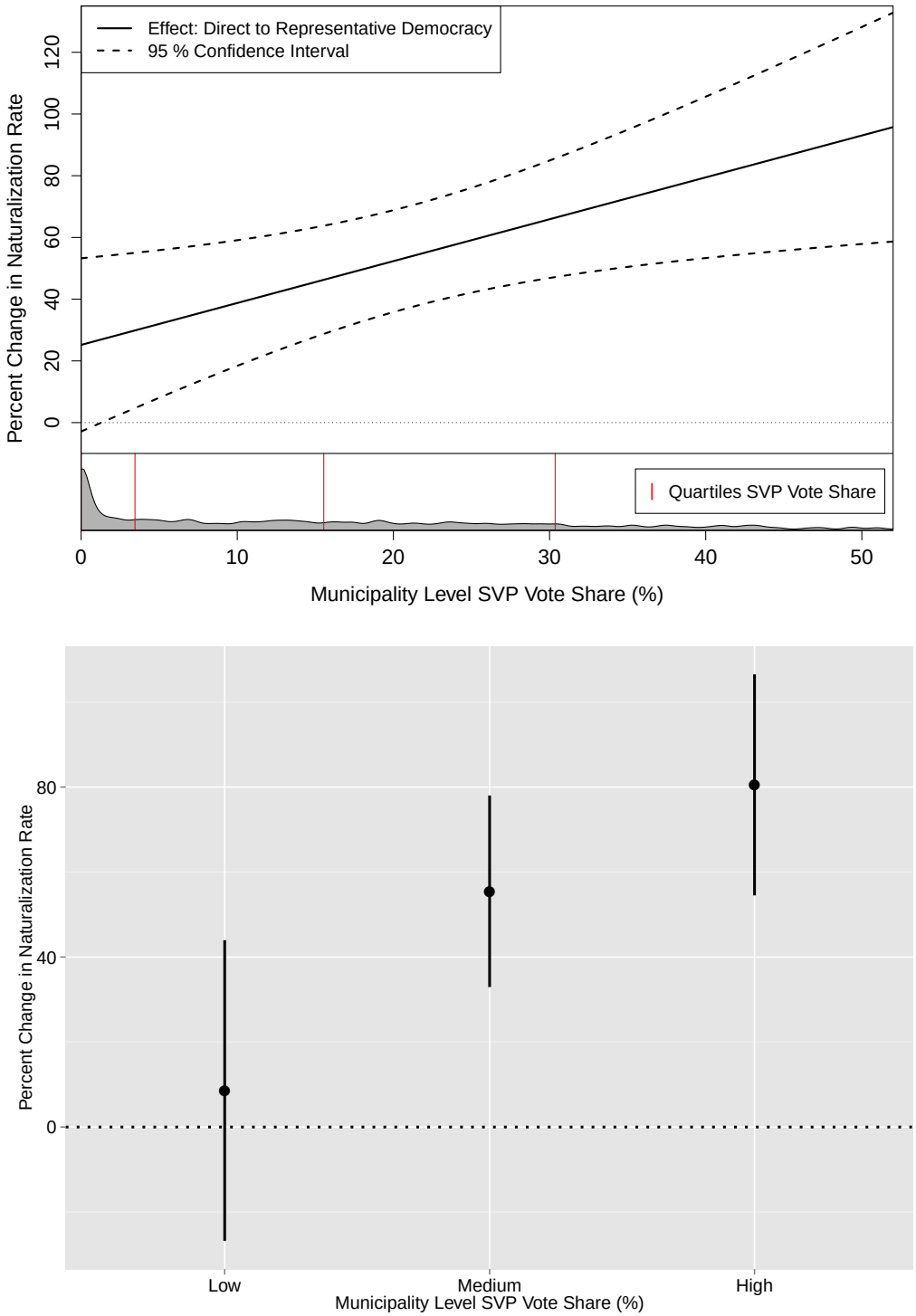
Yugoslavia or Turkey, on average, obtained approximately 40% higher proportion of no votes compared to observably similar applicants from western or northern European countries. In contrast, permissible criteria such as the applicants' language skills or integration status had almost no effect on the outcome of the naturalization referendums.

The accountability mechanism also suggests at least three observable implications that we can test with our data. The first implication is that given the accountability mechanism, we would expect that the effect of switching from direct to representative democracy should depend on the anti-immigrant preferences of the median voter. In particular, in a municipality where the median voter holds strong anti-immigrant preferences, we would expect the largest number of discriminatory rejections under direct democracy because the preferences of voters directly translate into policy. However, once such a municipality switches to representative democracy, we would expect far fewer discriminatory rejections because the elected politicians, even if they hold the same prejudices as the voters, are more constrained in acting upon their prejudice by the heightened accountability.

To test this implication, we used the local vote share for the SVP in the federal elections as a proxy for the xenophobic preferences of the local electorate and interact it with our institutional measures in the benchmark model to allow the effect of direct democracy to vary depending on the strength of the anti-immigrant preferences.[19] Table B.5 in the appendix presents the results for both the full sample and the German language region. Remarkably, we find a strong and robust interaction effect across all specifications. To facilitate the interpretation, the upper panel in Figure 5 simulates the marginal effect of switching from direct to representative democracy (with 95% confidence intervals) based on model 2 with a linear specification for the interaction. Switching from direct to representative democracy has essentially no effect in the least xenophobic municipalities with low SVP vote shares. However, the effect is large and significant in more xenophobic areas with higher SVP vote shares and continues to grow even further in the most xenophobic municipalities. The results are very similar when we allow for non-linearity in the interactive effect, as shown in the lower panel of Figure 5.

[19]Notice that we use the SVP vote share from the 1991 election as a time-invariant measure of xenophobic preferences for this interaction to eliminate the possibility that the SVP vote share is endogenous to the number of naturalizations. Our results are similar even when we use a, possibly endogenous, time-varying measure of annual SVP vote shares instead.

Figure 5: Effect of Direct Democracy and Voter Preferences



Note: Marginal effect of switching from representative to direct democracy on naturalization rate, computed at different levels of SVP vote share. The first Figure is based on Model 1 in Table B.5. The grey shaded area visualizes the density of the marginal distribution of SVP vote shares; red vertical lines indicate the quartiles. The second Figure is based on Model 5 in Table B.5.

We also replicated the interaction model using the seat shares of the SVP in the municipality councils as an alternative measure of the preferences of the median legislator. The results, presented in Figure B.1 in the appendix, are very similar and the interaction is, if anything, even stronger as switching from direct to representative democracy leads to the largest increase in naturalization rates when the SVP is the dominant party in the municipality council.

These results confirm that switching from direct to representative democracy is most beneficial for immigrant applicants in areas where the voters and politicians are most xenophobic, a finding that is highly consistent with the accountability mechanism which holds that politicians in the council are more constrained from deciding based on their prejudice compared to voters in referendums. It is also worth emphasizing that the strong interaction effect runs counter to the idea that the effect is driven by potential differences in preferences between politicians and voters. If politicians were simply more pro-immigration than voters, we would expect that the effect of switching is uniform and not strongly dependent on the local level of xenophobia.[20]

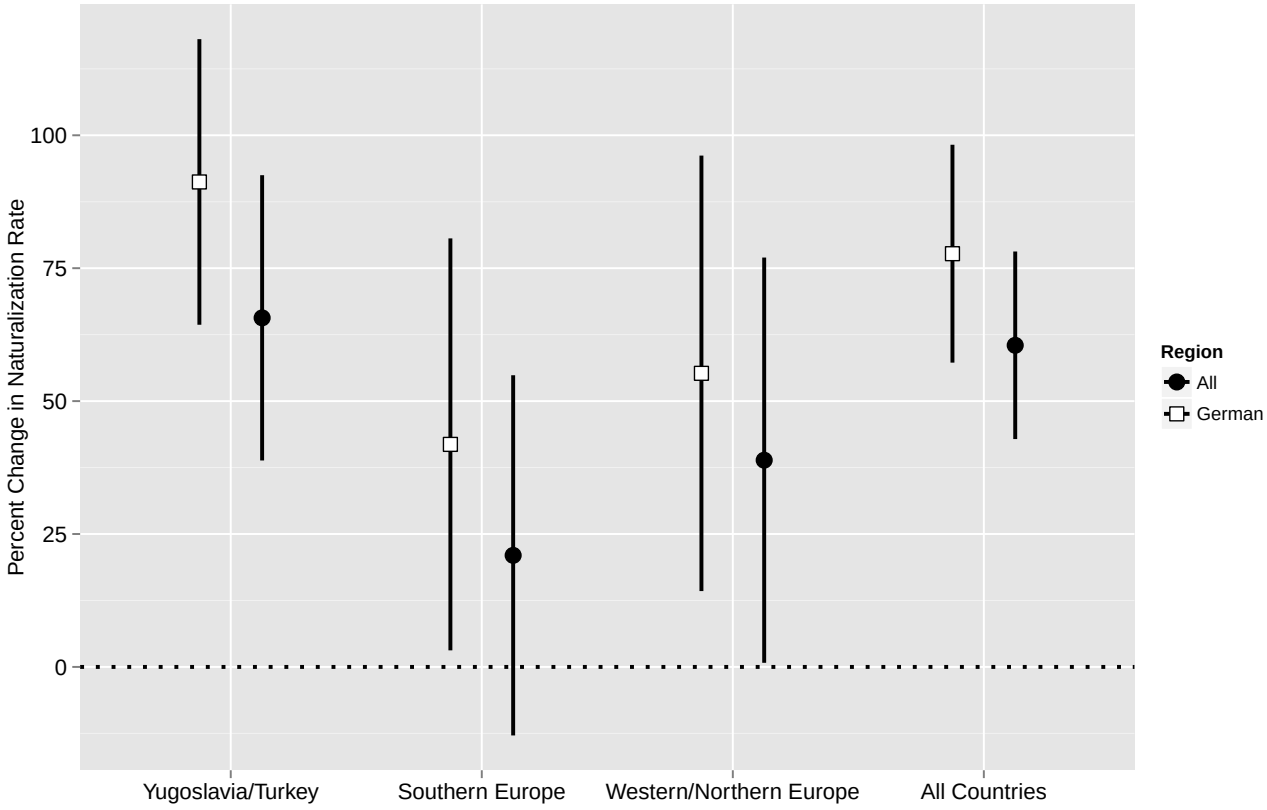
A second observable implication is that given the accountability mechanism, we would expect that the effect of switching from direct to representative democracy is most beneficial for applicants from more marginalized groups, such as immigrants from former Yugoslavia or Turkey, compared to applicants from less marginalized groups, such as immigrants from southern or northern European countries. This is because marginalized groups face the strongest origin-based discrimination under direct democracy, but should enjoy more protection under representative democracy if politicians face higher accountability and therefore discriminatory rejections are less likely to occur. To test for this we replicated the benchmark fixed effect model with country of origin-specific naturalization rates. Following Hainmueller and Hangartner (2013), we distinguished three groups, including immigrant applicants from (former) Yugoslavia and Turkey, applicants from southern European countries (Italy, Spain, and Portugal), and

[20]The results in Figure B.1 also rule out a different mechanism that stipulates that SVP turnout relative to other parties is higher in the citizens' assembly than in the election for the municipal council. Since this turnout gap is arguably largest in municipalities where the SVP has no or only few seats on the municipal council and smallest where they have the majority of seats, we would expect to find a smaller, not larger, increase in the naturalization rates among municipalities with a high SVP seat share relative to municipalities with a low seat share.

northern and western European countries (mostly Germany, France, the U.K., etc.). These origin groups account for the largest share of naturalizations; however, they vary broadly in terms of the degree to which they face anti-immigrant sentiments. While there is a long tradition of immigration from southern European origins in Switzerland, immigration from (former) Yugoslavia and Turkey surged sharply in the late 1980s and early 1990s, and these groups have repeatedly been the target of anti-immigration campaigns by the SVP, which often portrays such immigrants as an ethnic out-group that is culturally incompatible with Swiss values and traditions. Applicants from western and northern European countries may fall somewhere in between, given that immigration from these origins has been fairly steady over the last decades; however, very recently, there has been some public backlash against immigrants from Germany.

Table B.7 in the appendix presents the results for the samples of all municipalities and those in the German language region. The effect estimates are also visualized in Figure 6. Consistent with the accountability mechanism, we find that applicants from Yugoslavia and Turkey gained the most from the change in the regime from direct to representative democracy, as naturalization rates increased by about 60% in the full sample and by 90% in the German language region. In contrast, the change in the regime had no significant effect for applicants from Southern European origins in the full sample and had only a small effect, about 40%, in the German language region. The effect estimates for the two groups are statistically significantly different (p-value $< .05$). The effects for applicants from western and northern European origins fall in between with an approximate increase of 40-50%.

Figure 6: Effect of Direct Democracy on Naturalization Rates by Country of Origin



Note: Marginal effect of switching from representative to direct democracy on naturalization rate, computed for applicants from different country of originigs (based on model 1 and 2 in Table 2 and Model 1–6 in Table B.7).

A third observable implication of the accountability mechanism is that we might expect that politicians in the municipality council react more strongly to successful appeals by rejected applicants which raise awareness that arbitrary rejections are reviewed by the courts. In contrast, we expect that appeals have no effect under direct democracy because citizens cannot be held accountable for arbitrary rejections and therefore have no incentive to worry about judicial oversight. To test this implication we collected data on the number of successful appeals from all municipalities in the cantons of Bern and Zurich for the years 2004–2010.[21] Table B.8 in the appendix shows the results from models that regress the local naturalization rates on

[21]Collecting the appeals data turned out to be very costly. We therefore selected these two cantons which switched from direct to representative democracy in the period under study and have a large number of municipalities. No data was available prior to 2004.

the fraction of successful appeals in the preceding year, controlling for municipality and year fixed effects. The sample is restricted to the years in which municipalities used representative democracy. Consistent with the accountability mechanism, we find that a higher fraction of successful appeals results in much higher naturalization rates under representative democracy and this finding is robust regardless of whether we use a continuous or categorical measure for the appeals. For example, having a high number of appeals compared to no appeals increases the naturalization rates in the following year by 2.5 percentage points; this corresponds to about a 40% increase over the average naturalization rate. In a striking contrast, we find that appeals have no effect on the naturalization rates under direct democracy; the results are displayed in Table B.9 in the appendix which replicates the models for the years in which municipalities used direct democracy. The point estimates are close to zero for all measures.[22] Moreover, Table B.10 in the appendix shows that under representative democracy, appeals have no effect on the placebo outcome of facilitated naturalizations which are similar to ordinary naturalizations but decided at the federal level.

Overall, the results from the qualitative interviews and additional quantitative tests are highly consistent with the accountability mechanism. The positive effect of switching from direct to representative democracy is concentrated in the most xenophobic areas and among the most marginalized immigrant groups. Moreover, successful appeals which raise awareness about judicial oversight increase naturalization rates when politicians decide in the municipality council, but have no effect when citizens vote on the applications in referendums.

VII. Conclusion

Direct democracy is rapidly becoming a popular tool for policy-making in modern democracies at the local, regional, and federal level of government. Although there are some compelling advantages of bringing policy-making closer to the people, one important concern is that the trend towards direct democracy might threaten the interests of minorities who are vulnerable to the tyranny of the majority. Political scientists are just beginning to rigorously grapple with

[22]Note that the differences between the effect estimates under representative and direct democracy are not significant at conventional levels. This is largely attributable to the large uncertainty associated with the estimates under direct democracy which are based on a smaller sample.

this important issue. Although a large correlational literature has investigated the relationship between direct democracy and minority outcomes, causal evidence that investigates whether direct democracy systematically disadvantages minorities more than representative democracy is still lacking.

In this study, we address this gap and advance a natural experiment that exploits plausibly exogenous institutional change from direct to representative democracy. Using panel regressions for the 1991–2009 period, we find that immigrant minorities in Switzerland fare much better if their naturalization applications are decided by politicians in legislatures, rather than by citizens in naturalization referendums. Naturalization rates soar by about 50% with the transition from direct to representative democracy and this effect is robust to various specification checks and placebo tests. Qualitative evidence suggests that this effect is mainly driven by the heightened accountability that politicians face compared to citizens when deciding on the naturalization requests. Whereas voters in naturalization referendums are free to reject immigrant applicants without having to provide any viable justification, accountable politicians, even if they hold the same prejudices as the voters, have to publicly report on the reasons for why they would reject a particular applicant and their justifications might be reviewed by the courts. This heightened accountability makes is less likely that politicians reject immigrants on discriminatory grounds. Consistent with this accountability mechanism, we find that switching from direct to representative democracy is the most beneficial for applicants in more xenophobic areas and for applicants from (former) Yugoslavia and Turkey compared to less marginalized immigrants from southern and richer European countries. Moreover, successful appeals which raise awareness about judicial oversight result in higher naturalization rates only when politicians, but not when voters, decide on applications.

Our findings have several important implications. With respect to the Swiss context, the results demonstrate that direct democracy acts as a significant barrier to citizenship. The fact that naturalization rates increase sharply with the transition from direct to representative democracy, while the quality of the applicant pool remains constant, implies that voters in naturalization referendums discriminate against qualified applicants that would be approved if accountable legislators, who have to publicly justify and defend their decisions, were to vote

on the same applications. In other words, under direct democracy, a significant proportion of qualified applicants are rejected on arbitrary grounds and discriminatory voter tastes. In this context, our results are consistent with Hainmueller and Hangartner (2013), who demonstrated that immigrants face strong origin-based discrimination when naturalizations are decided by secret ballot referendums. This empirical evidence informs ongoing and heated policy debates about reforms of the naturalization process. In particular, the results suggest that direct democracy should no longer be used to lower the risk of discriminatory rejections. This is a pressing policy concern, given recent proposals to constitutionally restore secret ballot referendums for naturalizations and the fact that by the end of our sample period, some municipalities still continue to rely on referendums to decide on naturalization applications at the citizens assembly.

More broadly, our results emphasize the importance of the interplay between voter preferences and political institutions in generating policy outcomes. Our study provides perhaps the most direct evidence to date that when faced with the exact same policy decision, direct democracy does suppress minority interests more often than representative democracy. Moreover, the evidence suggests that direct democracy is most harmful for the most marginalized minorities. This finding has direct implications for the long-standing literature on the effect of direct democracy on minority interests. It supports the warnings by opponents of direct democracy (Bell Jr.; 1978; Magleby; 1984; Gillette; 1988; Gamble; 1997; Haider-Markel et al.; 2007) and contradicts the claims of its supporters, who argue that there exists no rigorous evidence that direct democracy harms minority interests (Zimmerman and Francis; 1986; Cronin; 1989; Frey and Goette; 1998; Matsusaka; 2005).

Although it would be unwise to conclude from our results that direct democracy is generally harmful for minorities, our results show that at least in the important minority domain of naturalizations, where the causal effect of direct democracy can be isolated empirically, minorities suffer substantially if their requests are decided by citizens who hold anti-minority preferences. Moreover, from a theoretical perspective we might expect that the causal mechanism we identified here how institutional constraints limit discretion and mitigate how prejudices translate into policy might also operate in other countries or for other minorities. In particular, our

results suggest that shifting authority to a venue where decision-makers are accountable to report on the reasons for their decisions is beneficial for minorities that are the at the risk of discrimination. More research to further examine this mechanism and the causal effects of direct democracy in other countries and minority domains is clearly needed before one should come to a definitive conclusion. But at a minimum our results provide a cautionary tale that for ethnic minorities, the harmful effects of direct democracy can be real when faced with a prejudiced electorate.

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Appendices (Not for Publication)

Appendix A: Data Sources

- Naturalization Institution: Survey by authors.
- Native Population Size: Swiss Federal Statistical Office (Bundesamt für Statistik), 2010 Neuchâtel Schweiz, Erhebung ESPOP 1990-2010.
- Number of Naturalizations: : Swiss Federal Statistical Office (Bundesamt für Statistik), 2010 Neuchâtel Schweiz, Erhebung PETRA 1991-2009.
- Immigrant Population Size: Swiss Federal Statistical Office (Bundesamt für Statistik), 2010 Neuchâtel Schweiz, Erhebung ESPOP 1990-2010.
- SVP Vote Share. Swiss Federal Statistical Office (various years)
- Number of Unemployed: State Secretariat for Economic Affairs (Schweizerische Arbeitsmarktstatistik), 1993-2010.

Appendix B: Robustness Checks

In this appendix we present additional results that are referenced in the main paper.

Table B.1: Naturalization Regimes in Swiss Municipalities (1990-2010)

	% of Municipalities by Period (N=1,360)				
Years	1990-1995	1996-2000	2001-2005	2006-2010	1990-2010
Direct Democracy					
referendums: polling place	2.3	2.4	1.4	0.0	1.5
referendums: citizens' assembly	50.2	48.9	44.8	30.6	43.8
referendums: polling place (Burghers only)	0.5	0.5	0.2	0.0	0.3
referendums: citizens' assembly (Burghers only)	23.9	22.9	21.5	10.9	19.9
Representative Democracy					
Municipality Council: Legislative Branch	17.9	16.4	15.7	7.6	14.5
Municipality Council: Executive Branch	2.7	5.2	12.0	46.0	16.1
Municipality Council: Burghers only	1.3	2.1	2.6	1.3	1.8
Appointed Commissions					
Naturalization Commission: Municipality	0.2	0.2	0.5	2.1	0.7
Naturalization Commission: Canton	1.1	1.6	1.5	1.5	1.4

Note: Table shows the % of municipalities that used the respective decision making body to decide on naturalization requests (as computed from the annual panel data). The total number of municipalities is 1,360 in each year. Institutions are as follows: In the direct democracy regime, naturalization requests are decided by local Swiss residents using referendums, where voting takes place at the polling place or the citizens' assembly with secret ballots or by hand-raising. Burgher municipalities restrict the suffrage for the referendums to the Burghers, a select group of families that have lived in the municipality for a long time. In the representative democracy regime, naturalization requests are decided by elected politicians in the legislative or executive branch of the municipality council. Some municipalities restrict council elections to the Burghers. In the appointed commission regime, naturalization requests are decided by appointed members of a naturalization commission that operates at the municipal or cantonal level. Source: Authors' municipality survey.

Table B.2: Robustness Checks: Effect of Direct Democracy on Naturalization Rates

Outcome:	Naturalization Rate (%) (mean: 2.00)					
Sample	All Municipalities					
Model	(1)	(2)	(3)	(4)	(5)	(6)
Direct Democracy	-1.31	-1.29	-1.06	-1.08	-1.10	-1.11
	(0.18)	(0.18)	(0.31)	(0.31)	(0.31)	(0.32)
Appointed Commission		0.47		-0.35		-0.35
		(0.58)		(0.66)		(0.66)
Constant	10.15	10.14	0.06	0.08	1.49	1.47
	(4.10)	(4.09)	(0.27)	(0.27)	(10.05)	(10.05)
Municipality FEs	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓
Quadratic Time Trends			✓	✓	✓	✓
Covariates	✓	✓			✓	✓
Observations	23,741	23,741	24,477	24,477	23,741	23,741
Municipalities	1,348	1,348	1,360	1,360	1,348	1,348
Effect Size (% Δ)	66	65	53	54	55	56
95% CI LB	48	47	23	24	25	24
95% CI UB	83	82	83	84	85	87

Outcome:	Naturalization Rate (%) (mean: 2.20)					
Sample	German Language					
Model	(7)	(8)	(9)	(10)	(11)	(12)
Direct Democracy	-1.71	-1.70	-1.45	-1.48	-1.44	-1.48
	(0.23)	(0.23)	(0.39)	(0.41)	(0.40)	(0.42)
Appointed Commission		0.13		-0.48		-0.52
		(0.70)		(0.96)		(0.95)
Constant	12.26	12.27	0.53	0.58	14.25	14.04
	(6.20)	(6.19)	(0.42)	(0.44)	(15.36)	(15.38)
Municipality FEs	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓
Quadratic Time Trends			✓	✓	✓	✓
Covariates	✓	✓			✓	✓
Observations	15,271	15,271	15,597	15,597	15,271	15,271
Municipalities	868	868	874	874	868	868
Effect Size (% Δ)	78	77	66	67	66	67
95% CI LB	57	57	31	31	30	30
95% CI UB	98	98	101	104	101	105

Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), and Appointed Commission (1 for appointed commission, 0 otherwise). Representative Democracy is the baseline. The last three rows summarize the increase when switching from direct democracy to representative democracy as the percent change over the average naturalization rate (under direct democracy). LB and UB refer to upper and lower bound of 95 % confidence interval. Models 1-6 refer to the sample of all municipalities and models 7-12 restrict the sample to municipalities in the German language region. In each panel, the first two models include our set of time-varying covariates (log population, lagged ratio of foreign to Swiss population, the local unemployment rate, and the SVP vote share), the next two models include municipality specific linear and quadratic time trends, and the last two models include both covariates and municipality specific linear and quadratic time trends.

Table B.3: Robustness: Effect of Direct Democracy on Naturalization Rates (Switchers only)

Outcome	Naturalization Rate %							
Mean (Direct Democracy)	2.05		1.90		2.46		2.24	
Sample	All Municipalities				German Language			
Restriction	Switching Cantons		Switching Municipalities		Switching Cantons		Switching Municipalities	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct Democracy	-1.15	-1.13	-1.50	-1.48	-1.38	-1.38	-1.27	-1.27
	(0.20)	(0.20)	(0.26)	(0.26)	(0.27)	(0.27)	(0.32)	(0.32)
Appointed Commission		0.41		0.43		0.00		0.00
		(0.59)		(0.82)		(0.72)		(0.83)
Constant	1.60	1.59	2.17	2.16	1.91	1.91	1.96	1.96
	(0.17)	(0.17)	(0.29)	(0.29)	(0.29)	(0.29)	(0.35)	(0.35)
Municipality FEs	✓	✓	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓
Observations	16,357	16,357	10,521	10,521	8,001	8,001	6,673	6,673
Municipalities	910	910	595	595	453	453	383	383
Effect Size (% Δ)	56	55	79	78	56	56	57	57
95% CI LB	37	36	52	51	35	35	29	29
95% CI UB	75	74	106	105	78	78	85	85

Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), and Appointed Commission (1 for appointed commission, 0 otherwise). The last three rows summarize the increase when switching from direct democracy to representative democracy as the percent change over the average naturalization rate (under direct democracy). LB and UB refer to upper and lower bound of 95 % confidence interval. Models 1-4 refer to the sample of all municipalities and models 5-8 restrict the sample to municipalities in the German language region. For each subsample, the first two models restrict the sample to all cantons where a majority of municipalities switch and the last two columns restrict the sample to all municipalities that switch.

Table B.4: Effect of Direct Democracy on Facilitated Naturalization Rates (Placebo Outcome)

Outcome	Facilitated Naturalization Rate (%)			
Mean (Direct Democracy)	2.14		2.00	
Sample	All Municipalitites		German Language	
Model	(1)	(2)	(3)	(4)
Direct Democracy	0.02	0.01	0.02	0.01
	(0.13)	(0.13)	(0.15)	(0.15)
Appointed Commission		-0.39		-0.19
		(0.27)		(0.31)
Constant	0.14	0.15	0.12	0.13
	(0.12)	(0.12)	(0.16)	(0.16)
Municipality FEs	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓
Observations	24,206	24,206	15,594	15,594
Municipalities	1,301	1,301	837	837
Effect Size (% Δ)	-1	0	-1	0
95% CI LB	-13	-12	-15	-15
95% CI UB	11	11	13	14

Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The placebo outcome variable is the municipal rate for facilitated naturalizations, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), and Appointed Commission (1 for appointed commission, 0 otherwise). Representative Democracy is the baseline. The last three rows summarize the effect of switching from direct democracy to representative democracy as the percent change over the average facilitated naturalization rate (under direct democracy). LB and UB refer to upper and lower bound of 95 % confidence interval. Models 1-2 refer to the sample of all municipalities and models 3-4 restrict the sample to municipalities in the German language region.

Table B.5: Interaction of Direct Democracy and Voter Preferences

Outcome	Naturalization Rate %							
Mean (Direct Democracy)	2.00		2.20		2.00		2.20	
Interaction	Linear Interaction				Nonlinear Interaction			
Sample	All Municipalities		German Language		All Municipalities		German Language	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct Democracy	-0.504	-0.411	-1.099	-0.961	-0.172	-0.068	-0.312	-0.105
	(0.286)	(0.285)	(0.380)	(0.388)	(0.361)	(0.346)	(0.486)	(0.471)
Appointed Commission		1.557		1.533		1.142		1.379
		(0.722)		(0.984)		(0.812)		(1.226)
Direct Democracy · SVP Vote Share	-0.027	-0.030	-0.021	-0.025				
	(0.011)	(0.011)	(0.013)	(0.013)				
Appointed Commission · SVP Vote Share		-0.071		-0.082				
		(0.028)		(0.033)				
Direct Democracy · SVP VS Medium					-0.938	-0.979	-1.376	-1.497
					(0.412)	(0.402)	(0.543)	(0.535)
Direct Democracy · SVP VS High					-1.438	-1.586	-1.754	-2.027
					(0.433)	(0.422)	(0.552)	(0.540)
Appointed Commission · SVP VS Medium						0.274		-0.305
						(1.276)		(1.592)
Appointed Commission · SVP VS High						-3.201		-3.982
						(1.232)		(1.574)
Constant	1.675	1.651	2.264	2.224	1.664	1.637	2.202	2.151
	(0.153)	(0.153)	(0.219)	(0.222)	(0.156)	(0.156)	(0.221)	(0.223)
Municipality FEs	✓	✓	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓
Observations	24,477	24,477	15,597	15,597	24,477	24,477	15,597	15,597
Municipalities	1,360	1,360	874	874	1,360	1,360	874	874

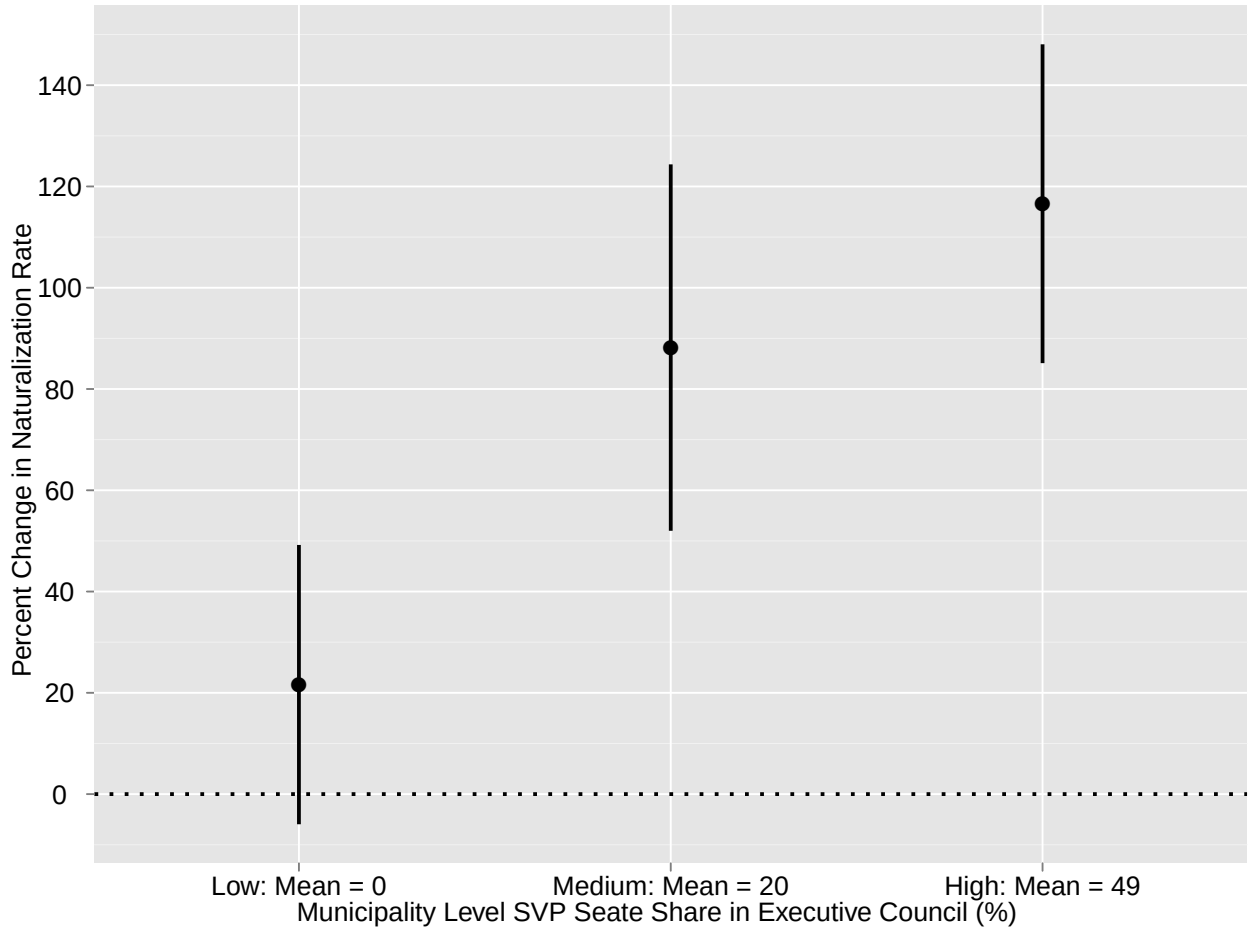
Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), Appointed Commission (1 for appointed commission, 0 otherwise) and either a continuous measure for the SVP vote share (Models 1–4) or two binary indicators for SVP vote share median and high (the reference category is low SVP vote share; the three groups are based on equal sized bins). The SVP vote share is measured in 1991 so that the lower-order term for the SVP vote share is subsumed in the municipality fixed effects. Representative Democracy is the baseline. Models 1, 2, 5, and 6 refer to the sample of all municipalities and models 3, 4, 7, and 8 restrict the sample to municipalities in the German language region.

Table B.6: Interaction of Direct Democracy and SVP Seat Share

Outcome	Naturalization Rate %							
Mean (Direct Democracy)	2.02		2.19		2.02		2.19	
Interaction	Linear Interaction				Nonlinear Interaction			
Sample	All Municipalities		German Language		All Municipalities		German Language	
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Direct Democracy	-0.64	-0.58	-1.23	-1.14	-0.44	-0.37	-1.05	-0.91
	(0.26)	(0.26)	(0.38)	(0.39)	(0.28)	(0.28)	(0.48)	(0.50)
Appointed Commission		1.30		1.12		1.36		1.24
		(0.85)		(1.14)		(0.92)		(1.27)
Direct Democracy · SVP Seat Share	-0.03	-0.03	-0.02	-0.02				
	(0.01)	(0.01)	(0.01)	(0.01)				
Appointed Commission · SVP Seat Share		-0.05		-0.05				
		(0.04)		(0.04)				
Direct Democracy · SVP SS Medium					-1.34	-1.42	-0.71	-0.86
					(0.45)	(0.46)	(0.60)	(0.63)
Direct Democracy · SVP SS High					-1.91	-2.01	-1.23	-1.40
					(0.41)	(0.42)	(0.57)	(0.59)
Appointed Commission · SVP SS Medium						-1.46		-1.28
						(1.25)		(1.54)
Appointed Commission · SVP SS High						-2.15		-2.07
						(1.91)		(2.09)
Constant	1.79	1.77	2.30	2.26	1.81	1.78	2.29	2.24
	(0.18)	(0.18)	(0.26)	(0.26)	(0.18)	(0.18)	(0.26)	(0.27)
Municipality FEs	✓	✓	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓
Observations	20,300	20,300	13,419	13,419	20,300	20,300	13,419	13,419
Municipalities	1,116	1,116	744	744	1,116	1,116	744	744

Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), Appointed Commission (1 for appointed commission, 0 otherwise) and either a continuous measure for the SVP seat share (Models 1–4) or two binary indicators for SVP seat share median and high (the reference category is low SVP seat share; the reference category contains all municipality where SVP seat share is 0, the other two groups are based on equal sized bins). The SVP seat share is measured in 2005 so that the lower-order term for the SVP seat share is subsumed in the municipality fixed effects. Representative Democracy is the baseline. Models 1, 2, 5, and 6 refer to the sample of all municipalities and models 3, 4, 7, and 8 restrict the sample to municipalities in the German language region.

Figure B.1: Effect of Direct Democracy and SVP Seat Shares



Note: Marginal effect of switching from representative to direct democracy on naturalization rate, computed at different levels of SVP seat shares in the municipality council in 2005. Low: SVP seat share is zero; medium: SVP seat share between zero and 33%; high: SVP vote share above 33%. This coding creates equal sized groups for medium and high.

Table B.7: Effect of Direct Democracy on Naturalization Rates by Country of Origin

Outcome:	Naturalization Rate (%)					
Mean (Direct Democracy)	0.81		0.72		4.31	
Country of Origin	Southern Europe		Rich Europe		Yugoslavia/Turkey	
Sample	All Municipalities					
Model	(1)	(2)	(3)	(4)	(5)	(6)
Direct Democracy	-0.16	-0.17	-0.27	-0.28	-2.83	-2.83
	(0.14)	(0.14)	(0.13)	(0.14)	(0.58)	(0.59)
Appointed Commission		-0.11		-0.13		-0.00
		(0.31)		(0.25)		(1.13)
Constant	1.21	1.22	1.32	1.32	3.71	3.71
	(0.16)	(0.16)	(0.16)	(0.16)	(0.46)	(0.48)
Municipality FEs	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓
Observations	24,073	24,073	24,542	24,542	15,775	15,775
Municipalities	1,420	1,420	1,421	1,421	1,173	1,173
Effect Size (% Δ)	20	21	37	39	66	66
95% CI LB	-14	-13	2	01	39	39
95% CI UB	54	55	73	77	92	92

Outcome:	Naturalization Rate (%)					
Mean (Direct Democracy)	0.86		0.67		4.67	
Country of Origin	Southern Europe		Rich Europe		Yugoslavia/Turkey	
Sample	German Language					
Model	(7)	(8)	(9)	(10)	(11)	(12)
Direct Democracy	-0.35	-0.36	-0.35	-0.37	-4.19	-4.26
	(0.16)	(0.17)	(0.14)	(0.14)	(0.62)	(0.64)
Appointed Commission		-0.28		-0.31		-1.08
		(0.37)		(0.29)		(1.27)
Constant	1.34	1.35	1.36	1.38	5.07	5.14
	(0.21)	(0.21)	(0.20)	(0.20)	(0.58)	(0.60)
Municipality FEs	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓
Observations	15,204	15,204	16,038	16,038	11,741	11,741
Municipalities	918	918	930	930	772	772
Effect Size (% Δ)	41	42	53	56	90	91
95% CI LB	4	3	11	14	64	64
95% CI UB	77	80	94	97	116	118

Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), and Appointed Commission (1 for appointed commission, 0 otherwise). Representative Democracy is the baseline. The last three rows summarize the increase when switching from direct democracy to representative democracy as the percent change over the average naturalization rate (under direct democracy). LB and UB refer to upper and lower bound of 95 % confidence interval. Models 1-6 refer to the sample of all municipalities and models 7-12 restrict the sample to municipalities in the German language region. In each panel, the first two models restrict the sample to applicants from Southern Europe, the next two models to applicants from Rich European Countries, and the last two models to applicants from (former) Yugoslavia and Turkey. We compute the origin-specific naturalization rates from the PETRA data using the same methodology as described in the main text, where we divide the number of naturalization by the number of eligible immigrants. From the estimation sample, we excluded a very small number of municipalities where the naturalization rate in a given year exceeded 100%. Notice that this disaggregation somewhat reduces the sample size, because we lose municipalities that do not have any eligible immigrants for a specific group.

Table B.8: Successful Appeals and Average Naturalization Rates under Representative Democracy

Outcome	Naturalization Rate (%) (mean 6.14)			
Appeals Relative to	Eligible Immigrants		Municipality Size	
Model	(1)	(2)	(3)	(4)
Relative Number of Appeals	0.19		0.27	
	(0.04)		(0.06)	
Medium Number of Appeals		-0.47		-0.09
		(0.62)		(0.68)
High Number of Appeals		2.46		2.09
		(0.84)		(0.92)
Constant	6.67	6.70	6.66	6.69
	(0.52)	(0.51)	(0.52)	(0.51)
Municipality FEs	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓
Observations	237	237	237	237
Municipalities	57	57	57	57

Note: OLS panel fixed effects regression for 2004-2009 period. The sample consists of municipalities from the cantons of Zurich and Bern under representative democracy. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are the continuous measure for lagged successful appeals (models 1 and 3), and the categorical measure for lagged successful appeals (models 2 and 4). Models 1 and 2 uses the number of successful appeals relative to the number of eligible immigrants, models 3 and 4 relative to the municipality size.

Table B.9: Successful Appeals and Naturalization Rates under Direct Democracy

Outcome	Naturalization Rate (%) (mean 5.59)			
Appeals Relative to	Eligible Immigrants		Municipality Size	
Model	(1)	(2)	(3)	(4)
Relative Number of Appeals	0.04		0.03	
	(0.13)		(0.20)	
Medium Number of Appeals	-1.35		-1.40	
		(1.43)		(1.46)
High Number of Appeals		0.86		0.79
		(1.41)		(1.41)
Constant	5.94	6.06	5.98	6.07
	(0.84)	(0.79)	(0.80)	(0.77)
Municipality FEs	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓
Observations	79	79	79	79
Municipalities	35	35	35	35

Note: OLS panel fixed effects regression for 2004-2009 period. The sample consists of municipalities from the cantons of Zurich and Bern under direct democracy. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are the continuous measure for lagged successful appeals (models 1 and 3), and the categorical measure for lagged successful appeals (models 2 and 4). Models 1 and 2 uses the number of successful appeals relative to the number of eligible immigrants, models 3 and 4 relative to the municipality size.

Table B.10: Successful Appeals and Facilitated Naturalization Rates under Representative Democracy

Outcome	Facilitated Naturalization Rate (%) (mean .59)			
Appeals Relative to:	Eligible Immigrants		Municipality Size	
Model	(1)	(2)	(3)	(4)
Relative Number of Appeals	-0.01		-0.02	
	(0.01)		(0.01)	
Medium Number of Appeals		-0.00		0.07
		(0.04)		(0.07)
High Number of Appeals		0.13		-0.01
		(0.15)		(0.10)
Constant	0.48	0.47	0.48	0.47
	(0.04)	(0.04)	(0.04)	(0.04)
Municipality FEs	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓
Observations	237	237	237	237
Municipalities	57	57	57	57

Note: OLS panel fixed effects regression for 2004-2009 period. The sample consists of municipalities from the cantons of Zurich and Bern under representative democracy. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the facilitated municipal naturalization rate, the independent variables are the continuous measure for lagged successful appeals (models 1 and 3), and the categorical measure for lagged successful appeals (models 2 and 4). Models 1 and 2 uses the number of successful appeals relative to the number of eligible immigrants, models 3 and 4 relative to the municipality size.