

Supporting Information Appendices (Not for Publication)

Appendix A: Data Sources

Table 1: Question wording and codebook for outcome variables

Variable	Question	Values
Integration Scale	First principal component of polychoric PCA of the four outcome variables	standardized with mean = 0 and standard deviation = .5
Plans to stay in Switzerland	Are you planning to stay in Switzerland for good or do you plan to leave Switzerland at some point?	1 plan to stay in Switzerland for good 0 don't know -1 plan to leave Switzerland
Discrimination	Would you describe yourself as being a member of a group that is discriminated against in Switzerland?	1 yes, 0 no
Club membership	Are you currently a member of a social club or association in which you attend meetings regularly?	1 if member in at least one organization, 0 if member in none (note that membership in sports clubs and ethnic associations are not counted).
Swiss newspaper	When you read newspapers, do you read	1 exclusively newspapers from your home country? 2 mainly newspapers from your home country? 3 both, Swiss newspapers as well as newspapers from your home country? 4 mainly Swiss newspapers? 5 exclusively Swiss newspapers?
Distrust judicial system	How much do you trust [the judicial system]?	11-point scale, rescaled to 0 – 1 with higher values indicating less trust
Distrust local authorities	How much do you trust [local authorities]?	11-point scale, rescaled to 0 – 1 with higher values indicating less trust
Distrust for other people	Do you think most people can be trusted or that you can't be too careful in dealing with people?	11-point scale, rescaled to 0 – 1 with higher values indicating less trust

Figure A.1: Sample leaflet sent out to voters (names redacted)

Aufnahme von [REDACTED], 1965, italienischer Staatsangehöriger, wohnhaft in Steinen, in das Bürgerrecht der Gemeinde Steinen

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A. BERICHT

Mit Eingabe vom 6.12.1984 stellt [REDACTED], 1965, italienischer Staatsangehöriger, das Gesuch um Aufnahme in das Bürgerrecht der Gemeinde Steinen.

Der Gesuchsteller wurde am 25.2.1965 in Schwyz als Sohn des [REDACTED] und der [REDACTED] geboren, die damals bereits in Steinen wohnten.

Seit der Geburt hält sich [REDACTED] bei seinen Eltern in Steinen, Sonnenbergli, auf, und verbrachte seine Jugendzeit in Steinen.

Er besuchte in Steinen die Primarschule und die Sekundarschule.

Nach dem Schulabschluss trat [REDACTED] bei der Berner Allgemeinen Versicherungsgesellschaft in Schwyz in die kaufmännische Lehre ein, welche er im Frühjahr 1984 mit der Abschlussprüfung erfolgreich abgeschlossen hat.

Nach der Abschlussprüfung setzte der Gesuchsteller seine Tätigkeit bei der Direktion der Berner Versicherung in Bern fort, wo er gegenwärtig als Unfallschaden-Sachbearbeiter tätig ist.

Er ist in Bern als Wochenaufenthalter gemeldet, wobei der gesetzliche Wohnsitz nach wie vor bei seinen Eltern in Steinen ist.

Nach Abschluss seiner beruflichen Weiterbildung und Absolvierung der Rekrutenschule beabsichtigt [REDACTED] seine Tätigkeit in unserer Umgebung fortzusetzen, und weiterhin in Steinen zu wohnen.

Translation of leaflet shown in Figure A.1:

Application of APPLICANT, 1965, Italian citizen, domiciled in Steinen, for naturalization in the municipality of Steinen.

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A. Report

On December 6, 1984, APPLICANT, 1965, Italian citizen, applied for naturalization in the municipality of Steinen.

The applicant was born on February 25, 1965 in Schwyz as the son of APPLICANT's FATHER and APPLICANT's MOTHER who at the time already lived in Steinen. Since his birth APPLICANT has been living with his parents in Steinen, Sonnenbergli, and also

lived there during his youth. He attended the primary school and secondary school in Steinen.

After completing school, APPLICANT took up an apprenticeship in business administration with the Bern Insurance Company in Schwyz. He successfully graduated from the apprenticeship in early 1984.

Following the completion of his degree he continued to work for Bern Insurance in Bern where he is currently employed as an accident insurance agent.

Even though he is registered as working in Bern during the week, his permanent legal residence is still in Steinen with his parents. Following the completion of his on the job training and the completion of his vocational training school he plans to continue his work in our area and to continue to live in Steinen.

## Appendix B: Additional Results

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

### *A. Citizenship Policy Index*

The Citizenship Policy Index (CPI) is a standard measure developed by Howard (2005) that uses a simple additive formula to measure a country's citizenship policy between very liberal (6) and highly restrictive (0). It is based on the three main components of citizenship policy: whether citizenship is granted by place of birth or by the citizenship of the parents, the length of the residency requirement for naturalization, and the acceptance of dual citizenship for immigrants. To generate the index, each country is allocated points if citizenship by birth is allowed (2 points) or not allowed (0 points), if residency requirements for naturalization are five years or less (2 points), between six and nine years (1 point) or ten years or higher (0 points), and if dual citizenship is accepted (2 points) or not accepted (0 points). We use the CPI for the year of 2005<sup>20</sup> to code selected European countries, as well as Australia, Canada, and the United States, to place Switzerland in a comparative perspective.

Figure 2 reveals that there are roughly four groups of countries. The most restrictive countries have a CPI of zero and include countries like Spain, Austria, and Slovenia. These countries use the *jus sanguinis* principle which implies that citizenship is passed on from the citizenship of the parents. They also require at least 10 years of residency before immigrants become eligible for naturalization, and they do not allow for dual citizenship, which means that immigrants who naturalize have to renounce their home country citizenship. The second group of less restrictive countries cluster around a CPI value of two and include Switzerland, Germany, Italy, Poland, and Greece. These countries all use the *jus sanguinis* principle, but they are more liberal insofar as they either have shorter residency periods (between 5 and 8 years) but prohibit dual citizenship, like Germany and Poland, or they have a long residency period (10 or more years) but allow for dual citizenship, like Switzerland and Italy. The third group of countries, including Sweden and Finland, is more liberal with a CPI value of around four. They still maintain the *jus sanguinis* principle but have shorter residency requirements (typically 5 years) and allow dual citizenship. Finally, the very liberal countries have a CPI value of six and include the United States, the United Kingdom, and Australia. They feature citizenship by place of birth, shorter residency requirements, and allow for dual citizenship.

### *B. Sample*

We draw on a variety of data to implement our empirical strategies. The basis for our sample is the data compiled by Hainmueller and Hangartner (2013) who extracted from municipal archives the voting leaflets and outcomes for all 2,225 applicants who faced naturalization referendums between 1970 and 2003 in all the 46 ballot box municipalities that used secret ballot referendums with voting leaflets. The municipalities are located in seven different cantons in the German-speaking region. As shown in Hainmueller and Hangartner (2013), the municipalities are fairly typical of municipalities in the German speaking region of Switzerland. The time period covered varies somewhat due to differences in data availability, but for most municipalities, the data contains all naturalization referendums from 2003 going back to the 1970s and 1980s.

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<sup>20</sup>The only difference to Howard's (2005) coding is that we allocate Germany 1 point for its partial allowance of birthright citizenship.

We conducted the survey between October 3, 2011 and September 19, 2014. The interviews were conducted by native speakers in multiple languages, including all of Swiss official languages and all the major immigrant languages (Turkish, Serbo-Croatian, Italian, Portuguese, and English). All interviewers completed a standardized training that included mock interviews and recruitments to assure a high quality of the data.

We obtained a cumulative response rate 3 (RR3) as defined by the American Association for Public Opinion Research of 34.5% (45.9% for the sample of competitive applicants who came within a  $\pm 15$  vote point margin of winning).

### C. Attrition

Figure B.1 displays the non-response rate across the vote share margin. The dots display binned averages with 95% confidence intervals. The grey and black fitted lines from a Loess smoother summarize the average non-response rate for a given vote share margin on the left and the right side of the threshold, respectively. For all competitive applicants, the response rate is constant and between about 40% and 55% for most bins. Importantly, there is no noticeable difference between applicants who barely lost and barely won their first referendum. Note that this response rate is much higher than for comparable surveys. A recent phone survey conducted among voters in Switzerland yielded a response rate (RR3) of 12.8% (Bechtel et al. 2015). A typical study conducted via Knowledge Networks, widely regarded as one of the best probability based online panels in the United States, yields an RR3 of 2.8% (Hainmueller and Hopkins 2015). In our case the primary reason for non-response was that we could not get a valid address. Of the cases where we could get a valid address and therefore were able to contact the applicant, 88% participated in the survey.

Figure B.1: Response Rate across the Vote Margin (95% Confidence Intervals)

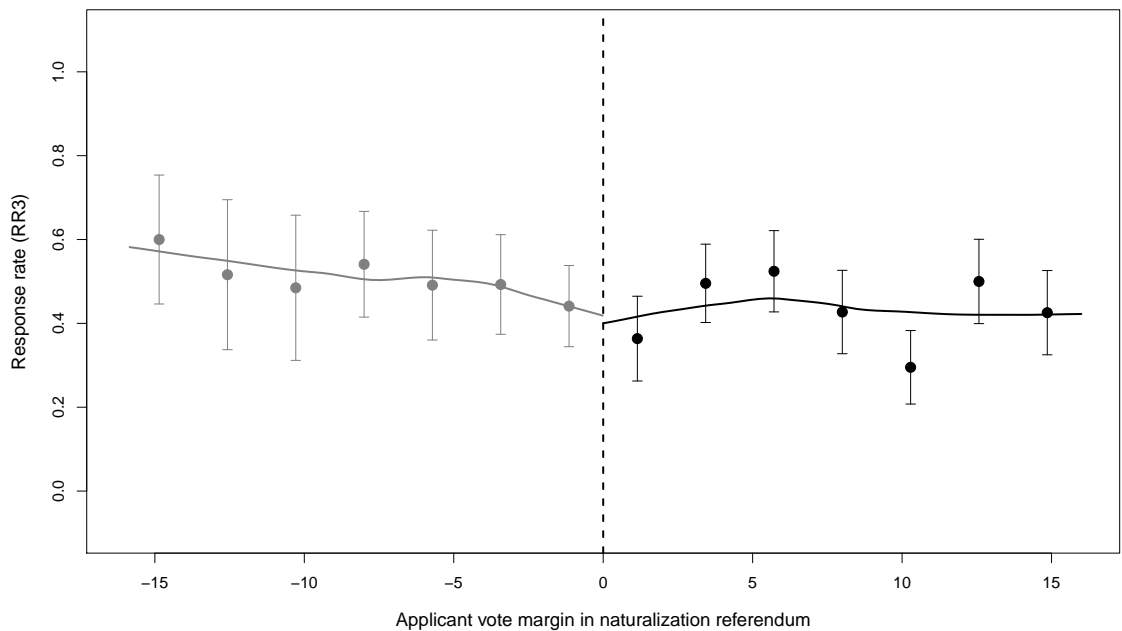


Table B.1 provides further evidence that applicants who were successfully interviewed are not different from those that we could not contact, have died, emigrated, or declined to be interviewed. In particular, we examine whether the interaction of baseline covariates and the instrument (more than 50% vote share in first referendum) predicts attrition. We do not find that scoring above 50% in the first referendum led to a sample selection bias in terms of the characteristics of individuals who completed the interview.

Table B.1: Instrument Interaction Test for Selective Attrition

Model	(1)	(2)	(3)	(4)
Outcome	Interviewed	Interviewed	Interviewed	Interviewed
Above 50%	0.02 (0.04)	-0.55 (0.35)	0.03 (0.06)	-0.57 (0.36)
Margin			-0.00 (0.01)	-0.00 (0.01)
Margin $\times$ Above 50%			0.01 (0.01)	0.01 (0.01)
Controls				
Applicant Characteristics				
Country of Origin	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓
Interactions with Above 50 %				
Country of Origin		✓		✓
Sociodemographics		✓		✓
Fixed Effects				
Time period	✓	✓	✓	✓
Municipality	✓	✓	✓	✓
Parameters tested	1	35	1	35
<i>F</i> -test	0.20	1.33	0.18	1.31
<i>p</i> -value	0.65	0.10	0.67	0.11
Observations	1025	1025	1025	1025

*Note:* Table shows ordinary least squares regressions of an indicator for interviewed applicants on a binary instrument (=1 if vote share margin above 50%). Model (1) tests for a significant effect of the instrument and controls for country of origin, sociodemographics and fixed effects for each time period and municipality. Model (2) similarly tests for a significant effect of the instrument and adds all 34 interactions of the instrument with the applicant characteristics. Model (3) uses the same specification as model (1) but additionally controls for the vote share margin and the interaction of the margin with the instrument. Model (4) uses the same specification as model (2) but additionally controls for the vote share margin and the interaction of the margin with the instrument. Sample: all applicants within a window  $\pm 15\%$ . Robust standard errors in parentheses.

#### *D. Social Integration Scale*

We use a polychoric principal component analysis (PCA) to construct the social integration scale from the four outcome questions. Polychoric PCA has the advantage that it can handle binary and categorical variables. To extract the principal components, polychoric PCA uses the linear combinations of the polychoric correlation matrix of the input variables, rather than the variables themselves (Olsson 1979). To create the social integration scale we extract the first principal component, which accounts for 45% of the total variance (Eigenvalue = 1.80). For the higher-order components the explanatory power drops sharply: The second component accounts for 22 % (Eigenvalue = 0.89), the third component for 20% (Eigenvalue = 0.79, and the fourth component for 13% of the total variance (Eigenvalue = 0.52). We rescale the first principal component to have a mean zero and standard deviation of .5 for interpretability.

### E. Descriptive Statistics

Tables B.2 and B.3 display the descriptive statistics for key covariates and outcome items for the sample of all applicants and the main estimation sample of competitive applicants who obtained enough ‘yes’ votes to come within a  $\pm 15\%$  vote point window around the threshold of winning. Most of the applicants in the competitive sample are immigrants from the former Yugoslavia and Turkey who are often considered to be among the most marginalized immigrant groups in Switzerland. On average, applicants have been living in Switzerland for about 19 years at the time of their naturalization referendum, but there is wide variation ranging from 12 to 44 years. The average age at the time of the survey is about 35 years, with a range of 17 to 72 years.

Looking at the social integration items, we see that the majority of immigrants have plans to stay in Switzerland for good, but there is also a sizable fraction of immigrants who have plans to leave or are unsure about their long term settlement plans. About 20% of immigrants report being discriminated against in Switzerland and on average only 21% report being a member of a social club. For the newspaper readership, the average is about four on the five point scale, which is slightly skewed towards immigrants reading mostly Swiss as opposed to foreign newspapers from their home country.

Table B.2: Descriptive Statistics for all Interviewed Applicants

Variable	Observations	Mean	SD	Min	Max
Male	768	0.71	0.45	0.00	1.00
Age	765	51.36	14.95	23.00	89.00
Low skilled	618	0.43	0.49	0.00	1.00
Residency years at time of referendum	654	20.16	6.72	12.00	47.00
Residency years at time of survey	767	36.83	10.50	17.00	82.00
Northern & Western Europe	768	0.17	0.37	0.00	1.00
Southern European Countries	768	0.15	0.35	0.00	1.00
Central & Eastern Europe	768	0.05	0.21	0.00	1.00
(former) Yugoslavia	768	0.37	0.48	0.00	1.00
Turkey	768	0.20	0.40	0.00	1.00
Other Non-European Countries	768	0.02	0.14	0.00	1.00
Asian Countries	768	0.05	0.23	0.00	1.00
Percent yes votes	768	58.69	14.70	12.16	95.74
Above 50%	768	0.71	0.45	0.00	1.00
Naturalized	768	0.86	0.34	0.00	1.00
Integration Scale	740	0.00	0.50	-1.60	0.76
Plans to stay in Switzerland	762	0.66	0.61	-1.00	1.00
Perceived discrimination	758	0.16	0.37	0.00	1.00
Club membership	768	0.24	0.43	0.00	1.00
Newspaper readership	754	4.05	0.88	1.00	5.00
Distrust for the local authorities	757	0.25	0.19	0.00	1.00
Distrust for the judicial system	748	0.25	0.21	0.00	1.00
Distrust for other people	761	0.38	0.21	0.00	1.00

*Note:* Male, age, skill level, residency years at time of referendum, and origin are measured at the time of the referendum from the voting leaflets and the percent yes votes and above 50 % from the municipal voting records. Residency years at time of survey, naturalized, integration scale, plans to stay in Switzerland, perceived discrimination, club membership, newspaper readership, and distrust are measured in our immigrant survey.



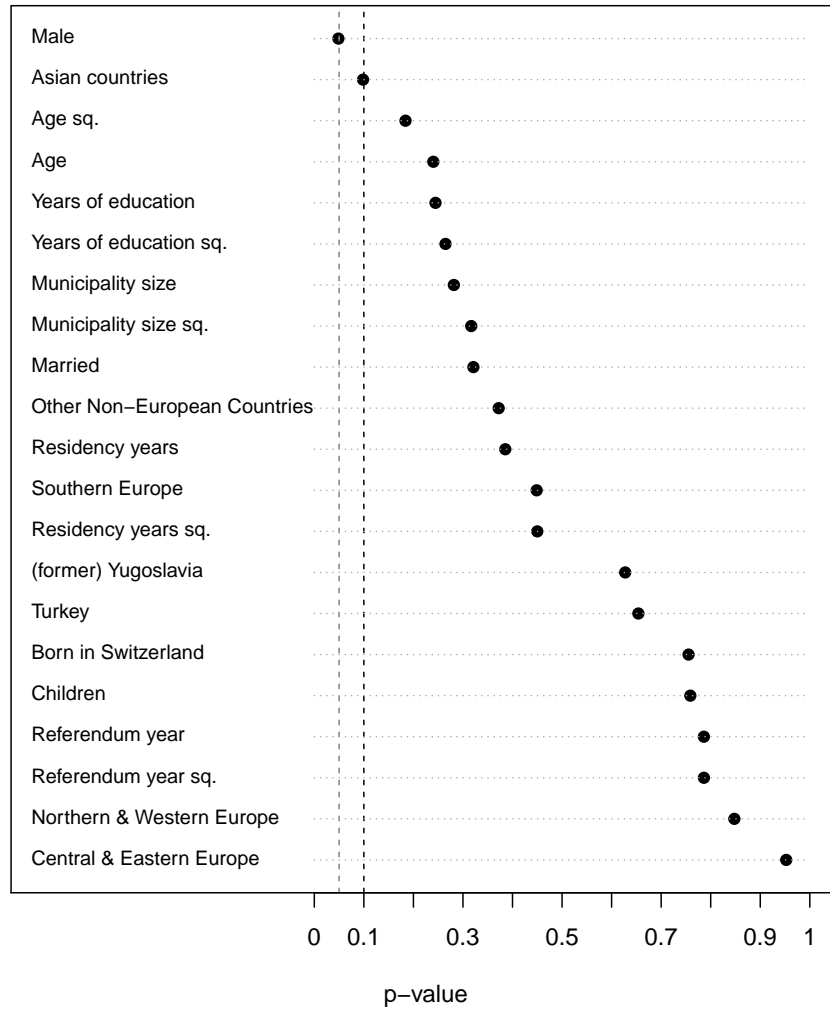
Table B.3: Descriptive Statistics for Competitive Applicants

Variable	Observations	Mean	SD	Min	Max
Male	474	0.72	0.45	0.00	1.00
Age	472	49.72	14.49	23.00	84.00
Low skilled	378	0.48	0.50	0.00	1.00
Residency years at time of referendum	428	19.20	5.70	12.00	44.00
Residency years at time of survey	474	34.91	9.05	17.00	72.00
Northern & Western Europe	474	0.11	0.32	0.00	1.00
Southern European Countries	474	0.06	0.23	0.00	1.00
Central & Eastern Europe	474	0.06	0.24	0.00	1.00
(former) Yugoslavia	474	0.42	0.49	0.00	1.00
Turkey	474	0.25	0.44	0.00	1.00
Other Non-European Countries	474	0.02	0.15	0.00	1.00
Asian Countries	474	0.07	0.25	0.00	1.00
Percent yes votes	474	52.02	8.02	35.13	64.94
Above 50%	474	0.60	0.49	0.00	1.00
Naturalized	474	0.83	0.38	0.00	1.00
Integration Scale	459	-0.05	0.51	-1.48	0.76
Plans to stay in Switzerland	470	0.62	0.64	-1.00	1.00
Perceived discrimination	469	0.20	0.40	0.00	1.00
Club membership	474	0.21	0.41	0.00	1.00
Newspaper readership	467	4.00	0.89	1.00	5.00
Distrust for the local authorities	468	0.24	0.19	0.00	1.00
Distrust for the judicial system	462	0.25	0.21	0.00	1.00
Distrust for other people	469	0.38	0.20	0.00	1.00

*Note:* Male, age, skill level, residency years at time of referendum, and origin are measured at the time of the referendum from the voting leaflets and the percent yes votes and above 50 % from the municipal voting records. Residency years at time of survey, naturalized, integration scale, plans to stay in Switzerland, perceived discrimination, club membership, newspaper readership, and distrust are measured in our immigrant survey.

F. Balance Tests for Fuzzy RD Design

Figure B.2: Balance Tests for Fuzzy RD Design



Every dot shows the p-value of a placebo fuzzy RD effect estimated for each pre-treatment covariate at the threshold of winning obtained from our benchmark local linear regression within a  $\pm 15\%$  vote share margin. The light grey line indicates the 5% and the dark grey line the 10% level of significance, respectively.

### G. First Stage Results

Table B.4 shows the effect of winning or losing the first referendum on the probability of naturalization. We find that winning versus barely losing the first referendum increased the probability of naturalization by about .28 to 42. The  $F$ -test for the strength of the instrument well exceeds the standard threshold of 10 (Stock and Yogo 2005).

Table B.4: First Stage Regression Estimates

Model	(1)	(2)	(3)
Outcome	Naturalized	Naturalized	Naturalized
Above 50%	0.42 (0.04)	0.28 (0.06)	0.29 (0.06)
Country of Origin	✓		✓
Sociodemographics	✓		✓
Time period Fixed Effects	✓		✓
Municipality Fixed Effects	✓		✓
Margin		✓	✓
$F$ -test	94.66	20.66	20.21
Observations	471	474	471

*Note:* Table shows ordinary least squares regressions of naturalization measure on the binary instrument (=1 if vote share margin above 50%). Model (1) shows the first stage results for the IV model where we adjust for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Model (2) shows first stage results for the fuzzy RD model without covariates where we just include the vote share margin. Model (3) shows first stage results for the fuzzy RD model with covariates where we add country of origin, all sociodemographics, fixed effects for each time period and municipality, and the vote share margin. Sample: all applicants within a vote margin window of  $\pm 15\%$ . Robust standard errors in parentheses.

H. Main Results

Table B.5: 2SLS Estimates of the Effect of Naturalization on Long-Term Social Integration

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.51 (0.13)	0.49 (0.17)	-0.28 (0.12)	0.13 (0.11)	0.51 (0.22)
Country of Origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	456	467	466	471	464

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants within a  $\pm 15\%$  window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

Table B.6: Fuzzy RDD Estimates of the Effect of Naturalization on Long-Term Social Integration (without Covariates)

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.74 (0.35)	0.87 (0.43)	-0.31 (0.28)	0.02 (0.24)	0.88 (0.58)
Margin	-0.01 (0.02)	-0.01 (0.02)	0.01 (0.01)	0.00 (0.01)	-0.02 (0.03)
Margin $\times$ Above 50%	0.00 (0.02)	-0.02 (0.02)	-0.01 (0.01)	0.01 (0.01)	0.01 (0.03)
Observations	459	470	469	474	467

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants within a  $\pm 15\%$  window. All models control for the vote margin and the interaction of the vote margin with the instrument. Robust standard errors in parentheses.

Table B.7: Fuzzy RDD Estimates of the Effect of Naturalization on Long-Term Social Integration (with Covariates)

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.63 (0.31)	0.63 (0.41)	-0.37 (0.27)	0.05 (0.22)	0.63 (0.52)
Margin	0.01 (0.02)	0.02 (0.02)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.03)
Margin $\times$ Above 50%	-0.02 (0.02)	-0.04 (0.02)	0.00 (0.01)	0.01 (0.01)	-0.02 (0.03)
Country of Origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	456	467	466	471	464

*Note:* Table shows instrumental variables regressions (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants within a  $\pm 15\%$  window. All models control for the vote margin and the interaction of the vote margin with the instrument, country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

I. Secondary Outcomes

Table B.8: Effect of Naturalization on Long-Term Distrust

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Outcome: Distrust for the	judicial system	local authorities	people	judicial system	local authorities	people	judicial system	authorities	people
Naturalized	-0.03 (0.05)	-0.03 (0.05)	-0.01 (0.05)	0.01 (0.13)	0.03 (0.12)	0.05 (0.12)	0.00 (0.14)	0.03 (0.13)	-0.02 (0.12)
Margin				0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Margin × Above 50%				-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.01 (0.01)
Country of Origin	✓	✓	✓				✓	✓	✓
Sociodemographics	✓	✓	✓				✓	✓	✓
Time period FE	✓	✓	✓				✓	✓	✓
Municipality FE	✓	✓	✓				✓	✓	✓
Observations	459	465	466	459	465	466	462	468	469

*Note:* Table shows instrumental variables regressions of measures of distrust for (i) the judicial system (Models 1, 4, 7), (ii) local authorities (Models 2, 5, 8), and (iii) people (Models 3, 6, 9), on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants within a ±15% window. Models 1-3 are instrumental variables regressions controlling for country of origin, sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Models 4-6 are fuzzy RDD regressions without covariates that control for the vote margin and the interaction of the vote margin with the instrument. Models 7-9 are fuzzy RDD regressions with covariates that control for country of origin, all sociodemographics, fixed effects for each time period and municipality, and the vote margin and the interaction of the vote margin with the instrument. Robust standard errors in parentheses.

Table B.9: 2SLS Estimates of the Effect of Naturalization on Distrust for Applicants from (Former) Yugoslavia or Turkey

Model	(1)	(2)	(3)
Outcome: Distrust for the	judicial system	local authorities	people
Naturalized	-0.05 (0.06)	-0.06 (0.07)	0.06 (0.06)
Country of Origin	✓	✓	✓
Sociodemographics	✓	✓	✓
Time period FE	✓	✓	✓
Municipality FE	✓	✓	✓
Observations	314	316	316

*Note:* Table shows instrumental variables regressions of outcomes (1) – (3) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants from (former) Yugoslavia or Turkey and within a ±15% window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

Table B.10: 2SLS Estimates of the Effect of Naturalization on Distrust for Applicants not from (Former) Yugoslavia or Turkey

Model	(1)	(2)	(3)
Outcome: Distrust for the	judicial system	local authorities	people
Naturalized	0.02 (0.11)	0.11 (0.09)	0.06 (0.11)
Country of Origin	✓	✓	✓
Sociodemographics	✓	✓	✓
Time period FE	✓	✓	✓
Municipality FE	✓	✓	✓
Observations	145	149	150

*Note:* Table shows instrumental variables regressions of outcomes (1) – (3) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants not from (former) Yugoslavia or Turkey and within a  $\pm 15\%$  window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

*J. Subgroup Analysis*

Table B.11: 2SLS Estimates of the Effect of Naturalization for Applicants from (Former) Yugoslavia or Turkey

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.52 (0.15)	0.50 (0.23)	-0.30 (0.14)	0.14 (0.13)	0.57 (0.27)
Country of Origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	311	316	315	318	315

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants from (former) Yugoslavia or Turkey and within a  $\pm 15\%$  window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

Table B.12: 2SLS Estimates of the Effect of Naturalization for Applicants not from (Former) Yugoslavia or Turkey

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.06 (0.18)	0.11 (0.19)	-0.06 (0.17)	0.27 (0.20)	-0.13 (0.38)
Country of Origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	145	151	151	153	149

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants not from (former) Yugoslavia or Turkey and within a  $\pm 15\%$  window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.



Table B.13: 2SLS Estimates of the Effect of Naturalization for Applicants born in Switzerland

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.09 (0.18)	0.02 (0.25)	-0.20 (0.15)	0.08 (0.18)	0.03 (0.29)
Country of Origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	95	95	95	95	95

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants who are born in Switzerland and within a  $\pm 15\%$  window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

Table B.14: 2SLS Estimates of the Effect of Naturalization for Applicants not born in Switzerland

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Naturalized	0.59 (0.17)	0.72 (0.23)	-0.26 (0.14)	0.06 (0.14)	0.53 (0.28)
Country of Origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	361	372	371	376	369

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants who are not born in Switzerland and within a  $\pm 15\%$  window. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status), and fixed effects for each time period and municipality. Robust standard errors in parentheses.

Table B.15: 2SLS Estimates of the Effect of Naturalization for Applicants not born in Switzerland or from (Former) Yugoslavia or Turkey by Skill Level

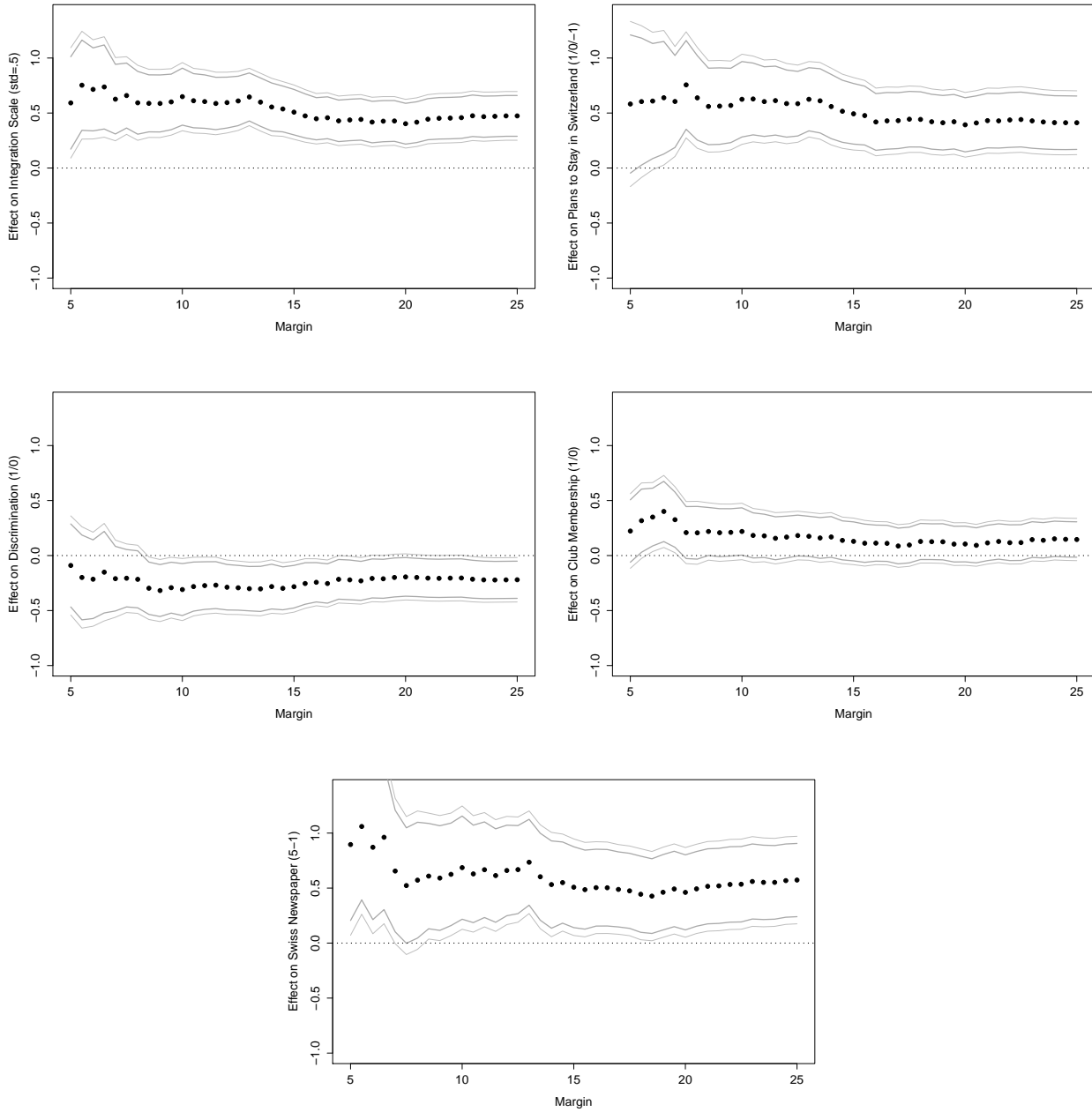
Model	(1)	(2)	(3)	(4)
Outcome	Integration Scale			
Sample	Not Born in Switzerland	From Yugoslavia or Turkey		
Skill level	Medium/High	Low	Medium/High	Low
Naturalized	0.55 (0.22)	0.46 (0.28)	0.51 (0.19)	0.60 (0.35)
Country of Origin	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓
Observations	155	149	113	132

*Note:* Table shows instrumental variables regressions of social integration scale on naturalization status, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all applicants within a  $\pm 15\%$  window. Model (1) focuses on medium and high skilled applicants not born in Switzerland; Model (2) on low skilled applicants not born in Switzerland; Model (3) on medium and high skilled applicants from (former) Yugoslavia or Turkey; Model (4) on low skilled applicants from (former) Yugoslavia or Turkey. All models control for country of origin, all sociodemographics (gender, age, children, marital status, education, years since immigration, refugee status, language competencies, integration status) and are subsetted by occupational skill level. Robust standard errors in parentheses.

*K. Robustness tests for different bandwidths*

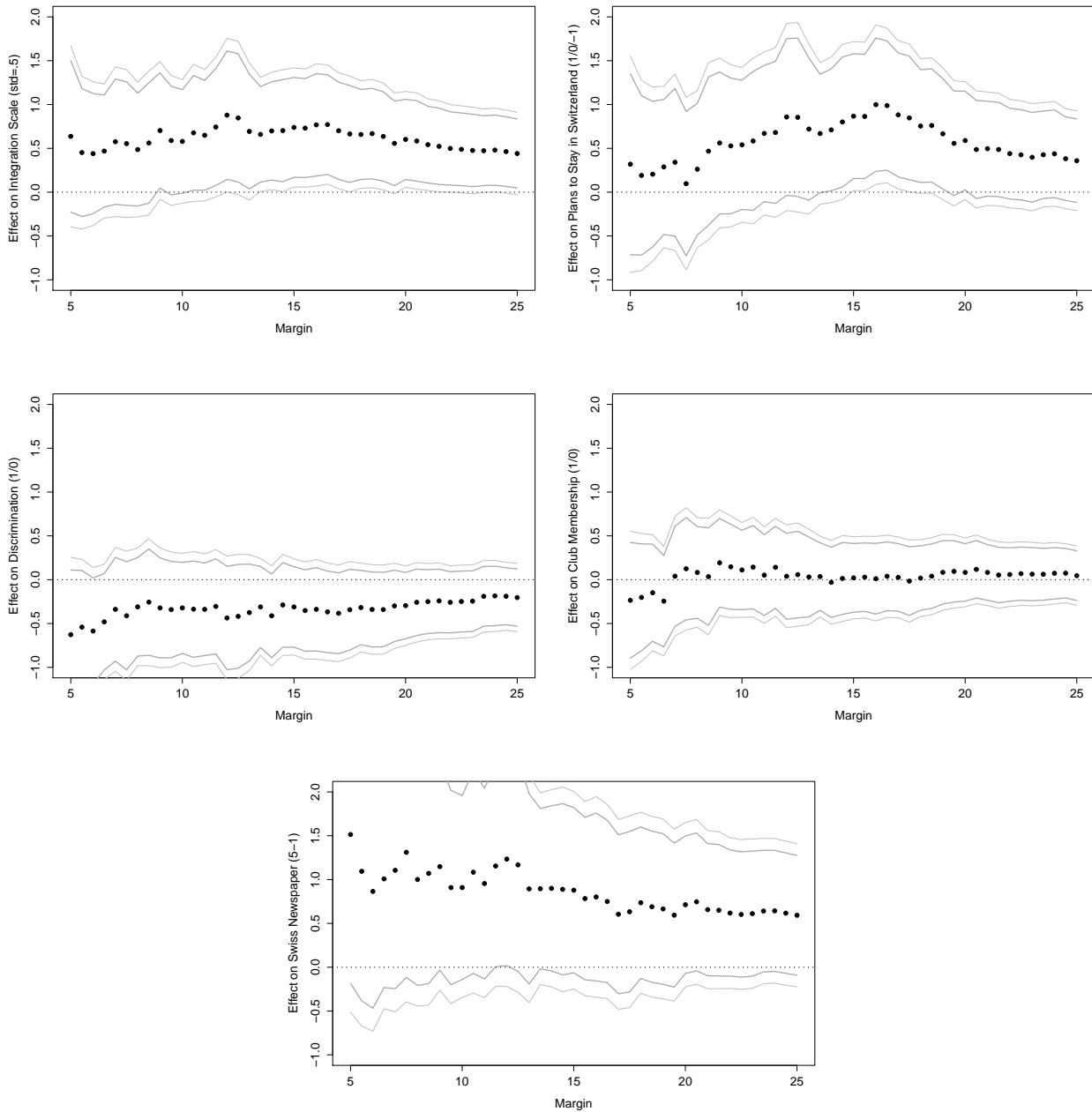
Figures B.3 and B.4 show the estimated effects for various bandwidths to trim the estimation sample based on the margin of victory.

Figure B.3: Robustness Tests for Different Bandwidths IV



This figure shows the estimated effect of naturalization on each outcome as a function of the bandwidth for the instrumental variables regression. The black dots indicate the point estimates based on the sample within the corresponding value of the vote margin, and dark grey and light grey lines the 90% and 95% confidence intervals, respectively. Outcomes: social integration scale (std=0.5); plans to stay in Switzerland (1/0/-1); discrimination (1/0); membership in social club (1/0); reading Swiss newspapers (5-1). The following covariates are used as controls: gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status, country of origin, and fixed effects for each municipality and time period.

Figure B.4: Robustness Tests for Different Bandwidths Fuzzy RDD



This figure shows the estimated effect of naturalization on each outcome as a function of the bandwidth for the fuzzy RDD regression. The black dots indicate the point estimates based on the sample within the corresponding value of the forcing variable (margin), and dark grey and light grey lines the 90% and 95% confidence intervals, respectively. Outcomes: social integration scale (std=0.5); plans to stay in Switzerland (1/0/-1); discrimination (1/0); membership in social club (1/0); reading Swiss newspapers (5-1). The following covariates are used as controls: gender, age, children, marital status, education, occupation skill level, years since immigration, refugee status, language competencies, integration status, country of origin, and fixed effects for each municipality and time period.

## L. Early vs Late Naturalization

### L.1. First Stage: Early vs. Late Naturalization

Table B.16 shows that the effect of narrowly winning or losing the first referendum on early versus late naturalization. We find that winning over losing the first referendum increases the number of years that applicants are Swiss by about 48 percent (which amounts to roughly four more years over the average) and increases the probability of being Swiss for more than 13 years by 0.27 (the sample median used as the cutpoint).

Table B.16: First-Stage Effect of Winning First Referendum on Number of Years with Swiss Citizenship

Mean outcome	.48	2.59
	(1)	(2)
Outcome	Years Swiss $\geq 13$	Years Swiss (Logged)
Above 50%	0.27 (0.06)	0.48 (0.07)
Country of Origin	✓	✓
Sociodemographics	✓	✓
Residency in Switzerland	✓	✓
Time period Fixed Effects	✓	✓
Municipality Fixed Effects	✓	✓
Window size	$\pm 15\%$	$\pm 15\%$
Stock and Yogo $F$ -test	20.73	48.81
$p$ -value	0.00	0.00
Observations	390	390

*Note:* Table shows two-stage least squares regressions of the number of years with the Swiss passport on a binary instrument (=1 if vote share margin above 50 %). Model (1) shows the first stage results for the log of the years with the Swiss passport, model (2) shows the same regression but uses a binary indicator for more (less) than 13 years with the Swiss passport. Both models control for applicant's country of origin, sociodemographics, a categorical indicator for residency at time of interview, and fixed effects for each time period and municipality. Sample: all applicants within a window  $\pm 15\%$ . Robust standard errors in parentheses.

## L.2. Treatment Effects: Early vs Late Naturalization

Table B.17: 2SLS Estimates of the Effect of Early Versus Late Naturalization (Continuous Treatment)

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Years Swiss (Logged)	0.36 (0.13)	0.43 (0.16)	-0.12 (0.12)	0.11 (0.11)	0.40 (0.22)
Country of origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Residency in Switzerland	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	379	387	387	390	384

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on log of the number of years with the Swiss passport, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all naturalized applicants within a  $\pm 15\%$  window. All models control for country of origin, sociodemographics, a categorical indicator for residency at time of interview, and fixed effects for each time period and municipality. Robust standard errors in parentheses.

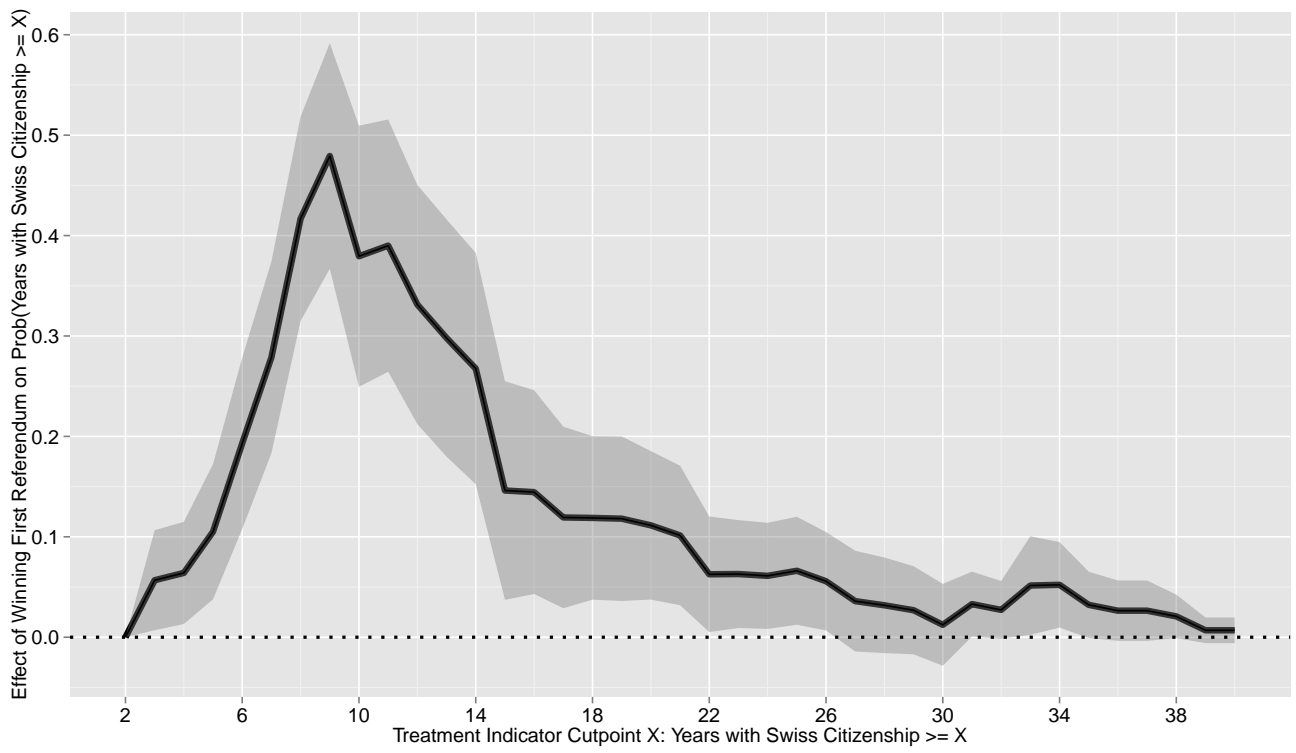
Table B.18: 2SLS Estimates of the Effect of Early Versus Late Naturalization (Binary Treatment)

Model	(1)	(2)	(3)	(4)	(5)
Outcomes	Integration Scale	Stay in Switzerland	Report Discrimination	Club Membership	Swiss Newspapers
Years Swiss $\geq 13$	0.64 (0.25)	0.76 (0.31)	-0.21 (0.22)	0.20 (0.21)	0.72 (0.42)
Country of origin	✓	✓	✓	✓	✓
Sociodemographics	✓	✓	✓	✓	✓
Residency in Switzerland	✓	✓	✓	✓	✓
Time period FE	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓	✓	✓
Observations	379	387	387	390	384

*Note:* Table shows instrumental variables regressions of outcomes (1) – (5) on a binary indicator for more (less) than 13 years with the Swiss passport, instrumented by getting more (less) than 50 % of “yes” votes in first referendum, for all naturalized applicants within a  $\pm 15\%$  window. All models control for country of origin, sociodemographic, a categorical indicator for residency at time of interview, and fixed effects for each time period and municipality. Robust standard errors in parentheses.

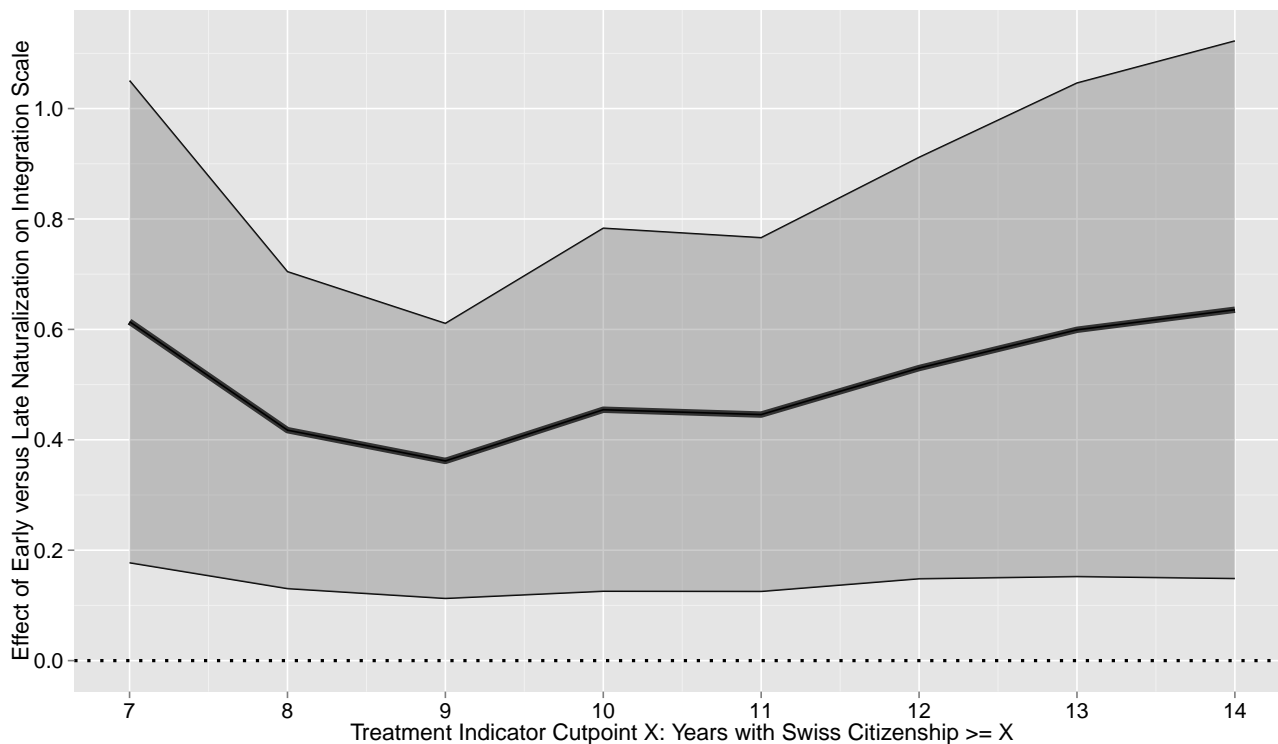
Figure B.5 displays the first-stage estimates of the difference in the probability of being naturalized for a given number of years for immigrants who won or lost their first referendum. We can see that the first stage estimates are strongest for the years 7 to 14, where the compliance rate is between 25 % and 45 %. For this period, Figure B.6 displays the second-stage estimates of the effect of being naturalized for a given number of years on the social integration scale. We find that the effects of these binary indicators of early versus late naturalization are similar regardless of the precise cut-point we use and are significant and large in substantive terms; the equivalent of a full standard deviation increase on the social integration scale.

Figure B.5: Effect of Winning First Referendum on Early vs Late Naturalization



*Note:* The figure shows the first stage estimates of the difference in the probability of being naturalized for longer or equal to the number of years on the  $x$ -axis for immigrants who won or lost their first naturalization referendum. The solid black line shows the point estimates, and the shaded area the 95 % confidence interval based on robust standard errors.

Figure B.6: Effect of Early vs Late Naturalization on Social Integration Scale



Note: The figure shows second stage estimates of the effect of being naturalized for longer or equal to the number of years on the x-axis on the social integration scale. The solid black line shows the point estimates, and the shaded area the 95 % confidence interval band based on robust standard errors.

### L.3. Sensitivity Analysis: Early vs. Late Naturalization

One potential concern with our identification strategy to estimate the effect of early versus late naturalization is that the group of immigrants that was naturalized in the first referendum consists of both always-takers, i.e. immigrants that if rejected the first time would successfully apply later, and compliers, i.e. immigrants that remain unnaturalized if rejected the first time, while the group of rejected applicants who were naturalized in a later attempt consists, by definition, of only always-takers. Note that the compliance groups here are defined with regard to naturalization per se, not early versus late naturalization.<sup>21</sup> In order to gauge the sensitivity of our results to differences between the potential outcomes of compliers and always-takers, we inspect the standard two-stage least-squares IV estimator:

$$\alpha = \frac{E[Y|Z = 1, X] - E[Y|Z = 0, X]}{E[D|Z = 1, X] - E[D|Z = 0, X]}, \quad (1)$$

where  $Y$  is the social integration scale,  $D$  is the log of the years with the Swiss passport, and  $Z = 1$  if applicant passed the first naturalization referendum and 0 otherwise. While  $E[Y|Z = 1, X]$  and

<sup>21</sup>Note that this issue is unique to the early-vs-late analysis, where the strategy required focusing only on those people who did receive citizenship at some point. This problem does not apply to your other analyses looking at the effect of citizenship.



$E[D|Z = 1, X]$  consist of both compliers,  $C$ , and always-takers,  $A$ , that were naturalized in their first referendum,  $E[Y|Z = 0, X]$  and  $E[D|Z = 0, X]$  consist only of always-takers that were naturalized in a later attempt. Immigrants that were rejected in the first referendum but have obtained citizenship by the time of interview are, by definition, always-takers, hence  $E[Y|Z = 0, X] = E[Y|Z = 0, X, A]$  and  $E[D|Z = 0, X] = E[D|Z = 0, X, A]$ . If the potential outcomes are different for always-takers and compliers,  $\alpha$  may exhibit bias. To inspect the sensitivity to this bias, we rewrite the first term  $E[Y|Z = 1, X]$  as a weighted average of always-takers and compliers:

$$E[Y|Z = 1, X] = E[Y|Z = 1, X, A] \Pr(A) + E[Y|Z = 1, X, C] \Pr(C) \quad (2)$$

and express this equation in terms of always-takers:

$$E[Y|Z = 1, X, A] = \frac{E[Y|Z = 1, X] - E[Y|Z = 1, X, C] \Pr(C)}{\Pr(A)} \quad (3)$$

Under the simplifying assumption that the first stage effect of naturalization in the first attempt on post-naturalization residency years is the same for both always-takers and compliers, i.e.  $E[D|Z = 1, X, A] = E[D|Z = 1, X, C]$ , we can write equation 1 in terms of always-takers only:

$$\begin{aligned} \tilde{\alpha} &= \frac{E[Y|Z = 1, X, A] - E[Y|Z = 0, X, A]}{E[D|Z = 1, X, A] - E[D|Z = 0, X, A]} \\ &= \frac{\frac{E[Y|Z=1,X] - E[Y|Z=1,X,C] \Pr(C)}{\Pr(A)} - E[Y|Z = 0, X, A]}{E[D|Z = 1, X, A] - E[D|Z = 0, X, A]} \end{aligned} \quad (4)$$

Since we cannot distinguish always-takers and compliers in the group that passed the first referendum, we also cannot identify  $E[Y|Z = 1, X, C]$  or  $\tilde{\alpha}$  directly. However, we can employ a sensitivity analysis that tells us how much bigger (smaller)  $E[Y|Z = 1, X, C]$  than  $E[Y|Z = 1, X, A]$  would have to be in order to render  $\tilde{\alpha}$  i) insignificant or ii) equal to 0. We incorporate the sensitivity parameter

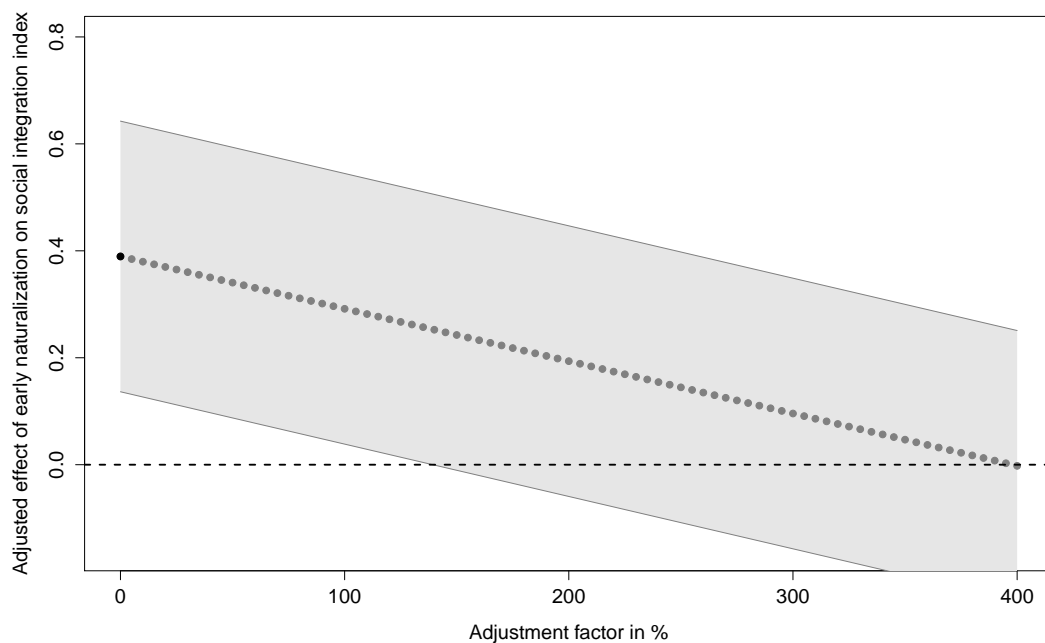
$$\gamma = \frac{E[Y|Z = 1, X, C]}{E[Y|Z = 1, X, A]} \quad (5)$$

directly into equation 4:

$$\tilde{\alpha}(\gamma) = \frac{\frac{E[Y|Z=1,X] - \gamma E[Y|Z=1,X,A] \Pr(C)}{\Pr(A)} - E[Y|Z = 0, X, A]}{E[D|Z = 1, X, A] - E[D|Z = 0, X, A]} \quad (6)$$

such that we can calculate the value of  $\gamma$  that gives us  $\tilde{\alpha}(\gamma)/SE(\tilde{\alpha}) = 1.96$  and  $\tilde{\alpha}(\gamma) = 0$ , respectively. By plugging in the sample analogues, we produce Figure B.7 and find that it would take  $\gamma > 3.15$  to render  $\tilde{\alpha}(\gamma)$  insignificant and  $\gamma > 8$  to turn  $\tilde{\alpha}(\gamma) = 0$ .

Figure B.7: Sensitivity Analysis for the Effect of Early versus Late Naturalization on Long Term Social Integration



*Note:* Sensitivity analysis for the adjusted effect estimates with robust 95% confidence intervals based on a two-stage least squares regression for different values of  $\gamma$ .

We believe the integration potential of always-takers to be, if anything, higher than that of compliers, such that  $\gamma \leq 1$ , because unlike compliers, always-takers were willing to repeatedly invest in their naturalization. Therefore, we think that it is extremely unlikely that the average of the social integration scale is more than three times larger for the latter compared to the former group.

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