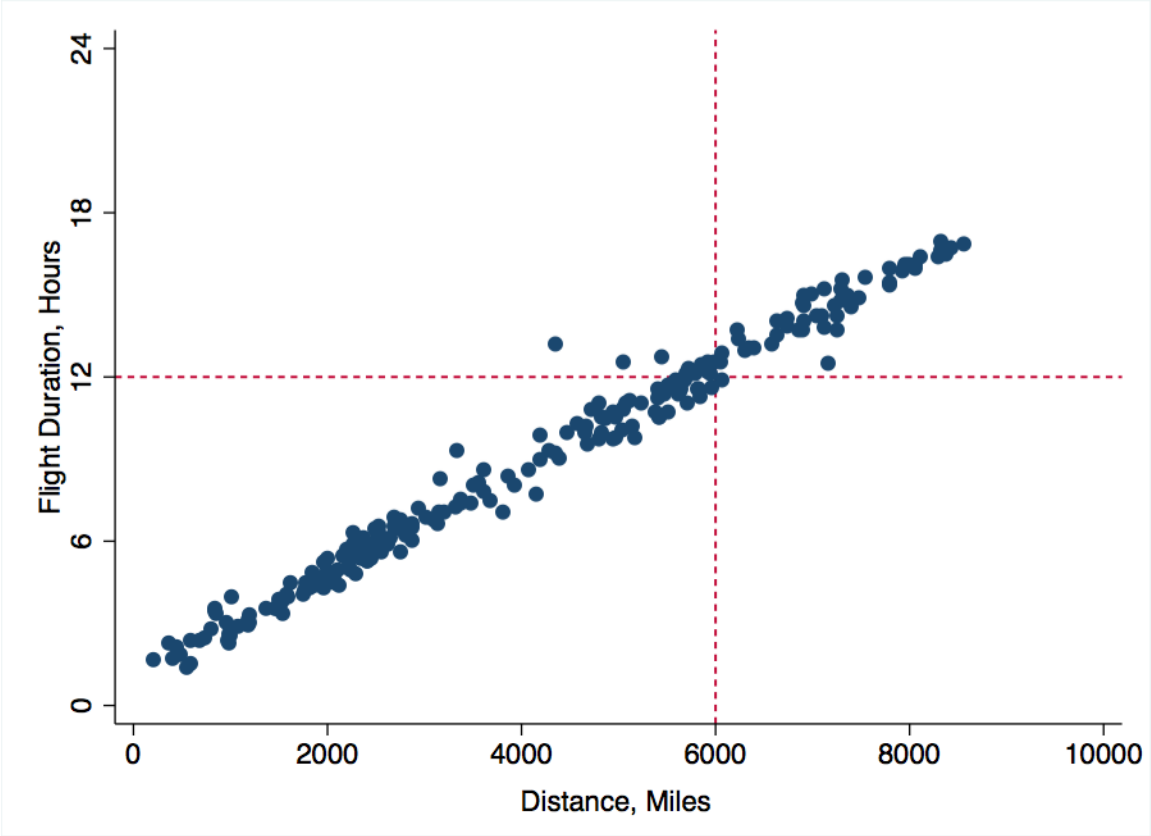
"Long-Range Growth:
Economic Development in the Global Network of Air Links"

Filipe Campante and David Yanagizawa-Drott

ONLINE APPENDIX

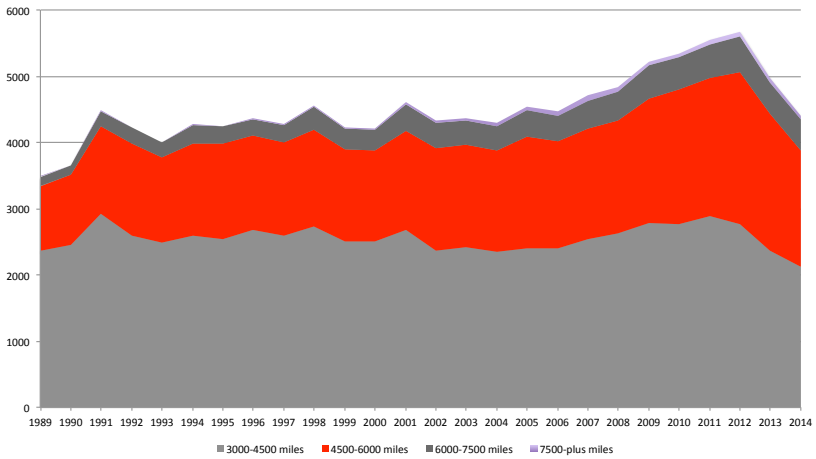
Figure A1. Distance and Scheduled Flight Duration



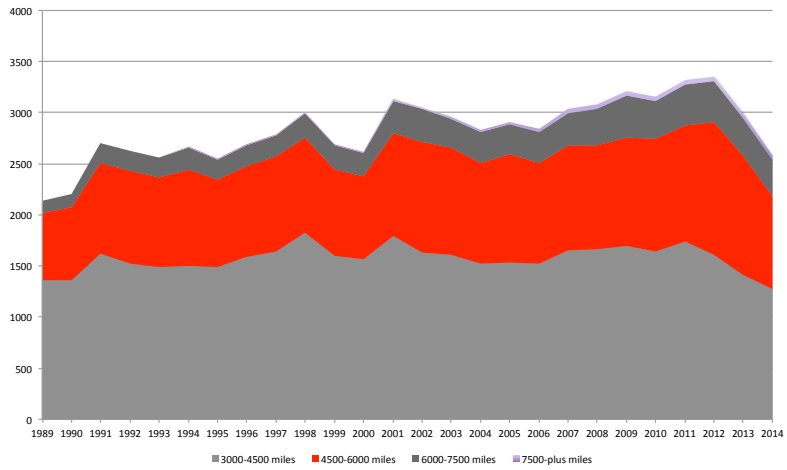
Notes: Data for longest flight for each airline, as of 2016, available from Wikipedia https://en.wikipedia.org/wiki/Non-stop_flight#By_airline_companies_.28currently_scheduled.29)

Figure A2. Total Number of Long-Haul Connections, by Year and Distance

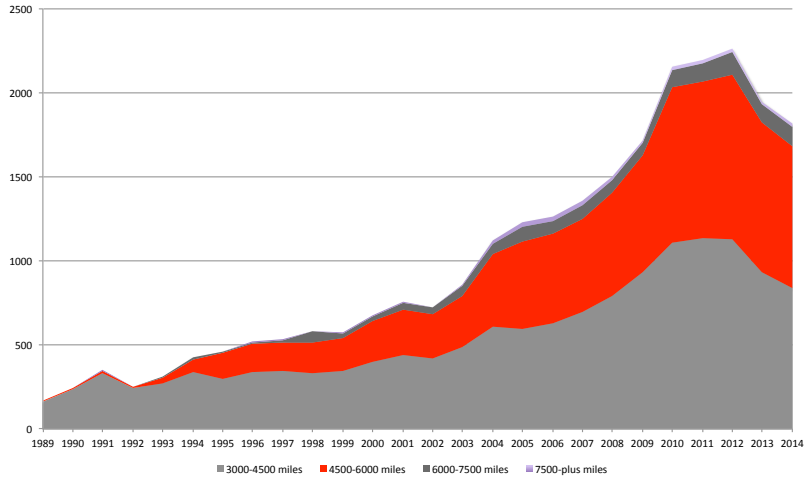
A: Total



B: Boeing



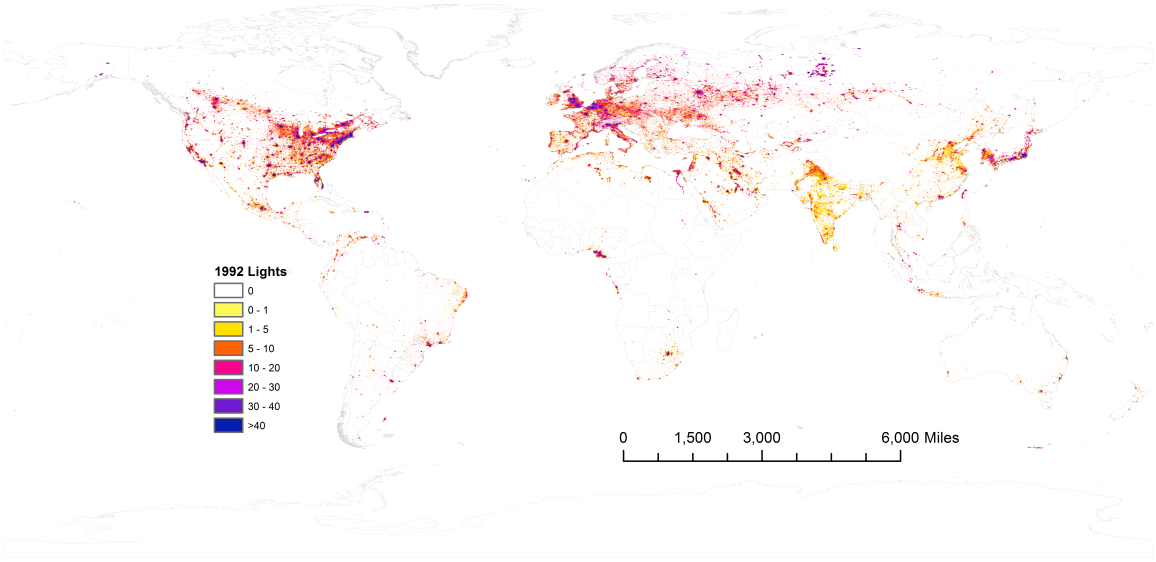
C: Airbus



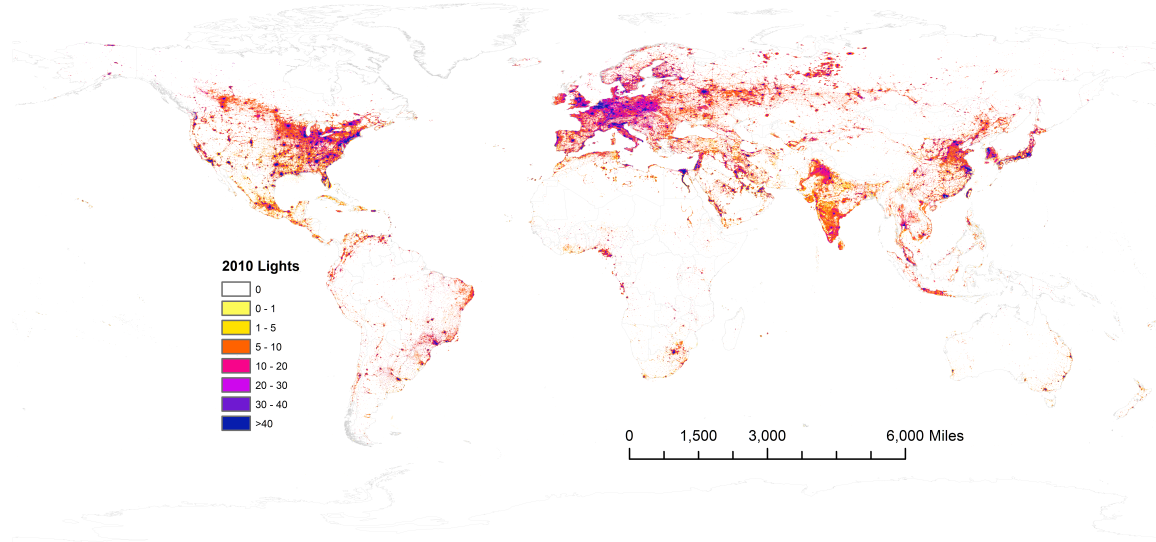
Notes: Data from ICAO, see data description in main text.

Figure A3. Geographical Distribution of Satellite Night Lights, 1992 and 2010

A: 1992



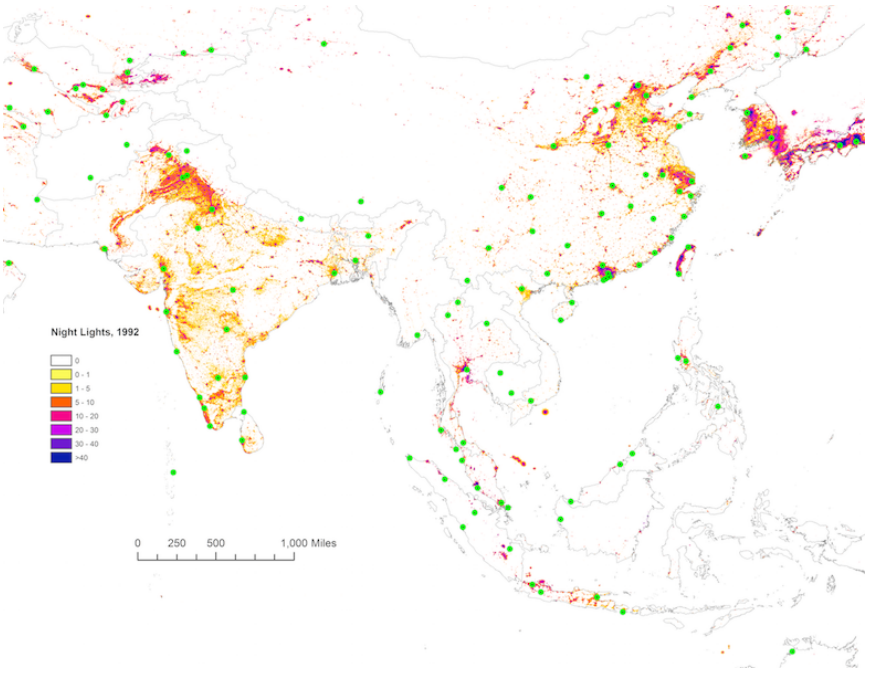
B: 2010



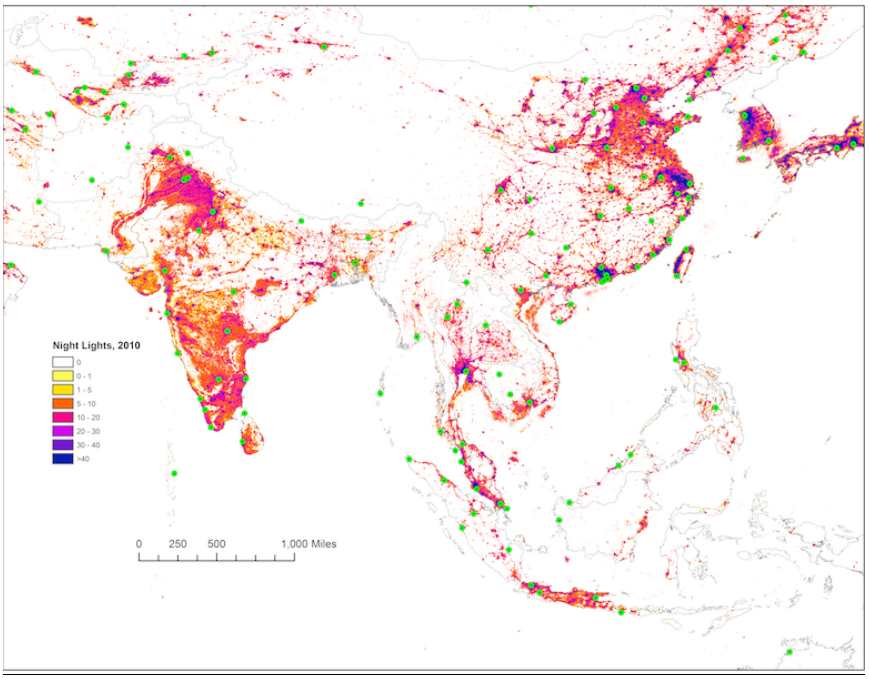
Notes: Average satellite night lights at the 0.25x0.25-degree level, 1992 and 2010.

Figure A4. Geographical Distribution of Satellite Night Lights and Major Airports in Asia, 1992 and 2010

A: 1992



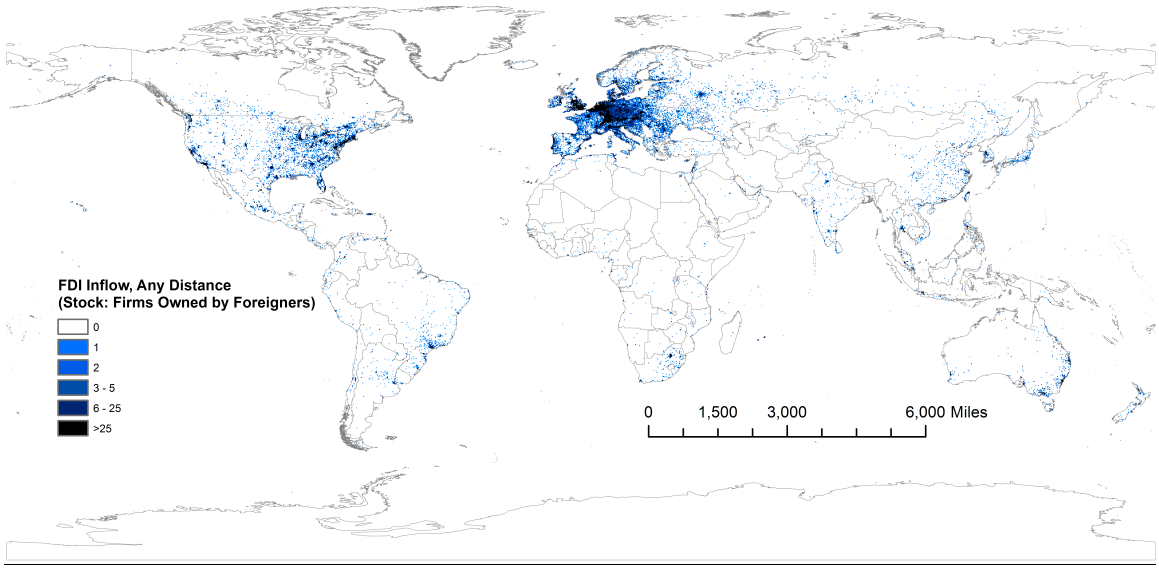
B:2010



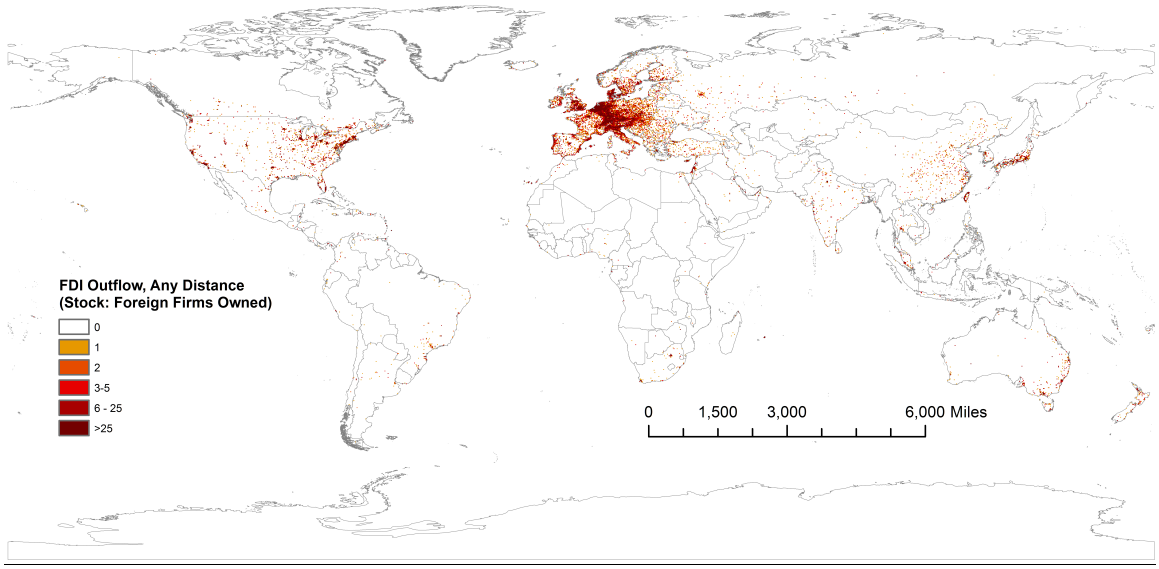
Notes: Average satellite night lights at the 0.25x0.25-degree level in Asia, 1992 and 2010. We also add the airports from our sample of 819 ICAO major airports.

Figure A5. Geographical Distribution of Firms Owned by Foreigners and Owned Abroad (Orbis)

A: Firms Owned by Foreigners



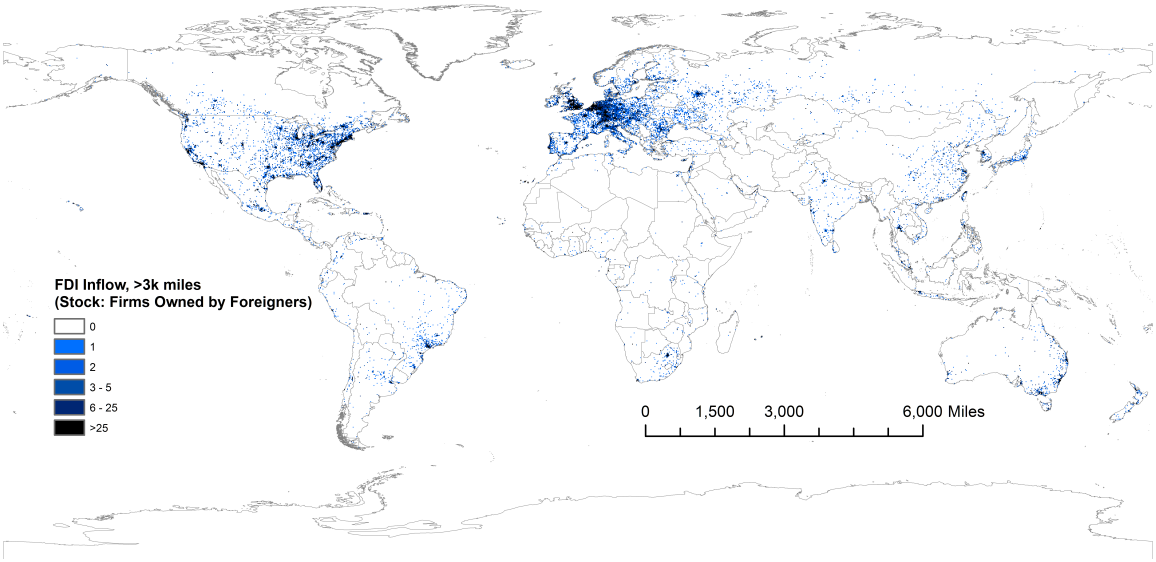
B: Firms Owned Abroad



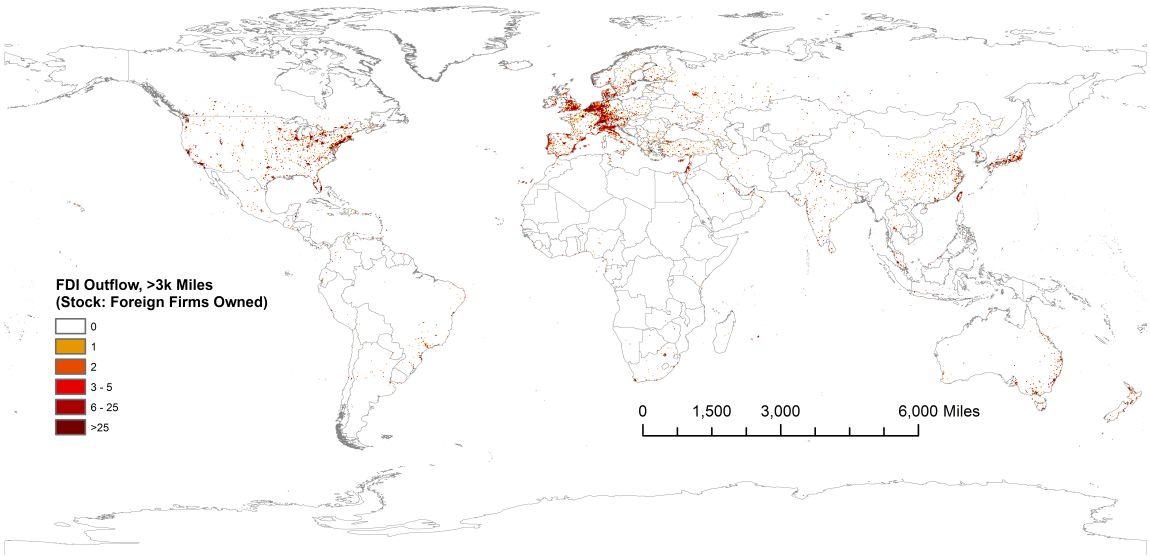
Notes: Panel A: For each 0.25x0.25-degree cell, we depict the number of firms located in that cell that are reported in the Orbis dataset as having ultimate owners located in a different country. Panel B: For each 0.25x0.25-degree cell, we depict the number of firms with foreign owners, anywhere in the world, that are reported in the Orbis dataset as having ultimate owners located in that cell.

Figure A6. Geographical Distribution of Firms Owned by Foreigners and Owned Abroad (Orbis), at least 3000 miles of distance

A: Firms Owned by Foreigners



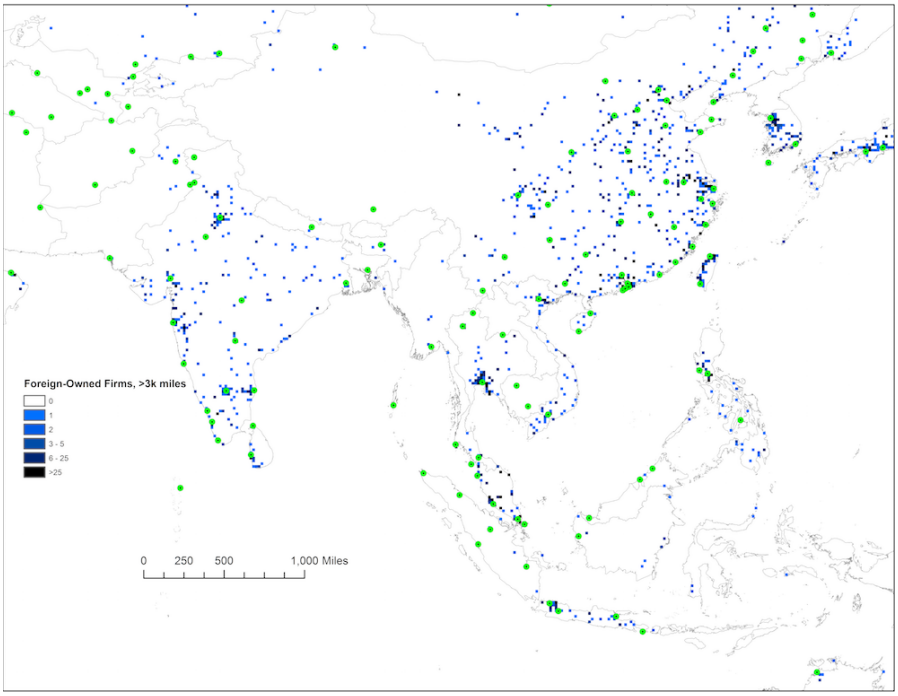
B: Firms Owned Abroad



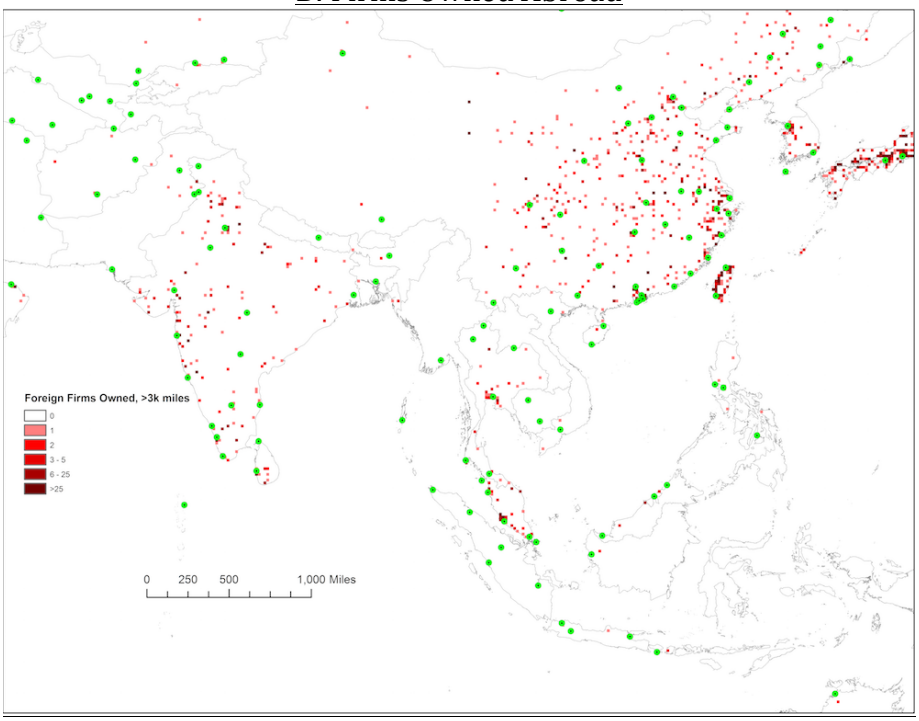
Notes: Panel A: For each 0.25x0.25-degree cell, we depict the number of firms located in that cell that are reported in the Orbis dataset as having ultimate owners located in a different country, and at least 3000 miles away. Panel B: For each 0.25x0.25-degree cell, we depict the number of firms with foreign owners that are located at least 3000 miles away from that cell, and which are reported in the Orbis dataset as having ultimate owners located in that cell.

Figure A7. Geographical Distribution of Firms Owned by Foreigners and Owned Abroad (Orbis) in Asia, at least 3000 miles of distance

A: Firms Owned by Foreigners



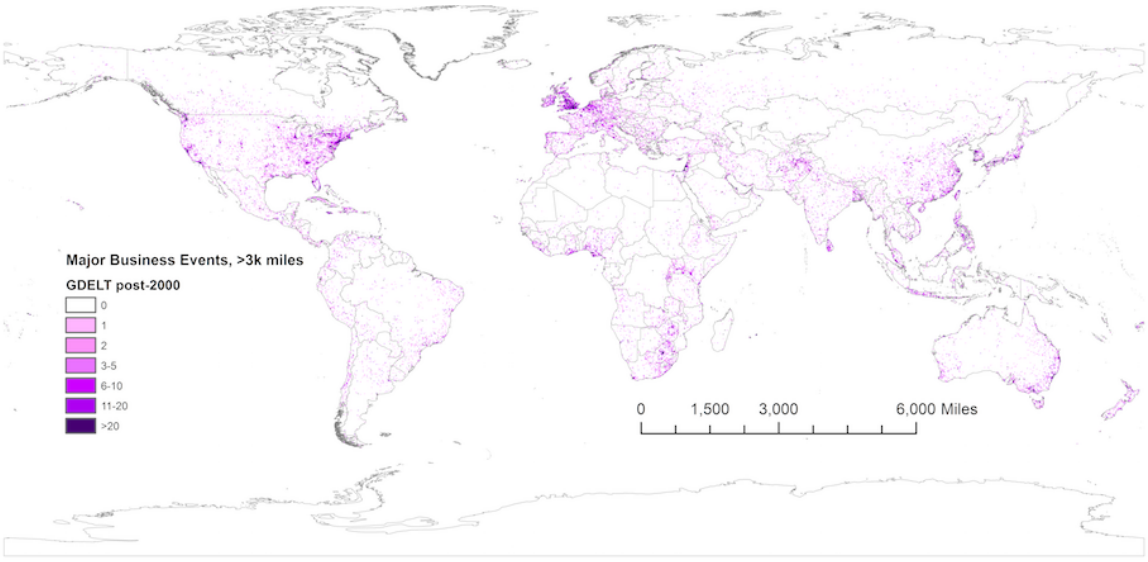
B: Firms Owned Abroad



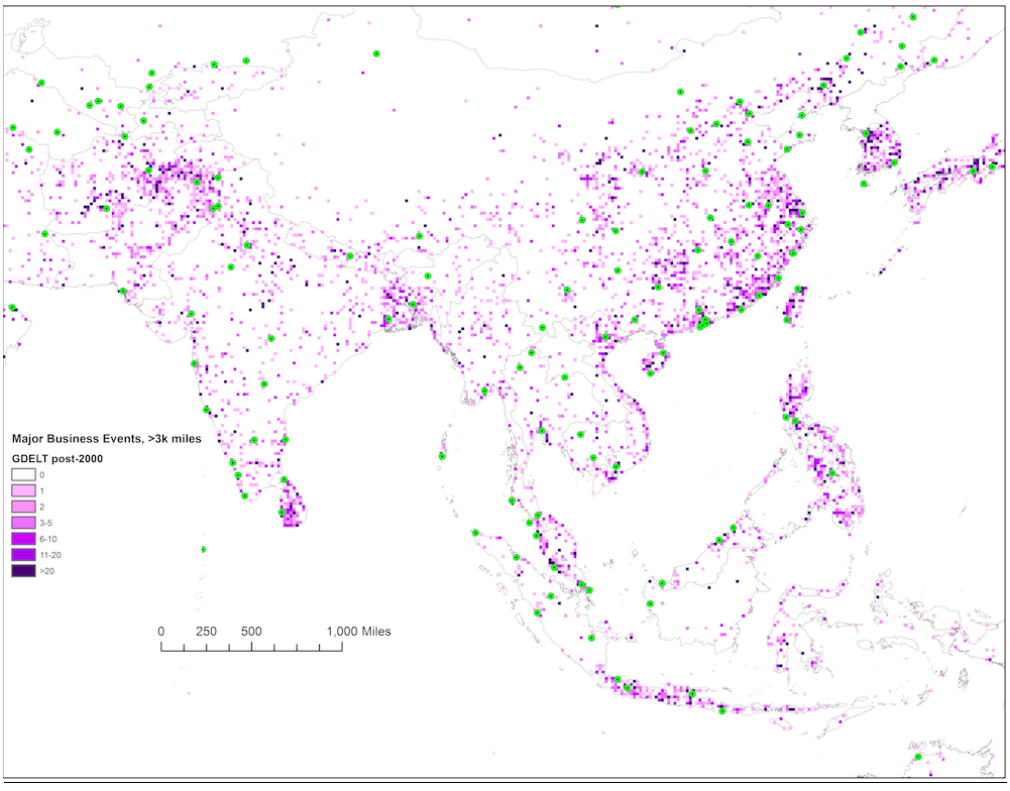
Notes: Same as in Figure A6, but restricted to Asia and adding the airports from our sample of 819 ICAO major airports.

Figure A8. Geographical Distribution of Business Cooperation Events (GDELT), at least 3000 miles of distance

A: World

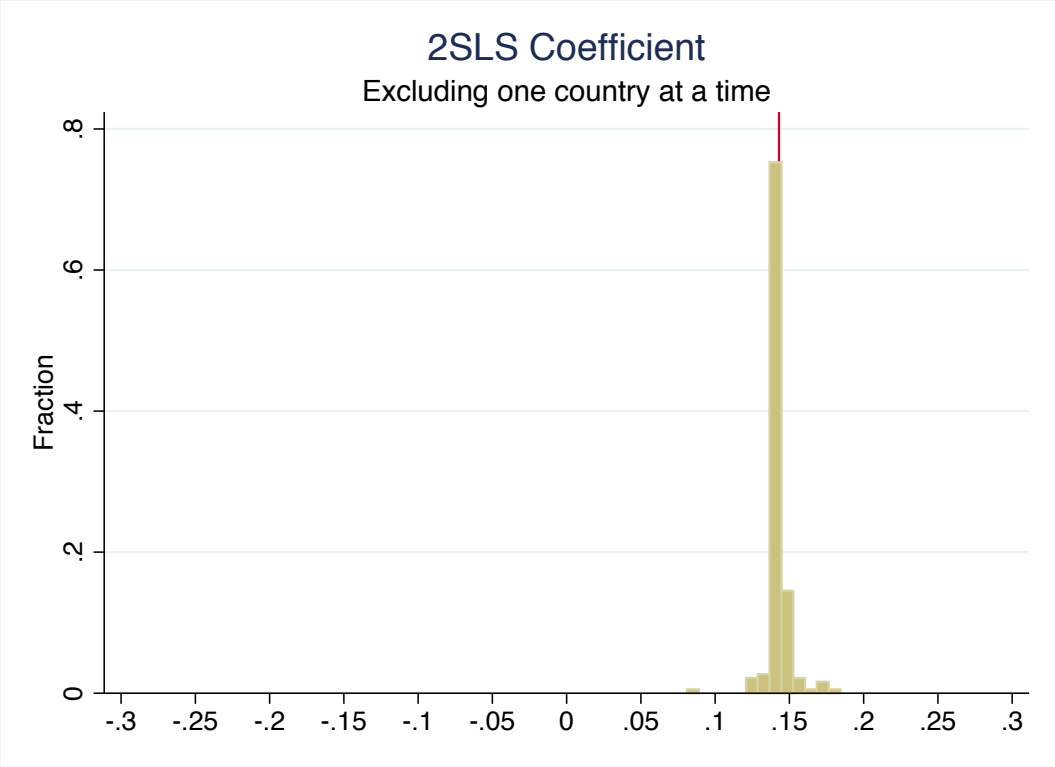


B: Asia



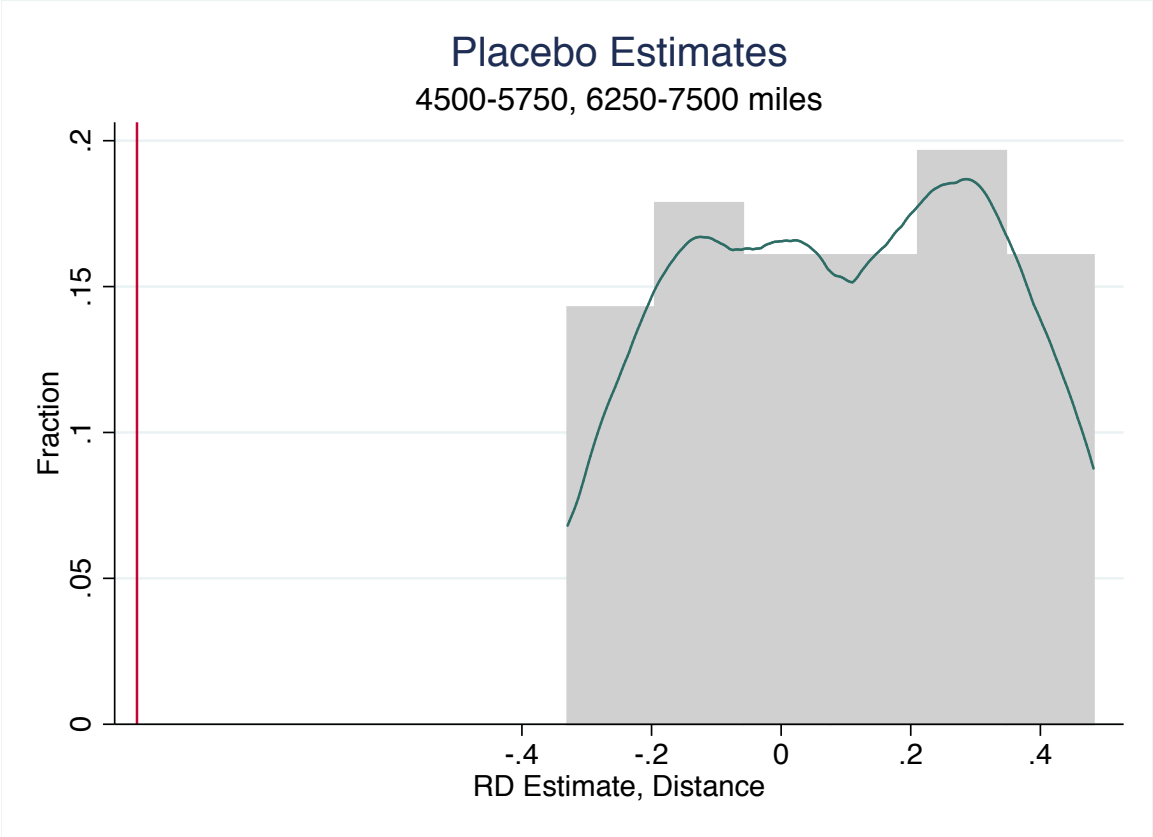
Notes: For each 0.25x0.25-degree cell, we depict the number of major business cooperation events involving one party located in that cell and another party located more than 3000 miles away, as reported in the GDELT dataset. Panel B presents Asia, and adds the airports from our sample of 819 ICAO major airports.

Figure A9. 2SLS Coefficient on Connection-Years, Excluding One Country at a Time



Notes: The picture depicts estimates obtained running the specification in Table 3 (Column 8), excluding each country in the sample at a time. Dependent variable is the change in night lights 1992-2010, independent variable is total connection-years 1990-2010, full set of control variables. The vertical red line depicts the full-sample coefficient. The plot shows that estimates are not very sensitive, with the possible exception of China (left outlier). We present the estimates excluding China in Table A7 below.

Figure A10. Placebo Regression Discontinuity Estimates for Presence of Ownership Links between City Pairs (Orbis)



Notes: Histogram (and kernel approximation) for regression discontinuity estimates computed using each 50-mile point between 4500 and 5750 miles, and between 6250 and 7500 miles as distance thresholds. Specifications use first-order polynomial and optimal bandwidth. Vertical line depicts estimate with 6000-mile threshold. The plot shows that the estimate at the 6000-mile threshold is a clear outlier.

Table A1. Descriptive Statistics

Variable	Observations	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max
			2014				1989		
City Level									
Share of Cities Below 6000 Miles	819	0.556	0.118	0.136	0.79				
Number of Cities 5500-6500 Miles	819	102.15	58.15	7	301				
Total Connection-Years, 1990-2010	819	40.4	134.3	0	1627				
East Asia & Pacific	819	0.145	0.353	0	1				
Latin America & Caribbean	819	0.149	0.357	0	1				
Middle East & North Africa	819	0.088	0.283	0	1				
North America	819	0.05	0.218	0	1				
South Asia	819	0.033	0.179	0	1				
Sub-Saharan Africa	819	0.101	0.302	0	1				
Europe & Central Asia	819	0.433	0.496	0	1				
Number of Weekly Connections	819	8.76	18.87	0	186	5.02	12.72	0	145
Number of Twice-Weekly Connections	819	7.59	17.25	0	177	3.86	10.62	0	128
Number of Daily Connections	819	3.83	10.15	0	100	1.75	5.93	0	84
Weekly Connections, 5500-6000 Miles	819	0.355	1.31	0	15	0.099	0.691	0	10
Weekly Connections, 3000-5500 Miles	819	1.35	4.47	0	52	0.911	3.39	0	45
Weekly Connections, 6000-10000 Miles	819	0.264	1.22	0	12	0.06	0.402	0	6
Eigenvector Centrality (standardized)	819	-0.014	0.03	-0.03	0.197	-0.018	0.032	-0.032	0.222
Total Number of Connections (Cities)	819	12.5	24.01	0	249	7.45	16.71	0	177
Total Number of Connections (Countries)	819	9.97	21.93	0	223	4.84	13.34	0	147
Total Number of Seats (millions), year	819	0.851	2.54	0	27.63	0.432	1.67	0	28.29
Total Number of Flights, year	819	5071.45	14210.75	0	151583	2497.45	9495.67	0	162771
Total Number of Passengers (millions), year	819	0.647	1.96	0	21.23	0.273	1.09	0	18.53
City-Pair Level									
Weekly Connection (Dummy)	334954	0.01	0.101	0	1	0.006	0.075	0	1
Distance between Airports (miles)	334954	4463.27	2802.86	0.045	12388				
Number of Cross-Owned Companies (2016)	334954	1.39	18.89	0	3182				
Total City Pairs within Country Pair	334954	248.54	400.13	1	1980				
Total Connections within Country Pair	334954	1.92	6.89	0	102	1.29	4.51	0	51
Total Passengers between Country Pair (millions), year	334954	0.315	1.22	0	16.4	0.194	0.834	0	8.26

Notes: All variables computed from ICAO data. Data on connections, flights, seats, passengers refer to international flights.

Table A1. Descriptive Statistics (Continued)

Variable	Observations	Mean	S.D.	Min	Max
Grid-Cell Level					
Night Lights, 2010	229382	2.11	5.95	0	63
Night Lights, 1992	229382	1.08	4.04	0	63
Night Lights Growth, 1992-2010	229382	0.198	0.398	-2.53	3.87
Companies Owned by Foreigners, 2016	229382	2.28	75.67	0	19760
Companies Owned Abroad, 2016	229382	2.28	102.75	0	20179
Distance to Closest Airport (miles)	229382	418.45	400.37	0.012	2329.28
Population, 2010 (thousands)	229139	46.24	235.48	0	25299.13
Population, 1990 (thousands)	229382	21.84	98.7	0	8899.5
Distance to Border (miles)	229151	251.82	257.67	6.71E-06	1319.89
Distance to Capital (miles)	229151	1801.39	1570.57	1.77	7884.23
Average Precipitation, 1980-2014 (yearly, mm)	229151	787.27	655.96	4.14	4962.12
Average Temperature, 1980-2014 (yearly, Celsius)	229029	10.45	13.56	-18.12	45.12
Business Events, 2000s	229382	6.22	335.11	0	94442
Business Events, 1980s	229382	0.183	12.4	0	3361
Business Connections, 2000s	229382	0.904	22.42	0	4454
Business Connnections, 1980s	229382	0.061	2.58	0	633
Large Company Headquarters, 2006	233110	0.006	0.54	0	189
Large Company Headquarters, 2012	233110	0.009	0.517	0	154

Notes: See sources and description in the main text.

Table A2. Cities in Airport Sample (Top and Bottom 50, by ShareBelow6K)

City Name	City Code (ICAO)	ShareBelow6K	Total Number of Cities, 5500-6500
ABADAN (IRAN (ISLAMIC REPUBLIC OF))	ABD	0.1363636	22
NOUMEA (NEW CALEDONIA)	NOU	0.1428571	21
KUWAIT (KUWAIT)	KWI	0.15	20
BAHRAIN (BAHRAIN)	BAH	0.2	15
PISCO (PERU)	PIO	0.2105263	152
ALICE SPRINGS (AUSTRALIA)	ASP	0.2156863	51
SALALAH (OMAN)	SLL	0.2222222	9
ANTA (PERU)	ATA	0.2299465	187
DOHA (QATAR)	DOH	0.2307692	13
LIMA (PERU)	LIM	0.2322581	155
TRUJILLO (PERU)	TRU	0.2417582	182
ASUNCION (PARAGUAY)	ASU	0.2435233	193
IGUAZU (ARGENTINA)	IGR	0.2441315	213
PORTO ALEGRE (BRAZIL)	POA	0.2485876	177
ASHKHABAD (TURKMENISTAN)	ASB	0.25	24
YEKATERINBURG (RUSSIAN FEDERATION)	SVX	0.2542373	59
BUKHARA (UZBEKISTAN)	BHK	0.2592593	27
LA PAZ (BOLIVIA)	LPB	0.265	200
YEREVAN (ARMENIA)	EVN	0.2653061	49
GYANDZHA (AZERBAIJAN)	KVD	0.2666667	45
DHAHRAN (SAUDI ARABIA)	DHA	0.2666667	15
DAMMAM (SAUDI ARABIA)	DMM	0.2666667	15
CHICLAYO (PERU)	CIX	0.2741936	186
PORT VILA (VANUATU)	VLI	0.28	25
ALEPPO (SYRIAN ARAB REPUBLIC)	ALP	0.28125	64
SAIPAN (SAIPAN (MARIANA ISLANDS))	SPN	0.2857143	63
EILAT (ISRAEL)	ETH	0.2903226	62
FLORIANOPOLIS (BRAZIL)	FLN	0.2913043	230
NAKHICHEVAN (AZERBAIJAN)	NAJ	0.2916667	48
MASHAD (IRAN (ISLAMIC REPUBLIC OF))	MHD	0.2941177	17
RIYADH (SAUDI ARABIA)	RUH	0.2941177	17
MARY (TURKMENISTAN)	MYP	0.2941177	17
TBILISI (GEORGIA)	TBS	0.2962963	54
AMMAN (JORDAN)	AMM	0.296875	64
COCHABAMBA (BOLIVIA)	CBB	0.2970297	202
KUTAISI (GEORGIA)	KUT	0.2985075	67
CAJAMARCA (PERU)	CJA	0.3010204	196
CORRIENTES (ARGENTINA)	CNQ	0.3037037	135
SAMARA (RUSSIAN FEDERATION)	KUF	0.3055556	72
OVDA (ISRAEL)	VDA	0.3064516	62
BATUMI (GEORGIA)	BUS	0.3076923	65
RESISTENCIA (ARGENTINA)	RES	0.3100775	129
TEHRAN (IRAN (ISLAMIC REPUBLIC OF))	THR	0.3103448	29
JUJUY (ARGENTINA)	JUJ	0.3109244	119
DAMASCUS (SYRIAN ARAB REPUBLIC)	DAM	0.3114754	61
GYUMRI (ARMENIA)	LWN	0.3148148	54
GUAM ISLAND (GUAM)	GUM	0.3157895	57
TRABZON (TURKEY)	TZX	0.3181818	66
BEIRUT (LEBANON)	BEY	0.328125	64
BANDUNG (INDONESIA)	BDO	0.3298969	97

Table A2. Cities in Airport Sample (Top and Bottom 50, by ShareBelow6K), Continued

City Name	City Code (ICAO)	ShareBelow6K	Total Number of Cities, 5500-6500
KIMBERLEY (SOUTH AFRICA)	KIM	0.7112299	187
BILLUND (DENMARK)	BLL	0.7125	80
MANZINI (SWAZILAND)	MTS	0.7125748	167
EINDHOVEN (NETHERLANDS)	EIN	0.7128713	101
BUSAN (REPUBLIC OF KOREA)	PUS	0.7142857	224
NUREMBERG (GERMANY)	NUE	0.7142857	91
NADI (FIJI)	NAN	0.7142857	49
SALVADOR (BRAZIL)	SSA	0.7142857	133
REIMS (FRANCE)	RHE	0.7156863	102
MAASTRICHT (NETHERLANDS)	MST	0.7156863	102
BLOEMFONTEIN (SOUTH AFRICA)	BFN	0.715847	183
MAPUTO (MOZAMBIQUE)	MPM	0.7169811	159
TAN TAN (MOROCCO)	TTA	0.7179487	39
LEIPZIG (GERMANY)	LEJ	0.7209302	86
BONAIRE (NETHERLANDS ANTILLES)	BON	0.7222222	90
SANA'A (YEMEN)	SAH	0.7222222	18
AGADIR (MOROCCO)	AGA	0.7234042	47
CHIANG RAI (THAILAND)	CEI	0.725	160
HANOVER (GERMANY)	HAJ	0.7252747	91
COLOMBO (SRI LANKA)	CMB	0.728395	81
LAHORE (PAKISTAN)	LHE	0.7307692	26
CHIANG MAI (THAILAND)	CNX	0.73125	160
HAMBURG (GERMANY)	HAM	0.7325581	86
ACCRA (GHANA)	ACC	0.7333333	45
VIENTIANE (LAO PEOPLE'S DEM. REP.)	VTE	0.7339901	203
CURACAO (NETHERLANDS ANTILLES)	CUR	0.7346939	98
ESSAOUIRA (MOROCCO)	ESU	0.7346939	49
WUYISHAN (CHINA)	WUS	0.7348837	215
LANZAROTE (SPAIN)	ACE	0.7368421	38
AMRITSAR (INDIA)	ATQ	0.7407407	27
WUHAN (CHINA)	WUH	0.7410072	139
NINGBO (CHINA)	NGB	0.7442923	219
OUAGADOUGOU (BURKINA FASO)	OUA	0.75	44
DHAKA (BANGLADESH)	DAC	0.75	68
HANOI (VIET NAM)	HAN	0.7526316	190
SHANGHAI (CHINA)	SHA	0.7605634	213
PORT BLAIR (INDIA)	IXZ	0.7612903	155
CHANGSHA (CHINA)	CSX	0.7654321	162
NANNING (CHINA)	NNG	0.7668394	193
HANGZHOU (CHINA)	HGH	0.7685185	216
NANCHANG (CHINA)	KHN	0.7712766	188
JOHANNESBURG (SOUTH AFRICA)	JNB	0.7727273	154
SUN CITY (SOUTH AFRICA)	NTY	0.7744361	133
GUILIN (CHINA)	KWL	0.7758621	174
HEFEI (CHINA)	HFE	0.77707	157
MALE (MALDIVES)	MLE	0.7777778	54
PERTH (AUSTRALIA)	PER	0.7777778	54
NANJING (CHINA)	NKG	0.779661	177
YANGON (BURMA)	RGN	0.7814569	151
GABORONE (BOTSWANA)	GBE	0.7903226	124

Notes: *ShareBelow6K* is the share of cities between 5500-6000 miles of the city in question, out of the total number of cities between 5500-6500 miles. Sample is the 819 major airports as defined by ICAO.

Table A3. Correlation between *ShareBelow6K* and "Pre-Determined" Outcomes (City Level, 1989)

Dependent Variable:	*Connected Cities, Weekly*	*Connected Cities, Twice-Weekly*	*Connected Cities, Daily*	*Connected Countries*	*Log Total Seats*	*Log Total Flights*	*Log Passengers (millions)*	*Network Centrality, Eigenvector*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of Cities Below 6000 Miles	3.415	3.576	2.374	4.680	3.028	1.996	2.860	0.011
	(4.411)	(3.345)	(1.835)	(4.140)	(3.162)	(1.896)	(3.031)	(0.011)
Observations	819	819	819	819	819	819	819	819
R-squared	0.018	0.024	0.031	0.026	0.080	0.074	0.079	0.045
Controls								
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cities Around 6000 Miles	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standardized Coefficient	0.035	0.04	0.047	0.041	0.059	0.064	0.058	0.041

A unit of observation is a city. All regressions control for Number of Cities around 6000 Miles, region fixed effects. Robust standard errors in parentheses, clustered at the country level. All logged variables add a one to deal with cases of zero values. Robust standard errors in parentheses, clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1

Table A4. Correlation between *ShareBelow6K* and "Pre-Determined" Outcomes (Grid-Cell Level)

Dependent Variable:	*Night Light,1992*	*Population, 1990 (millions)*	*Log Business Events, 1980s*	*Log Business Connections, 1980s*	*Average Yearly Precipitation, 1980-2014 (mm)*	*Average Yearly Temperature 1980-2014 (Celsius)*
	(1)	(2)	(3)	(4)	(5)	(6)
Share of Cities Below 6000 Miles	2.009	0.008*	-0.016	-0.013	87.542	-1.330
	(1.951)	(0.004)	(0.026)	(0.021)	(353.173)	(3.311)
Observations	39,487	39,487	39,487	39,487	39,388	39,355
R-squared	0.267	0.156	0.035	0.035	0.300	0.499
Controls						
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of Cities Around 6000 Miles	Yes	Yes	Yes	Yes	Yes	Yes
Standardized Coefficient	0.032	0.048	-0.006	-0.006	0.017	-0.02

A unit of observation is a grid cell, within 100 miles of the closest airport in the country. All regressions control for Number of Cities around 6000 Miles, region fixed effects, and all the (log of the) distance between grid cell and the closest airport in the same country. Robust standard errors in parentheses, clustered at the country level. All logged variables add a one to deal with cases of zero values. Robust standard errors in parentheses, clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1

Table A5. Alternative Instrument and Definitions of *ShareBelow6K*

Dependent Variable:	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 1989*	*Connected Cities, 1989*	*Total Connection-Years, 90-00*	*Total Connection-Years, 00-10*	*Total Connection-Years, 90-10*	*Total Connection-Years, 90-10*	*Total Connection-Years, 90-10*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of Cities Below 6000 Miles	0.041***	0.034***	0.011*	0.005	0.001	0.073*	0.149**	0.214**		
	(0.012)	(0.011)	(0.006)	(0.007)	(0.014)	(0.044)	(0.058)	(0.085)		
Share of Cities Below 6000 Miles									32.0**	25.9**
									(13.0)	(11.6)
Definition of Connection	Weekly	Twice-Week	Daily	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Bandwidth around 6000 miles	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline	5700-6300	5200-6800
Observations	819	819	819	819	819	819	819	819	819	819
R-squared	0.612	0.603	0.678	0.001	0.045	0.940	0.861	0.906	0.906	0.906
Controls										
Number of Cities Around 6000 Miles	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Airport Controls, 1989	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Dep. Var. Mean	2.83	2.48	0.84	1.44	1.44	18.04	24.14	40.42	40.42	40.42

A unit of observation is an airport/city. The independent variable in columns 1-8 is the number of cities below 6000 miles in the bandwidth of 5500-6500 miles, as compared to the share used in our baseline instrument. In columns 5 and 6 connections are defined as twice-weekly and daily scheduled flights, respectively. In columns 9 and 10 the bandwidth around 6000 miles of the baseline instrument is modified, made narrower or wider, as noted. All other variables are defined as in Table 2. Robust standard errors in parentheses, clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1

Table A6. Robustness I: Effect on Night Lights Using Alternative Instrument (Number of Cities 5500-6500 miles)

Dependent Variable: Night Lights	*1992*	*2010*	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	RF	*RF*	*RF*	*RF*	*RF*	*RF*	*2SLS*
Number of Cities Below 6000 Miles	0.017	0.050**	0.033***	0.029***	0.028***	0.028***	
	(0.016)	(0.023)	(0.011)	(0.009)	(0.009)	(0.010)	
Total Connection-Years, 1990-2010							0.122**
							(0.072)
Anderson-Rubin p-value							0.004
Stock-Wright p-value							0.017
Angrist-Pischke first stage F-stat							4.43
Airports	777	777	777	777	777	734	734
Observations	39,487	39,487	39,487	39,487	39,355	37,766	37,766
R-squared	0.267	0.298	0.213	0.296	0.316	0.316	NA
Controls							
Number of Cities Around 6000 Miles	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Night Light in 1992	No	No	No	Yes	Yes	Yes	Yes
Population in 1990	No	No	No	Yes	Yes	Yes	Yes
Airport Controls, 1989	No	No	No	No	Yes	Yes	Yes
Geographic Controls	No	No	No	No	No	Yes	Yes
Country Real GDPpc, 1990 logs	No	No	No	No	No	Yes	Yes

A unit of observation is a grid cell, within 100 miles of the closest airport in the country. The independent variable is the number of cities below 6000 miles, as compared to the share used in our baseline instrument. All other variables are defined as before. Anderson-Rubin p-value refers to the weak instrument robust inference using the Anderson-Rubin Wald test (F-stat version), and the Stock-Wright p-value comes from the LM S statistic. *** p<0.01, ** p<0.05, * p<0.1 (using weak-instrument robust inference for 2SLS, indicating the highest p-value of Anderson-Rubin and Stock-Wright).

Table A7. Robustness II: Effects on Light Lights with Alternative Samples

Dependent Variable	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*	*92-10 Change*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	RF	*2SLS*	*RF*	*2SLS*	*RF*	*2SLS*	*RF*	*2SLS*
	Excluding Airport Cell		*Excluding China*		*Different DistanceThresholds*			
Share of Cities Below 6000 Miles	4.478***		3.228**		6.213***		3.695***	
	(1.313)		(1.431)		(1.923)		(0.991)	
Total Connection-Years, 1990-2010		0.139*		0.081*		0.223*		0.110**
		(0.072)		(0.045)		(0.124)		(0.055)
First-Stage F-statistic		5.41		6.85		5.08		5.06
Anderson-Rubin p-value		0.001		0.026		0.002		0.000
Airports	719	719	690	690	732	732	734	734
Sample (miles)	<100	< 100	<100	< 100	< 50	< 50	<150	< 150
Observations	37,032	37,032	33,946	33,946	14,471	14,471	60,961	60,961
R-squared	0.331	NA	0.336	NA	0.270	NA	0.339	NA

A unit of observation is a grid cell. All regressions include thefull set of controls as in Table 3. "Excluding Airport Cell" excludes from the sample, for each airport, the cell located at the smallest distance to the airport coordinates. Robust standard errors in parentheses, clustered at the country level. Anderson-Rubin p-value refers to the weak instrument robust inference using the Anderson-Rubin Wald test (F-stat version). *** p<0.01, ** p<0.05, * p<0.1.

Table A8. Robustness III: Alternative Standard Errors

Dependent Variable	*92-10 Change*	*92-10 Change*
	(1)	(2)
	RF	*2SLS*
Share of Cities Below 6000 Miles	4.683	
Clustered, Airport Level	(0.919)***	
Spatial Correlation (100-mile threshold)	(1.086)***	
Spatial Correlation (50-mile threshold)	(0.931)***	
Total Connection-Years, 1990-2010		0.143
Clustered, Airport Level		(0.069)***
Spatial Correlation (100-mile threshold)		(0.039)***
Spatial Correlation (50-mile threshold)		(0.033)***
Airports	734	734
Sample (miles)	<100	< 100
Observations	37,766	37,766
R-squared	0.320	NA

Same specifications as in Columns 6 and 8 (Table 3). *** p<0.01, ** p<0.05, * p<0.1

Table A9. Spillovers from Other Airports across Different Ranges, Airport Level

Dependent Variable:	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*	*Connected Cities, 2014*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Share of Cities Below 6000 Miles (Own)	1.27**	1.04***	1.15***	1.17***	1.05*	0.83**	0.95**	0.94***
	(0.58)	(0.38)	(0.41)	(0.36)	(0.54)	(0.35)	(0.38)	(0.33)
Share of Cities Below 6000 Miles (0-1000 Miles)	-0.20				-0.19			
	(0.58)				(0.53)			
Share of Cities Below 6000 Miles (1000-2000 Miles)		-0.40				-0.51		
		(0.52)				(0.46)		
Share of Cities Below 6000 Miles (2000-5500 Miles)			1.68**				1.48**	
			(0.69)				(0.61)	
Share of Cities Below 6000 Miles (Above 6500 Miles)				-0.57				-0.57
				(0.88)				(0.76)
Observations	815	818	819	819	815	818	819	819
R-squared	0.21	0.21	0.21	0.23	0.18	0.18	0.18	0.20

A unit of observation is an airport/city. Connected Cities defined as (at least) weekly connections. Share of Cities Below 6000 Miles (X-Y Miles) is the average Share of Cities Below 6000 Miles for all airports located between X and Y miles away from the airport in question. These variables are all standardized, in order to facilitate the comparison between different coefficients. All regressions include the average Number of Cities around 6000 Miles (X-Y Miles), as well as own Number of Cities around 6000 Miles, Region fixed effects, and Airport Controls (1989): Numbers of daily, twice-weekly, and weekly flights, Number of connected cities, Number of connected countries (twice-weekly), Log of total number of seats, Log of total number of passengers, Log of total number of flights, Eigenvalue centrality. Robust standard errors in parentheses, clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1

Table A10. Effect on Number of Major Business Events, GDELT Data, Airport-Pair Level

	Dep. Var.: Major Business Events, post-2000				Dep. Var.: Growth in Major Business Events, pre-2000 to post-2000			
Independent variable:	Below 6000 Miles	Below 6000 Miles	Below 6000 Miles	Below 6000 Miles	Below 6000 Miles	Below 6000 Miles	Below 6000 Miles	Below 6000 Miles
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RD Estimate	0.0453	0.042	0.0434	0.0474	0.0053	0.007	0.0069	0.0072
Robust S.E.	(0.0166)***	(0.0119)***	(0.0130)***	(0.0137)***	(0.0030)*	(0.0020)***	(0.0020)***	(0.0026)***
Cluster S.E.	(0.0176)***	(0.0129)***	(0.0141)***	(0.0150)***	(0.0035)	(0.0025)***	(0.0025)***	(0.0031)**
Bandwidth (miles)	500	1000	Optimal	Optimal	500	1000	Optimal	Optimal
Polynomial order	1st	1st	1st	2nd	1st	1st	1st	2nd
Observations, Total	334954	334954	334954	334954	334954	334954	334954	334954
Observations, Effective	41,477	81,842	66,771	128,497	41,477	81,842	66,935	123,245
Dep. Var. Mean	0.083	0.083	0.083	0.083	0.025	0.025	0.025	0.025

Local polynomial Regression Discontinuity estimates, using rdrobust command in Stata (default options unless otherwise stated). Running variable is distance between airports, discontinuity at 6000 miles. Optimal bandwidth selected using one common MSE-optimal bandwidth selector. "Polynomial order" refers to order of the polynomial in distance. The dependent variable "Major Business Events" is the total number of observations of GDELT business collaboration events, where the "source" and "target" actors are both within a 100-mile radius of one of the airports in the pair, and at least one actor is a business entity. It is measured 2000-2014 in "post-2000", and 1979-1999 in "pre-2000". "Cluster S.E." refers to cluster-robust nearest neighbor variance estimation at the country-pair level, using a minimum of three nearest neighbors. *** p<0.01, ** p<0.05, * p<0.1

Table A11. Effect on Business Events and HQ Locations, Grid-Cell Level

Dependent Variable:	Major Business Events, Logs				Large Corporation HQ in Cell, 2006-12, Dummy					
	pre-2000	post-2000	post-2000	post-2000	2006-2012	2006-2012	2006-2012	2006	2009	2012
	OLS	OLS	OLS	OLS	Probit	Probit	Probit	Probit	Probit	Probit
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Share of Cities Below 6000 Miles	-0.031	0.260**	0.192**	0.167*	0.017**	0.013***	0.014***	0.013***	0.010**	0.010**
	(0.041)	(0.106)	(0.084)	(0.093)	(0.008)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Airports	777	777	777	734	777	777	734	734	734	734
Observations	39,487	39,487	39,487	37,766	39,487	39,487	37,766	37,766	37,766	37,766
R-squared	0.057	0.521	0.570	0.580	NA	NA	NA	NA	NA	NA
Controls										
Number of Cities Around 6000 Miles	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Major Business Events, Pre-2000, Logs	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Night Light in 1992	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Population in 1990	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Airport Controls, 1989	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes
Geographic Controls	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes
Country Real GDPpc, 1990 logs	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes

A unit of observation is a grid cell, within 100 miles of the closest airport. The dependent variable "Major Business Events" in column 1-3 is the total number of observations of GDELT business collaboration events, where the "source" and "target" actors are both within a 100-mile radius of one of the airports in the pair, and at least one actor is a business entity. The cell-level outcome is the sum of all such events where the cell is either the "source" or the "target", and where there is at least 3000 miles between the two airports associated with the cells. The dependent variable in column 4-6 is a dummy for whether there was a large corporation head quarter in the cell at any point between 2006-2012, measured by the Forbes "Global 2000" list. It is measured 2000-2014 in "post-2000", and 1979-1999 in "pre-2000". The marginal effects at the sample mean are reported for Probit regressions in columns 5-10. The other variables are defined as before (see Table 3). Robust standard errors in parentheses, clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1