Remove or redistribute: re-examining the pollution haven hypothesis from ambient regions

Rong Ma*   and   Xiaojun Shi[†‡]

Online Appendix

*School of Economics and Management, Beihang University, Beijing, 100191, P. R. China

[†]China Financial Policy Research Center, School of Finance, Renmin University of China, Beijing, 100872, P. R. China

[‡]Corresponding author. E-mail: sxjstein@126.com.

Table A1. Spillover effects on FDI after controlling confounding provincial policies

	(1)	(2)	(3)	(4)	(5)	(6)
	FDI	Extensive	Intensive	FDI	Extensive	Intensive
TCZ×Post	-0.147	-0.111	-0.224	-0.148	-0.113	-0.222
	(0.0502)	(0.0338)	(0.0797)	(0.0512)	(0.0339)	(0.0797)
SP×Post	0.682	0.793	0.704			
	(0.413)	(0.340)	(0.477)			
SP^{within}×Post				0.867	1.385	1.389
				(0.443)	(0.315)	(0.710)
SP^{OT}×Post				0.516	1.309	0.614
				(0.349)	(0.214)	(0.408)
Percap	0.141	-0.00612	-0.0892	0.138	-0.0113	-0.0813
	(0.0939)	(0.0445)	(0.106)	(0.0947)	(0.0452)	(0.108)
Seratio	0.869	0.461	0.0902	0.874	0.473	0.0707
	(0.385)	(0.217)	(0.465)	(0.385)	(0.221)	(0.471)
Educ	-0.0427	0.00812	0.0536	-0.0429	0.00805	0.0537
	(0.0275)	(0.0194)	(0.0458)	(0.0275)	(0.0196)	(0.0456)
Traffic	-0.00337	0.0272	0.0735	-0.00349	0.0279	0.0724
	(0.0323)	(0.0215)	(0.0509)	(0.0323)	(0.0217)	(0.0510)
Constant	-0.0578	-0.0511	1.095	0.000755	0.0496	0.941
	(0.877)	(0.427)	(1.089)	(0.939)	(0.440)	(1.162)
Province-Year	Yes	Yes	Yes			
Year				Yes	Yes	Yes
City	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,698	2,990	2,990	2,698	2,990	2,990
R-squared	0.493	0.841	0.621	0.493	0.841	0.621

Table A2. Spillover effects on the extensive margin: Poisson regression

	(1)	(2)	(3)	(4)	(5)
	Overall	High-polluting	Low-polluting	High-polluting	Low-polluting
TCZ×Post	-0.304	-0.590	0.117	-0.568	-0.287
	(0.0937)	(0.0776)	(0.0531)	(0.581)	(0.283)
SP×Post	1.970	2.025	0.498		
	(0.459)	(0.630)	(0.467)		
TCZ×SP×Post				1.506	0.622
				(0.827)	(0.502)
NTCZ×SP×Post				2.806	-0.0553
				(1.291)	(0.490)
Percap	0.391	0.260	0.215	0.261	0.205
	(0.802)	(0.146)	(0.747)	(0.147)	(0.747)
Seratio	1.460	1.365	0.953	1.364	0.951
	(0.480)	(0.908)	(1.029)	(0.912)	(1.028)
Educ	0.0602	0.0823	0.0633	0.0823	0.0628
	(0.0602)	(0.0622)	(0.0346)	(0.0622)	(0.0344)
Traffic	0.0946	0.0203	0.0268	0.0194	0.0255
	(0.0687)	(0.0625)	(0.0238)	(0.0619)	(0.0240)
Constant	-1.758	-2.944	-0.875	-2.957	0.647
	(1.260)	(1.282)	(0.974)	(1.320)	(1.117)
Year	Yes	Yes	Yes	Yes	Yes
City	Yes	Yes	Yes	Yes	Yes
Observations	2,898	3,078	2,990	3,078	2,990

Table A3. Environmental regulation and its spillover effects on FDI: industry-city level

	(1) Extensive	(2) Intensive	(3) Extensive	(4) Intensive	(5) Extensive	(6) Intensive
TCZ×Post	-0.0677	-0.235				
	(0.0265)	(0.0647)				
SP×Post	0.920	0.662				
	(0.0490)	(0.0415)				
SO_2×TCZ×Post			-0.282	-0.684		
			(0.0349)	(0.0350)		
SO_2×SP×Post			0.694	0.935		
			(0.221)	(0.332)		
Coal×TCZ×Post					-0.130	-0.405
					(0.0420)	(0.121)
Coal×SP×Post					0.604	0.818
					(0.254)	(0.324)
Year	Yes	Yes	-	-	-	-
City	Yes	Yes	-	-	-	-
Industry	Yes	Yes	-	-	-	-
Year×City	-	-	Yes	Yes	Yes	Yes
Year×Industry	-	-	Yes	Yes	Yes	Yes
City×Industry	-	-	Yes	Yes	Yes	Yes
Observations	70,800	70,800	66,252	66,252	66,240	66,240
R-squared	0.400	0.343	0.719	0.565	0.617	0.454

	(1)	(2)	(3)	(4)	(5)	(6)
	SO$_2$	Dust	Wasted gas	SO$_2$	Dust	Wasted gas
FDIEX	0.125	0.190	0.0756			
	(0.0738)	(0.0789)	(0.0590)			
FDIEX×TCZ×Post	-0.0880	-0.186	-0.133			
	(0.0419)	(0.0838)	(0.0629)			
FDIEX×TCZ	0.0957	0.195	0.0334			
	(0.0933)	(0.0824)	(0.0615)			
FDIEX×Post	0.147	0.224	0.0884			
	(0.0888)	(0.0804)	(0.0605)			
FDIIN				0.0127	0.0173	0.0160
				(0.00841)	(0.00746)	(0.00542)
FDIIN×TCZ×Post				-0.0220	-0.0333	-0.0169
				(0.00940)	(0.0181)	(0.00706)
FDIIN×TCZ				0.00915	0.0189	0.0366
				(0.0921)	(0.0796)	(0.0578)
FDIIN×Post				0.0550	0.0590	0.0361
				(0.0856)	(0.0764)	(0.0567)
Year×City	Yes	Yes	Yes	Yes	Yes	Yes
Year×Industry	Yes	Yes	Yes	Yes	Yes	Yes
City×Industry	Yes	Yes	Yes	Yes	Yes	Yes
Observations	40,688	41,839	29,506	40,688	41,839	29,506
R-squared	0.958	0.958	0.952	0.958	0.958	0.952

Table A4. FDI and industrial pollutant emissions: industry-city level

Table A5. Robustness checks: random assignments

	FDI		Extensive		Intensive	
	(1)	(2)	(3)	(4)	(5)	(6)
TCZ×Post	-0.00699	-0.0103	-0.00557	-0.00872	-0.0191	-0.0248
	(0.0553)	(0.0737)	(0.0390)	(0.0422)	(0.0743)	(0.0937)
SP×Post	-0.142		0.131		-0.0808	
	(0.612)		(0.434)		(0.0847)	
TCZ×SP×Post		-0.142		0.129		-0.0821
		(0.614)		(0.436)		(0.0852)
NTCZ×SP×Post		-0.141		0.139		-0.0787
		(0.613)		(0.436)		(0.0852)
Percap	0.180	0.180	0.136	0.135	0.158	0.157
	(0.0908)	(0.0908)	(0.0586)	(0.0586)	(0.1083)	(0.1083)
Seratio	0.668	0.667	0.501	0.501	-0.136	-0.135
	(0.335)	(0.335)	(0.221)	(0.221)	(0.449)	(0.449)
Educ	-0.0311	-0.0310	0.0225	0.0225	0.0482	0.0483
	(0.0281)	(0.0281)	(0.0199)	(0.0199)	(0.0422)	(0.0422)
Traffic	0.0205	0.0205	0.0630	0.0630	0.0965	0.0965
	(0.0314)	(0.0314)	(0.0219)	(0.0219)	(0.0433)	(0.0433)
Year	Yes	Yes	Yes	Yes	Yes	Yes
City	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,804	2,804	3,081	3,081	3,081	3,081