

Appendix

A. Details on Financial Incentives in the Three Cantons

All three cantons studied here all incite mergers financially. Between 2000 and 2017, Fribourg has implemented two different schemes for inciting mergers, one that was limited for the period 2000 to 2006 and a second one that is in place since 2012 (but applies to mergers ex post facto that came into force in 2011). The laws from the cantons Bern and Vaud are in place since 2005 but can be applied ex post facto to mergers that came into force from 2003 onwards. The basic formula for calculating the financial incentive as of now is the same across the three cantons and looks as follows

$$\text{Lump-sum payment}_{\text{BE, FR, VD}} = \sum_{i=1}^n (x_i * a) * \left(1 + \frac{n-2}{10}\right)$$

where x_i refers to the population size of a municipality participating in a merger project, n is the total number of municipalities in a merger project, and a refers to the number of Swiss francs per capita in case a merger project is implemented (400 for Bern, 200 for Fribourg and 250 for Vaud). In all three cantons, municipalities that have merged already since the incentive is in place are not considered in the calculation of the incentive if they merge again.

Besides these basic similarities, there are also some differences across cantons. Bern and Vaud have defined a maximum population size for each municipality that is considered for the calculation (1,000 in Bern and 1,500 in Vaud). Furthermore, Vaud only considers up to 3,000 inhabitants in total for the calculation. In Fribourg there's neither an overall nor an individual size ceiling for the incentive calculation. The formula for calculating the financial incentive in Fribourg for the period 2000-2006 looks as follows

$$\text{Lump-sum payment}_{\text{FR}} = \sum_{i=1}^n \left(x_i * a * \frac{1}{c} \right)$$

where x_i again refers to the size of an individual municipality, n designates the total number of municipalities involved in a merger project, a amounts to 400 Swiss francs, and c is an index for the economic wellbeing of a municipality, where 1 refers to the mean and higher values to more economic wellbeing. A maximum number of 1,500 inhabitants per municipality are considered for the calculation.

Online Appendix

B. Tables and Figures

Table B.1: Descriptive Statistics

Variable	N	Mean	SD	Min	Max	P25	P50	P75
Merger Rejection (=1)	541	0.15	0.35	0	1	0	0	0
Debt/Capita (1000 CHF)	541	0.09	4.01	-10.88	22.72	-2.47	-0.14	2.21
Tax Rate	541	1.08	0.44	0.5	2.7	0.78	0.9	1.25
Log. Population	541	6.2	1.15	3.47	10.21	5.47	6.02	6.99
Population (End of Year)	541	1039.74	1986.69	32	27101	237	413	1086
TAN Vote Share	541	0.3	0.13	0.01	0.81	0.22	0.28	0.38
Population Fluctuation	541	0.16	0.06	0	0.49	0.12	0.15	0.19
Population Ratio	541	0.31	0.26	0.01	0.99	0.09	0.22	0.44
Δ Tax Rate	541	0	0.08	-0.33	0.32	-0.05	0	0.05
Δ Debt/Capita (1000 CHF)	541	0	2.59	-11.32	14.02	-1.44	-0.06	1.35
Δ TAN Vote Share	541	0.05	0.05	0	0.4	0.02	0.04	0.07
Δ Left Vote Share	541	0.04	0.03	0	0.28	0.01	0.03	0.05
Payment/Capita (100 CHF)	535	3.86	1.99	0	8.89	2.2	4	5.19
Previous Merger Attempt								
None	541	0.86	0.35	0	1	1	1	1
Previous Merger Success	541	0.05	0.22	0	1	0	0	0
Previous Merger Failed	541	0.09	0.29	0	1	0	0	0
Parliament (=1)	541	0.12	0.32	0	1	0	0	0
>2 Municipalities	541	0.71	0.45	0	1	0	1	1
Canton								
Bern	541	0.25	0.43	0	1	0	0	1
Fribourg	541	0.44	0.5	0	1	0	0	1
Vaud	541	0.31	0.46	0	1	0	0	1
Time Period								
2000-2002	541	0.07	0.26	0	1	0	0	0
2003-2005	541	0.22	0.41	0	1	0	0	0
2006-2008	541	0.08	0.27	0	1	0	0	0
2009-2011	541	0.19	0.39	0	1	0	0	0
2012-2014	541	0.23	0.42	0	1	0	0	0
2015-2017	541	0.21	0.41	0	1	0	0	0

Table B.2. Merger Rejection vs. Merger Acceptance

Variable	Merger Rejection			Merger Acceptance			Δ Mean	
	N	Mean	SD	N	Mean	SD		
Debt/Capita (1000 CHF)	79	0.01	4.09	462	0.1	4	0.08	n.s.
Tax Rate	79	1.16	0.53	462	1.06	0.42	-0.1	*
Population	79	1301.37	1408.57	462	995.01	2067.33	-306.36	n.s.
TAN Vote Share	79	0.32	0.1	462	0.29	0.13	-0.03	*
Population Fluctuation	79	0.15	0.04	462	0.16	0.06	0.01	n.s.
Population Ratio	79	0.29	0.21	462	0.31	0.27	0.01	n.s.
Δ Tax Rate	79	-0.02	0.08	462	0	0.08	0.02	*
Δ Debt/Capita (1000 CHF)	79	0.3	2.83	462	-0.05	2.55	-0.35	n.s.
Δ TAN Vote Share	79	0.05	0.04	462	0.05	0.05	0	n.s.
Δ Left Vote Share	79	0.03	0.03	462	0.04	0.03	0.01	*
Payment/Capita (100 CHF)	76	3.36	1.75	459	3.94	2.02	0.57	**
Previous Merger Failed	79	0.01	0.11	462	0.11	0.31	0.09	**
Previous Merger Success	79	0.08	0.27	462	0.05	0.21	-0.03	n.s.
>2 Municipalities	79	0.84	0.37	462	0.69	0.46	-0.15	**
Parliament (=1)	79	0.19	0.39	462	0.1	0.31	-0.09	*

Note. One-sided t-tests, n.s.=not significant, *p<.05, **p<.01.

Table B.3. Failed vs. Successful Merger Projects

Variable	Failed Projects			Successful Projects			Δ Mean
	N	Mean	SD	N	Mean	SD	
Share Rejecting Municipalities	50	0.43	0.17	116	0	0	
Mean N Municipalities	50	3.88	1.88	116	2.99	1.63	0.89 **
Mean Debt/Capita (1000 CHF)	50	-0.02	3.27	116	0.18	3.41	-0.2 n.s.
Mean Tax Rate	50	1.13	0.49	116	1.12	0.42	0.01 n.s.
Mean Population Size	50	1206.66	942.27	116	1237.13	1868.7	-30.47 n.s.
Mean TAN Vote Share	50	0.31	0.09	116	0.29	0.12	0.01 n.s.
Mean Population Fluctuation	50	0.16	0.04	116	0.15	0.04	0.01 n.s.
SD Population Size	50	795.1	781.75	116	1301.64	2455.42	-506.54 n.s.
SD Tax Rate	50	0.08	0.05	116	0.08	0.08	0 n.s.
SD Debt/Capita (1000 CHF)	50	2.48	1.62	115	2.25	1.91	-0.23 n.s.
SD TAN Vote Share	50	0.06	0.04	116	0.07	0.06	-0.01 n.s.
SD Left Vote Share	50	0.04	0.03	116	0.05	0.04	-0.01 n.s.
Mean Payment/Capita (100 CHF)	48	3.34	1.63	116	3.57	1.87	-0.23 n.s.

Note. One-sided t-tests, n.s.=not significant, ** p<.01.

Table B.4 Multilevel Logit Models for Merger Rejection (=1)

	(1)	(2)	(3)	(4)	(5)	(6)
Debt/Capita (1000 CHF)	0.045 (0.044)		0.052 (0.046)		0.075 (0.079)	0.118 (0.086)
Tax Rate	0.119 (1.043)		-1.159 (1.064)		0.474 (1.303)	0.291 (1.262)
Log. Population	0.495*** (0.139)		1.451*** (0.257)			1.487*** (0.308)
TAN Vote Share		1.526 (1.591)	4.677** (1.727)		4.183* (1.878)	6.445** (1.980)
Population Fluctuation		-2.685 (2.800)	-5.575 (3.263)		-5.481 (3.086)	-6.965* (3.467)
Population Ratio		0.213 (0.596)	-4.382*** (1.028)		-0.084 (0.805)	-4.182*** (1.196)
Δ Tax Rate				-3.240 (1.736)	-4.308 (2.249)	-4.587* (2.302)
Δ Debt/Capita (1000 CHF)				0.079 (0.054)	0.021 (0.097)	-0.040 (0.106)
Δ TAN Vote Share				-4.038 (3.941)	-6.813 (4.096)	-5.801 (4.261)
Δ Left Vote Share				-7.730 (5.959)	-6.916 (6.093)	-4.145 (6.382)
Payment/Capita (100 CHF)				-0.189 (0.122)	-0.229 (0.121)	0.082 (0.127)
Previous Merger Attempt (B=None)						
Merger Attempt Failed				-2.100 (1.106)	-2.022 (1.118)	-2.167* (1.106)
Merger Attempt Succeeded				0.492 (0.615)	0.468 (0.642)	0.481 (0.631)
>2 Municipalities				1.361** (0.473)	1.479** (0.528)	0.739 (0.546)
Parliament (=1)				0.696 (0.463)	1.144* (0.535)	0.164 (0.560)
Constant	-6.085* (2.571)	-2.651* (1.117)	-8.439** (2.725)	-2.239* (1.008)	-3.307 (2.930)	-12.295*** (3.517)
Variance (Constant)	1.162 (0.596)	1.431 (0.663)	0.833 (0.564)	0.949 (0.557)	0.769 (0.513)	0.425 (0.421)
Canton FEs	Yes	Yes	Yes	Yes	Yes	Yes
Time Period Fes	Yes	Yes	Yes	Yes	Yes	Yes
Log. Lik.	-203.33	-209.60	-188.20	-187.45	-182.48	-168.48
χ^2	21.77	10.41	39.14	32.99	39.71	52.71
$p > \chi^2$	0.016	0.405	0.000	0.007	0.008	0.000
AIC	431	443	406	411	411	385
BIC	482	495	471	488	509	488

Note. * p<.05 ** p<.01 *** p<.001. Cell entries are log odds obtained through -meprologit- command in Stata. Standard errors in parentheses. N level-1 (Municipalities)=541, N level-2 (Merger Projects)=166.

Table B.5 Multilevel Logit Models for Merger Rejection (=1)

	Population Size \leq P50	Population Size $>$ P50
Debt/Capita (1000 CHF)	0.112 (0.194)	0.060 (0.104)
Tax Rate	-4.054 (4.219)	1.023 (1.496)
TAN Vote Share	3.065 (4.100)	7.036** (2.524)
Population Fluctuation	-8.832 (6.176)	-8.834 (5.100)
Population Ratio	3.787 (3.042)	-2.543* (1.025)
Δ Tax Rate	4.172 (5.874)	-9.447** (3.109)
Δ Debt/Capita (1000 CHF)	0.143 (0.233)	-0.108 (0.117)
Δ TAN Vote Share	-6.875 (8.254)	-2.169 (5.690)
Δ Left Vote Share	-18.920 (13.913)	-1.971 (7.896)
Payment/Capita (100 CHF)	-0.019 (0.372)	-0.231 (0.138)
Previous Merger Attempt (B=None) Merger Attempt Failed	-17.682 (1732.281)	-1.606 (1.110)
Merger Attempt Succeeded		0.072 (0.627)
>2 Municipalities	2.734 (1.640)	0.868 (0.602)
Parliament (=1)	21.911 (4593.925)	0.915 (0.606)
Constant	5.243 (7.787)	-3.146 (3.692)
Variance (Constant)	4.511 (3.911)	0.000 (0.000)
Canton FEs	Yes	Yes
Time Period FEs	Yes	Yes
N level-1 (Municipalities)	278	257
N level-2 (Merger Projects)	130	137
Log. Lik.	-58.44	-103.01
χ^2	9.49	37.59
$p > \chi^2$	0.977	0.014
AIC	161	252
BIC	241	334

Note. * $p < .05$ ** $p < .01$. Cell entries are log odds obtained through -meqrlogit- command in Stata. Standard errors in parentheses.

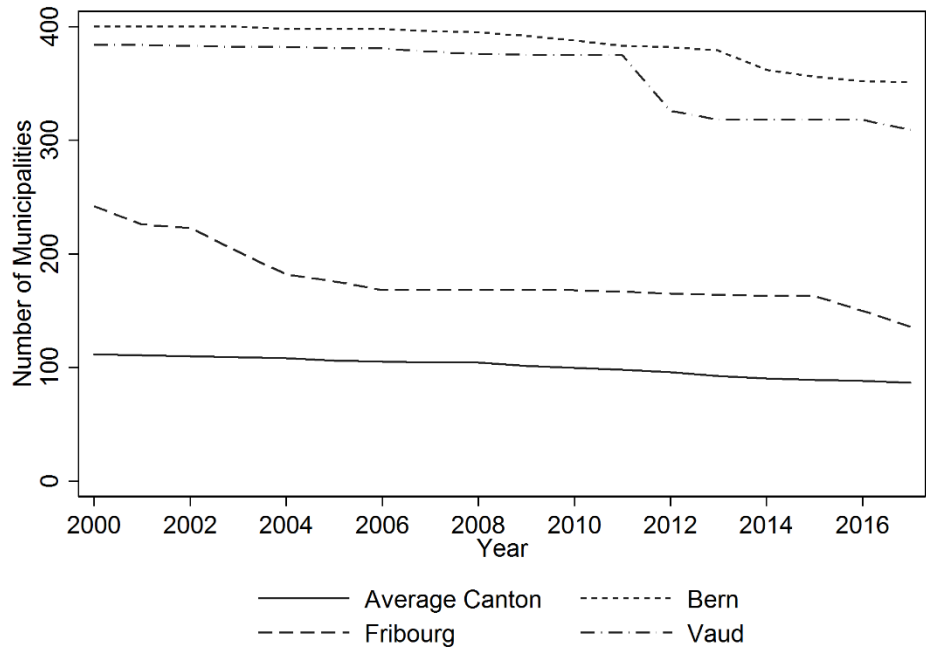


Figure B.1. Development of Municipality Number
Note. Data source: Swiss Federal Statistical Office.

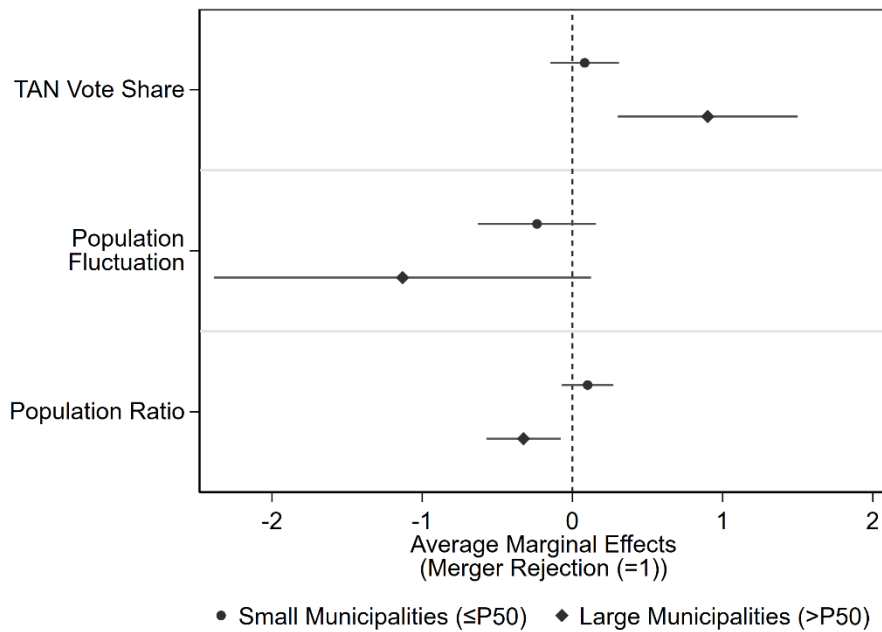


Figure B.2. Coefficient Plot: Small vs. Large Municipalities
Note. Predicted probabilities are based on multilevel logistic regression models from Table B.5; all other variables are held constant at their mean. Municipality Size: P50=410 inhabitants.

C. Robustness Checks

Table C.1 Linear Probability Models for Merger Rejection (=1)

	(1)	(2)	(3)	(4)	(5)	(6)
Debt/Capita (1000 CHF)	0.004 (0.004)		0.005 (0.004)		0.008 (0.007)	0.008 (0.006)
Tax Rate	0.076 (0.104)		-0.035 (0.104)		0.094 (0.126)	0.117 (0.123)
Log. Population	0.057*** (0.014)		0.135*** (0.020)			0.119*** (0.024)
TAN Vote Share		0.136 (0.159)	0.419** (0.158)		0.360* (0.164)	0.476** (0.162)
Population Fluctuation		-0.197 (0.269)	-0.363 (0.260)		-0.382 (0.262)	-0.407 (0.256)
Population Ratio		-0.007 (0.060)	-0.408*** (0.083)		-0.054 (0.077)	-0.380*** (0.099)
Δ Tax Rate				-0.328 (0.184)	-0.504* (0.230)	-0.534* (0.225)
Δ Debt/Capita (1000 CHF)				0.008 (0.006)	0.001 (0.009)	-0.000 (0.008)
Δ TAN Vote Share				-0.486 (0.348)	-0.719* (0.362)	-0.633 (0.354)
Δ Left Vote Share				-0.574 (0.480)	-0.472 (0.482)	-0.067 (0.478)
Payment/Capita (100 CHF)				-0.018 (0.010)	-0.020* (0.010)	0.002 (0.011)
Previous Merger Attempt (B=None)						
Merger Attempt Failed				-0.108* (0.053)	-0.096 (0.054)	-0.113* (0.053)
Merger Attempt Succeeded				0.029 (0.070)	0.038 (0.072)	0.027 (0.070)
>2 Municipalities				0.130*** (0.038)	0.122** (0.042)	0.043 (0.044)
Parliament (=1)				0.097 (0.051)	0.150** (0.057)	0.051 (0.059)
Constant	-0.355 (0.242)	0.145 (0.094)	-0.513* (0.246)	0.197* (0.080)	0.027 (0.258)	-0.713* (0.291)
Cantons FEs	Yes	Yes	Yes	Yes	Yes	Yes
Time Period FEs	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R ²	0.043	0.013	0.092	0.067	0.076	0.119
F (Vars, DF)	3.44 (10, 530)	1.7 (10, 530)	5.19 (13, 527)	3.38 (16, 518)	3.1 (21, 513)	4.27 (22, 512)
p>F	0.000	0.078	0.000	0.000	0.000	0.000

Note. *p<.05 **p<.01 ***p<.001. Cell entries are OLS estimates obtained through -regress- command in Stata. Standard errors in parentheses. N Municipalities=541.

Table C.2 Logit Models with Clustered Standard Errors for Merger Rejection (=1)

	(1)	(2)	(3)	(4)
Debt/Capita (1000 CHF)	0.040 (0.049)			0.127 (0.106)
Tax Rate	0.596 (0.917)			0.227 (1.061)
Log. Population	0.471*** (0.109)			1.413*** (0.310)
TAN Vote Share		1.104 (1.301)		6.454** (1.969)
Population Fluctuation		-1.868 (1.828)		-6.762** (2.490)
Population Ratio		-0.041 (0.427)		-3.941** (1.240)
Δ Tax Rate			-2.809* (1.350)	-4.275* (1.845)
Δ Debt/Capita (1000 CHF)			0.070 (0.055)	-0.055 (0.123)
Δ TAN Vote Share			-3.539 (3.147)	-5.411 (3.679)
Δ Left Vote Share			-8.139 (5.631)	-4.284 (6.515)
Payment/Capita (100 CHF)			-0.183 (0.128)	0.058 (0.115)
Previous Merger Attempt (B=None)				
Merger Attempt Failed			-2.052 (1.057)	-2.123 (1.092)
Merger Attempt Succeeded			0.262 (0.533)	0.366 (0.582)
>2 Municipalities			1.312** (0.420)	0.820 (0.497)
Parliament (=1)			0.685 (0.397)	0.161 (0.518)
Constant	-6.312** (2.195)	-1.957 (1.013)	-1.823* (0.765)	-11.689*** (3.053)
Canton FEs	Yes	Yes	Yes	Yes
Time Period FEs	Yes	Yes	Yes	Yes
Log. Lik.	-208.27	-216.67	-190.66	-169.32
χ^2	30.22	11.27	50.85	91.16
$p > \chi^2$	0.001	0.337	0.000	0.000
AIC	439	455	415	385
BIC	486	503	488	483

Note. * p<.05 ** p<.01 *** p<.001. Cell entries are log odds obtained through -logit- command in Stata. Merger project clustered standard errors in parentheses. N Municipalities=541, N Clusters (Merger Projects)=166.

Table C.3 Logit Models with Robust Standard Errors for Merger Rejection (=1)

	(1)	(2)	(3)	(4)
Debt/Capita (1000 CHF)	0.040 (0.042)			0.127 (0.098)
Tax Rate	0.596 (0.836)			0.227 (1.152)
Log. Population	0.471*** (0.104)			1.413*** (0.316)
TAN Vote Share		1.104 (1.186)		6.454*** (1.927)
Population Fluctuation		-1.868 (1.737)		-6.762* (2.668)
Population Ratio		-0.041 (0.410)		-3.941** (1.211)
Δ Tax Rate			-2.809 (1.506)	-4.275* (2.024)
Δ Debt/Capita (1000 CHF)			0.070 (0.054)	-0.055 (0.128)
Δ TAN Vote Share			-3.539 (2.966)	-5.411 (3.898)
Δ Left Vote Share			-8.139 (5.542)	-4.284 (6.426)
Payment/Capita (100 CHF)			-0.183* (0.093)	0.058 (0.094)
Previous Merger Attempt (B=None)				
Merger Attempt Failed			-2.052* (1.025)	-2.123* (1.017)
Merger Attempt Succeeded			0.262 (0.548)	0.366 (0.616)
>2 Municipalities			1.312** (0.410)	0.820 (0.492)
Parliament (=1)			0.685 (0.385)	0.161 (0.546)
Constant	-6.312** (2.013)	-1.957* (0.836)	-1.823* (0.834)	-11.689*** (3.185)
Canton FEs	Yes	Yes	Yes	Yes
Time Period FEs	Yes	Yes	Yes	Yes
Log. Lik.	-208.27	-216.67	-190.66	-169.32
χ^2	32.67	19.56	47.00	69.35
$p > \chi^2$	0.000	0.034	0.000	0.000
AIC	439	455	415	385
BIC	486	503	488	483

Note. * $p < .05$ ** $p < .01$ *** $p < .001$. Cell entries are log odds obtained through -logit- command in Stata. Robust standard errors in parentheses. N Municipalities=541.

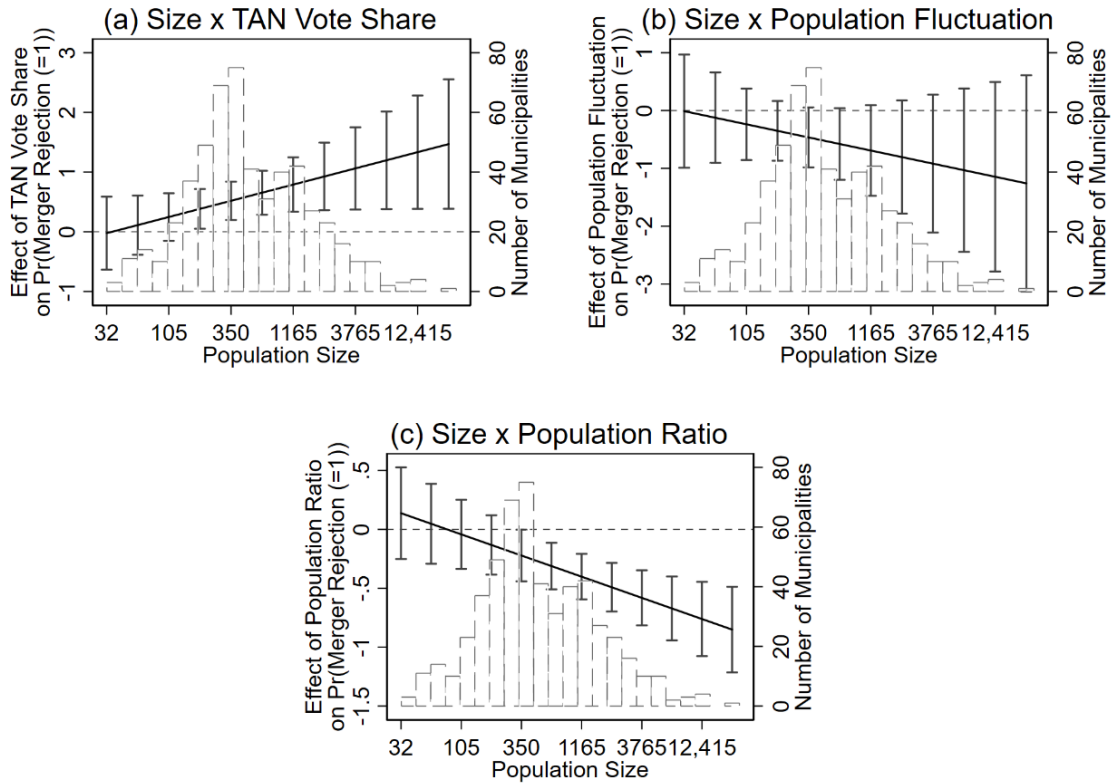


Figure C.1 Size x Self-Determination Interaction: Linear Probability Models

Note. Predicted probabilities are based on multilevel logistic regression models (4), (5), and (6) from Table 3; all other variables are held constant at their mean.

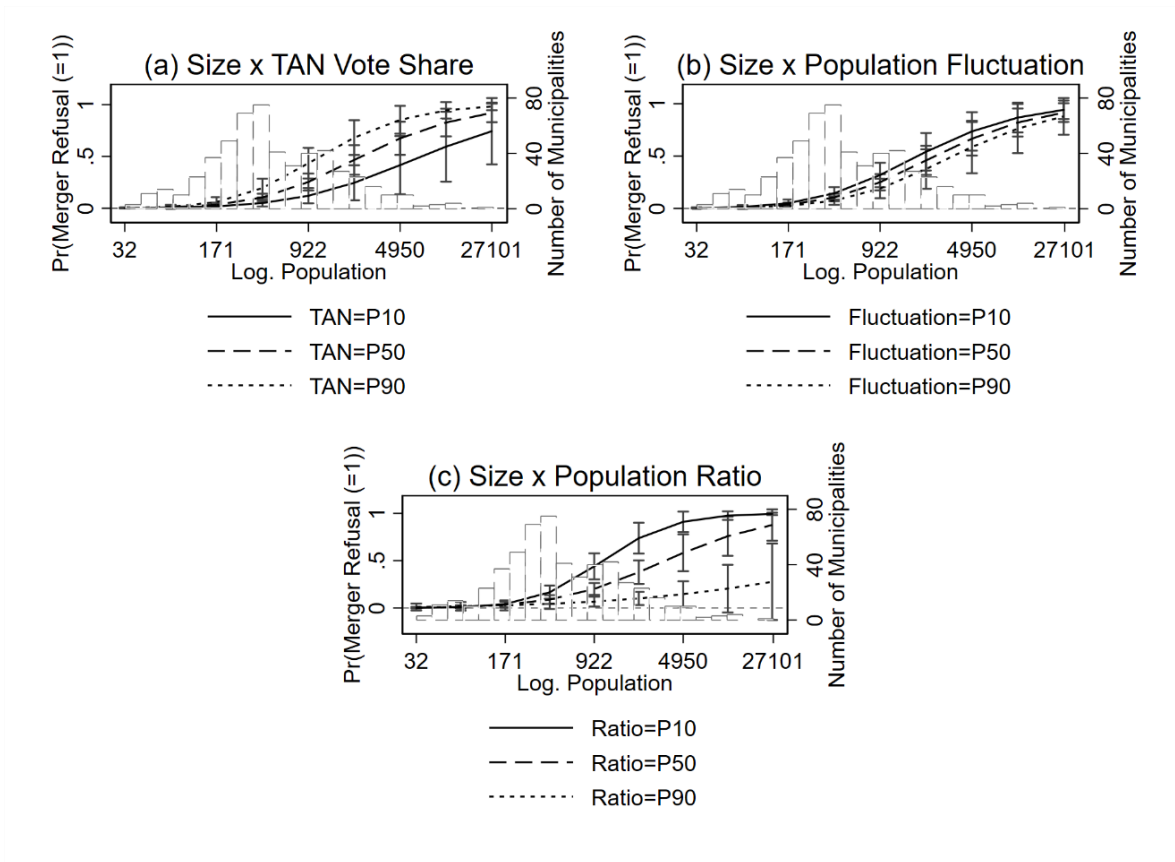


Figure C.2 Size x Self-Determination Interaction: Multilevel Logistic Regression Models

Note. Predicted probabilities are based on multilevel logistic regression models (1), (2), and (3) from Table 3; TAN vote share, population fluctuation, and population ratio at 10th, 50th, and 90th percentile; all other variables are held constant at their mean.