

Technical Appendix to
**DOES DIRECT DEMOCRACY REDUCE THE SIZE OF
GOVERNMENT? NEW EVIDENCE FROM HISTORICAL DATA,
1890–2000**

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ECONOMIC JOURNAL, doi: 10.1111/j.1468-0297.2011.02451.x

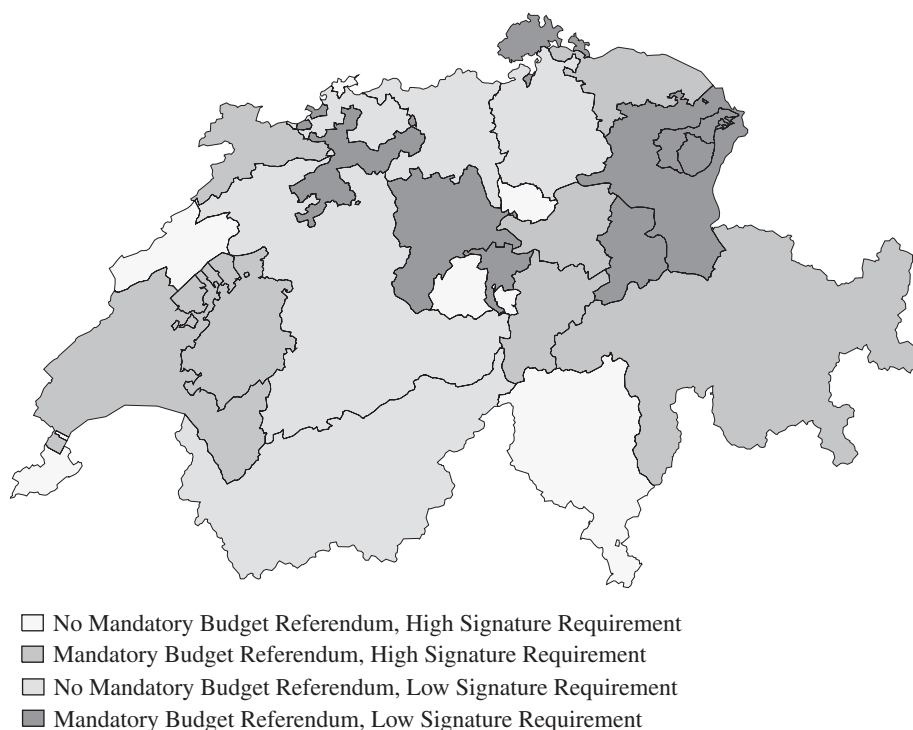


Fig. S1. *Map of Swiss Cantons*

Table S1
Federal Propositions Inducing More Federal Spending, 1891–2000

Number*	Title of proposition	Year	% Yes†	Outcome‡	Number*	Title of proposition	Year	% Yes†	Outcome‡
35	Disability Insurance for Civil Servants and Public Employees	1891	21	No	302	Removal of Canton Share in Stamp Duties	1980	67	Yes
43	Share Customs Revenues with Cantons	1894	29	No	303	Redistribution of Revenues from Alcohol Tax	1980	71	Yes
46	Revision of Military Provisions	1895	42	No	305	For a new Immigration Policy	1981	16	No
52	Trade with Food (Revise Article 24, Constitution)	1897	65	Yes	308	Improving Federal Finances	1981	69	Yes
53	Nationalisation of Swiss Railways	1898	68	Yes	312	Regulation of Gas Taxes	1983	53	Yes
56	Health and Accident Insurance	1900	30	No	313	Energy Article	1983	49	No
60	Revision of Tariffs on Foreign Products	1903	60	Yes	316	Introduction of User Fee for Heavy Traffic	1984	59	Yes
66	Change in Organization of Swiss Military	1907	55	Yes	317	User Fee for Highways (Nationalstrassen)	1984	53	Yes
71	Health and Accident Insurance	1912	54	Yes	323	Protection Motherhood	1984	15	No
99	Initiative for Old Age, Widow and Disability Insurance	1925	42	Yes	324	Regulation of Radio and Television	1984	69	Yes
101	Federal Law on Old Age, Widow and Disability Insurance	1925	65	Yes	331	Removal of Canton Share in Stamp Duties	1985	67	Yes
102	Constitutional Amendment Regarding Corn Supply	1926	50	No	332	Redistribution of Revenues from Alcohol Tax	1985	72	Yes
115	Old Age and Widow Insurance	1931	40	No	335	Subsidies for Small and Medium-Sized Firms	1985	43	No
117	Temporary Decrease in Salaries of Public Employees	1933	45	No	339	Culture Initiative	1986	43	No
119	Change in Organization of Military Training	1935	54	Yes	340	Secure Vocational Training and Retraining	1986	17	No

Table S1
(Continued)

Number*	Title of proposition	Year	% Yes†	Outcome‡	Number*	Title of proposition	Year	% Yes†	Outcome‡
121	Fight Economic Crisis	1935	43	No	341	Domestic Sugar Industry Regulation	1986	38	No
131	Loans for Military Investment and Reduce Unemployment	1939	69	Yes	342	Protection of Renters	1986	63	Yes
132	Change in Insurance for Civil Servants	1939	44	No	348	Railway 2000	1987	56	Yes
139	Protecting the Family	1945	76	Yes	349	Protection of the Moor	1987	57	Yes
141	Establishing a Right of Holding a Job	1946	19	No	350	Reform Health Insurance	1987	28	No
142	Economic Reforms and Right of Holding a Job	1947	31	No	351	Constitutional Basis for Transport Policy	1988	46	No
143	Revision of Economic Laws in the Constitution	1947	53	Yes	352	Decrease Retirement Age	1988	35	No
145	Regulation of Swiss Sugar Industry	1948	36	No	363	Regulation of Wine Industry	1990	46	No
150	Subsidies for Housing Construction	1950	46	No	367	Energy Supply Article	1990	71	Yes
157	Contribution to Costs of National Defence	1951	33	No	368	Change in Traffic Law	1990	52	Yes
159	Subsidies for Agriculture	1952	64	Yes	370	Promoting Public Transport	1991	37	No
168	Changes in Federal Finances	1953	42	No	371	Reform of Federal Finances	1991	46	No
171	Subsidies for Swiss War Veterans Living Abroad	1954	44	No	373	Financing of Health Insurance	1992	39	No
177	Subsidy for Canton Grisons	1956	43	No	377	Protection of Waters	1992	66	Yes
178	Changes in Order for Wheat Production	1956	39	No	381	Saving the Waters	1992	37	No
187	Improving the Road Infrastructure	1958	85	Yes	382	Building Railway through the Alps	1992	63	Yes
194	Subsidies for Milk Producers	1960	56	Yes	386	Raise Salary of Parliamentary Members	1992	27	No
196	Gas Tax for Financing Highway Construction (Nationalstrassen)	1961	47	No	387	Improve Infrastructure for Parliamentary Members	1992	30	No

Table S1
(Continued)

Number*	Title of proposition	Year	% Yes†	Outcome‡	Number*	Title of proposition	Year	% Yes†	Outcome‡
201	Salaries of Representatives and Government Members	1962	32	No	389	Increase in Gas Tax	1993	55	Yes
205	Scholarships and Other Training Subsidies	1963	79	Yes	398	Unemployment Insurance	1993	70	Yes
207	Vocational Training	1964	67	Yes	399	Federal Finances	1993	67	Yes
219	Subsidies for Domestic Sugar Industry	1970	54	Yes	400	Improving Federal Finances	1993	58	Yes
222	Housing Guarantee and Protection of Families	1970	49	No	401	Maintenance of Social Security	1993	63	Yes
223	Changes in Federal Finances	1970	55	No	405	Continuing Highway Fee	1994	69	Yes
227	Subsidies for Apartment Construction	1972	30	No	406	Continuing Heavy Traffic Fee	1994	72	Yes
232	Changes in Old Age and Disability Insurance	1972	16	No	407	Introduction of User Fee for Heavy Traffic	1994	67	Yes
235	Subsidies for Scientific Research	1973	65	Yes	410	Promote Culture	1994	50	No
240	Restriction on Deductions of Income Tax	1973	68	Yes	415	Change in Health Insurance	1994	51	Yes
245	Socially Acceptable Health Insurance	1974	27	No	416	For a new Health Insurance	1994	23	No
248	Financing Highway Construction (Nationalstrassen)	1975	54	Yes	423	Securing Invalidity/Age Insurance	1995	27	No
249	Changes in General Customs Tariffs	1975	48	No	430	For an Environmentally Oriented Agriculture	1996	77	Yes
258	Loan to International Development Agency	1976	44	No	431	Re-Organisation of Administration	1996	39	No
268	Changes in Sales Tax and Direct Federal Tax	1977	41	No	442	Introduction of User Fee for Heavy Traffic	1998	57	Yes
281	Decrease Retirement Age Subsidies for Universities/Technical Colleges	1978	21	No	444	Reform of Age Insurance Infrastructure for Public Transportation	1998	41	No
286		1978	43	No	445		1998	63	Yes
289	Milk Production	1978	69	Yes	458	Law on Insurance of Motherhood	1999	38	No

Table S1
(Continued)

Number*	Title of proposition	Year	% Yes†	Outcome‡	Number*	Title of proposition	Year	% Yes†	Outcome‡
291	Federal Responsibility for Security	1978	44	No	465	Subsidies for Solar Energy (Solarrappen)	2000	31	No
294	Subsidise Hiking Trails	1979	76	Yes	469	For a flexible Age Insurance	2000	39	No
297	Changes in Sales Tax and Direct Federal Tax	1979	35	No	470	For a flexible Retirement Age	2000	46	No

Notes. The Table lists the federal propositions, which would have changed the size of government through spending, taxes or subsidies. The financial consequences of a proposition were assessed using the official documents by the federal government (available at <http://www.ads.bar.admin.ch/ADS/showHome.do>), which are distributed to each citizen before the vote. *The number corresponds to the official number of the vote. †The number shows the percentage of voters supporting the proposition. ‡The column reports the final outcome. For vote no. 223, the majority of the electorate voted in favour but the Council of States rejected it.

Table S2
Additional Specification Tests

	Use no. of signatures for voter initiative (1)	Use discrete signature requirement (2)	With dummy existence of voter initiative (3)	With budget referendum \times signature voter initiative (4)	Effect by subperiods (before 1945) (5)	Optional budget referendum	
						dummy variable (6)	signature requirement (7)
<i>Y: Canton expenditures</i>							
Budget referendum	-0.087** (0.040)	-0.084** (0.040)	-0.074* (0.043)	-0.11* (0.057)	-0.077* (0.041)	-0.076* (0.038)	-0.076* (0.038)
Signature requirement initiative (%)				0.012 (0.011)	0.020** (0.009)	0.004*** (0.001)	0.004*** (0.001)
No. signatures required initiative/100	0.043*** (0.014)						
Signature requirement 2 to 6%		0.094*** (0.029)					
Signature requirement more than 6%		0.112** (0.043)					
Existence initiative \times sig. requirement			0.015 (0.010)				
Budget referendum \times sig. requirement			0.008				
Budget referendum before 1945				(0.014)	-0.027 (0.048)		
Signature requirement before 1945					-0.016 (0.009)		
Optional budget referendum						0.025 (0.047)	-0.000 (0.000)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Canton characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,395	2,395	2,395	2,395	2,395	2,395	2,395
R-squared	0.98	0.98	0.98	0.98	0.98	0.98	0.98
<i>Y: Local expenditures</i>							
Budget referendum	-0.039 (0.024)	-0.062** (0.025)	-0.035 (0.024)	0.122 (0.102)	-0.028 (0.029)	-0.018 (0.068)	-0.018 (0.068)
Signature requirement initiative				0.014 (0.019)	0.005 (0.005)	0.008*** (0.002)	0.008*** (0.002)

Table S2
(Continued)

	Use no. of signatures for voter initiative (1)	Use discrete signature requirement (2)	With dummy existence of voter initiative (3)	With budget referendum \times signature voter initiative (4)	Effect by subperiods (before 1945) (5)	Optional budget referendum Dummy variable (6) Signature requirement (7)
No. signatures required initiative/100	0.001*** (0.000)					
Signature requirement 2 to 6%		-0.051* (0.026)				
Signature requirement More than 6%		-0.112*** (0.040)				
Existence initiative \times sig. requirement			-0.006 (0.006)			
Budget referendum \times sig. requirement				-0.037 (0.023)		
Budget referendum before 1945					-0.023 (0.034)	
Signature requirement before 1945					0.001 (0.005)	
Optional budget referendum						0.082 (0.063)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	-0.001 (0.001)
Canton fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Canton characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,310	2,310	2,310	2,310	2,310	2,310
R-squared	0.93	0.93	0.93	0.93	0.93	0.950

Notes. The Table reports results for log canton expenditures (top panel) and log local expenditures (bottom panel). Column (1) uses the absolute number of signatures required to launch a law initiative; column (2) includes a discrete measure for the signature requirement (signature requirements below 2% are the omitted category). Column (3) interacts the signature requirement with an indicator for the existence of the law initiative, whereas column (4) includes the interaction between mandatory budget referendum and the signature requirement for the law initiative. Column (5) allows the coefficients for the direct democratic institutions to vary before and after the end of World War II. Columns (6) and (7) control for the provisions of the optional mandatory budget referendum as well: whether the canton also allows for an optional budget referendum (column 6) and the signature requirement of the optional budget referendum (column 7). All specifications include canton and year fixed effects and the same controls as in column (3) of Table 3. Standard errors are clustered at the canton level. *p < 0.01, **p < 0.05 and ***p < 0.01.

Table S3
Feedback Effects

	Adopt mandatory budget referendum OLS (1)	Abolish mandatory budget referendum OLS (2)	Change signatures voter initiative OLS (3)
Log expenditures $t-2$	0.028** (0.012)	-0.008 (0.006)	0.014 (0.042)
Log expenditures $t-3$	-0.020* (0.011)	0.006 (0.005)	0.032 (0.038)
Log expenditures $t-5$	-0.011 (0.007)	-0.002 (0.004)	0.048 (0.039)
Observations	2,395	2,395	2,395
R-squared	0.06	0.05	0.25
Δ Log expenditures $t-2$	-0.003 (0.013)	-0.004 (0.006)	0.013 (0.022)
Δ Log expenditures $t-3$	0.027** (0.011)	-0.007 (0.005)	-0.023 (0.037)
Observations	2,395	2,395	2,395
R-squared	0.06	0.05	0.24

Notes. The dependent variables are whether a mandatory budget referendum was adopted (column 1), whether the mandatory budget referendum was abolished (columns 2) or whether the signature requirement for the voter initiative was changed (column 3). The top panel adds log expenditures two, three and five years prior to the institutional change. The bottom panel includes growth rates in expenditures two and three years prior to the institutional reform. All specifications include canton and year effects as well as the same canton characteristics as in previous tables. Standard errors are clustered at the canton level. * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.