Appendix

Appendix A: Additional Statistical Results and Robustness Checks

Table A1: Co-Design Model: Ordered Logistic Regression

VARIABLES	(1) Ordered Logistic Coefficients	(2) Ordered Logistic Odds Ratios	(3) Ordered Logistic Coefficients	(4) Ordered Logistic Odds Ratios
Average net income (ln)	-0.0638	0.938	0.0104	1.010
	(0.234)	(0.220)	(0.239)	(0.241)
Size of municipality (ln)	0.444***	1.559***	0.487***	1.627***
	(0.0578)	(0.0900)	(0.0588)	(0.0956)
Election turnout	-0.00331	0.997	0.00550	1.006
	(0.00345)	(0.00344)	(0.00372)	(0.00374)
Societal challenges	0.0409	1.042	0.00979	1.010
	(0.0552)	(0.0575)	(0.0565)	(0.0570)
Language area: French			-1.660***	0.190***
			(0.207)	(0.0393)
Language areas: Italian			-1.457***	0.233***
			(0.333)	(0.0776)
Language areas Rhaeto-R.			0.507	1.660
			(0.574)	(0.953)
Regional co-creation	0.492***	1.636***	0.0563	1.058
	(0.0581)	(0.0951)	(0.0778)	(0.0823)
Age of municipal clerk	-0.00406	0.996	-0.00134	0.999
	(0.00552)	(0.00550)	(0.00560)	(0.00559)
Share women in executive	-0.00107	0.999	-0.00103	0.999
	(0.00357)	(0.00356)	(0.00364)	(0.00364)
Higher education clerk	0.308**	1.360**	0.204*	1.226*
	(0.121)	(0.165)	(0.124)	(0.152)
/cut1	3.523	33.88	3.556	35.03
	(2.462)	(83.41)	(2.501)	(87.60)
/cut2	4.312*	74.57*	4.389*	80.52*
	(2.463)	(183.6)	(2.502)	(201.5)
/cut3	6.238**	512.0**	6.341**	567.6**
	(2.468)	(1,263)	(2.508)	(1,423)
Observations	1,175	1,175	1,175	1,175

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A2: Co-Delivery Model: Ordered Logistic Regression

VARIABLES	(1) Ordered Logistic Coefficients	(2) Ordered Logistic Odds Ratios	(3) Ordered Logistic Coefficients	(4) Ordered Logistic Odds Ratios
Average net income (ln)	-0.0308	0.970	0.00127	1.001
	(0.266)	(0.258)	(0.272)	(0.272)
Size of municipality (ln)	0.0984	1.103	0.113*	1.120*
	(0.0650)	(0.0717)	(0.0654)	(0.0732)
Election turnout	0.00232	1.002	0.00789*	1.008*
	(0.00396)	(0.00397)	(0.00423)	(0.00426)
Societal challenges	0.0827	1.086	0.0655	1.068
	(0.0654)	(0.0711)	(0.0660)	(0.0704)
Language area: French			-0.911***	0.402***
			(0.233)	(0.0938)
Language areas: Italian			-1.100***	0.333***
			(0.410)	(0.136)
Language areas Rhaeto-R.			0.393	1.482
			(0.582)	(0.862)
Regional co-creation	0.313***	1.367***	0.0756	1.079
	(0.0634)	(0.0867)	(0.0850)	(0.0916)
Age of municipal clerk	-0.00629	0.994	-0.00473	0.995
	(0.00623)	(0.00619)	(0.00623)	(0.00620)
Share women in executive	0.00355	1.004	0.00359	1.004
	(0.00406)	(0.00407)	(0.00413)	(0.00415)
Higher education clerk	0.239*	1.270*	0.173	1.189
	(0.140)	(0.178)	(0.142)	(0.168)
/cut1	2.421	11.26	2.324	10.21
	(2.798)	(31.49)	(2.847)	(29.07)
/cut2	3.128	22.83	3.040	20.90
	(2.799)	(63.91)	(2.847)	(59.52)
/cut3	4.688*	108.6*	4.601	99.61
	(2.802)	(304.3)	(2.850)	(283.9)
Observations	1,175	1,175	1,175	1,175

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A3: Co-Delivery Model: Zero-Inflated Ordered Logistic Regression

VARIABLES	(1) Coef.: Ordered Logit Model	(2) Coef.: Logit Model	(3) Coef.: Cut-off Points	(4) Odds Ratios: Ordered Logit Model	(5) Odds Ratios: Logit Model	(6) Odds Ratios: Cut-off Points
Average net income (ln)	-0.669	0.0837		0.512	1.087	
	(0.440)	(0.272)		(0.226)	(0.296)	
Size of municipality (ln)	0.513***	0.0341		1.670***	1.035	
	(0.100)	(0.0658)		(0.168)	(0.0680)	
Election turnout	0.00431	0.00805*		1.004	1.008*	
	(0.00699)	(0.00431)		(0.00702)	(0.00434)	
Societal challenges	-0.159	0.1000		0.853	1.105	
	(0.105)	(0.0666)		(0.0895)	(0.0736)	
Language area: French	0.604	-1.012***		1.829	0.363***	
	(0.394)	(0.237)		(0.720)	(0.0861)	
Language areas: Italian	0.545	-1.222***		1.725	0.295***	
	(0.696)	(0.413)		(1.201)	(0.122)	
Language areas Rhaeto-R.	-0.0341	0.466		0.966	1.594	
	(0.859)	(0.621)		(0.831)	(0.990)	
Regional co-creation	0.269**	0.0309		1.309**	1.031	
	(0.131)	(0.0870)		(0.172)	(0.0897)	
Age of local secretary	0.00174	-0.00447		1.002	0.996	
	(0.0103)	(0.00645)		(0.0103)	(0.00642)	
Share women in executive	0.000664	0.00324		1.001	1.003	
	(0.00710)	(0.00425)		(0.00711)	(0.00426)	
Higher education clerk	-0.207	0.217		0.813	1.242	
	(0.236)	(0.146)		(0.192)	(0.181)	
cut1			-23.58			5.72e-11
			(9,213)			(5.27e-07)
cut2			-3.338			0.0355
			(4.655)			(0.165)
cut3			-1.045			0.352
			(4.650)			(1.636)
Constant		-2.661			0.0699	
		(2.839)			(0.198)	
Observations	1,175	1,175	1,175	1,175	1,175	1,175

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A4: Co-Assessment Model: Ordered Logistic Regression

VARIABLES	(1) Ordered Logistic Coefficients	(2) Ordered Logistic Odds Ratios	(3) Ordered Logistic Coefficients	(4) Ordered Logistic Odds Ratios
Average net income (ln)	0.154	1.166	0.196	1.217
	(0.258)	(0.301)	(0.265)	(0.322)
Size of municipality (ln)	0.120*	1.127*	0.143**	1.153**
	(0.0627)	(0.0706)	(0.0633)	(0.0730)
Election turnout	0.000640	1.001	0.00694*	1.007*
	(0.00388)	(0.00388)	(0.00412)	(0.00415)
Societal challenges	0.101	1.106	0.0672	1.070
	(0.0633)	(0.0700)	(0.0637)	(0.0681)
Language area: French			-1.333***	0.264***
			(0.240)	(0.0632)
Language areas: Italian			-0.907**	0.404**
			(0.372)	(0.150)
Language areas Rhaeto-R.			0.402	1.495
			(0.587)	(0.877)
Regional co-creation	0.362***	1.437***	0.0593	1.061
	(0.0622)	(0.0894)	(0.0822)	(0.0872)
Age of local secretary	-0.00305	0.997	-0.000714	0.999
	(0.00618)	(0.00616)	(0.00620)	(0.00619)
Share women in executive	0.00363	1.004	0.00425	1.004
	(0.00399)	(0.00401)	(0.00408)	(0.00410)
Higher education clerk	0.240*	1.271*	0.167	1.182
	(0.136)	(0.173)	(0.138)	(0.163)
/cut1	4.692*	109.0*	4.555	95.07
	(2.718)	(296.4)	(2.775)	(263.8)
/cut2	5.331**	206.6**	5.208*	182.7*
	(2.720)	(562.0)	(2.776)	(507.1)
/cut3	6.964**	1,058**	6.850**	944.0**
	(2.724)	(2,882)	(2.781)	(2,625)
Observations	1,175	1,175	1,175	1,175

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A5: Co-Assessment Model: Zero-Inflated Ordered Logistic Regression

VARIABLES	(1) Coef.: Ordered Logit Model	(2) Coef.: Logit Model	(3) Coef.: Cut-off Points	(4) Odds Ratios: Ordered Logit Model	(5) Odds Ratios: Logit Model	(6) Odds Ratios: Cut-off Points
Average net income (ln)	-0.176	0.187		0.839	1.205	
	(0.412)	(0.270)		(0.345)	(0.325)	
Size of municipality (ln)	0.433***	0.0688		1.541***	1.071	
	(0.0967)	(0.0653)		(0.149)	(0.0699)	
Election turnout	-0.00637	0.00819*		0.994	1.008*	
	(0.00654)	(0.00427)		(0.00650)	(0.00431)	
Societal challenges	0.0227	0.0843		1.023	1.088	
	(0.0942)	(0.0657)		(0.0963)	(0.0714)	
Language area: French	0.413	-1.396***		1.512	0.248***	
	(0.405)	(0.244)		(0.613)	(0.0604)	
Language areas: Italian	0.523	-1.023***		1.688	0.360***	
	(0.611)	(0.377)		(1.031)	(0.136)	
Language areas Rhaeto-R.	0.794	0.300		2.213	1.350	
	(0.817)	(0.620)		(1.807)	(0.838)	
Regional co-creation	0.00155	0.0606		1.002	1.063	
	(0.131)	(0.0855)		(0.131)	(0.0908)	
Age of local secretary	-0.00659	0.000289		0.993	1.000	
	(0.0101)	(0.00639)		(0.0100)	(0.00639)	
Share women in exec.	0.00596	0.00348		1.006	1.003	
	(0.00673)	(0.00422)		(0.00677)	(0.00424)	
Higher education clerk	0.129	0.152		1.138	1.165	
	(0.222)	(0.144)		(0.252)	(0.167)	
cut1			-12.90			2.50e-06
			(386.1)			(0.0009)
cut2			0.757			2.132
			(4.346)			(9.268)
cut3			3.174			23.89
			(4.350)			(104.0)
Constant		-4.028			0.0178	
		(2.816)			(0.0502)	
Observations	1,175	1,175	1,175	1,175	1,175	1,175

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A6: Brant Test Results of the Co-Design Model

```
. * brant test
. brant, detail

Estimated coefficients from binary logits
```

Variable	y_gt_0	y_gt_1	y_gt_2
ln_netinco~c	-0.080	-0.075	0.069
	-0.30	-0.27	0.16
ln_inhtotal	0.368	0.565	0.651
	5.52	8.03	5.98
turnoutmex	0.005	0.008	0.009
	1.12	1.77	1.20
chindex	0.024	-0.001	0.133
	0.38	-0.02	1.12
langarea			
French	-1.842	-1.568	-0.875
	-8.18	-6.43	-2.15
Italian	-1.668	-1.213	-1.310
	-4.76	-3.20	-1.66
Rhaeto-Ro~c	0.144	0.976	0.140
	0.22	1.51	0.13
r~rindexnonm	-0.027	0.073	0.145
	-0.31	0.83	1.17
lsage	0.002	-0.002	-0.017
	0.26	-0.24	-1.68
genderqmexrs	0.002	-0.002	-0.008
	0.51	-0.51	-1.21
educ_higher	0.281	0.062	0.209
	1.99	0.43	0.88
_cons	-1.784	-4.102	-8.449
	-0.63	-1.40	-1.90

Legend: b/t

```
Brant test of parallel regression assumption
```

	chi2	p>chi2	df
All	693.96	0.000	22
ln_netincomepc	0.13	0.938	2
ln_inhtotal	13.51	0.001	2
turnoutmex	0.81	0.667	2
chindex	1.48	0.477	2
2.langarea	5.96	0.051	2
3.langarea	3.17	0.205	2
4.langarea	73.02	0.000	2
regionalcocrindexnonm	2.73	0.255	2
lsage	3.11	0.211	2
genderqmexrs	2.63	0.268	2
educ_higher	3.66	0.161	2

```
A significant test statistic provides evidence that the parallel
regression assumption has been violated.
```

Table A7: Brant Test Results of the Co-Delivery Model

```
. brant, detail

Estimated coefficients from binary logits
```

Variable	y_gt_0	y_gt_1	y_gt_2
ln_netinco~c	0.052	-0.196	-0.929
	0.19	-0.59	-1.42
ln_inhtotal	0.039	0.330	0.500
	0.59	4.10	3.47
turnoutmex	0.009	0.008	0.005
	1.96	1.45	0.48
chindex	0.098	-0.033	-0.033
	1.47	-0.42	-0.22
langareaNA			
French	-1.028	-0.668	0.258
	-4.31	-2.31	0.51
Italian	-1.243	-0.681	-0.420
	-3.00	-1.38	-0.38
r~rindexnonm	0.022	0.166	0.344
	0.25	1.66	2.10
lsage	-0.005	-0.007	-0.010
	-0.76	-0.85	-0.65
genderqmexrs	0.003	0.002	0.009
	0.78	0.41	0.98
educ_higher	0.228	-0.034	0.575
	1.55	-0.19	1.61
_cons	-2.337	-2.193	1.607
	-0.82	-0.63	0.23

Legend: b/t

```
Brant test of parallel regression assumption
```

	chi2	p>chi2	df
All	53.24	0.000	20
ln_netincomepc	2.68	0.261	2
ln_inhtotal	28.86	0.000	2
turnoutmex	0.10	0.950	2
chindex	6.03	0.049	2
2.langareaNA	8.19	0.017	2
3.langareaNA	3.38	0.185	2
regionalcocrindexnonm	6.83	0.033	2
lsage	0.15	0.930	2
genderqmexrs	0.80	0.670	2
educ_higher	7.37	0.025	2

```
A significant test statistic provides evidence that the parallel
regression assumption has been violated.
```

*The language area category “Rhaeto-Romanic” has been excluded in order to run the Brant test successfully

Table A8: Brant Test Results of the Co-Assessment Model

```
. * brant test
. brant, detail

Estimated coefficients from binary logits
```

Variable	y_gt_0	y_gt_1	y_gt_2
ln_netinco~c	0.155	0.094	-0.398
	0.57	0.30	-0.66
ln_inhtotal	0.074	0.284	0.512
	1.13	3.73	3.69
turnoutmex	0.009	0.003	-0.006
	2.01	0.68	-0.59
chindex	0.083	0.034	0.189
	1.26	0.45	1.15
langareaNA			
French	-1.411	-1.080	-0.330
	-5.75	-3.73	-0.65
Italian	-1.043	-0.325	-0.745
	-2.75	-0.78	-0.68
r~rindexnonm	0.052	0.081	0.108
	0.60	0.84	0.63
lsage	-0.000	-0.002	-0.023
	-0.02	-0.22	-1.68
genderqmexrs	0.004	0.004	0.011
	0.85	0.91	1.30
educ_higher	0.161	0.152	0.309
	1.12	0.91	0.94
_cons	-3.710	-5.006	-3.177
	-1.31	-1.54	-0.50

Legend: b/t

```
Brant test of parallel regression assumption
```

	chi2	p>chi2	df
All	52.40	0.000	20
ln_netincomepc	0.89	0.642	2
ln_inhtotal	20.51	0.000	2
turnoutmex	3.09	0.213	2
chindex	1.73	0.421	2
2.langareaNA	6.14	0.046	2
3.langareaNA	10.43	0.005	2
regionalcocrindexnonm	0.23	0.891	2
lsage	3.14	0.208	2
genderqmexrs	0.87	0.646	2
educ_higher	0.27	0.872	2

```
A significant test statistic provides evidence that the parallel
regression assumption has been violated.
```

*The language area category “Rhaeto-Romanic” has been excluded in order to run the Brant test successfully

Appendix B: Wording and Translation of the Co-Creation Survey Question

German version

Wurden in Ihrer Gemeinde in den letzten fünf Jahren folgende Instrumente eingesetzt, um **Bürger/-innen** in die Gestaltung kommunaler Leistungen oder Projekte **miteinzubeziehen**? Falls ja, **wie häufig?**

	eingesetzt?		**wie häufig?**		
	ja	nein	1x	2-3x	häufiger
Information durch die Verwaltung					
Konsultation/ Meinungsaustausch					
Aktive Kooperation					
• durch Mit-Entwicklung					
• durch Mit-Umsetzung					
• durch Mit-Bewertung					

French version

Au cours des cinq dernières années, les instruments suivants ont-ils été utilisés dans votre commune pour **impliquer les citoyen·ne·s** dans la conception de services ou de projets communaux ? Si oui, combien de fois ?

	utilisé ?		**combien de fois ?**		
	oui	non	1x	2-3x	plus souvent
Informations de la part de l'administration					
Consultation/échanges d'idées					
Coopération active					
• par co-développement					
• par co-réalisation					
• par co-évaluation					

Italian version

Negli ultimi 5 anni, il Suo Comune ha usato i seguenti strumenti per **coinvolgere gli e le abitanti** nelle attività per allestire servizi o progetti? Se sì, **quanto spesso?**

	Strumento usato		**Quanto spesso?**		
	Sì	No	1x	2-3x	Più spesso
Informazione da parte dell'amministrazione					
Consultazione/scambio di opinioni					
Cooperazione attiva					
• e partecipazione allo sviluppo					
• e partecipazione all'attuazione					
• e partecipazione alla valutazione					

English version (translation used in this paper)

In the last five years, has your municipality used the following instruments to include citizens in creating local services or projects?? If yes, **how often**?

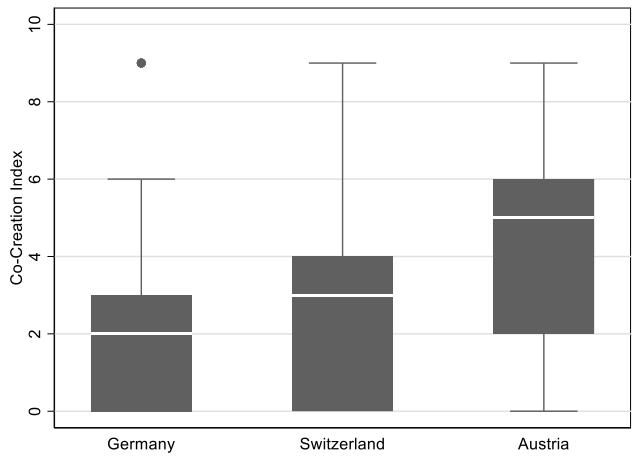
	Instrument used?		**How often?**		
	yes	no	1x	2-3x	more often
Information from the administration					
Consultation/exchange of opinions					
Active cooperation					
• Co-design					
• Co-delivery					
• Co-assessment					

Appendix C: Comparing Swiss Municipal Monitoring with the Qualtrics Results

Table C1: Comparing Co-Creation Reports in the Qualtrics Survey with Responses in Swiss Municipal Monitoring

Qualtrics group	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Co-Creation Index	119	**2.605**	2.601	0	9
Co-Design Index	119	**.941**	1.052	0	3
Co-Delivery Index	119	**.731**	1.006	0	3
Co-Assessment Index	119	**.933**	1.14	0	3
Swiss Municipal Monitoring	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Co-Creation Index	1485	**2.063**	2.405	0	9
Co-Design Index	1485	**.997**	1.064	0	3
Co-Delivery Index	1485	**.502**	.884	0	3
Co-Assessment Index	1485	**.564**	.93	0	3

Figure C2: Comparing the reported use of co-creation in Switzerland with other countries with a Germanic tradition



Note: data includes only employes in local core administration.