Fiscal Policy and the Long Shadows of History

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Online Appendix

Appendix A1

Table A1. Variables and their sources

Variable	Source
Property tax rates levied on - Residential land - Residential buildings - Commercial land - Commercial buildings	16 Voivodeship Law Journals from all 16 voivodeships; hand extracted information
Euclidean distance from the centroids of municipalities to the closest points at the historical borders	Own calculations performed in QGIS based on GIS maps extracted from the Stanford's EarthWorks portal: https://earthworks.stanford.edu/
Longitude, latitude, altitude, annual precipitation and temperature	Grosfeld and Zhuravskaya (2015)
Railway length total, railway density, railway length in 15- and 10km buffers	Own calculations performed in QGIS
Paved and unpaved roads, % of buildings connected to municipality water system, sewerage system and gas system % of residents using municipality water system, sewerage system and gas system % of land covered with zoning and land planning % of residents living in the cities Average usable area of an apartment Average usable area of an apartment per person Number of apartments per 1,000 persons Number of rooms per one apartment Number of persons per one apartment Number of persons per one room	The Bank of Local Data at the Main Statistics office: https://bdl.stat.gov.pl/BDL/start
Number of strategic documents issued by a municipality Share of strategic documents consulted with the local population Friendly municipality index	Data created by the Klon/Jawor non-governmental organization in collaboration with the Ministry of Labor and Social Policy extracted from the Moja Polis website (due to lack of funds ceased to exist)
% of land plots owned by the public sector disclosed in the Land Register	Ministerstwo Administacji i Cyfryzacji (2013). Informacja dla Rady Ministrów dotycząca realizacji ustawy z dnia 7 września 2007 r. o ujawnieniu w księgach wieczystych prawa własności nieruchomości Skarbu Państwa oraz jednostek samorządu terytorialnego (Dz. U. z 2012 r. poz. 1460)
Margin of victory in mayoral elections	Calculated based on the 2014 electoral data extracted from the National Electoral Commissions

Appendix A2

Table A2. Descriptive statistics

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
Commercial land (2017)	2,478	0.786	0.102	0.160	0.890
Residential land (2017)	2,478	0.298	0.109	0	0.470
Residential buildings (2017)	2,478	0.618	0.140	0	0.750
Commercial buildings (2017)	2,478	19.43	2.621	6.860	22.66
Commercial land (2013)	2,461	0.755	0.105	0.300	0.880
Residential land (2013)	2,461	0.276	0.106	0	0.450
Residential buildings (2013)	2,461	0.592	0.136	0	0.730
Commercial buildings (2013)	2,461	18.87	2.747	2	22.82
Railway length 15-km buffer	2,476	52.77	29.53	0	158.6
Railway length 10-km buffer	2,476	23.92	16.64	0	110.1
Railway total length	2,476	9.513	10.63	0	108.6
Distance to the Austria-Russia border*	1,465	-102.4	116.2	-400.0	126.7
Distance to the Prussia-Russia border (excl.Silesia)*	1,433	-98.19	119.1	-379.1	192.2
Distance to the Prussia-Russia border*	1,491	-79.41	110.3	-346.1	192.2
Distance to the Prussia-Russia border (Rec.Territ)*	1,742	-22.42	164.6	-351.9	396.1
Population (2017)	2,473	15,524	50,925	1,302	1.765e+06
Paved roads in km (2004)	2,472	36.76	48.55	0	1,151
Unpaved roads in km (2004)	2,472	45.67	46.91	0	393.9
% of residents living in the cities	2,502	23.86	35.58	0	100
Avg. usable area of apartment (2016)	2,478	86.37	13.64	51.20	143
Avg. usable area of apartment per person (2016)	2,478	27.77	4.697	18.70	78.10
Number of apartments per 1,000 population (2016)	2,478	325.9	55.54	203.2	878.3
Number of rooms per apartment (2016)	2,478	4.179	0.437	2.970	6.100
Number of persons per apartment (2016)	2,478	3.147	0.479	1.140	4.920
Number of persons per one room (2016)	2,478	0.754	0.0956	0.260	1.170
gestosc_zaludnienia_2016	2,478	220.6	464.0	4	3,998
Area of municipality (2016)	2,478	126.2	78.71	3	634
Zoning and land use planning coverage (2016)	2,314	39.16	41.50	0	103.3
Number of strategic documents	1,507	8.206	1.526	2	13
% of strategic documents consulted with the public	1,507	59.09	23.52	0	100
“Friendly municipality” index	2,385	2.144	1.064	0	4.917
Latitude	2,502	51.81	1.349	49.16	54.81
Longitude	2,502	19.56	2.332	13.34	24.01
Altitude	2,453	178.2	118.5	-4	946
Mean annual temperature	2,468	7.343	0.696	3.526	9
Mean annual precipitation	2,468	623.9	86.87	514.5	998.1
% using municipality water system	2,478	87.55	17.42	0	100
% using sewerage system	2,478	48.61	28.55	0	100
% using gas system	2,478	25.44	30.97	0	98.50
% connect to municipality water system	2,477	84.55	19.21	0	100
% connect to sewerage system	2,477	42.21	27.32	0	100
Large city dummy	2,557	0.0461	0.210	0	1
ln(revenue from property taxes per person)	2,473	5.905	0.691	3.714	10.04

Note: * negative values indicate location in the Prussian partition

Appendix A3

Table A3a. Robustness check: degree-2 polynomial

Outcome variable	(1) Residential land	(2) Commercial land	(3) Residential buildings	(4) Commercial buildings
The Prussia-Russia border				
Partition effect: Conventional	0.006	-0.000	0.066*	0.431
	(0.022)	(0.019)	(0.033)	(0.514)
Partition effect: Bias-corrected	0.003	-0.004	0.066*	0.376
	(0.022)	(0.019)	(0.033)	(0.514)
Partition effect: Robust	0.003	-0.004	0.066+	0.376
	(0.025)	(0.022)	(0.038)	(0.586)
Bandwidth	69.01	77.56	69.49	56.94
N below the threshold	331	367	333	278
N above the threshold	241	258	242	212
Order polynomial	2	2	2	2
The Austria-Russia border				
Partition effect: Conventional	-0.062+	-0.054	-0.036	-1.683+
	(0.035)	(0.042)	(0.058)	(0.999)
Partition effect: Bias-corrected	-0.063+	-0.055	-0.033	-1.864+
	(0.035)	(0.042)	(0.058)	(0.999)
Partition effect: Robust	-0.063	-0.055	-0.033	-1.864
	(0.042)	(0.050)	(0.068)	(1.146)
Bandwidth	40.46	46.37	45.34	45.07
N below the threshold	162	178	176	176
N above the threshold	157	183	176	175
Order polynomial	2	2	2	2

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy. Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Table A3b. Robustness check: degree-3 polynomial

Outcome variable	(1) Residential land	(2) Commercial land	(3) Residential buildings	(4) Commercial buildings
The Prussia-Russia border				
Partition effect: Conventional	-0.002	-0.012	0.070*	0.623
	(0.029)	(0.027)	(0.035)	(0.650)
Partition effect: Bias-corrected	-0.004	-0.014	0.072*	0.714
	(0.029)	(0.027)	(0.035)	(0.650)
Partition effect: Robust	-0.004	-0.014	0.072+	0.714
	(0.033)	(0.030)	(0.039)	(0.727)
Bandwidth	80.98	74.96	111.9	66.22
N below the threshold	383	353	523	318
N above the threshold	264	252	327	234
Order polynomial	3	3	3	3
The Austria-Russia border				
Partition effect: Conventional	-0.077*	-0.063	-0.026	-2.024+
	(0.037)	(0.047)	(0.077)	(1.082)
Partition effect: Bias-corrected	-0.081*	-0.057	-0.014	-1.966+
	(0.037)	(0.047)	(0.077)	(1.082)
Partition effect: Robust	-0.081+	-0.057	-0.014	-1.966
	(0.042)	(0.054)	(0.089)	(1.222)
Bandwidth	64.41	68.46	53.39	67.83
N below the threshold	246	262	211	260
N above the threshold	259	271	208	271
Order polynomial	3	3	3	3

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy. Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix A4

Table A4. Robustness check: two different bandwidths at both side of the border

Outcome variable	(1) Residential land	(2) Commercial land	(3) Residential buildings	(4) Commercial buildings
The Prussia-Russia border				
Partition effect: Conventional	0.015	0.007	0.069**	0.529
	(0.017)	(0.016)	(0.023)	(0.412)
Partition effect: Bias-corrected	0.009	0.001	0.061**	0.384
	(0.017)	(0.016)	(0.023)	(0.412)
Partition effect: Robust	0.009	0.001	0.061*	0.384
	(0.019)	(0.019)	(0.027)	(0.492)
Bandwidth left	86.22	62.76	76.79	64.59
Bandwidth right	46.96	40.31	48.83	32.92
N below the threshold	405	302	363	311
N above the threshold	176	158	184	136
Order polynomial	1	1	1	1
The Austria-Russia border				
Partition effect: Conventional	-0.031	-0.039	-0.031	-1.255
	(0.024)	(0.036)	(0.049)	(0.805)
Partition effect: Bias-corrected	-0.028	-0.038	-0.042	-1.243
	(0.024)	(0.036)	(0.049)	(0.805)
Partition effect: Robust	-0.028	-0.038	-0.042	-1.243
	(0.030)	(0.043)	(0.059)	(0.950)
Bandwidth left	70.09	76.91	125.5	61.72
Bandwidth right	19.93	24.29	19.48	22.66
N below the threshold	268	296	470	238
N above the threshold	71	86	70	79
Order polynomial	1	1	1	1

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy. Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix A5

Table A5. Robustness check: the Epanechnikov kernel

Outcome variable	(1) Residential land	(2) Commercial land	(3) Residential buildings	(4) Commercial buildings
The Prussia-Russia border				
Partition effect: Conventional	0.012	-0.001	0.070**	0.485
	(0.017)	(0.018)	(0.025)	(0.447)
Partition effect: Bias-corrected	0.008	-0.007	0.069**	0.388
	(0.017)	(0.018)	(0.025)	(0.447)
Partition effect: Robust	0.008	-0.007	0.069*	0.388
	(0.020)	(0.021)	(0.030)	(0.535)
Bandwidth	45.62	35.99	49.10	32.85
N below the threshold	227	181	242	168
N above the threshold	173	148	185	136
Order polynomial	1	1	1	1
The Austria-Russia border				
Partition effect: Conventional	-0.050	-0.038	-0.037	-1.299
	(0.031)	(0.038)	(0.051)	(0.911)
Partition effect: Bias-corrected	-0.054+	-0.038	-0.037	-1.369
	(0.031)	(0.038)	(0.051)	(0.911)
Partition effect: Robust	-0.054	-0.038	-0.037	-1.369
	(0.038)	(0.046)	(0.063)	(1.098)
Bandwidth	21.84	24.49	24.19	23.49
N below the threshold	91	104	103	97
N above the threshold	76	87	84	82
Order polynomial	1	1	1	1

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy. Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix A6

Table A6. Robustness check: clustered standard errors at the district level

Outcome variable	(1) Residential land	(2) Commercial land	(3) Residential buildings	(4) Commercial buildings
The Prussia-Russia border				
Partition effect: Conventional	0.019	-0.001	0.071*	0.555
	(0.021)	(0.016)	(0.030)	(0.526)
Partition effect: Bias-corrected	0.012	-0.007	0.069*	0.421
	(0.021)	(0.016)	(0.030)	(0.526)
Partition effect: Robust	0.012	-0.007	0.069+	0.421
	(0.024)	(0.019)	(0.036)	(0.610)
Bandwidth	55.46	41.06	54.16	39.49
N below the threshold	270	209	264	196
N above the threshold	204	162	201	157
Order polynomial	1	1	1	1
The Austria-Russia border				
Partition effect: Conventional	-0.051	-0.048	-0.036	-1.389
	(0.038)	(0.040)	(0.053)	(1.088)
Partition effect: Bias-corrected	-0.058	-0.049	-0.037	-1.516
	(0.038)	(0.040)	(0.053)	(1.088)
Partition effect: Robust	-0.058	-0.049	-0.037	-1.516
	(0.048)	(0.049)	(0.065)	(1.316)
Bandwidth	25.01	30.11	25.82	31.30
N below the threshold	108	125	112	128
N above the threshold	88	114	92	116
Order polynomial	1	1	1	1

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy. Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix A7

Table A7. Robustness check: property tax rates in 2013

Outcome variable	(1) Residential land	(2) Commercial land	(3) Residential buildings	(4) Commercial buildings
The Prussia-Russia border				
Partition effect: Conventional	0.013	0.009	0.072**	0.588
	(0.020)	(0.016)	(0.024)	(0.448)
Partition effect: Bias-corrected	0.010	0.005	0.069**	0.475
	(0.020)	(0.016)	(0.024)	(0.448)
Partition effect: Robust	0.010	0.005	0.069*	0.475
	(0.024)	(0.019)	(0.029)	(0.536)
Bandwidth	44.60	46.64	56.61	35.97
N below the threshold	222	230	278	180
N above the threshold	168	176	211	148
Order polynomial	1	1	1	1
The Austria-Russia border				
Partition effect: Conventional	-0.032	-0.057	-0.036	-2.159*
	(0.031)	(0.037)	(0.051)	(0.956)
Partition effect: Bias-corrected	-0.034	-0.057	-0.038	-2.278*
	(0.031)	(0.037)	(0.051)	(0.956)
Partition effect: Robust	-0.034	-0.057	-0.038	-2.278*
	(0.038)	(0.046)	(0.063)	(1.154)
Bandwidth	27.89	26.85	25.76	25.31
N below the threshold	120	113	112	111
N above the threshold	98	94	92	89
Order polynomial	1	1	1	1

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy. Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1

Appendix A8

Table A8. The effects of borders on log of per capita revenues from property taxes

Outcome variable	(1) Ln(per capita property tax revenue) Prussia-Russia border	(2) Ln(per capita property tax revenue) Austria-Russia border
Partition effect: Conventional	0.215*	-0.247
	(0.100)	(0.223)
Partition effect: Bias-corrected	0.203*	-0.353
	(0.100)	(0.223)
Partition effect: Robust	0.203+	-0.353
	(0.121)	(0.262)
Bandwidth	60.01	23.40
N below the threshold	292	97
N above the threshold	219	81
Order polynomial	1	1

Note: Standard errors in parentheses. RD models include the following control variables: longitude, latitude, altitude, mean annual precipitation, mean annual temperature, large city dummy.
Statistical significance: *** p<0.001, ** p<0.01, * p<0.05, + p<0.1