

Table B 1: Missing data and explicit uncertainty in the UIS student mobility data, in percent

category	year								
	2009	2010	2011	2012	2013	2014	2015	2016	2017
w: includes data from another category	--	--	--	--	--	--	0.29	0.00	--
‡: UIS Estimation, n: Magnitude nil or negligible	0.01	0.23	--	--	--	--	--	--	--
n: Magnitude nil or negligible	17.38	15.98	18.99	18.48	18.36	21.09	20.41	17.20	9.54
a: Category not applicable	0.37	0.56	0.19	0.68	0.31	--	--	0.73	--
+: National Estimation	0.25	0.25	0.24	0.25	0.25	0.24	0.52	0.25	--
x: Data included elsewhere under another category	--	--	0.72	1.07	0.74	1.83	1.47	4.11	1.40
+: National Estimation, n: Magnitude nil or negligible	0.39	0.39	0.04	0.04	0.04	0.04	0.12	0.03	
‡: UIS Estimation	0.08	0.22	--	--	--	--	--	--	--

Table B2: Determinants of ties in the network of global student mobility 2009-2017, N = 167 countries^{a)}, bTERGM, 30% threshold, 0.05% 99.95% interval

	M 1	M 2	M 3	M 4
edges	-2.4997 [-2.7929; -2.2396]*	-2.4352 [-2.7248; -2.1994]*	-3.1431 [-3.3992; -2.9003]*	-2.6683 [-3.0082; -2.3586]*
<i>network structural effects</i>				
mutuality	0.9278 [-0.0579; 1.8096]	0.9995 [0.1765; 2.1356]*	0.9797 [-0.2490; 2.3183]*	0.7751 [-0.0632; 1.8145]
gwesp.fixed.0.693 (transitive triads)	1.2360 [1.1851; 1.3085]*	1.1560 [1.1017; 1.2117]*	1.1974 [1.1317; 1.2525]*	1.0995 [1.0411; 1.1532]*
gwdsp.fixed.0.693 (open 2-paths)	-0.3139 [-0.3244; -0.3079]*	-0.3238 [-0.3366; -0.3125]*	-0.3346 [-0.3514; -0.3238]*	-0.2924 [-0.3053; -0.2829]*
<i>geography and demography</i>				
network: distance capitals in 1000km	-0.1797 [-0.1843; -0.1752]*	-0.1788 [-0.1826; -0.1757]*	-0.1523 [-0.1562; -0.1491]*	-0.1793 [-0.1840; -0.1740]*
indegree: area size in 1000km2	--	--	0.0001 [0.0001; 0.0001]*	0.0001 [0.0001; 0.0001]*
outdegree: area size in 1000km2	--	--	-0.0002 [-0.0002; -0.0001]*	-0.0003 [-0.0003; -0.0002]*
indegree: population in mio.	--	--	0.0011 [0.0011; 0.0012]*	0.0004 [0.0003; 0.0005]*
outdegree: population in mio.	--	--	-0.0013 [-0.0032; -0.0006]*	-0.0024 [-0.0056; -0.0011]*
indegree: population density / 1000	--	--	-0.4391 [-0.5839; -0.3487]*	-0.3639 [-0.5170; -0.3016]*
outdegree: population density / 1000	--	--	0.0619 [0.0451; 0.0792]*	0.0738 [0.0475; 0.0967]*
<i>economy</i>				
indegree: GDP per capita (in 1000 USD)	--	0.0168 [0.0145; 0.0188]*	0.0228 [0.0207; 0.0252]*	0.0171 [0.0149; 0.0190]*
outdegree: GDP per capita (in 1000 USD)	--	0.0069 [0.0062; 0.0077]*	0.0032 [0.0027; 0.0037]*	0.0029 [0.0023; 0.0035]*
<i>culture</i>				
same language (level 2)	--	--	0.4727 [0.4273; 0.5326]*	0.5066 [0.4566; 0.5629]*
same religion	--	--	0.2867 [0.2778; 0.2962]*	0.2753 [0.2658; 0.2814]*
<i>N. Univ. in Shanghai Top 500 (SI)</i>				
indegree: Shanghai Top 500	0.0270 [0.0266; 0.0273]*	0.0230 [0.0225; 0.0235]*	--	0.0192 [0.0185; 0.0200]*
outdegree: Shanghai Top 500	-0.0071 [-0.0118; -0.0019]*	-0.0117 [-0.0179; -0.0069]*	--	0.0108 [0.0012; 0.0256]*
<i>Academic Freedom Index</i>				
indegree: academic freedom	0.1666 [-0.0379; 0.3713]	-0.2699 [-0.4032; -0.0702]*	0.2779 [0.1390; 0.4693]*	-0.1093 [-0.2941; 0.1216]
outdegree: academic freedom	-0.5333 [-0.5915; -0.4637]*	-0.6511 [-0.6955; -0.5947]*	-0.7834 [-0.8288; -0.7303]*	-0.8207 [-0.8662; -0.7664]*
<i>memory</i>				

network: delayed reciprocity	0.3371 [-0.5216; 1.4301]	0.3173 [-0.7808; 1.2244]	0.2896 [-1.0043; 1.6536]	0.3499 [-0.6551; 1.2474]*
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* 0 outside the confidence interval, $p \leq .001$

a) explanation of network effects

edges: logit-transformed density when all explanatory variables are zero (the intercept).

gwesp: geometrically weighted edgewise shared partners, weight fixed to 0.693. Indicates transitive triads.

gwdsp: geometrically weighted dyadwise shared partners, weight fixed to 0.693. Indicates open 2-paths.

network: effect of another network x on the global student mobility network y .

indegree: number of ingoing ties

outdegree: number of outgoing ties

Source: own computation \[*\]

Table B3: Determinants of ties in the network of global student mobility 2009-2017, N = 167 countries^{a)}, bTERGM, 10% threshold, 0.05% 99.95% interval

	M 1	M 2	M 3	M 4
edges	-2.5592 [-2.8312; -2.3396]*	-2.5046 [-2.7813; -2.3361]*	-3.1835[-3.4664; -2.9235]*	-2.7666 [-3.1091; -2.4713]*
<i>network structural effects</i>				
mutuality	0.5453 [-2.5027; 1.8832]	0.6317 [-1.8814; 1.9340]	0.6297 [-2.9378; 1.8896]	0.4721 [-2.2538; 1.6417]
gwdsp.fixed.0.693 (transitive triads)	1.3255 [1.2618; 1.3991]*	1.2442 [1.1970; 1.3138]*	1.2739 [1.2287; 1.3192]*	1.1929 [1.1362; 1.2527]*
gwdsp.fixed.0.693 (open 2-paths)	-0.3119 [-0.3247; -0.2983]*	-0.3131 [-0.3332; -0.2988]*	-0.3257 [-0.3469; -0.3081]*	-0.2866 [-0.2995; -0.2749]*
<i>geography and demography</i>				
network: distance capitals in 1000km	-0.1701 [-0.1725; -0.1671]*	-0.1695 [-0.1722; -0.1679]*	-0.1458 [-0.1479; -0.1438]*	-0.1716 [-0.1748; -0.1688]*
indegree: area size in 1000km2	--	--	0.0001 [0.0001; 0.0001]*	0.0001 [0.0001; 0.0001]*
outdegree: area size in 1000km2	--	--	-0.0001 [-0.0002; -0.0001]*	-0.0002 [-0.0003; -0.0002]*
indegree: population in mio.	--	--	0.0011; [0.0010 0.0011]*	0.0004; [0.0004 0.0005]*
outdegree: population in mio.	--	--	-0.0007 [-0.0011; -0.0005]*	-0.0010 [-0.0016; -0.0006]*
indegree: population density / 1000	--	--	-0.4994 [-0.6210; -0.4296]*	-0.4106 [-0.5041; -0.3379]*
outdegree: population density / 1000	--	--	0.0486 [0.0341; 0.0570]*	0.0598 [0.0449; 0.0726]*
<i>economy</i>				
indegree: GDP per capita (in 1000 USD)	--	0.0146 [0.0134; 0.0159]*	0.0209 [0.0191; 0.0231]*	0.0152 [0.0139; 0.0169]*
outdegree: GDP per capita (in 1000 USD)	--	0.0074 [0.0066; 0.0088]*	0.0037 [0.0035; 0.0043]*	0.0040 [0.0034; 0.0052]*
<i>culture</i>				
same language (level 2)	--	--	0.4927 [0.4557; 0.5387]*	0.5244 [0.4959; 0.5842]*
same religion	--	--	0.2723 [0.2567; 0.2910]*	0.2623 [0.2363; 0.2835]*
<i>N. Univ. in Shanghai Top 500 (SI)</i>				
indegree: Shanghai Top 500	0.0269 [0.0265; 0.0271]*	0.0236 [0.0234; 0.0237]*	--	0.0197 [0.0193; 0.0201]*
outdegree: Shanghai Top 500	-0.0067 [-0.0117; -0.0021]*	-0.0119 [-0.0179; -0.0066]*	--	0.0024 [-0.0089; 0.0132]
<i>Academic Freedom Index</i>				
indegree: academic freedom	0.0751 [-0.0457; 0.2515]	-0.3071 [-0.3749; -0.1610]*	0.2406 [0.1291; 0.4100]*	-0.1418 [-0.2680; 0.0520]
outdegree: academic freedom	-0.4378 [-0.4923; -0.3379]*	-0.5676 [-0.6408; -0.4908]*	-0.7082 [-0.7735; -0.6273]*	-0.7181 [-0.7797; -0.6536]*
<i>memory</i>				

network: delayed reciprocity	0.3055 [-1.1075; 3.3329]	0.2797 [-1.0707; 2.8574]	0.2345 [-1.1508; 3.7633]	0.2787 [-0.9497; 3.0240]
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* 0 outside the confidence interval, $p \leq .001$

a) explanation of network effects

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indegree: number of ingoing ties

outdegree: number of outgoing ties

Source: own computation \[*\]

Table B4 Level 2 Ethnologue language groups

N= 167		freq.	percent
1	Albanian	1	0.60
2	Armenian	1	0.60
3	Atlantic-Congo	12	7.19
4	Balto-Slavic	13	7.78
5	Chadic	1	0.60
6	Chinese	1	0.60
7	Cushitic	3	1.80
8	English based	6	3.59
10	Finnic	2	1.20
11	French based	3	1.80
12	Georgian	1	0.60
13	Germanic	30	17.96
14	Greek	2	1.20
16	Indo-Iranian	9	5.39
17	Italic	36	21.56
18	Japonic	1	0.60
19	Kam-Tai	2	1.20
20	Kongo-based	1	0.60
21	Koreanic	1	0.60
22	Malayo-Polynesian	6	3.59
23	Mande	1	0.60
24	Mon-Khmer	2	1.20
25	MongolicEastern	1	0.60
26	Ngbandi	1	0.60
27	Semitic	21	12.57
28	Tibeto-Burman	1	0.60
29	Tupi-Guarani	1	0.60
30	TurkicEastern	1	0.60
31	TurkicSouthern	3	1.80
32	TurkicWestern	2	1.20
33	Uralic	1	0.60

Table B5 Dominant religions

N= 167		freq.	percent
1	Buddhism	7	4.19
2	Christianity	98	58.68
3	Hinduism	3	1.80
4	Indigenous	4	2.40
5	Islam	5	2.99
6	Judaism	1	0.60
7	Non-denominational Islam	1	0.60
8	None	4	2.40
9	Shia Islam	3	1.80
10	Sunni Islam	40	23.95
11	Taoism	1	0.60

Table B6 continuous variables

N=167	Mean	sd	Min.	Max.
network density, dependent variable, 2009-2017	0.028	0.004	0.022	0.035
academic freedom	0.648	0.279	0.020	0.976
GDP / 1000 USD	13.689	19.272	0.145	106.777
area size in 1000 km	754.532	2032.215	0.298	17098.242
Shanghai Index	2.987	12.917	0.000	146.667
population in mio.	40.208	145.098	0.089	1347.543
population density	180.438	596.127	1.775	7295.195