Naturalization Fosters the Long-Term Political Integration of Immigrants

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Does naturalization cause better political integration of immigrants into the host society? Despite heated debates about citizenship policy, there exists almost no evidence that isolates the independent effect of naturalization from the non-random selection into naturalization. We provide new evidence from a natural experiment in Switzerland where some municipalities used secret ballot referendums as the mechanism to decide naturalization requests. Balance checks suggest that for close naturalization referendums, which are decided by just a few votes, the naturalization decision is as good as random so that narrowly rejected and narrowly approved immigrant applicants are similar on all confounding characteristics. This allows us to remove selection effects and obtain unbiased estimates of the long-term impacts of citizenship. The analysis shows that naturalization considerably improved the political integration of immigrants, including increases in formal political participation, political knowledge, and political efficacy.

naturalization | immigration | integration | natural experiment

One of the key debates over immigration policy involves the political integration of immigrants and their access to citizenship. Some argue that immigrants should be given easy access to citizenship and encouraged to naturalize because naturalization fosters rapid integration into the host society. In this view the acquisition of citizenship is an important catalyst that has an independent effect on accelerating and deepening the process of political integration. In contrast, others argue that access to citizenship should be highly restricted because naturalization itself does little to foster integration. In fact, naturalization is likely to dampen the incentives to integrate since once immigrants are given the passport of the host society, they can no longer be motivated to integrate by the promise of obtaining the benefits that come with citizenship (e.g., access to welfare benefits or the right to stay in the country indefinitely). From this perspective citizenship is not an effective instrument to improve integration but merely a reward that is promised to immigrants in exchange for successfully completing the integration process. Yet others argue that encouraging or pressuring immigrants to naturalize might backfire and simply reinforce immigrant identities.[1]

Does naturalization promote political integration? Despite the imminent relevance of this question for the design of immigration and citizenship policy and much theorizing among social scientists and pundits, there exists little rigorous causal evidence on the impacts of naturalization on the political integration of immigrants.[2] Most studies only examine the impact of naturalization on economic integration (see, for example, [10, 11]), and the few existing studies that consider effects on political integration by comparing the political participation of naturalized and non-naturalized immigrants (see [12] and references therein) are based on limited research designs and data that prevent them from isolating the independent effect of naturalization from a plethora of confounding factors.

When trying to isolate the effect of naturalization, the key problem for causal inference is that naturalization is far from randomly assigned. Instead, the process through which immigrants obtain citizenship typically involves a complex *double selection process*. In the first stage, immigrants selectively apply for naturalization, and this decision often depends on characteristics that are not observed by the researcher. For example, immigrants who are more motivated, have more resources, or are better informed might be more likely to apply. In the second stage, decision makers carefully select who among the applicants is approved or rejected for citizenship. This screening process is also based on characteristics that are typically unobserved by the researcher. For example, applicants who make a bad impression in the application interview, have a low perceived integration potential, or lack sufficient language skills might be more likely to be rejected.

This double selection process severely confounds the existing comparisons of naturalized and non-naturalized immigrants. For example, if we find that naturalized immigrants are politically more informed or earn higher wages than non-naturalized immigrants, we cannot conclude that these differences are caused by naturalization because the double selection ensures that the two groups differ on the many important confounding characteristics that determine the selection into applying. After all, while the group of naturalized consists exclusively of those immigrants who had sufficient resources, motivation, and information to apply, the group of non-naturalized immigrants includes many (often even a majority of) immigrants who were not motivated enough or lacked the resources to

> **Significance**
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> The political integration of immigrant minorities is one of the most pressing policy issues many countries face today. Despite heated debates there exists little rigorous evidence about whether naturalization fosters or dampens the integration of immigrants into the political fabric of the host society. Our study provides causal evidence on the long-term effects of naturalization on political integration. Our research design takes advantage of a natural experiment in Switzerland that allows us to separate the independent effect of naturalization from the non-random selection into naturalization. We find that naturalization caused long-lasting improvements in political integration with immigrants becoming likely to vote and attaining considerably higher levels of political efficacy and political knowledge.

Reserved for Publication Footnotes

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apply for naturalization in the first place. We therefore do not know whether post-naturalization differences in integration outcomes are driven by an independent causal effect of naturalization or selection bias from differences in levels of motivation, resources, and information that are correlated with the propensity to integrate into the host society. Moreover, even if we could restrict the comparison to only immigrants who applied for citizenship, the second-stage selection ensures that the comparison between accepted and rejected applicants is still confounded by differences in applicant characteristics that decision makers consider when screening the applications. In particular, applicants might be rejected precisely because they are judged to have a lower integration potential or insufficient language skills than the applicants who are accepted. Therefore, approved applicants are likely to better integrate than rejected applicants even in the absence of naturalization. Eliminating the bias from this double selection process is a rather hopeless endeavor with typical observational data because researchers cannot possibly measure and statistically control for the myriad reasons that determine why immigrants apply and why decision makers approve or reject applications.

We provide new evidence that takes advantage of a natural experiment to identify the long-term effects of naturalization on the political integration of immigrants in Switzerland. Prior to 2003, some Swiss municipalities used secret ballot referendums as the mechanism to decide on naturalization applications. Voters received official voting leaflets that informed them about the applicants and then cast a secret ballot to approve or reject each applicant. Immigrants who gained a majority of "yes" votes received the Swiss passport. As we detail below, this unique setting allows us to remove the bias from the double selection process.

In contrast to previous studies that do not measure whether immigrants applied for citizenship or not, we can remove the first-stage bias from selection into applying because we can restrict the comparison to only those immigrants who applied for naturalization and faced referendums, thereby removing from the control group those immigrants who were not motivated or lacked the resources to apply. We can also remove the second-stage bias from selection into approval using two different identification strategies. First, since we measure the same applicant characteristics that were reported to voters when they voted on the applicants, we can control for the characteristics that determined the approval of applicants and identify the effect of naturalization under a selection on observables assumption. In other words, once we control for their reported characteristics, the applicants are observably equivalent to voters and therefore they can no longer screen applicants based on unobservable attributes, such as their integration potential. Second, we can apply a regression discontinuity design that compares the outcomes of immigrants whose naturalization requests were barely approved or barely rejected by voters. Balance checks suggest that in close referendums that are decided within a narrow vote margin, who gets the Swiss passport and who does not is essentially as good as randomly assigned. Therefore, lucky applicants who are narrowly approved and unlucky applicants who are narrowly rejected are similar on all confounding characteristics, and any differences in their integration outcomes can be attributed to the independent effect of naturalization.[3]

What we find is that naturalization has a strong independent effect on improving the long-term political integration among the competitive immigrant applicants in our sample. In particular, we find that naturalization greatly increased formal political participation, political knowledge, and political efficacy and these results are robust across the different identification strategies and a variety of robustness checks.

Our study makes four main contributions. First, we provide new causal evidence of the effects of citizenship on the integration of immigrants that takes advantage of a natural experiment where naturalization is as good as randomly assigned. Overall the results suggest that naturalization can act as a catalyst that helps to turn immigrants into "citizens" in the Tocquevillian sense. Second, our study provides estimates of the long-term effects of citizenship, while existing work typically only considers short-term outcomes. Since the average naturalized immigrant in our sample obtained the Swiss passport 13 years ago, we examine whether naturalization has any lasting effects on incorporating immigrants into the democratic process. Third, while most studies have looked at whether naturalization benefits the economic integration of immigrants, we provide new evidence on the effect of naturalization on the political integration of immigrants. The political integration of immigrants is a major challenge for many countries that face rising immigrant populations and anti-immigrant backlash among natives. Successfully incorporating immigrants into the political process matters not only for the immigrants, but also for the quality of the democracy in the host country as it enables immigrants to voice their grievances through legitimate electoral and non-electoral means rather than sporadic violence and terror. Finally, our study fills a gap by examining the effect of naturalization on political integration in Switzerland specifically, a country where immigrant integration is a particularly thorny issue given the exceptionally large immigrant population (24%) and rather divisive immigration debates in recent decades.

Empirical Strategy

Setting. In Switzerland, naturalization requests are typically decided at the local level, and different municipalities use different procedures for these decisions [16, 17]. Our study exploits that some municipalities, which we refer to as "ballot box" municipalities, for several decades used popular votes with secret ballots to decide on citizenship applications.[4] Immigrants seeking naturalization had to apply with their local municipality, and if deemed eligible their naturalization request was put to a popular vote. Resident citizens received an official voting leaflet with résumés that detailed information about each applicant, and voters then cast a secret ballot to reject or approve each naturalization request. Applicants who received a majority of "yes" votes were granted Swiss citizenship (see the Supporting Information [SI] appendix for further details about the process).

Identification Strategies. The use of naturalization referendums allows us to address the double selection bias and thereby improve over existing research. The first improvement is that we can remove the potent confounding that comes from the selection into applying because we can restrict our comparison to immigrants who were all sufficiently motivated enough to apply for Swiss citizenship in the first place. The second improvement is that in the naturalization referendums, we actually know the assignment mechanism that determines why applicants are accepted and can exploit this for identification.

In particular, the unique situation allows for two identification strategies. First, we can identify the effects of citizenship based on a selection on observables assumption because we know and control for the applicant characteristics that voters

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[3] Correspondence tests have shown that regression discontinuity designs are remarkably effective at replicating results from randomized experiments [13, 14, 15]

[4] [16] describe this institution in detail.

saw on the voting leaflets when they voted on the naturalization requests. In other words, because voters base their decisions on the applicant characteristics that we observe, once these covariates are controlled for, applicants are observably equivalent to voters such that they cannot strategically and systematically screen applicants for citizenship based on their integration potential or other unobserved characteristics that would confound the comparison. So in our unique setup, controlling for the observable characteristics should be sufficient to remove almost all the omitted variable bias (see [16] for further evidence on the selection on observables assumptions).

One remaining caveat with this identification strategy is that a fraction of applicants who were rejected in their first referendum subsequently re-applied and secured citizenship. Excluding these successful re-applicants from the analysis may compromise the identification because the decision to re-apply is partially endogenous; more motivated immigrants might be more likely to re-apply. Instead, we include these applicants and add a control variable that captures whether a rejected applicant re-applied or not.[5] Adding this control improves the identification, but still leaves open the possibility that decision makers screen the re-applicants based on unobserved confounding characteristics. Many of the re-applications occurred after 2003 and were therefore not decided in referendums but by the municipality council where politicians, not voters, decided the naturalization requests. In these cases, we cannot be sure that our covariates capture all the relevant characteristics that determined the decisions on the re-applications.

A better strategy that directly address this potential remaining selection bias is to use an instrumental variable (IV) approach where identification relies solely on the exogenous variation in naturalization that comes from whether applicants won or lost their first naturalization referendums. We follow the IV framework developed by [18] that allows for heterogeneous treatment effects. In particular, we can view the outcome of the first referendum as an exogenous "encouragement" where winning applicants are encouraged to obtain citizenship and losing applicants are discouraged from obtaining citizenship. Since applicants who win their first referendum automatically get citizenship, we only have two types of applicants in our sample: "compliers" and "always takers" [18]. Compliers are those applicants who are motivated to apply only once. They get Swiss citizenship when they win their first referendum but do not re-apply and subsequently get Swiss citizenship when they lose their first referendum. In other words, such applicants "comply" with the encouragement and therefore their naturalization status is exogenously determined by the outcome of their first referendum. Always takers are applicants who do not comply with the encouragement because they always get Swiss citizenship, regardless of the outcome of their first referendum. If they win they get Swiss citizenship, but if they loose they re-apply and subsequently get citizenship nonetheless. The IV strategy addresses this non-compliance by taking the (covariate adjusted) difference in the outcomes between accepted and rejected applicants (the so called intent-to-treat effect) and scaling it by the fraction of compliers (the so called compliance ratio) in order to isolate the local average treatment effect (LATE) of naturalization among compliers [18].[6]

The second identification strategy that we can apply is a regression discontinuity (RD) design that takes advantage of close referendums [19]. In the RD design we compare lucky applicants who won their naturalization referendum by a few votes and obtained the Swiss passport with unlucky applicants who lost their referendum by a few votes and did not get the Swiss passport. In close referendums the outcome is largely decided by random factors (e.g., the weather on the

day of the referendum, current events, etc.) so that lucky immigrants who are narrowly approved are on average similar to unlucky immigrants who are narrowly rejected, and therefore differences in their integration outcomes can be attributed to the effect of citizenship as opposed to differences in unobserved background factors. In other words, in this quasi-experimental comparison the applicant characteristics are controlled for "by design" because in close referendums citizenship is as if it were randomly assigned in an experiment. The key RD identification assumption is that the potential outcomes of the immigrants are continuous at the threshold [20]. This assumption would fail if immigrants had precise control over the referendum outcomes and could sort around the threshold, but this is highly implausible in large elections such as our secret ballot referendums where the outcome is clearly beyond the control of the immigrant applicants [21].

Figure 1 illustrates the RD logic. For each applicant we plot the number of years she has lived in Switzerland at the time of the referendum, a key determinant of integration, against the vote share margin from her naturalization referendum. The vote margin is defined as the difference between the share of "yes" votes an applicant attained and the 50% victory threshold that applicants had to exceed to win the referendum. Applicants with positive margins to the right of the threshold reached a majority of "yes" votes and were granted Swiss citizenship. Applicants with negative vote margins to the left of the threshold failed to reach a majority of "yes" votes and were denied citizenship. The fitted lines summarize the average years of residence for a given vote share on both sides of the threshold (estimated using a Loess smoother).

Immigrants who are approved with large vote margins also lived longer in Switzerland on average compared to immigrants who are rejected with large margins. But in close referendums that are decided by just a few votes, the naturalization decision is as good as random, and we therefore close winners and close losers are similar in their background characteristics. This is clear in the plot where the average years of residence is similar to the left and the right of the victory threshold. Given the local random assignment, we expect approved and rejected applicants to be similar on all other unobserved and observed confounding characteristics, just as in a randomized experiment. Figures S3-S7 in the SI report similar balance checks that show that barely accepted and barely rejected applicants are similar in terms of many other characteristics, including the year of the referendum, their age, gender, education, country of origin, or the average municipality size. These balance checks suggests that local random assignment in close referendums effectively removes the selection bias. Note that in the RD we can also address the non-compliance of re-applicants by using a fuzzy RD design where, similar to the IV strategy, the intention-to-treat effect is scaled by the compliance ratio at the threshold to isolate the LATE of naturalization for compliers in close referendums [20].

The two identification strategies are complementary. The IV strategy provides more precision because it identifies the LATE for compliers in the whole estimation sample, but we have to statistically adjust for the covariates. The RD strategy is more non-parametric because we control for the covariates

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[5] Table S19 in the SI appendix shows that the results are similar when we exclude the re-applicants from the estimation sample.

[6] Note that the types are fixed characteristics of the applicants and do not depend on the outcome of the referendum. Also note that non-compliance can only occur in the group of applicants who lost their first referendum and therefore there are no never takers (i.e., applicants who never get citizenship regardless of whether they win or lose) or defiers (i.e., applicant who get citizenship if they lose, but do not get it if they win). The one-sided non-compliance also ensures that the local average treatment effect is equal to the average treatment effect on the untreated.

by design, but we lose precision and external validity because we identify the LATE for compliers in close referendums.

Sample. Our study draws on the data collected by [16] who extracted from municipal archives all the voting and applicant data for all immigrants whose naturalization requests were decided by such referendums in all 48 ballot box municipalities between 1970 and 2003. In 2003, the Swiss court ruled that secret ballot naturalization referendums could no longer be used (Tables S1 and S2 in the SI provide details on the sample). These data give us a rich set of pre-treatment covariates that determine the selection into citizenship conditional on applying. The covariates include the immigrant's age, education, country of origin, years since arrival in Switzerland, and time period and municipality fixed effects.

In order to collect the outcomes on political integration, we conducted a survey of the immigrants who were included in the [16] sample. Details about the survey are provided in the SI. Overall, we successfully identified and interviewed 772 immigrants, which corresponds to a cumulative response rate (RR3) as defined by the American Association for Public Opinion Research of 34.3%. As we explain in the SI, this response rate is much higher than typical response rates for public opinion surveys conducted in Switzerland or the U.S.

One possible concern is that the probability of being interviewed is correlated with naturalization. Figure S2 and Table S3 in the SI show that this is not the case in our study. In fact, the probability of being interviewed and the characteristics of those interviewed are virtually identical for closely accepted and closely rejected immigrants.

Outcomes. For the outcomes we measured four standard indicators that capture various dimensions of the political integration of immigrants (see SI for details on the question wording). The first outcome captures formal political participation and consists of a binary indicator coded as one for immigrants who report that they turned out in the last federal parliamentary election in Switzerland and zero otherwise. Note that in Switzerland and most other democratic countries, a central feature of naturalization is that naturalized immigrants acquire the right to vote in federal elections [12]. Since non-naturalized immigrants do not have the right to vote, their turnout is legally constrained to be zero. Therefore the effect of naturalization on turnout is constrained to be non-negative and so for this outcome we are purely interested in the magnitude of the potential effect rather than the sign. In other words, the question is how commonly naturalized immigrants who are otherwise similar to non-naturalized immigrants do actually exercise their newly acquired right to vote in Swiss federal elections or not.

The second outcome captures political efficacy using a standard question that asks respondents whether they agree with the statement that "people like me don't have any influence on the government." Answers are recorded on a five-point scale ranging from 'strongly agree' to 'strongly disagree', and we standardized the codings to vary from 0-1 for comparability.

The third outcome captures political knowledge and is measured using the number of correct answers to two standard knowledge questions about the name of the current Swiss Federal President and the number of signatures required for a federal initiative. We again standardized the number of correct answers to vary from 0-1 for comparability.

Finally, the fourth outcome captures informal political participation. It consists of a binary indicator that measures whether immigrants report that they participated in any of the following political activities in the last 12 months: con-

tacted a politician, worked in a political party, displayed a campaign sticker, participated in a political demonstration, collected signatures for a petition, boycotted a product for political reasons, donated money to a political party, or persuaded others to vote for a party.

It is worth emphasizing that one unique feature about our design is that it allows us to measure the long-term effects of naturalization. Since our survey was conducted in 2013-2014 and the use of naturalization referendums ended in 2003, there is for most applicants a long gap between the time of the measure of the outcomes and the time of the receipt of Swiss citizenship (13 years on average). Our estimates, therefore, will pick up only lasting effects that naturalization might have on integrating immigrants into the political fabric of the host society. This rules out the possibility that our findings are driven by pure short-term effects, such as, for example, a temporary increase in political knowledge that results from applicants studying Swiss politics just to pass the application interview. To the best of our knowledge, there currently exists no causal evidence on the long-terms effects of naturalization.

Results
In Figure 2 we present the effect estimates from the different identification strategies. The regression tables are reported in the SI. For all estimations, we restricted the sample to include only competitive applicants who obtained enough "yes" votes to come within a 15% window around the threshold of winning (i.e., applicants who scored between 35 and 65 percent of "yes" votes). In Figures S9-S12 in the SI appendix we show that the estimates are fairly similar when using different windows.

Ordinary Least Squares Estimates. The purple estimates in Figure 2 show the effects from the OLS model where we regressed the outcomes on the binary naturalization indicator, coded one for immigrants who received Swiss citizenship and zero for those who did not. We also controlled for the applicant baseline characteristics reported in the voting leaflets, the number of application attempts, and a full set of municipality and time period fixed effects. We find that naturalization strongly improved the political integration of immigrants in our sample. Newly naturalized immigrants who are otherwise similar to non-naturalized immigrants, had a turnout of 55 percentage points in the last parliamentary election in Switzerland. This level of voting is striking considering that the reported average turnout among rooted natives who have been Swiss since birth was 52% according to the Swiss election survey. This suggests that newly naturalized immigrants voted at similar rates as Swiss natives. We also find that naturalization has a strong effect on improving the political efficacy of immigrants. Comparing naturalized and non-naturalized immigrants who were otherwise similar on the reported characteristics and therefore observably equivalent to voters, naturalization results in a .16 increase on the 0-1 scale of believing that one has an influence on the government. Given that the average level of efficacy among non-naturalized immigrants is .43, this effect corresponds to about a 37% increase over the baseline level. Similarly, we find that naturalization resulted in immigrants becoming much more politically informed with an increase of .16 on the 0-1 scale of answering the political knowledge questions; this corresponds to about a third of a question more answered correctly or about a 65% increase over the average level of political knowledge among the non-naturalized immigrants, which is .24. This increase is remarkable given that respondents are interviewed on the phone and put on the spot by the political quiz; they could not easily look up the answers as in a self-completion survey. It is also remarkable

given that naturalization raises immigrants' average political knowledge to a level that is similar to that measured for rotted natives who have been Swiss since birth (which is about .52 according to the 2011 Selects survey that asked similar knowledge questions). We also find that there is a 26 percentage point increase in informal political participation, again a large increase compared to the low baseline level of 11% of the non-naturalized immigrants engaging in informal political participation.

Instrumental Variable Estimates. To address the potential concern that some applicants reapplied and were decided by the municipality council, we now fit a two stage least squares regression where we instrument the naturalization dummy with a binary instrument that codes whether immigrants won or lost their first naturalization referendum and are therefore encouraged or discouraged from getting Swiss citizenship.

To validate the instrument we first need to verify that the encouragement was sufficiently strong in creating variation in naturalization. We fit the first stage equation by regressing naturalization status on the covariates, the vote margin, and the instrument (results are reported Table S4 and Figure S8 in the SI). We find that the instrument has a strong effect on naturalization. Closely winning versus closely losing the first referendum increased the probability of getting Swiss citizenship by about 32 percentage points, and this finding is robust across a variety of specifications. This compliance ratio, which implies that there are about 32 percent compliers and about 68 percent always takers, is sufficiently high so that we avoid the problem of weak instruments (the F-statistic for the relevance of the instrument is 23 for the preferred specification—which far exceeds the standard threshold of 10 [22]).

The blue estimates in Figure 2 show the IV estimates of the effect of citizenship for compliers. Naturalization increases rates of voting by 55 percentage points, political efficacy by .25 (or 68% over the baseline level), and political knowledge by .25 (or 107% over the baseline level). The effect on informal political participation is now estimated at 17 percentage points and no longer significant at conventional levels. Part of this is due to the fact that there is less variation in the outcome variable because most immigrants do not engage in informal participation. Except for this last outcome, the IV estimates are similar (and if anything slightly larger) than the OLS estimates.

Fuzzy Regression Discontinuity Design Estimates. The green estimates in Figure 2 show the results from the fuzzy RD design that identifies the naturalization effect for compliers in close referendums based on a local linear two stage least square regression where the slope of the vote margin is allowed to vary on both sides of the threshold. Again, the results are similar to the OLS and IV estimates, and the magnitudes are higher for all outcomes except informal participation. As expected, the RD estimates are less precise given the local identification for compliers at the threshold. Naturalization increases the probability of voting by 61 percentage points, political efficacy by .39 (or 91 % over the baseline level), and political knowledge by about .47 (or 190 % over the baseline level). The effect on informal political participation is 18 percentage points and again not significant at conventional levels.

Finally, in order to check the design-based RD identification, the red estimates show the effects that we obtain when replicating the RD model while dropping all the covariates (except the vote margin). If the naturalization decision in close referendums is as good as random, then just like in a randomized experiment, controlling or not controlling for the baseline covariates should not considerably change the effect estimates since the covariates (and also unobservables) are well balanced by design. The estimates are almost identical with and without the covariates, which corroborates the RD identification.

Taken together, these results demonstrate that naturalization caused big and long-lasting improvements in political integration among the competitive immigrant applicants in our sample. The results are consistent across the different identification strategies and various measures of political integration (except informal participation). These long-term increases in political integration are remarkable given that outcomes like voting, political efficacy, or political knowledge are often seen as fairly stable attributes that are formed in early socialization, but then rarely change over time. Yet, among otherwise similar immigrants, naturalization substantially increases political engagement to a new level where more than two decades later naturalized immigrants vote at the same rates and possess similar levels of political information as rooted natives who have been Swiss since birth. This suggest that naturalization acts as a critical juncture where barely rejected immigrants remain disengaged from the political process, while barely accepted immigrants become integrated to a level that is similar to that of rooted natives.

Discussion

Effect Heterogeneity. One important question for policy and theory is whether the naturalization effect varies for different immigrant groups. To investigate this we examined whether the effect of naturalization differs by the origin of the immigrants, their level of education, and their prior residency in Switzerland. We find that the effects of naturalization in our sample are remarkably stable across these different groups of immigrants (see SI for the regression Tables S9-S14). Naturalization improved political integration for groups that are less socially marginalized to begin with, such as immigrants who are born in Switzerland, immigrants with higher education levels, and immigrants from richer European origin countries. But we see similar naturalization effects among more socially marginalized groups, such as immigrants from Turkey and Yugoslavia, immigrants who are born abroad, and immigrants with lower education levels. This stability in the effects suggests that we might expect similar positive integration returns to naturalization if the stringent residency requirements for naturalization were to be lowered.[7]

Alienation or Integration. Which mechanisms might be driving the naturalization effects? While a full analysis of the mechanisms is clearly beyond the scope of this study, our data can shed some light on distinguishing between two broader mechanisms. One possibility is that the acquisition of citizenship turns immigrants into active and well-integrated participants of the democratic process. Another possibility is that the act of being rejected alienates applicants from the political process and the host country society such that their political integration drops lower than it would have been had they never applied for naturalization. Distinguishing these two mechanisms is difficult given that naturalization decisions always involve either an acceptance or rejection. However, one possibility is to examine outcomes that are especially sensitive to one spe-

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[7] We also investigated why the IV and RD estimates are slightly larger than the OLS estimates (although the differences are not statistically significant). The main reason is that the OLS results identify the naturalization effect for both compliers and always takers, while the IV and RD estimates identify only the LATE for compliers. Compliers have slightly larger effects presumably because they have had Swiss citizenship for a longer time than always takers (25 years versus 10 respectively). Moreover, by definition they have a lower motivation to obtain citizenship and therefore they would presumably integrate less than always takers in the absence of obtaining citizenship.

cific mechanism. To test for a potential alienation effect, we replicate our models using three measures that capture the degree to which respondents distrust other people, the judicial system, or the local authorities (see the SI for details). If applicants are alienated because they are rejected on discriminatory grounds, then we would expect them to show higher levels of distrust than accepted applicants. This distrust would be directed either towards other people who cast the discriminatory votes in local referendums, the local authorities who processed the naturalization applications but did nothing to prevent the discrimination, or the courts who might have failed to overturn discriminatory rejections upon appeal. The findings, displayed in Figure S13 in the SI, contradict the idea of a long-lasting alienation effect. Naturalization has no effect on all three distrust measures; point estimates are close to zero and insignificant. This suggests that the effects of naturalization work mainly through accepted immigrants becoming more politically integrated than they would be in the absence of naturalization, rather than through an alienation effect.

Conclusion

In this study we examined the long-term effect of Swiss citizenship on the political integration of immigrants. We exploited a natural experiment in that some municipalities used referendums to decide on naturalization requests of immigrants. This allowed us to isolate the independent effects of naturalization from the non-random selection into naturalization.

Using several identification strategies and multiple measures and robustness checks, we found that in our sample of competitive immigrant applicants, naturalization has a strong effect in generating lasting improvements in political integration. Comparing among otherwise similar immigrants, those immigrants who barely won their referendums and therefore received the Swiss passport developed high levels of turnout, efficacy, and political knowledge similar to that of rooted natives, whereas those immigrants who barely lost their referendums and were therefore rejected for the Swiss passport remained fairly disengaged from the political process. These effects persist for more than a decade. The findings have important implications for the deign of immigration and citizenship policy. They clearly support those who argue that naturalization has important independent effects in accelerating political integration and helps turn immigrants into "citizens" in the Tocquevillian sense. The fact that the positive effects of naturalization on integration are stable across very different immigrant groups suggests that lowering the stringent residency requirements might be beneficial to realize the full integration gains from naturalizations. Clearly, more work is needed to identify the effects of citizenship in other contexts and for other outcomes. Further work is also needed to better ascertain the mechanisms through which naturalization increases political integration.

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Fig.   1.   Applicant's Years of Residency Prior to First Application and Vote Margin in Naturalization Referendum
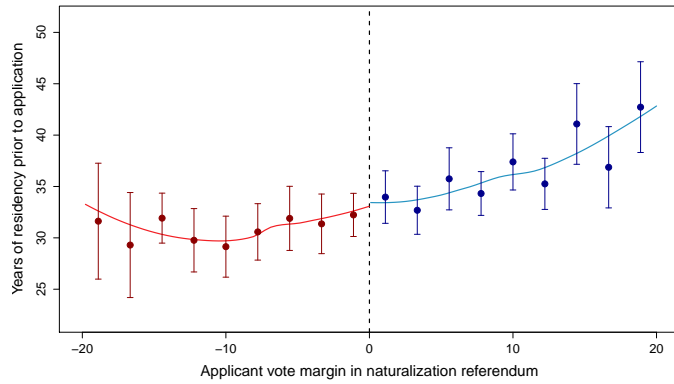
This figure shows a balance test for applicants' years of residency prior to application (95% confidence intervals).

Fig. 2.   Effect of Naturalization on Political Integration
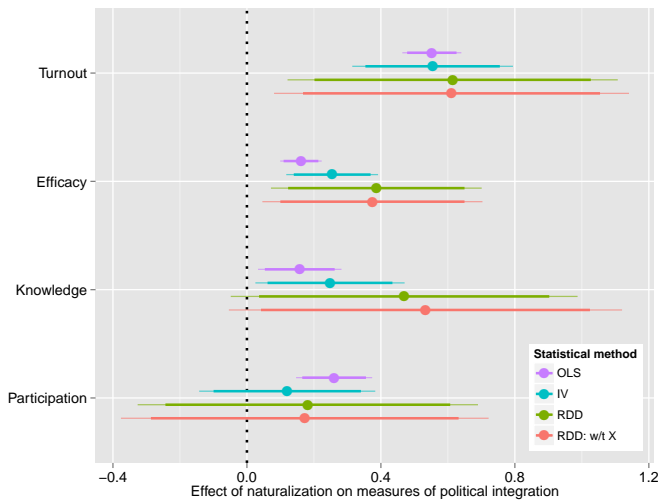
This figure shows point estimates and robust 95% (thin) and 90% (bold) confidence intervals from ordinary least squares regression, instrumental variables regression, and the fuzzy regression discontinuity design. Outcomes: voted (0/1) in last election; political efficacy measured on a five-point scale and rescaled 0–1; political knowledge measured using two questions and rescaled 0–1; and political participation (0/1). Covariates include reported applicant characteristics and fixed effects for municipality and time period. Sample: all applicants within a window -15% to +15 % of the threshold.