

Appendix H – Tables of Regression Results

1. Regression results matching Closed and Adjacent Cities

TABLE H.1: LN URBAN LIGHT LUMINOSITY SUM REGRESSIONS, RUSSIA 1992-2019

	(1)	(2)	(3)	(4)
	lnsum	lnsum	lnsum	lnsum
closed_city	0.230*** (0.0398)	0.196*** (0.0449)	0.831*** (0.0376)	0.856*** (0.0426)
sci_related		0.162 (0.0974)	0.343*** (0.0768)	0.321*** (0.0787)
urban_settlem ent			-4.312*** (0.0864)	-4.331*** (0.0879)
Trip_Advisor				0.112 (0.0902)
_cons	9.493*** (0.0162)	9.494*** (0.0162)	9.524*** (0.0128)	9.412*** (0.0912)
<i>N</i>	4117	4117	4117	4117
<i>R</i> ²	0.252	0.253	0.537	0.537

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.2: LN URBAN LIGHT LUMINOSITY COUNT REGRESSIONS, RUSSIA 1992-2019

	(1)	(2)	(3)
	lncount	lncount	lncount
closed_city	0.675*** (0.0306)	0.682*** (0.0343)	0.690*** (0.0392)
sci_related		-0.0332 (0.0761)	-0.0415 (0.0784)
Trip_Advisor			0.0355 (0.0814)
_cons	6.888*** (0.0119)	6.888*** (0.0119)	6.853*** (0.0823)
<i>N</i>	3699	3699	3699
<i>R</i> ²	0.441	0.441	0.441

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.3: LN URBAN LIGHT LUMINOSITY SUM REGRESSIONS, RUSSIA 1992 ONLY

	(1)	(2)	(3)	(4)
	lnsum	lnsum	lnsum	lnsum

closed_city	0.169	0.125	0.767**	0.708**
	(0.239)	(0.271)	(0.234)	(0.261)
sci_related		0.206	0.370	0.419
		(0.585)	(0.475)	(0.486)
urban_settlem ent			-4.254***	-4.208***
			(0.533)	(0.542)
Trip_Advisor				-0.301
				(0.595)
_cons	9.455***	9.456***	9.486***	9.788***
	(0.0962)	(0.0966)	(0.0784)	(0.601)
<i>N</i>	148	148	148	148
<i>R</i> ²	0.241	0.242	0.506	0.508

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.4: LN URBAN LIGHT LUMINOSITY COUNT REGRESSIONS, RUSSIA 1992 ONLY

	(1)	(2)	(3)
	lncount	lncount	lncount

closed_city	0.649*** (0.191)	0.651** (0.215)	0.583* (0.242)
sci_related		-0.00936 (0.474)	0.0592 (0.487)
Trip_Advisor			-0.341 (0.539)
_cons	6.613*** (0.0733)	6.613*** (0.0736)	6.955*** (0.545)
<i>N</i>	133	133	133
<i>R</i> ²	0.448	0.448	0.450

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

2. Regression results matching Closed and Similar Cities

TABLE H.5: LN URBAN LUMINOSITY SUM REGRESSIONS, RUSSIA 1992-2019: SIMILAR CITY MATCHES

	(1)	(2)	(3)	(4)
	lnsum	lnsum	lnsum	lnsum
closed_city	0.375*** (0.0313)	0.397*** (0.0355)	0.428*** (0.0395)	0.342*** (0.0443)

sci_related		-0.0998 (0.0752)	-0.102 (0.0752)	-0.0317 (0.0768)
urban_settlem ent			-0.133 (0.0747)	-0.0624 (0.0764)
Trip_Advisor				-0.404*** (0.0962)
_cons	9.103*** (0.0169)	9.103*** (0.0169)	9.101*** (0.0169)	9.505*** (0.0976)
<i>N</i>	2368	2368	2368	2368
<i>R</i> ²	0.851	0.851	0.851	0.852

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.6: LN URBAN LUMINOSITY COUNT REGRESSIONS,
RUSSIA 1992-2019: SIMILAR CITY MATCHES

	(1)	(2)	(3)
	Lncount	lncount	lncount
closed_city	0.308*** (0.0308)	0.370*** (0.0349)	0.290*** (0.0394)

sci_related		-0.271***	-0.191*
		(0.0733)	(0.0753)
Trip_Advisor			-0.357***
			(0.0835)
_cons	7.248***	7.245***	7.602***
	(0.0175)	(0.0174)	(0.0852)
<i>N</i>	1729	1729	1729
<i>R</i> ²	0.661	0.664	0.668

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.7: LN URBAN LUMINOSITY SUM REGRESSIONS, RUSSIA 1992 ONLY: SIMILAR CITY MATCHES

	(1)	(2)	(3)	(4)
	lnsum	lnsum	lnsum	lnsum
closed_city	0.457*	0.514*	0.542*	0.449
	(0.200)	(0.230)	(0.259)	(0.290)
sci_related		-0.246	-0.250	-0.173
		(0.477)	(0.481)	(0.494)

urban_settlem			-0.115	-0.0373
ent			(0.477)	(0.490)
Trip_Advisor				-0.483
				(0.660)
_cons	9.044***	9.042***	9.041***	9.524***
	(0.106)	(0.107)	(0.108)	(0.670)
<i>N</i>	82	82	82	82
<i>R</i> ²	0.862	0.862	0.862	0.864

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.8: LN URBAN LUMINOSITY COUNT REGRESSIONS,

RUSSIA1992 ONLY: SIMILAR CITY MATCHES

	(1)	(2)	(3)
	Lncount	lncount	lncount
closed_city	0.426*	0.526*	0.454
	(0.203)	(0.233)	(0.263)
sci_related		-0.417	-0.345
		(0.476)	(0.494)

Trip_Advisor			-0.352
			(0.583)
_cons	7.030***	7.026***	7.378***
	(0.113)	(0.114)	(0.595)
<i>N</i>	59	59	59
<i>R</i> ²	0.693	0.699	0.702

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3. Closed vs. Adjacent and Similar Cities in Different Economic Periods

TABLE H.9: LN URBAN LIGHT LUMINOSITY SUM REGRESSIONS FOR FIVE ECONOMIC PERIODS,

ADJACENT CITY COMPARISON					
	(1)	(2)	(3)	(4)	(5)
lnsum	1992 – 1998	1999 – 2007	2008 – 2009	2010 – 2012	2013-
closed_city	0.862***	0.867***	0.873***	0.744***	0.875***
	(0.0888)	(0.0735)	(0.171)	(0.123)	(0.0839)
urban_settl	-4.238***	-4.307***	-4.314***	-4.330***	-4.456***
ement	(0.183)	(0.152)	(0.355)	(0.255)	(0.172)

Trip_Advis	0.0924	0.149	0.233	0.163	0.0192
or					
	(0.189)	(0.156)	(0.356)	(0.256)	(0.178)
sci_related	0.295	0.330*	0.510	0.390	0.257
	(0.164)	(0.136)	(0.318)	(0.229)	(0.155)
_cons	9.337***	9.404***	9.068***	9.440***	9.591***
	(0.191)	(0.157)	(0.360)	(0.258)	(0.180)
<i>N</i>	1027	1316	298	447	1029
<i>R</i> ²	0.527	0.560	0.507	0.556	0.562

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.10: LN URBAN LIGHT LUMINOSITY COUNT REGRESSIONS FOR FIVE ECONOMIC PERIODS,
ADJACENT CITY COMPARISON

	(1)	(2)	(3)	(4)	(5)
lncount	1992 – 1998	1999 – 2007	2008 – 2009	2010 – 2012	2013-
closed_city	0.700***	0.705***	0.738***	0.591***	0.684***
	(0.0803)	(0.0673)	(0.155)	(0.115)	(0.0781)
Trip_Advis	0.0232	0.0858	0.147	0.0760	-0.0700
or					

	(0.168)	(0.140)	(0.316)	(0.236)	(0.163)
sci_related	-0.0495	-0.0444	0.117	0.00160	-0.0885
	(0.161)	(0.134)	(0.312)	(0.232)	(0.156)
_cons	6.701***	6.811***	6.481***	6.976***	7.116***
	(0.170)	(0.142)	(0.320)	(0.238)	(0.165)
<i>N</i>	922	1183	268	402	924
<i>R</i> ²	0.429	0.467	0.378	0.424	0.458

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.11: LN URBAN LIGHT LUMINOSITY SUM REGRESSIONS FOR FIVE ECONOMIC PERIODS,
SIMILAR CITY COMPARISON

	(1)	(2)	(3)	(4)	(5)
lnsum	1992 – 1998	1999 – 2007	2008 – 2009	2010 – 2012	2013-
closed_city	0.307**	0.355***	0.325	0.269*	0.400***
	(0.0941)	(0.0811)	(0.182)	(0.130)	(0.0803)
urban_settl ement	0.0475	-0.0568	-0.0796	-0.0444	-0.184
	(0.162)	(0.140)	(0.315)	(0.224)	(0.138)

Trip_Advis	-0.455*	-0.350*	-0.403	-0.318	-0.465**
or					
	(0.206)	(0.176)	(0.387)	(0.276)	(0.175)
sci_related	-0.0548	-0.0305	0.0536	0.0359	-0.0648
	(0.163)	(0.140)	(0.317)	(0.226)	(0.139)
_cons	9.475***	9.482***	9.378***	9.488***	9.614***
	(0.209)	(0.179)	(0.393)	(0.280)	(0.178)
<i>N</i>	590	758	172	258	590
<i>R</i> ²	0.847	0.850	0.834	0.866	0.881

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE H.12: LN URBAN LIGHT LUMINOSITY COUNT REGRESSIONS FOR FIVE ECONOMIC PERIODS,
SIMILAR CITY COMPARISON

	(1)	(2)	(3)	(4)	(5)
lncount	1992 – 1998	1999 – 2007	2008 – 2009	2010 – 2012	2013–
closed_city	0.278***	0.313***	0.286	0.203	0.317***
	(0.0833)	(0.0729)	(0.167)	(0.114)	(0.0692)
Trip_Advis	-0.399*	-0.276	-0.393	-0.295	-0.439**
or					

	(0.178)	(0.154)	(0.346)	(0.236)	(0.147)
sci_related	-0.183	-0.192	-0.112	-0.149	-0.245
	(0.159)	(0.139)	(0.320)	(0.219)	(0.132)
_cons	7.495***	7.519***	7.433***	7.703***	7.824***
	(0.182)	(0.158)	(0.353)	(0.241)	(0.150)
<i>N</i>	430	555	126	189	429
<i>R</i> ²	0.657	0.668	0.630	0.670	0.733

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$