

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 that were typically decided with referendums in each municipality. Using panel data from 1,400 municipalities for the 1991–2009 period, we exploit Federal Court rulings that forced municipalities to transfer the decisions to their elected municipality councils. We find that naturalization rates surged by 60% once politicians rather than citizens began deciding on naturalization applications. Whereas voters in referendums face no cost of arbitrarily rejecting qualified applicants based on discriminatory preferences, politicians in the council are constrained to formally justify rejections and may be held accountable by judicial review. Consistent with this mechanism, the increase in naturalization rates caused by switching from direct to representative democracy is much stronger for more marginalized immigrant groups and in areas where voters are more xenophobic or where judicial review is more salient.

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Does direct democracy hurt minorities? This fundamental question has divided scholars from the birth of Athenian democracy to current day controversies over referendums in American states, Switzerland, and many other 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 minorities (Madison 1961). But despite considerable scholarly work on the topic, our understanding of how different forms of democratic government affect minority interests continues to be limited. Some studies of direct democracy provide evidence for a systematic anti-minority bias (Gamble 1997; Schildkraut 2001; Haider-Markel, Querze and Lindaman 2007; Hajnal 2009), while 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; Donovan and Bowler 1998; Frey and Goette 1998; Hajnal, Gerber and Louch 2002). And while critics of direct democracy are quick to cite popular votes that have infringed the rights of minorities, supporters 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) concludes in a recent review, “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. There is no convincing evidence—anecdotal or statistical—that minority rights are undermined by direct democracy with a greater regularity than by legislatures.”

The 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 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. 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 on a plethora of unmeasured confounding characteristics, such as voter

preferences, historical legacies, or political culture that independently affect minority outcomes.

Common strategies to deal with omitted variable bias, such as natural experiments and 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 European countries frequently use referendums for a wide range of policy decisions (Hug 2003).

In this study, we address this gap and advance a natural experiment that considers the causal effect of direct democracy on the naturalization rates of immigrant minorities in Switzerland. Naturalization rates are an important outcome because naturalization is the pathway through which immigrants obtain the right to vote, the right to permanently stay in the host country, and, as correlational studies suggest, access to better jobs and higher wages (e.g., OECD (2011)). Quasi-experimental evidence also shows that naturalization propels the political and social integration of immigrants (Hainmueller, Hangartner and Pietrantuono 2014).

In Switzerland, citizenship applications of immigrants are decided by the municipality in which the immigrant resides. Municipalities use two main types of 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. This 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 forced most municipalities to change their decision-making process from direct to representative democracy. This rare instance of a large-scale, plausibly exogenous, institutional variation over time allows us

to identify the effect of switching from direct to representative democracy in a design-based framework that exploits within-municipality variation, thereby ruling out time-invariant confounders.

We find that the sudden transition from direct to representative democracy sharply increased naturalization rates by about 60%. 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 that it takes three to five years of administrative processing time before a submitted application is 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 municipal council stood a much better chance of being approved compared to unlucky applicants who were similarly qualified but had applied in the same municipality just a few months earlier such that their applications would still be voted on at the citizens' assembly. Consistent with this design-based 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.

We also investigate several mechanisms that might explain why immigrants fare much better when politicians in legislatures rather than citizens in referendums decide on naturalization applications. Semi-structured interviews conducted with head secretaries of a random sample of the switching municipalities suggest that an important mechanism through which immigrants benefit is the heightened legal accountability that accompanies the transition of decision-making power from the people to the politicians. Voters in referendums are largely unconstrained to vote "sincerely" because they do not have to formally justify their decisions and face no reputational costs from arbitrarily rejecting qualified applicants based on discriminatory preferences against particular immigrant groups. In contrast, representative democracy requires that accountable politicians publicly report on the reasons for voting to reject an applicant and these justifications are subject to judicial oversight by the courts if applicants

appeal. These constraints increase the costs for politicians to arbitrarily reject applicants on the basis of discriminatory judgments, even if politicians are potentially just as prejudiced against particular immigrant groups as voters. Consistent with this legal accountability mechanism, that is to our knowledge novel in the literature on direct democracy, additional tests confirm that switching from direct to representative democracy is most beneficial for applicants who live in the most xenophobic municipalities or belong to more marginalized origin groups (e.g., former Yugoslavia or Turkey). 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. In the conclusion section, we elaborate on the theoretical and policy implications of our findings.

DIRECT DEMOCRACY AND MINORITIES

A sizable literature has investigated the relationship between direct democracy and minority interests. Most studies have used what might be called a “counting-up” approach and have examined how often minorities win or lose in direct democratic votes. This approach has yielded mixed results, with some studies supporting and others refuting the existence of a systematic anti-minority bias (Zimmerman and Francis 1986; Cronin 1989; Gamble 1997; Frey and Goette 1998; Donovan and Bowler 1998; Hajnal, Gerber and Louch 2002; Tolbert and Smith 2006; Haider-Markel, Querze and Lindaman 2007; Vatter and Danaci 2010; Moore and Ravishankar 2012). While this counting-up approach is well suited to study the dynamics of popular votes, it does not provide knowledge about the effect of direct versus representative democracy on minority outcomes. The design lacks a control group to measure the missing counterfactual of how well the same minorities would have fared if the same decisions had been taken under representative democracy (Gerber and Hug 2001; Matsusaka 2005).

The important, and largely unanswered, question is whether representative democracy is

systematically better at protecting minority rights than direct democracy. Only about a handful of studies have gone further and compared minority outcomes under different democratic regimes (Schildkraut 2001; Preuhs 2005; Haider-Markel, Querze and Lindaman 2007; Helbling and Kriesi 2004; Vatter and Danaci 2010). However, since direct democratic institutions rarely change over time, these studies are limited to cross-sectional comparisons. It has been well rehearsed in the literature that cross-sectional study designs are insufficient to remove the selection bias that results from the endogeneity of political institutions (Acemoglu 2005; Przeworski 2007; Olken 2010). 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. Therefore, jurisdictions that established direct democracy differ in many ways from jurisdictions that did not, including important geographic, cultural, economic, and political differences that are correlated with minority outcomes. For example, in America the initiative is much less common in the South, and this geographic imbalance is correlated with different histories and policies regarding ethnic and racial minorities. Many of these confounding factors 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. In this study, we address this issue by utilizing a natural experiment that enables us to exploit a rare instance of large-scale and plausibly exogenous over-time variation in direct democracy.

NATURALIZATIONS IN SWITZERLAND

Switzerland employs a system of triple citizenship which delegates the responsibility for naturalization decisions to the municipal level (see Hainmueller and Hangartner (2013) for details). Immigrants who want to apply for Swiss citizenship have to complete a residency requirement of at least twelve years, after which they can submit their 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 assess the applicant’s language skills, integration status, and financial situation. Following this local assessment, the application is submitted to the local naturalization institution for a 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 change in the institution that was 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 three types:

Direct Democracy: Swiss residents decide on the pending naturalization requests by voting in a referendum on each applicant. Applicants who receive a majority of “yes” votes obtain a Swiss passport. In most municipalities, the referendums are held at the citizens’ assemblies where citizens meet at regular intervals to decide on various municipal matters 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. This process was similar to voting by mail in that citizens received official leaflets informing them about the applicants and then cast secret ballots to approve or reject the applications.

Representative Democracy: Naturalization requests are not decided by citizens but by elected politicians who vote on the applications in the legislative or executive branch of the municipal council (the legislative branch is called the municipality parliament in larger municipalities). Politicians are elected to serve in the council for a tenure of typically four years and there are no term limits. A few municipalities elect council members for six years and restrict the tenure to a maximum of three terms.

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.

Figure 1 displays the proportion of municipalities that used direct democracy, representative democracy, and appointed commissions over the period from 1990 to 2010. The data are

based on a survey we conducted with a representative sample of about 1,400 municipalities to measure the local naturalization regime.¹ In the early 1990s, approximately 80% of the municipalities used direct democracy, 20% used representative democracy, and only about 0.1% 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, about 600 municipalities were forced to suddenly transfer the decision-making authority over naturalization applications from voters to politicians.

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 nature of closed ballots that voters do not have to justify their decisions, the court reasoned that such procedures cannot be used for naturalizations (see the supporting information (SI) appendix for details).

Through these 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

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

until municipalities and cantons revised their naturalization procedures. This landmark ruling triggered a larger institutional change as direct democracy 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 larger ones with numerous naturalization requests, immediately drafted new laws regulating the institutional procedures for granting citizenship. Particularly, the cantons of Bern, Vaud, and Zurich issued laws in 2005 that required that naturalizations be decided by the municipal council.

The court rulings and resulting cantonal reforms forced municipalities to switch from direct to representative democracy and therefore provide a fitting natural experiment to identify the causal effect of the institution. In particular, we can exploit the over-time variation in about 600 municipalities because the timing of the switch from direct to representative democracy was exogenously dictated from above and not self-selected by the municipalities. Interviews that we conducted with head secretaries of a random sample of switching municipalities corroborate the exogeneity of the municipal switches. 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.” Consistent with this identification strategy, placebo tests that we present below confirm that for the switching municipalities, there were no differential trends in naturalization rates for each of the five years prior to the switch.

DATA, SAMPLE, AND METHODOLOGY

We collected annual panel data for the 1990—2010 period for a large sample of Swiss municipalities. The SI contains details and sources for all measures. The key independent variable is the institutional regime that municipalities use to decide on their naturalization applications. We use two binary variables, *Direct Democracy* and *Appointed Commission*, that we coded as 1 if a municipality i used direct democracy or an appointed commission, respectively, as of January 1 in a given year t , and zero otherwise. *Representative democracy* serves as the reference category. To measure these institutions, we fielded a survey to the head secretaries (Gemeindeschreiber) of all Swiss municipalities to collect information about the history of the

local naturalization process. This survey yielded an overall response rate of about 60% for a total sample size of 1,474 municipalities. The non-response analysis suggested that our sample is representative of the target population. The sample municipalities capture about 82% of the total Swiss population or 75% of municipalities with at least 10 naturalizations in 2000.

The outcome is the naturalization rate, which, for each municipality is defined as the number of ordinary naturalizations that occurred during year t divided by the number of eligible foreigners who resided in the municipality at the beginning of year t . We computed the local naturalization rates using the detailed Foreign Population Structure and Migration Statistics (PETRA) register data provided to us by the Swiss Federal Statistical Office. Table B.2 in the SI provides descriptive statistics.

To estimate the effect of direct democracy, we use a 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 rules out omitted variable bias from unobserved municipality characteristics that are time invariant over our period (such as a municipality's geographic features, its political culture and history, etc.), δ_t is a year fixed effect to control for common factors that change nonlinearly over our period (such as federal trends in migration, etc.), $\textit{Direct Democracy}_{it}$ 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 quantity of interest is α , which identifies the effect of switching from direct to representative democracy based on the within-municipality variation of naturalization rates among municipalities that switch their regimes over time. In other words, the only requirement for the identification is that the timing of the institutional switch is exogenous to the municipalities, which is highly plausible because the timing of the institutional shift is not self-selected, but forced upon the municipalities by the federal court ruling and the subsequent cantonal reforms, which were beyond the control of the municipalities.

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

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

where t is a time trend variable. This is a very conservative specification that includes municip-

ality fixed effects, year fixed effects, and municipality-specific linear and quadratic time trends. The addition of the municipality-specific trends ensures that all unobserved municipality-specific differences that vary smoothly over time (e.g. local trends in voter preferences, ethnic heterogeneity, or migration patterns, etc.) are purged from the estimate of α , such that only breaks in the trends of the local naturalization rates that directly coincide with the switching from direct to representative democracy are captured by this parameter. Our effect estimates remain very similar when adding the municipality-specific time trends, which yields strong support to our design-based identification assumption that the timing of the institutional switch is exogenous to the municipal trends. We also use additional specifications and placebo checks, including a dynamic panel model that shows that the switching municipalities exhibit no differential trends in the five years prior to the switch, which further corroborates the validity of the identifying assumption. To account for potential serial correlation and heteroscedasticity, we always cluster the standard errors at the municipal level. To address potential post-treatment bias, we present the results both with and without time-varying covariates.

DOES DIRECT DEMOCRACY HURT IMMIGRANT MINORITIES?

We first 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 can be attributed to the effect of switching from direct to representative democracy. In Figure 2, we plot the naturalization rates for the seven years before and after the municipalities switched from direct to representative democracy as gray dots (the values are jittered horizontally). The sample is restricted to the switching municipalities and 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 confidence intervals).

The results provide clear evidence that the average naturalization rate surged sharply just as municipalities switched from direct to representative democracy. 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 ($p < .03$). 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 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 a 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.

Table 1 presents the results from the two-way fixed effects specification. The coefficient on the *Direct Democracy* indicator in Model 1 reveals that switching from direct to representative democracy increased naturalization rates by 1.23 percentage points on average. This effect is precisely estimated ($t \approx 6.8$) and large in substantive terms. As reported in the last three rows in Table 1, the switch from direct to representative democracy resulted in an increase of approximately 62% over the average naturalization rate under direct democracy with a 95% confidence interval of [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 coefficient on direct democracy remains virtually unaffected, which confirms that the effect 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 switches occurred. The results are similar with slightly larger effect sizes: on average, switching from direct to representative democracy increased naturalization rates by about 78% [57%; 98%].

Overall, the results demonstrate that applicants fare much better if elected politicians in municipal councils rather than the citizens in referendums decide 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 municipalities had not switched to representative democracy (based on the estimate in Model 1). This is a rather conservative calculation since it is only based on switching municipalities and ignores the fact that the long-term effects of the switch are even larger (see below).

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 that 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 the 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). Table B.3 in the SI shows that 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. This reassures us that the effect of direct democracy is not driven by global or local trends in unobserved confounders. This also rules out the possibility that the effect might have resulted from a general impact of the court rulings on naturalization decisions. Consistent with this, we also found that 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 our time period. These municipalities are in cantons that had not revised their regulations by 2010; therefore, municipalities in these cantons had not yet been forced to switch. These municipalities should not influence the internal validity of our effect estimates because our identification is based only on municipalities that were forced to switch as a result of the new regulations triggered by the court rulings. To test this we

replicated 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 in Table B.4 in the appendix, are very similar to the main results across all models with effect sizes ranging from 56—79%. While this test corroborates the internal validity of our estimates, we note that the fact that some cantons have not switched yet may still 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, and Thurgau), the estimated increase in naturalization rates that we obtained 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 section below we show that the effect of switching is larger in more conservative areas).

Third, we checked whether the results are different for the ballot box municipalities that were forced to switch immediately as a result of the very first federal court ruling and the municipalities that used citizens' assemblies and had to switch as a result of the subsequent court rulings and cantonal reforms. The results, displayed in Table B.5 in the appendix, show that the effects of switching from direct to representative democracy are quite similar for both groups, with effect sizes of 67% for ballot box municipalities and 58% for assembly municipalities. This further corroborates the internal validity of our estimates and rules out the possibility that the results are confined to a particular flavor of direct democracy (including forms with and without deliberation about the naturalization requests).

Fourth, we examined whether there are differential trends prior to the switch and whether 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 five leads and three lags 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). In Figure 3 we plot the effects for the leads and lags (with their 95% confidence intervals).

The results provide strong evidence that the transition from direct to representative demo-

cracy considerably increased naturalization rates. We find no significant “placebo” effects for the five years leading up to the switch, which corroborates that there are no omitted variables that lead to differential trends prior to the adoption of representative democracy as we would expect given that the switch was exogenous to the municipalities. 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 demonstrates that the shift from direct to representative democracy resulted in considerably higher naturalization rates in the long term. It stands to reason that the general equilibrium effects of the switch in the longer term are even bigger than what we can capture here with our limited time period. Since it is now easier to get approved under representative democracy, we might expect that the pool of applicants increases in the longer term as immigrants who are otherwise discouraged from applying will submit their applications once they learn about how the regime change has affected the naturalization decisions.

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, they differ in that the treatment variable is “switched off” for the facilitated naturalizations since they are centrally 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 coincide with the switch and cause a change in the local 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.6 in the appendix shows that the same is true for the other subsamples. These results strongly suggest that the main results

are not driven by shocks in unmeasured confounders.

WHY DO IMMIGRANTS FARE WORSE UNDER DIRECT DEMOCRACY?

Our natural experiment provides clear evidence that switching from direct to representative democracy dramatically improved the naturalization rates of immigrant minorities. What mechanisms might explain this institutional effect? It is well known that isolating the precise mechanisms that underly any causal effect is very difficult with observational (and even experimental) data. Nonetheless, in the following we provide evidence that speaks to the relative importance of four potential channels involving differences in the processing time, levels of information, preferences, and legal accountability. This evidence draws on further quantitative tests as well as over 230 semi-structured interviews that we conducted with the head secretaries of a random sample of the switching municipalities (see SI appendix for details).

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. This hypothesis implies that the switch should produce an instantaneous 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 mechanism is that elected politicians may reject fewer applicants than voters because they have more information about the applicants. This explanation also lacks empirical support. Although council members typically have substantial information about the applicants, the same was often true for citizens who voted on the applications under direct democracy. In the ballot box municipalities, voters received voting leaflets, which provided a detailed description of each applicant, prior to the referendums. Similarly, in municipalities where voting occurred at the citizens' assemblies, applicants often had to appear at the assembly and were interviewed by the voters. 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 might be driven by differences in the pref-

erences of voters and politicians. Since decisions are made by majority rule we have to consider the preferences of the median voters and the median politicians who decide the naturalization votes in the referendums or the municipality councils respectively. One possibility is that the median politicians in the legislatures are more pro-immigration compared to the median voters, and therefore we see fewer rejections once municipalities switch from direct to representative democracy. This hypothesis is difficult to evaluate because there exists no detailed systematic data on the preferences of local politicians that could be directly compared to the preferences of the local electorate. However, given that the politicians in the council are elected by the voters in the municipality in competitive elections, standard models of representation (Downs 1957) suggest that the preferences of the median politician in the council should roughly reflect the preferences of the median voter in the electorate. In other words, if electoral competition works and voters elect politicians who share their preferences, then we would expect that in municipalities where the median voter is anti-immigrant, the median politician in the council should be equally anti-immigrant. Consistent with such a model of representation, we find that the seat shares of the SVP in the municipality councils, a rough proxy for the immigration preferences of the median voter, are highly correlated with the local vote share for the SVP in federal elections, a proxy for the immigration preferences of the median voter (see SI appendix Figure B.3). Therefore, it seems theoretically and empirically doubtful that there exists large differences in the preferences of the median voter and the median politician that could account for the large effect of the shift from direct to representative democracy. That said, below we also consider more sophisticated versions of the preference hypothesis that allow for differences in the preferences of the median voter and the median politician. These alternative versions of the preference mechanism also receive no empirical support.

The fourth mechanism we examined holds that even though the median politician and the median voter share roughly similar preferences and would like to reject a roughly similar fraction of applicants, politicians face a much higher level of legal accountability and therefore higher costs for engaging in potentially arbitrary rejections. Notice that by legal 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 naturalization applications; however, the discretion of the decision maker is legally constrained by the normative requirement that the application decision has to be made on non-discriminatory grounds. In particular, the Swiss law stipulates that applicants can be rejected on the basis of certain permissible criteria (such as insufficient language skills or integration status), but it is illegal to reject applicants on the basis of certain impermissible criteria (such as origin, ethnicity, or religion).

While in theory voters are subject to the same normative requirements as politicians, in practice this legal accountability relationship between the decision maker and the law functions poorly under direct democracy since 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 reject an applicant and they cannot legally be held accountable for discriminatory rejections. Voters are unconstrained to “sincerely” vote on their personal preferences and arbitrarily reject applicants based on their origin or other impermissible criteria. In contrast, the legal accountability relationship functions better under representative democracy because politicians holding elected 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 review the justification for the rejection. These mechanisms constrain the discretion of politicians and make it more costly for them to disobey 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 legal accountability that the politician faces makes it less likely that he will “sincerely” act upon his potentially prejudicial preferences and arbitrarily reject an applicant on discriminatory grounds.

What is the empirical evidence for this novel legal accountability mechanism? There are at least five observable implications that we can evaluate with our data. First, if this mechanism is important, we would expect that head secretaries mentioned it in the interviews. This is indeed the case. 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”; or “assembly votes were extremely emotional, based on sympathy or nationality.” When asked about why the naturalization rate might have increased following the switch to representative democracy, responses included statements like “there is much less discrimination in the council, 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.” In summary, more than two-thirds (25 out of 37) of the interviewed secretaries that talked about potential mechanisms explaining the increase in naturalization rates stated that the responsibility of the municipal council to justify a rejection “plays a major role.”

Second, if the legal accountability mechanism is important, we expect a fair share of arbitrary rejections under direct democracy given that voters casting secret ballots face few constraints to vote on their prejudice. This implication is also supported by the evidence. Hainmueller and Hangartner (2013) who analyzed naturalization referendums in ballot box municipalities over the 1970–2003 period found that they were largely decided based on the applicant’s country of origin. For example, the most marginalized group of applicants from the former Yugoslavia or Turkey obtained approximately 40% higher proportion of “no” votes on average 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.

Third, the legal accountability mechanism anticipates that switching from direct to representative democracy is most beneficial for applicants from the most marginalized groups. This is because these groups face the highest rates of arbitrary rejections under direct democracy but should enjoy more protection under representative democracy if politicians face higher legal accountability, and therefore discriminatory rejections are less likely to occur. To test for this

we replicated the benchmark two-way fixed effect model with country of origin-specific naturalization rates for three distinct origin groups, including immigrant applicants from (former) Yugoslavia and Turkey, southern European countries (Italy, Spain, and Portugal), and northern and western European countries (Germany, Austria, France, etc.). These origin groups account for the largest share of naturalizations; however, they vary broadly in terms of their marginalization as immigrants from (former) Yugoslavia and Turkey typically face much higher anti-immigrant sentiments than immigrants from countries in southern Europe (Hainmueller and Hangartner 2013). The results are displayed in Figure 5 and Table B.9 in the SI. We find that applicants from Yugoslavia and Turkey gained the most as municipalities switched from direct to representative democracy. In contrast, the change in the regime had no or only a small significant effect for applicants from southern European origins. The effect estimates for the two groups are statistically significantly different ($p < .05$).

A fourth implication of the legal accountability mechanism is that the effect of switching should depend on the anti-immigrant preferences of the local electorate. Imagine a municipality where voters hold strong anti-immigrant preferences. Here we would expect a large share of discriminatory rejections under direct democracy because the preferences of unconstrained voters directly translate into policy. However, once such a municipality is forced to switch to representative democracy, we expect the share of discriminatory rejections to drop sharply as the elected politicians, despite being just as prejudiced against immigrants as their constituents, are more constrained in acting upon their prejudice by the heightened legal accountability. On the flip side, we expect the switch to have little effect in areas with low levels of xenophobia since there should be few discriminatory rejections under either regime and legal accountability should therefore be largely irrelevant. To test this implication, we reran the benchmark model while interacting our institutional measures with the local vote share for the SVP, a proxy for the xenophobic preferences of the local electorate. The results, displayed in Figure 6 and Table B.7 in the SI, confirm that the effect of switching is indeed conditional on the xenophobic preferences of the local electorate. Switching from direct to representative democracy has essentially no effect in the least xenophobic municipalities with low SVP vote shares, but has a large effect in the most xenophobic areas with high SVP vote shares. The results are very

similar when we replicate the model while allowing for nonlinearity in the interactive effect (see Figure B.1 in the SI) or using the seat shares of the SVP in the municipality councils as an alternative measure of the preferences of the median legislator (see Figure B.2 in the SI).

Note that while the effect heterogeneity documented above is highly consistent with the legal accountability mechanism it is difficult to square with more sophisticated versions of the preference argument. For example, even if we assume that the median politician in the council is on average more pro-immigration than the median voter—perhaps because politicians are on average more educated and therefore more tolerant towards immigrants or less biased—then the effect of switching should be roughly uniform across immigrant groups and local levels of xenophobia. The reason is that under electoral competition we would still expect that the preference of the median council member at least loosely tracks the preference of the median voter, such that in more xenophobic municipalities the median politician would still be more xenophobic than the median politician in less xenophobic areas (even though both politicians are generally more pro-immigration than their respective median voters). In other words, the gap in the naturalization preferences between the median voter and the median politician should be roughly similar as we move from more to less marginalized groups or from more to less xenophobic areas and therefore this argument cannot explain why we see larger effects of the institutional shift for more marginalized groups and in more xenophobic areas.

The interaction is also difficult to square with an even more sophisticated preference argument that allows for a varying gap between the preferences of the median voter and the median politician which might emerge from a two-dimensional policy space as in Lee, Roemer and Straeten (2006). If anything, under such a model we would expect the gap between the median voter and politician to be smallest in the most xenophobic municipalities since local voters there care most intensely about the immigration dimension. If voters place a high electoral weight on this dimension, we expect that the median politician will quickly adopt the strong anti-immigration position of the median voter. However, it is precisely in these places where we find the largest increase in naturalizations when switching from direct to representative democracy, which suggests that legal accountability is preventing the politician from rejecting as many applicants as voters would prefer.

The final observable implication of the legal 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 indeed 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. We first restricted the sample to years in which politicians decided on the applications and regressed the local naturalization rates on the fraction of successful appeals in the preceding year, controlling for municipality and year fixed effects.

We find that a higher fraction of successful appeals is strongly correlated with higher naturalization rates in the next year, suggesting that politicians react to the judicial oversight by engaging in fewer rejections (see Table 2, models 1–4). Having a high as compared to a low fraction of successful appeals in the previous year is associated with a large 40% increase in the naturalization rate compared to the average naturalization rate.² In a striking contrast, replicating the model for the years in which municipalities used direct democracy, we find that appeals have no effect on the naturalization rates, suggesting that voters do not react to judicial oversight; the point estimates are close to zero for all measures (see Table 2, models 5–8). This pattern is what we would expect if politicians face higher legal accountability than voters, but it is not anticipated by the preference mechanism.

Overall, the evidence is highly consistent with the novel legal accountability mechanism being an important channel through which immigrant minorities benefit from switching from direct to representative democracy. The positive effect 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 municipal council, but have no effect when citizens vote on the applications in referendums. None of the alternative explanations we considered can account for these multiple patterns.

²If politicians vote more liberally solely to avoid the hassle of an appeal, we would expect the relative number of any appeal, successful or unsuccessful, to increase the naturalization rate in the following year. However, we do not find any effect for the relative number of unsuccessful appeals across all specifications. Only successful appeals influence politicians' future naturalization decisions.

CONCLUSION

Direct democracy is rapidly becoming a popular tool for policy making in modern democracies. Although there are advantages of bringing policy making closer to the people, one important concern is that the trend toward 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 this important issue. In this study, we address the lack of causal evidence through a natural experiment that exploits exogenous institutional change from direct to representative democracy. 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. Further evidence suggests an important channel through which this effect operates is the heightened legal accountability that politicians face compared to citizens when deciding on the naturalization requests.

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 a significant proportion of qualified applicants who would be approved if accountable legislators, who have to publicly justify their decisions and are subject to judicial oversight, were to vote on the same applications. This evidence strongly suggests that direct democracy should no longer be used for naturalization decisions 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 harm minorities more often than representative democracy. Moreover, the evidence suggests that direct democracy is most harmful for the most marginalized minorit-

ies. 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 and contradicts the claims of its supporters who argue that there exists no rigorous evidence that direct democracy harms minority interests. Finally, from a theoretical perspective we have identified a novel mechanism that explains how institutional constraints can limit discretion and thereby mitigate how prejudices translate into policy. 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 who are at risk of discrimination.

How generalizable are our findings? 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 domain of naturalizations where the causal effect of direct democracy can be isolated empirically, minorities suffer substantially from direct democracy when faced with an antagonistic electorate. Whether direct democracy would be more or less harmful in other contexts is more difficult to assess. We need to consider two questions about the external validity. First, is Switzerland different? Second, are naturalization referendums different?

If direct democracy amplifies the preferences of the majority, then one possibility is that the negative effects of direct democracy that we find are more pronounced in Switzerland because the Swiss are more anti-immigrant than natives in most other places. However, the evidence soundly contradicts the idea that the Swiss are unusually xenophobic. In fact, the best available cross-national data on immigration attitudes from the European Social Survey and World Values Survey suggests that across a broad range of measures, Switzerland consistently ranks among the countries with the lowest levels of anti-immigrant sentiment (see SI for details). This supports the conjecture that, if anything, we might expect even more harmful effects if other countries were to allow voters to express their preferences on immigrants in referendums.

Another possibility is that the effects of direct democracy differ in our setting because naturalization votes are a special case. In particular, one distinguishing feature is that naturalization referendums entail votes on individual immigrants, rather than votes on broader policies that affect the minority group as a whole. But would direct democracy be more or less harmful if voters decided on minority groups, rather than the individuals who belong to

these groups? The large social psychology literature on the “person-positivity bias” (Sears 1983) supports the conjecture that direct democracy would most likely be more harmful. It is a central finding that individuals are regularly viewed more positively than the groups or categories they embody and that individuating information can act to override stereotypes and encourage perceivers to form judgments on the merits of the individual (LaPiere 1934; Sears 1983). This person-positivity bias has been replicated in many different domains, including the area of immigration where Iyengar et al. (2013) show that voters fiercely oppose open immigration policies, even though they are generally much more welcoming toward individual immigrants. We expect that a similar person-positivity bias is also at play in our naturalization setting where votes are cast based on lots of individuating information about the applicants.

In sum, both lines of reasoning about external validity suggest that our results most likely provide a lower bound for the harmful effects of direct democracy on immigrant minorities. Nonetheless, it is our view that fundamentally external validity is best addressed not by theoretical conjectures, but by replicating internally valid studies in other countries and other domains.

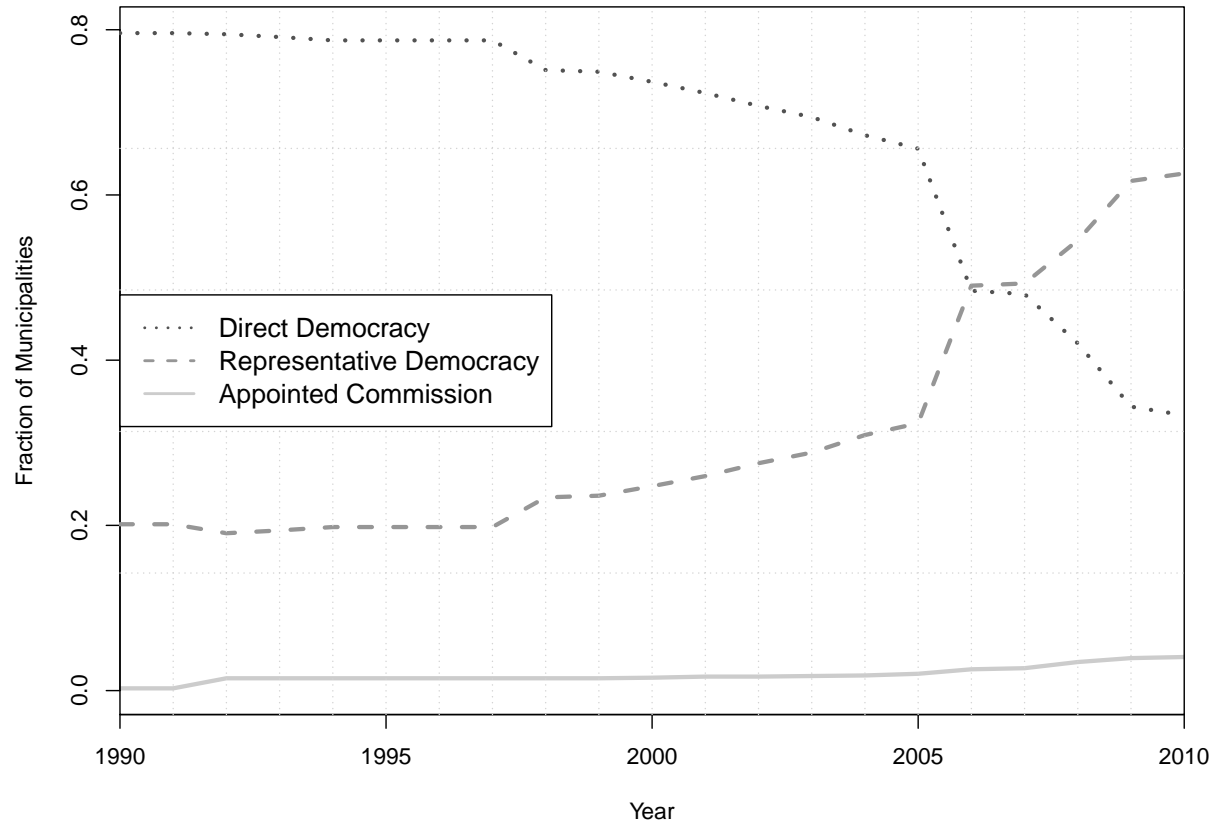
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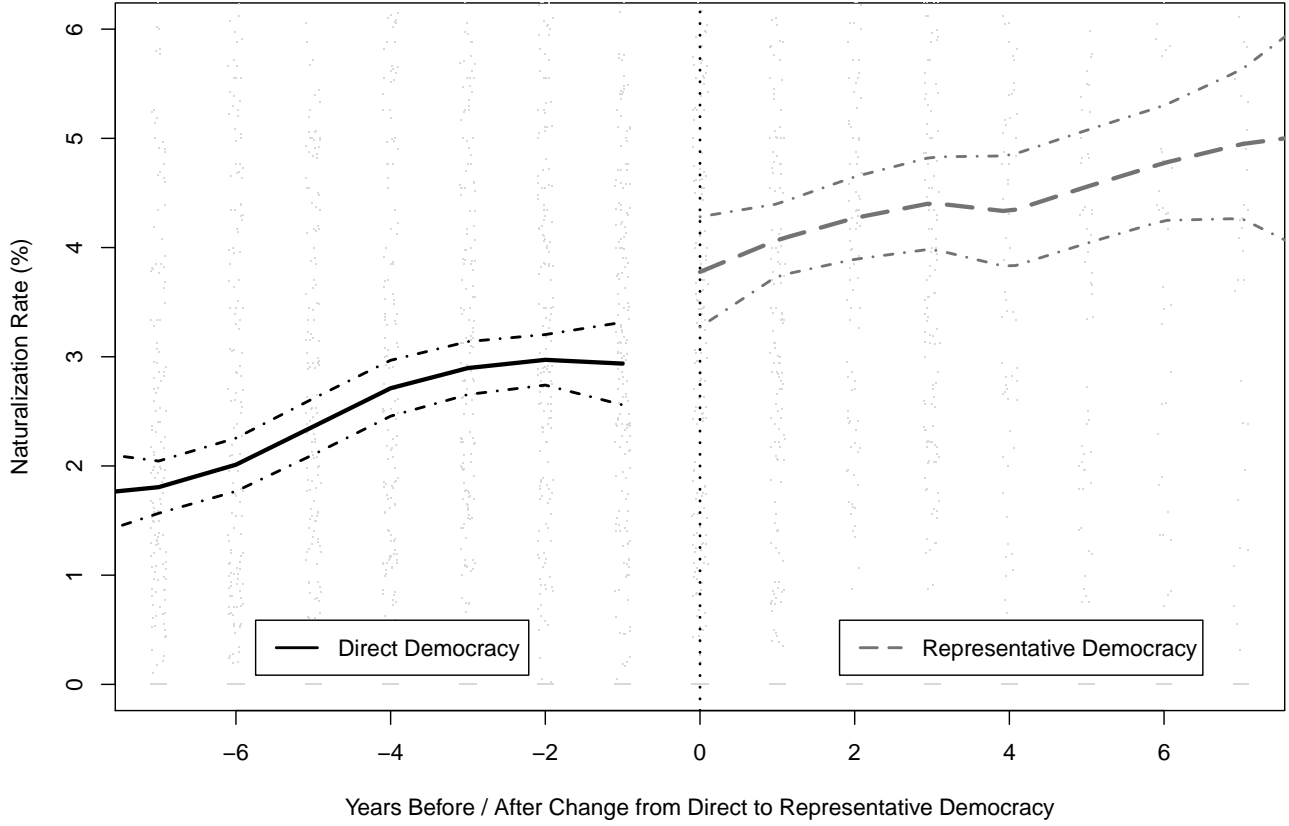
FIGURES

Figure 1: Trends in Naturalization Institutions



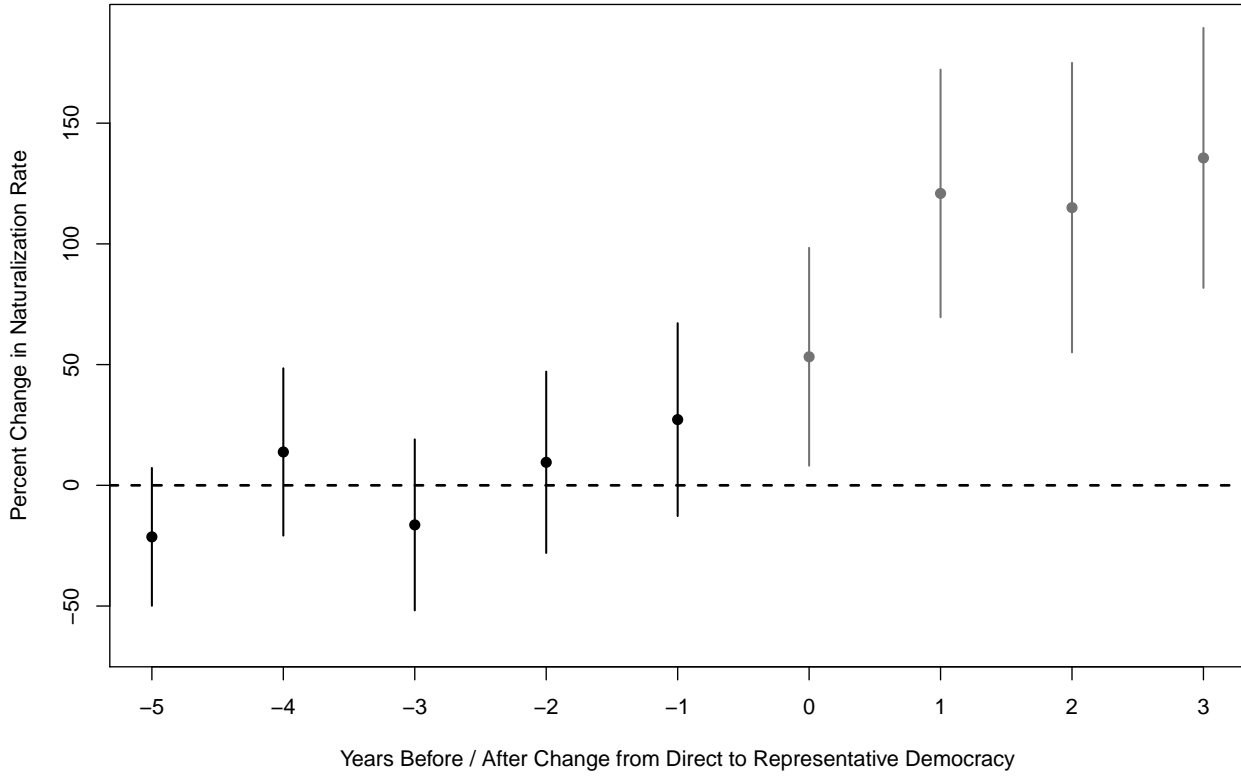
Note: Plot shows fraction of municipalities that use direct democracy (dotted black line), representative democracy (dashed dark gray line), and appointed commission (solid bright gray line) to decide on local naturalization requests for the years 1990-2010. N=1,360 municipalities. (Source: Own data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

Figure 2: Effect of Direct Democracy on Naturalization Rates



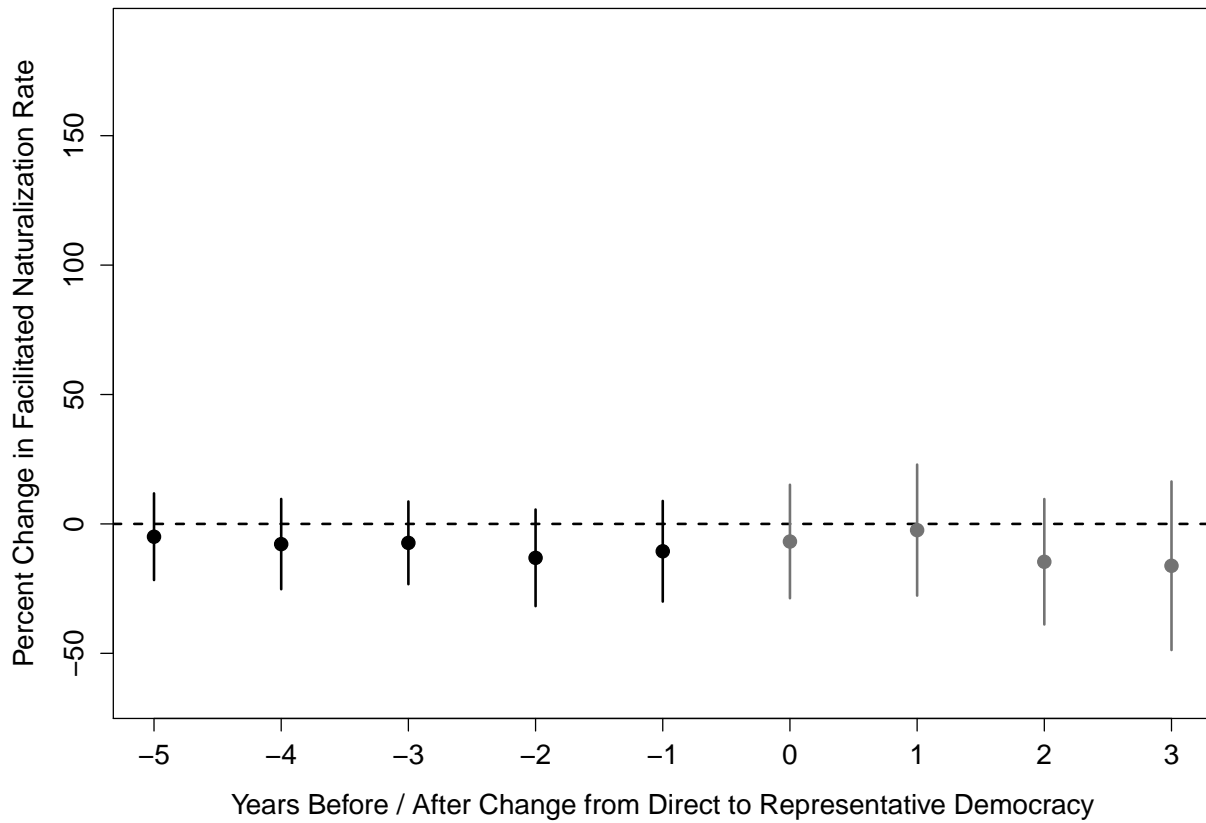
Note: Plot shows how naturalization rates change as municipalities switch from direct to representative democracy. Gray dots visualize municipal naturalization rates for seven years before and after a given municipality switched from direct to representative democracy (values are horizontally jittered); 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% pointwise confidence intervals (dotted line). N=598 (all switching municipalities).

Figure 3: Dynamic Effect of Direct Democracy on Naturalization Rates



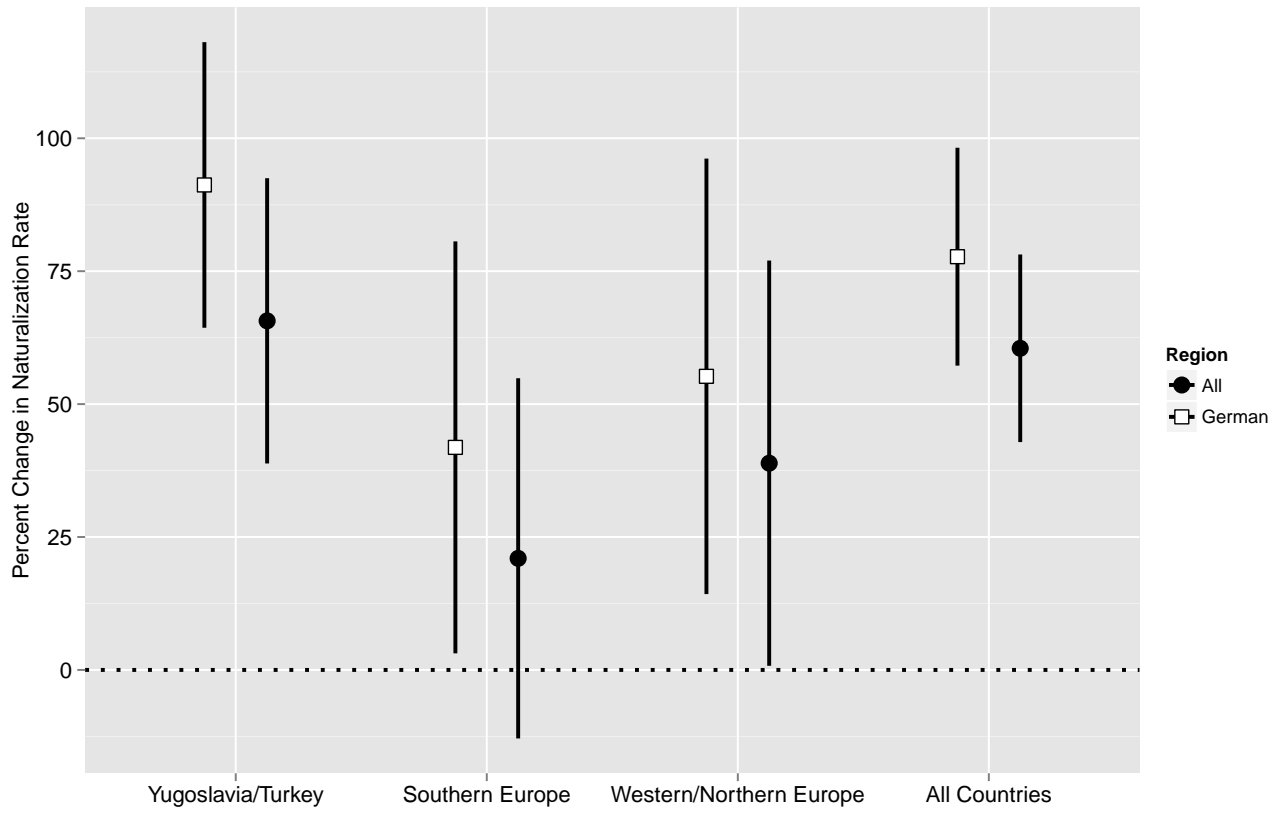
Note: Estimated impact of switching from direct to representative democracy on naturalization rate for years before (black lines) and after (gray lines) the institutional change. Year 0 is the first year in which representative democracy was used on January 1. Point estimates with 95% confidence intervals (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. Notice that the (insignificant) positive difference for the year immediately prior to the reform, year -1, is mostly an artifact 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 because it includes several municipalities that switched early or in the middle of the year such that their naturalization rates for year -1 include many naturalizations that were already decided by the municipality council.

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



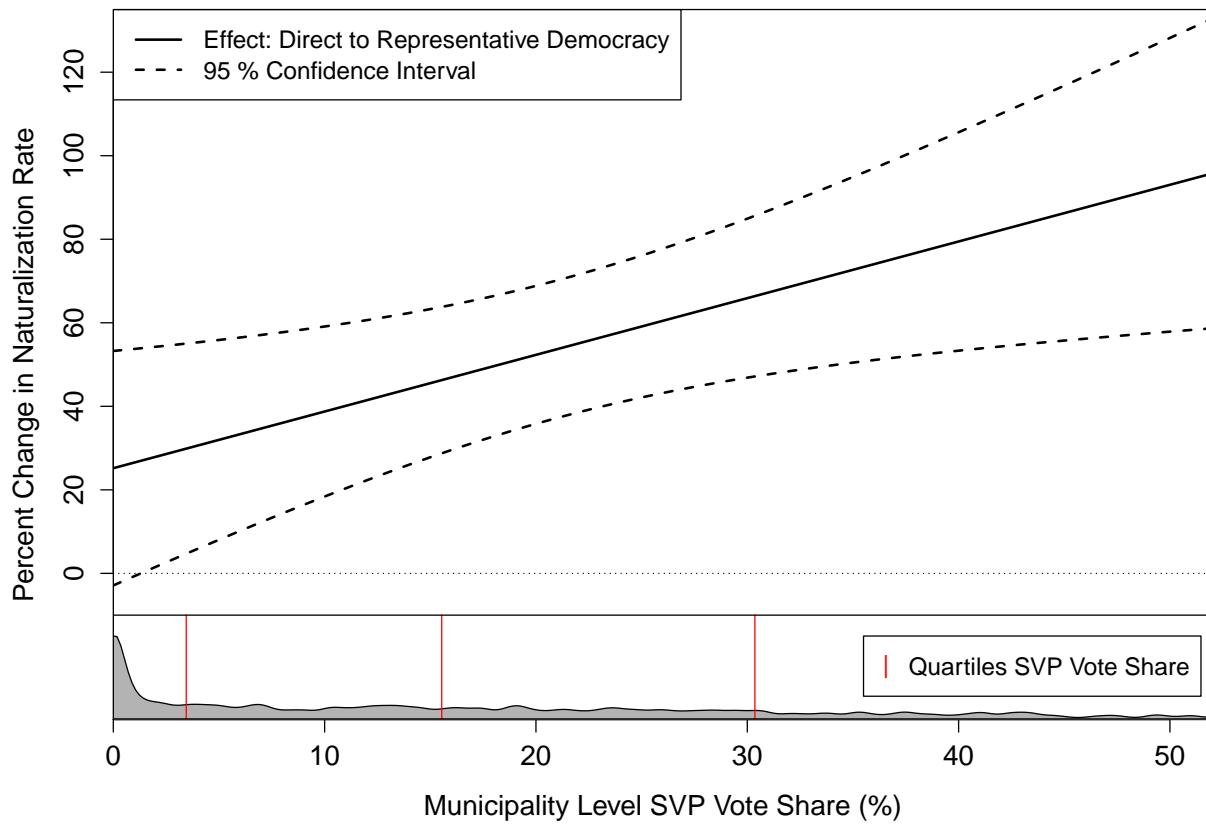
Note: Estimated impact of switching from direct to representative democracy on facilitated naturalization rate for years before (black lines) and after (gray lines) the institutional change. Year 0 is the first year in which representative democracy was used on January 1. Point estimates with 95% confidence 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.

Figure 5: 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 origins (based on Models 1 and 2 in Table 1 and Models 1–6 in Table B.9).

Figure 6: Effect of Direct Democracy and Voter Preferences



Note: Marginal effect of switching from direct to representative democracy on the naturalization rate computed at different levels of SVP vote share (based on Model 1 in Table B.7). The gray shaded area visualizes the density of the marginal distribution of SVP vote shares; red vertical lines indicate the quartiles.

TABLES

Table 1: Effect of Direct Democracy on Naturalization Rates

Outcome	Naturalization Rate (%)			
Mean (Direct Democracy)	2.00		2.20	
Sample	All Municipalities		German Language	
Model	(1)	(2)	(3)	(4)
Direct Democracy	-1.23 (0.18)	-1.21 (0.18)	-1.72 (0.22)	-1.71 (0.23)
Appointed Commission		0.51 (0.58)		0.11 (0.71)
Constant	1.81 (0.16)	1.79 (0.16)	2.41 (0.23)	2.41 (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 increase 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.

Table 2: Successful Appeals and Average Naturalization Rates under Representative and Direct Democracy

Outcome	Naturalization Rate (%) (mean 6.14)				Naturalization Rate (%) (mean 5.59)			
Sample	Representative Democracy				Direct Democracy			
Appeals Relative to	Eligible Immigrants	Municipality Size			Eligible Immigrants	Municipality Size		
Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Relative # of Appeals	0.19 (0.04)		0.27 (0.06)		0.04 (0.13)		0.03 (0.20)	
Medium # of Appeals		-0.47 (0.62)		-0.09 (0.68)		-1.35 (1.43)		-1.40 (1.46)
High # of Appeals		2.46 (0.84)		2.09 (0.92)		0.86 (1.41)		0.79 (1.41)
Constant	6.67 (0.52)	6.70 (0.51)	6.66 (0.52)	6.69 (0.51)	5.94 (0.84)	6.06 (0.79)	5.98 (0.80)	6.07 (0.77)
Municipality FEs	✓	✓	✓	✓	✓	✓	✓	✓
Year FEs	✓	✓	✓	✓	✓	✓	✓	✓
Observations	237	237	237	237	79	79	79	79
Municipalities	57	57	57	57	35	35	35	35

Note: OLS panel fixed effects regression for 2004-2010 period. The sample consists of municipalities from the cantons of Zurich and Bern under representative democracy (models 1-4) and direct democracy (models 5-8). 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, 3, 5, 7), and the categorical measure for lagged successful appeals (models 2, 4, 6, 8). Models 1, 2, 5, 6 utilize the number of successful appeals relative to the number of eligible immigrants, models 3, 4, 7, 8 relative to the municipality size.

SUPPORTING INFORMATION APPENDICES (NOT FOR PUBLICATION)

APPENDIX A: DATA SOURCES

- Naturalization Institution: Survey by authors. We fielded a survey to the *Gemeindeschreiber* (head secretaries) of all Swiss municipalities to collect information about the history of the local naturalization process. The sampling frame for the survey was a complete list of the email addresses of all Swiss municipalities that we compiled using a web search and address list from the Swiss Statistical Office.

We fielded the survey using an online interface during the summer of 2010. The questionnaire is available upon request. The 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. 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. 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.

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. Table B.1 provides a detailed breakdown of the main institutions and subtypes over time. 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.

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

- Naturalization rate: For each municipality i in a given year t , the naturalization rates 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 Foreign Population Structure and Migration Statistics (PETRA) register data provided to us by the Swiss Federal Statistical Office. 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. To guard against outliers, we excluded a small number of municipalities where the naturalization rate in 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.

- 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.
- Native 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). 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.
- Number of Unemployed: State Secretariat for Economic Affairs (Schweizerische Arbeitsmarktstatistik), 1993-2010.
- Follow up survey of head secretaries: In order to gather data on the importance of different mechanisms we conducted semi structured interviews with 232 head secretaries in a random sample of 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. Head secretary is a non-partisan position. The interviews were conducted between January–March 2012; respondents were promised anonymity.

APPENDIX B: ADDITIONAL RESULTS

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

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

Years	% of Municipalities by Period (N=1,360)				
	1990-1995	1996-2000	2001-2005	2006-2010	1990-2010
<i>Direct Democracy</i>					
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
<i>Representative Democracy</i>					
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
<i>Appointed Commissions</i>					
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 1,474 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: Average Naturalization Rates by Regime

Regime Type	Naturalization Rate (%)			Observations
	Mean	LB	UB	
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).

Table B.3: 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 (0.18)	-1.29 (0.18)	-1.06 (0.31)	-1.08 (0.31)	-1.10 (0.31)	-1.11 (0.32)
Appointed Commission		0.47 (0.58)		-0.35 (0.66)		-0.35 (0.66)
Constant	10.15 (4.10)	10.14 (4.09)	0.06 (0.27)	0.08 (0.27)	1.49 (10.05)	1.47 (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 (0.23)	-1.70 (0.23)	-1.45 (0.39)	-1.48 (0.41)	-1.44 (0.40)	-1.48 (0.42)
Appointed Commission		0.13 (0.70)		-0.48 (0.96)		-0.52 (0.95)
Constant	12.26 (6.20)	12.27 (6.19)	0.53 (0.42)	0.58 (0.44)	14.25 (15.36)	14.04 (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 share³), 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.4: 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 (0.20)	-1.13 (0.20)	-1.50 (0.26)	-1.48 (0.26)	-1.38 (0.27)	-1.38 (0.27)	-1.27 (0.32)	-1.27 (0.32)
Appointed Commission		0.41 (0.59)		0.43 (0.82)		0.00 (0.72)		0.00 (0.83)
Constant	1.60 (0.17)	1.59 (0.17)	2.17 (0.29)	2.16 (0.29)	1.91 (0.29)	1.91 (0.29)	1.96 (0.35)	1.96 (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.5: Robustness: Effect of Direct Democracy on Naturalization Rates (Ballot box versus Assembly)

Outcome	Naturalization Rate (%)	
Mean (Direct Democracy)	2.82	2.50
Sample	Ballot Box	Assembly
Model	(1)	(2)
Direct Democracy	-1.90 (0.89)	-1.44 (0.26)
Constant	2.74 (1.00)	2.11 (0.29)
Municipality FEs	✓	✓
Year FEs	✓	✓
Observations	658	10,255
Municipalities	36	581
Effect Size (% Δ)	67	58
95% CI LB	6	37
95% CI UB	129	78

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 variable is Direct Democracy (1 for direct democracy, 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 naturalization rate (under direct democracy). LB and UB refer to upper and lower bound of 95 % confidence interval. Model 1 restricts the sample to 'ballot box' municipalities and model 2 restricts the sample to municipalities that used assembly meetings in 1991.

Table B.6: Effect of Direct Democracy on Facilitated Naturalization Rates (Placebo Outcome)

Outcome	Facilitated Naturalization Rate (%)			
Mean (Direct Democracy)	2.14		2.00	
Sample	All Municipalities		German Language	
Model	(1)	(2)	(3)	(4)
Direct Democracy	0.02 (0.13)	0.01 (0.13)	0.02 (0.15)	0.01 (0.15)
Appointed Commission		-0.39 (0.27)		-0.19 (0.31)
Constant	0.14 (0.12)	0.15 (0.12)	0.12 (0.16)	0.13 (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.7: 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 (0.286)	-0.411 (0.285)	-1.099 (0.380)	-0.961 (0.388)	-0.172 (0.361)	-0.068 (0.346)	-0.312 (0.486)	-0.105 (0.471)
Appointed Commission		1.557 (0.722)		1.533 (0.984)		1.142 (0.812)		1.379 (1.226)
Direct Democracy · SVP Vote Share	-0.027 (0.011)	-0.030 (0.011)	-0.021 (0.013)	-0.025 (0.013)				
Appointed Commission · SVP Vote Share		-0.071 (0.028)		-0.082 (0.033)				
Direct Democracy · SVP VS Medium					-0.938 (0.412)	-0.979 (0.402)	-1.376 (0.543)	-1.497 (0.535)
Direct Democracy · SVP VS High					-1.438 (0.433)	-1.586 (0.422)	-1.754 (0.552)	-2.027 (0.540)
Appointed Commission · SVP VS Medium						0.274 (1.276)		-0.305 (1.592)
Appointed Commission · SVP VS High						-3.201 (1.232)		-3.982 (1.574)
Constant	1.675 (0.153)	1.651 (0.153)	2.264 (0.219)	2.224 (0.222)	1.664 (0.156)	1.637 (0.156)	2.202 (0.221)	2.151 (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

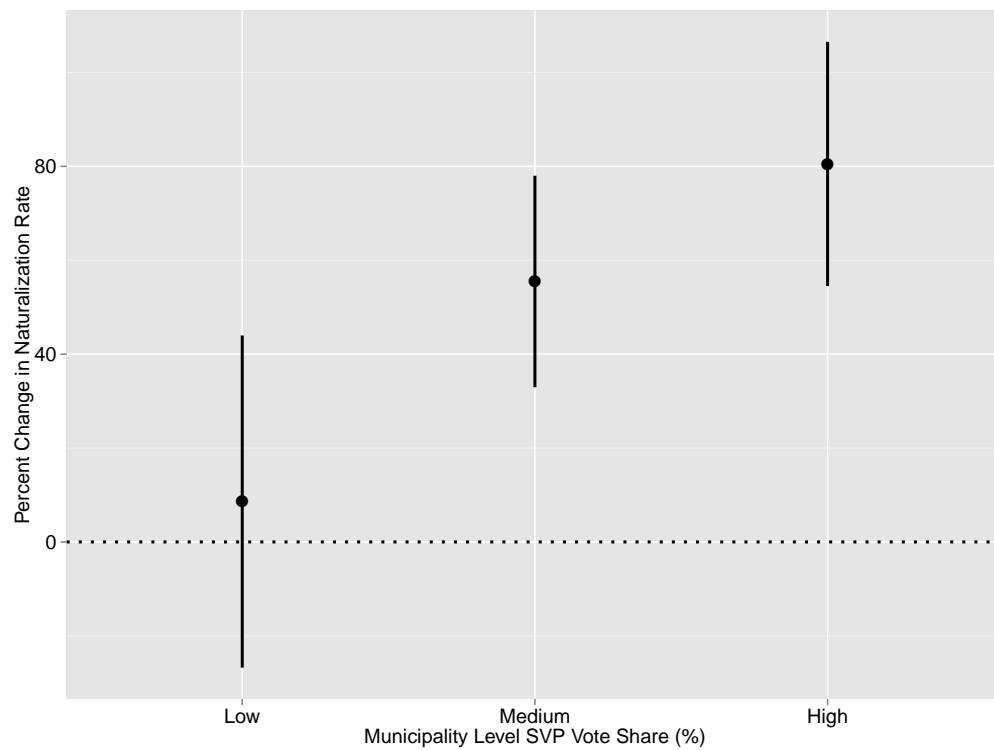
Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), 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.⁴ 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.8: 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 (0.26)	-0.58 (0.26)	-1.23 (0.38)	-1.14 (0.39)	-0.44 (0.28)	-0.37 (0.28)	-1.05 (0.48)	-0.91 (0.50)
Appointed Commission		1.30 (0.85)		1.12 (1.14)		1.36 (0.92)		1.24 (1.27)
Direct Democracy · SVP Seat Share	-0.03 (0.01)	-0.03 (0.01)	-0.02 (0.01)	-0.02 (0.01)				
Appointed Commission · SVP Seat Share		-0.05 (0.04)		-0.05 (0.04)				
Direct Democracy · SVP SS Medium					-1.34 (0.45)	-1.42 (0.46)	-0.71 (0.60)	-0.86 (0.63)
Direct Democracy · SVP SS High					-1.91 (0.41)	-2.01 (0.42)	-1.23 (0.57)	-1.40 (0.59)
Appointed Commission · SVP SS Medium						-1.46 (1.25)		-1.28 (1.54)
Appointed Commission · SVP SS High						-2.15 (1.91)		-2.07 (2.09)
Constant	1.79 (0.18)	1.77 (0.18)	2.30 (0.26)	2.26 (0.26)	1.81 (0.18)	1.78 (0.18)	2.29 (0.26)	2.24 (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

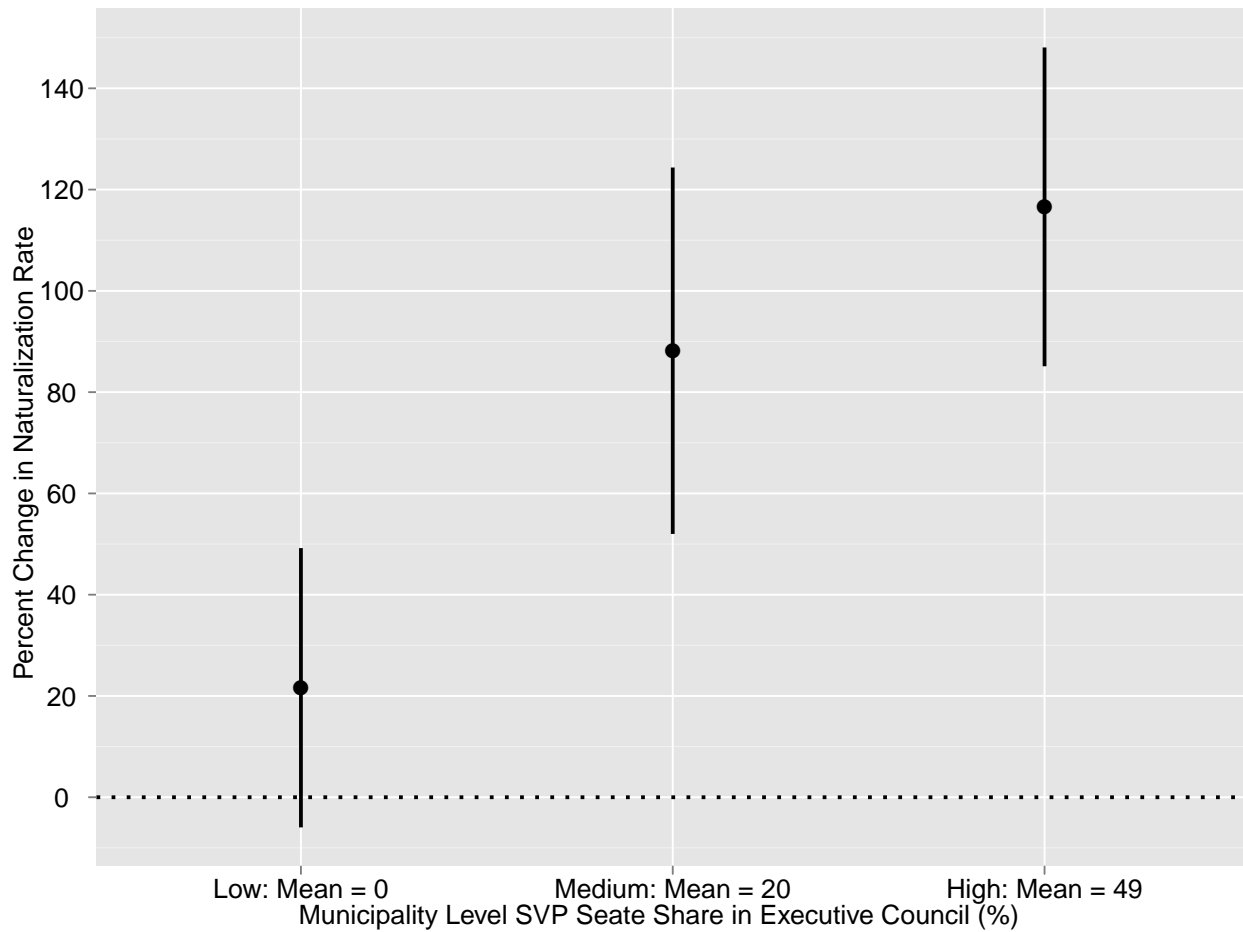
Note: OLS panel fixed effects regression for 1991-2009 period. Regression coefficients shown with robust standard errors (clustered by municipality) in parentheses. The outcome variable is the municipal naturalization rate, the independent variables are Direct Democracy (1 for direct democracy, 0 otherwise), 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 Vote Shares (Nonlinear Interaction)



Note: Marginal effect of switching from representative to direct democracy on naturalization rate, computed at different levels of SVP vote share. The Figure is based on Model 5 in Table B.7.

Figure B.2: 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.

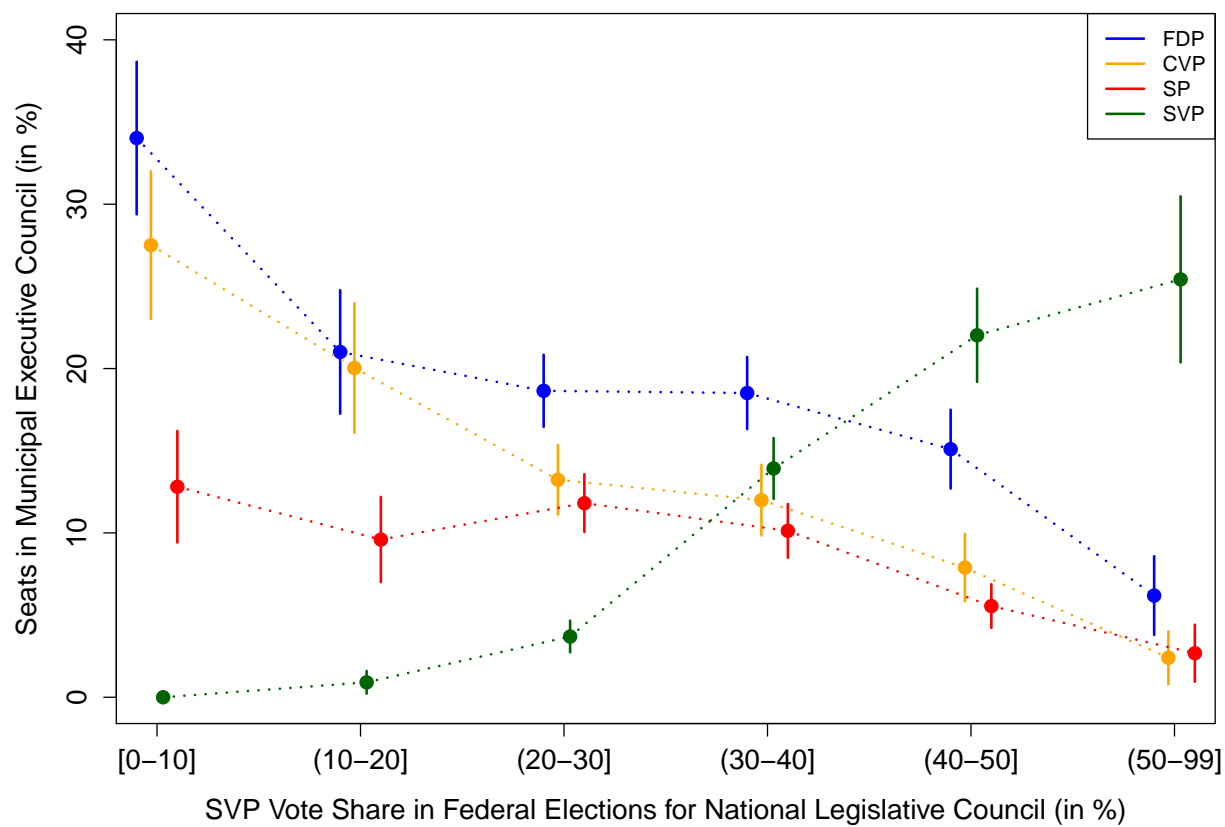
Table B.9: Effect of Direct Democracy on Naturalization Rates by Country of Origin

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 (0.14)	-0.17 (0.14)	-0.27 (0.13)	-0.28 (0.14)	-2.83 (0.58)	-2.83 (0.59)
Appointed Commission		-0.11 (0.31)		-0.13 (0.25)		-0.00 (1.13)
Constant	1.21 (0.16)	1.22 (0.16)	1.32 (0.16)	1.32 (0.16)	3.71 (0.46)	3.71 (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 (0.16)	-0.36 (0.17)	-0.35 (0.14)	-0.37 (0.14)	-4.19 (0.62)	-4.26 (0.64)
Appointed Commission		-0.28 (0.37)		-0.31 (0.29)		-1.08 (1.27)
Constant	1.34 (0.21)	1.35 (0.21)	1.36 (0.20)	1.38 (0.20)	5.07 (0.58)	5.14 (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.

Figure B.3: Local SVP Seat Shares and Federal SVP Vote in Municipality



Note: Plot shows SVP seat share for the municipal executive council (measured in 2009) plotted against the SVP vote share for the 2007 federal elections.

APPENDIX C: ADDITIONAL DETAIL ON COURT RULINGS

As already discussed in the main text, the Federal court issued two landmark rulings in July 2003. In ruling (BGE 129 I 217), the Federal court reminded municipalities that the naturalization decision-making body is obligated to provide a justification for a rejection. 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. In ruling (BGE 129 I 232), issued on the same day, 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 (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). Second, the court argued that referendum voting on naturalization applications in general was highly problematic because of privacy concerns. To make an informed decision, 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 solution for this dilemma is to not let voters decide on naturalization requests.

APPENDIX D: EXTERNAL VALIDITY

To assess the external validity of our findings, we examine whether the population in Switzerland is more anti-immigrant than in other places. To measure anti-immigrant sentiments we rely on various standard immigration questions asked in the European Social Survey (ESS), a high quality, multi-wave, cross-national survey that is widely used in the literature on immigration attitudes.

The immigration questions are as follows:

1. “Is [country] made a worse or a better place to live by people coming to live here from other countries?” Answer options range from 0 (“Worse place to live”) to 10 (“Better place to live”).
2. “And, using this card, would you say that [country]’s cultural life is generally undermined or enriched by people coming to live here from other countries?” Answer options range from 0 (“cultural life is undermined”) to 10 (“cultural life is enriched”).
3. “Now, using this card, to what extent do you think [country] should allow people of the same race or ethnic group as most [country] people to come and live here?” Answer options include: 1 (“Allow many to come and live here”), 2 (“Allow some”), 3 (“Allow a few”), 4 (“Allow none”).
4. “How about people of a different race or ethnic group from most [country] people?” Answer options include: 1 (“Allow many to come and live here”), 2 (“Allow some”), 3 (“Allow a few”), 4 (“Allow none”).
5. “And how about people from poorer countries outside Europe?” Answer options include: 1 (“Allow many to come and live here”), 2 (“Allow some”), 3 (“Allow a few”), 4 (“Allow none”).

For sake of easy interpretation, we dichotomize each question into a binary anti-immigrant sentiment measure coded 1 if respondents answered in a negative direction (i.e. answer options 0-4 for question 1 and 2 and answer options 3 or 4 for questions 3-5), and 0 if respondents answered in a more positive direction (i.e. answer options 5-10 for question 1 and 2 and answer options 1 or 2 for questions 3-5). The results are robust to using the full scales or other cut-points.

Figures D.2-D.3 show the results where for each country we compute the mean levels of the anti-immigrant sentiment measures plus 95 % confidence intervals pooling across all available ESS waves from round 1 (2002) to round 6 (2012). The countries are ordered from left to right based on their rank in terms of reported levels of anti-immigrant sentiment. The estimates are very precise given that the average number of observation per country is about 8,700 respondents. The key finding is that across all measures, Switzerland is consistently among the most pro-immigrant countries in the survey. Across the five immigration questions, Switzerland ranks between the 2nd-5th lowest in terms of the fraction of voters that oppose immigration across the 30 countries included in the ESS. In other words, the large majority of

countries display much higher levels of anti-immigrant sentiment. The results are robust if we look only at single waves or at other questions that are only asked in single waves.

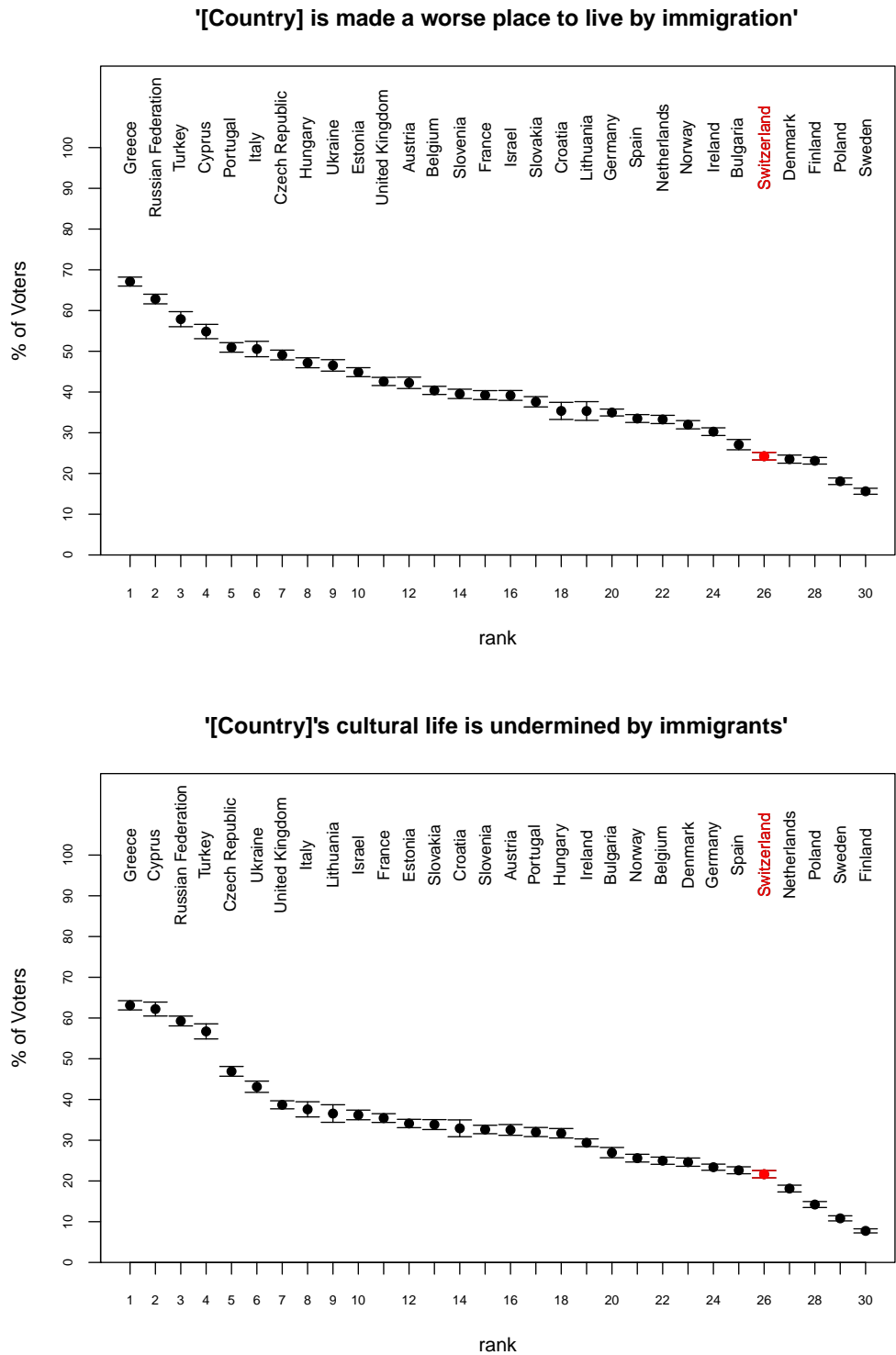
As a another robustness check we also replicated the analysis with data from the World Values Survey (WVS). The immigration questions are as follows:

1. “How about people from other countries coming here to work. Which one of the following do you think the government should do?” Answer options include: 1 (“Let anyone come”), 2 (“As long as jobs available”), 3 (“Strict limits”), 4 (“Prohibit people coming”).
2. “Do you agree, disagree or neither agree nor disagree with the following statements? When jobs are scarce, employers should give priority to [country] people over immigrants.” Answer options include: 1 (“Agree”), 2 (“Neither”), 3 (“Disagree”).

We again dichotomize each question into a binary anti-immigrant sentiment measure coded 1 if respondents answered in a negative direction (i.e. answer options 3 and 4 for question 1 and answer option 1 for question 2), and 0 if respondents answered in a more positive direction (i.e. answer options 1 and 2 for question 1 answer options 2 or 3 for question 2). The results are robust to using the full scales or other cut-points.

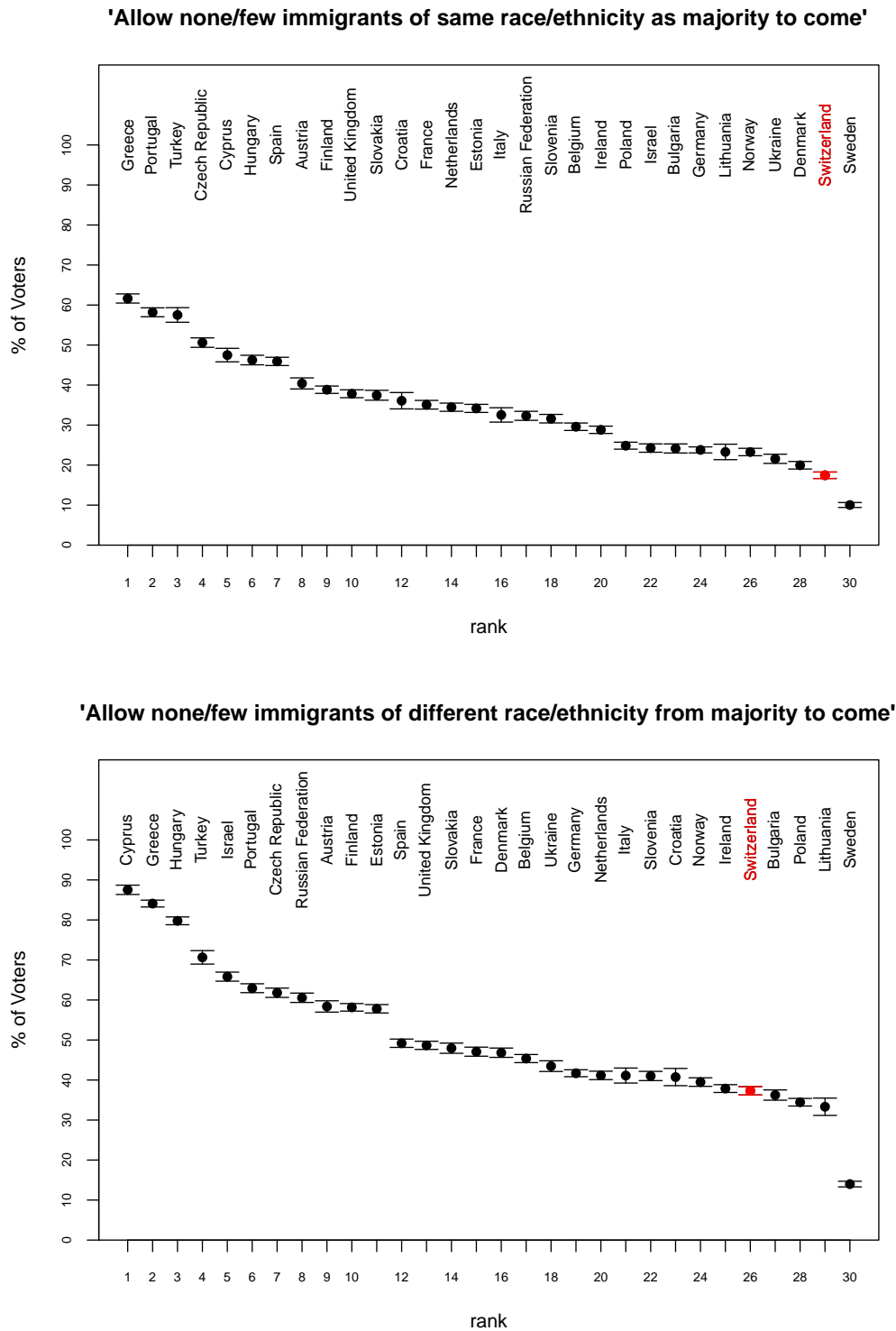
Figure D.4 shows the results and confirms the pattern found in the ESS data. Across both measures, Switzerland ranks between the 7th-8th lowest in terms of the fraction of voters that oppose immigration across the 51 countries included in the WVS. Taken together these results suggest that the population in Switzerland is, if anything, more pro-immigration than the populations in many other countries. We therefore might expect similar or even larger negative effects of direct democracy if voters in other countries were allowed to vote on immigrants.

Figure D.1: Anti-immigrant Attitudes: Switzerland versus other European Countries



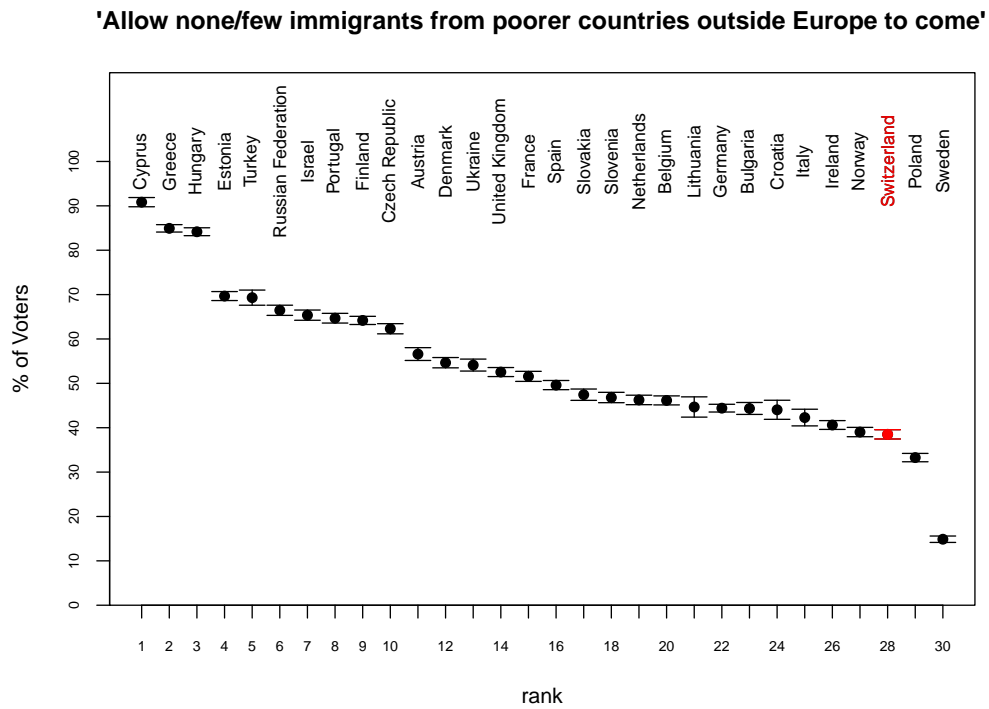
Note: Percent of voters with anti-immigrant attitudes based on European Social Survey (rounds 1-6).

Figure D.2: Anti-immigrant Attitudes: Switzerland versus other European Countries



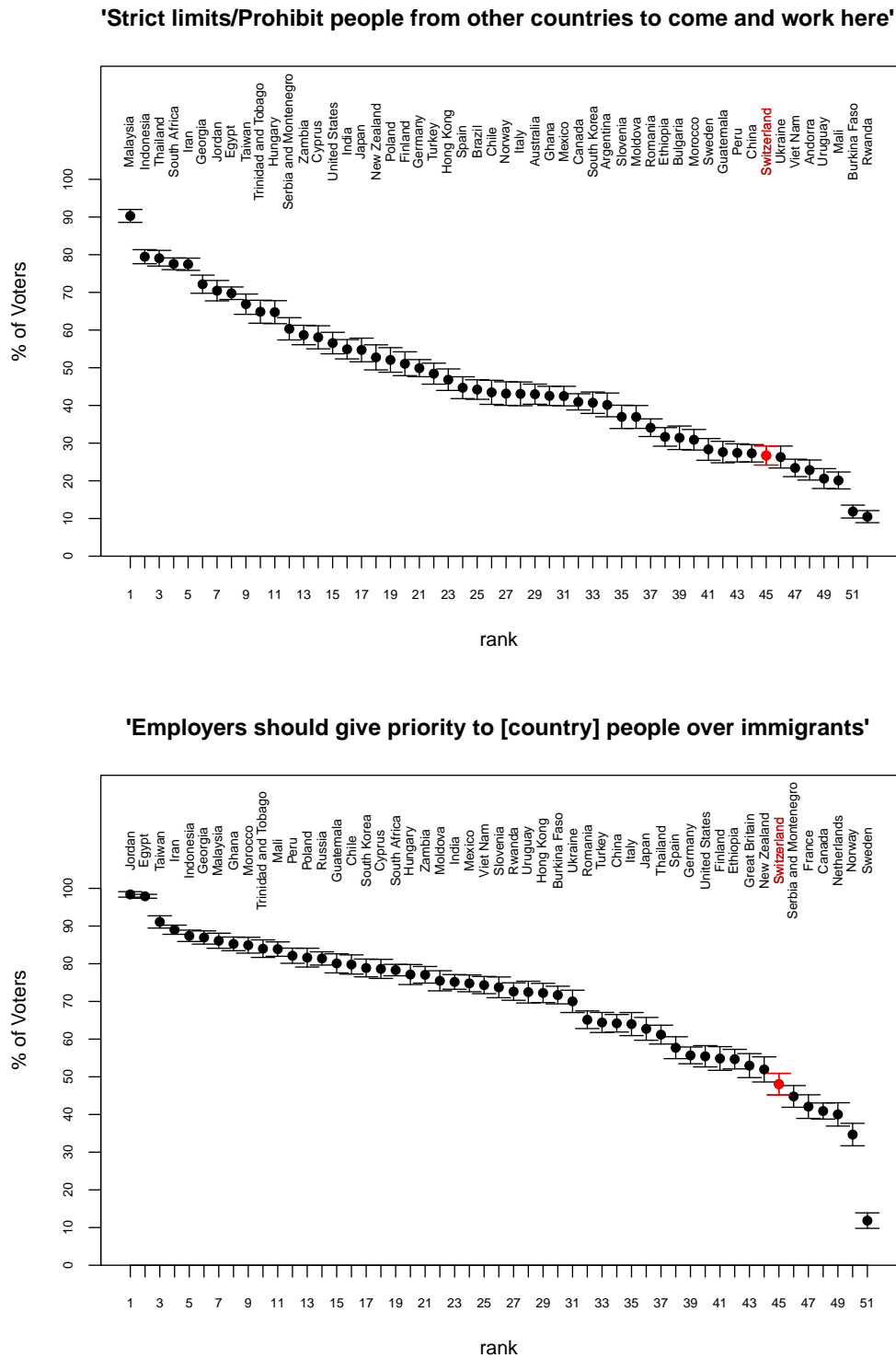
Note: Percent of voters with anti-immigrant attitudes based on European Social Survey (rounds 1-6).

Figure D.3: Anti-immigrant Attitudes: Switzerland versus other European Countries



Note: Percent of voters with anti-immigrant attitudes based on European Social Survey (rounds 1-6).

Figure D.4: Anti-immigrant Attitudes: Switzerland versus other European Countries



Note: Percent of voters with anti-immigrant attitudes based on World Values Survey Round 5.