

Exploring external urban relational processes: inter-city financial flows complementing global city-regions

Article

Supplemental Material

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Table 1: Summary Statistics

Panel A: Global Cities	Mean	Std	Max	75%	Median	25%	Min
Foreign Direct Investment (100Million. USD)	402	727	4828	413	161	42	0
Greenfield Investment (100MillionUSD)	48	92	757	52	22	0	0
M&A (100MillionUSD)	354	654	4484	378	124	31	0
Foreign Direct Investment ex. Service Sector (100MillionUSD)	159	307	2522	169	66	20	0
APS Service Value	76	71	368	110	49	27	7
APS Connectivity	75	88	1292	87	46	25	0
GDP per Capita (1000USD)	46	13	83	55	46	36	17
Income (1000USD)	1814	2581	19266	1912	1017	558	204
Population Density (person per km2)	584	604	4116	729	427	217	20
Tariff Rate (%)	3.19	1.28	8.99	3.22	2.53	2.53	2.53
Credit to GDP	1.63	0.48	3.11	2.23	1.64	1.37	0.40
Panel B: Regional Cities	Mean	Std	Max	75%	Median	25%	Min
Foreign Direct Investment (100MillionUSD)	31	83	568	20	5	0.08	0
Greenfield Investment (100MillionUSD)	4	14	159	0	0	0	0
M&A (100MillionUSD)	31	83	568	20	5	0.08	0
Foreign Direct Investment ex. Service Sector (100MillionUSD)	17	60	252	6	1	0	0
APS Service Value	0	0	0	0	0	0	0
APS Connectivity	0	0	0	0	0	0	0
GDP per Capita (1000USD)	40	10	70	45	40	34	10
Income (1000USD)	30	10	53	37	27	21	5
Population Density (person per km2)	416	416	2608	556	264	160	16
Tariff Rate	3.41	1.27	8.99	3.89	3.22	2.53	2.53
Credit to GDP	2.10	0.72	3.11	2.23	2.23	1.37	0.40
Panel C: Intra-city FDI Flows between 243 Cities	Mean	Std	Max	75%	Median	25%	Min
Global to Global (100Million. USD)	212	422	3788	213	84	26	0
Global to Regional (100Million. USD)	13	33	326	12	0.54	0	0
Regional to Global (100Million. USD)	9	21	183	4	1	0.05	0
Regional to Regional (100Million. USD)	2	19	254	0	0	0	0

Table 2: Gravity Model for the Investment Flows among Global and Regional Cities

*Note: This table reports the gravity model where the dependent variable is the average FDI flows between the 247 OECD cities from 2003 to 2018. The Newey-West robust standard error is in brackets. Country dummies are included. ***, ** and * stands for significant at 1%, 5% and 10% significance level.*

	Model 1: All Sector	Model 1: Excluding Service Sector
constant	-58.8609*** (6.111)	-42.4744*** (5.7733)
APS Connectivity	0.6777*** (0.1020)	0.6177*** (0.1672)
Flows to nearby global cities_regional cities	0.1329*** (0.0323)	0.1233*** (0.0397)
Flows to nearby regional cities_regional cities	-0.0280 (0.0332)	-0.0692 (0.0435)
Flows to nearby global cities_global cities	0.0156 (0.0209)	0.0207 (0.0387)
Flows to nearby regional cities_global cities	0.0213 (0.0365)	0.0042 (0.0546)
Same Legal System	0.2808** (0.1484)	0.5526*** (0.1811)
Geographic Distance	-0.3616*** (0.0891)	-0.5600*** (0.1646)
GDP_growth_destination	-0.9859 (0.6387)	-1.6395 (1.1332)
GDP_growth_source	0.3652* (0.1983)	0.4396* (0.2303)
GDP_share_destination	0.5901*** (0.0893)	0.7309*** (0.0904)
GDP_share_source	0.6521*** (0.0647)	0.7998*** (0.1145)
income_destination	2.4701*** (0.6047)	3.2727*** (0.8917)
income_source	3.2293*** (0.3953)	1.5267*** (0.3528)
Pop_density_destination	-0.0641 (0.1748)	-0.6052* (0.3350)
Pop_density_source	0.7889*** (0.1534)	0.4378 (0.2857)
Country Dummies_destination	Yes	Yes
Country Dummies_source	Yes	Yes
No. of Observations (Pair of Cities)	50568	50568
Pearson Statistics	102	219
Overdispersion Test	2.44 (17.12)	6.72 (62.65)
Park Test	[1.9910;1.9982]	[1.9961;2.0025]

Table 3: Robustness Tests

Note: This table reports the gravity model where the dependent variable is the average FDI flows between the 247 OECD cities from 2003 to 2018. The Newey-West robust standard error is in brackets. Only the coefficients of APS connectivity and the distance related variables are reported in the Table. Complete regression results are available upon request from the authors. ***, ** and * stands for significant at 1%, 5% and 10% significance level.

	Model 2: Excluding Flows to Regional Cities	Model 3: Alpha+Beta	Model 3: Alpha+Beta+ Gamma+Sufficient
Panel A: All Sector FDI Flows			
APS Connectivity	0.6856*** (0.1028)	0.4742*** (0.0789)	0.6407*** (0.0996)
Flows to nearby global cities_regaionl cities	0.1385*** (0.0317)	0.0005 (0.0306)	0.1092** (0.0426)
Flows to nearby regional cities_regional cities	-0.0377 (0.0311)	0.0709 (0.0431)	0.0223 (0.0490)
Flows to nearby global cities_global cities	0.0114 (0.0210)	0.0028 (0.0147)	0.0081 (0.0198)
Flows to nearby regional cities_global cities	0.0215 (0.0370)	0.1032** (0.0497)	0.0722 (0.0452)
Control Variables	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes
Observation	50568	50568	50568
Pearson Statistic	105	58	88
Overdispersion Test	2.43 (17.59)	2.58 (9.91)	2.38 (14.65)
Park Test	[1.9806;1.9878]	[1.9848;1.9916]	[1.9823;1.9891]
Panel B: FDI Flows Excluding Service Sectors			
APS Connectivity	0.6216*** (0.1676)	0.4825*** (0.1088)	0.5876*** (0.1683)
Flows to nearby global cities_regaionl cities	0.1192*** (0.0403)	-0.0007 (0.0499)	0.1345** (0.0651)
Flows to nearby regional cities_regional cities	-0.722 (0.0431)	0.0745 (0.0556)	-0.0284 (0.0609)
Flows to nearby global cities_global cities	0.0151 (0.0388)	0.0042 (0.0214)	0.0089 (0.0367)
Flows to nearby regional cities_global cities	0.0015 (0.0544)	0.1372 (0.0842)	0.0870 (0.0669)
Control Variables	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes
Observation	50568	50568	50568
Pearson Statistic	220	164	170
Overdispersion Test	6.73 (63.24)	6.66 (42.44)	6.64 (46.84)
Park Test	[1.9957;2.002]	[1.9964;2.0024]	[1.9972;2.0032]