

Supplementary Materials

Table S1. Moran index of CO₂ emissions between 1991 and 2010.

Year	Moran	Z-statistics	P-value	Year	Moran	Z-statistics	P-value
1991	0.122	3.785	0.010	2001	0.121	4.081	0.009
1992	0.137	3.710	0.009	2002	0.117	3.726	0.012
1993	0.131	4.278	0.008	2003	0.115	3.485	0.014
1994	0.127	3.605	0.011	2004	0.107	2.823	0.018
1995	0.123	3.175	0.012	2005	0.105	3.566	0.010
1996	0.122	3.961	0.009	2006	0.091	2.935	0.014
1997	0.122	3.816	0.009	2007	0.095	3.006	0.022
1998	0.122	3.107	0.016	2008	0.093	2.981	0.018
1999	0.121	3.841	0.007	2009	0.088	2.042	0.024
2000	0.120	4.141	0.008	2010	0.085	2.698	0.016

Table S2. Statistical description of variables.

Variable	Obs	Unit	Mean	Std. Dev.	Minimum	Maximum
CO ₂	840	1000 tons	9.756	2.438	3.871	15.930
pgdp	840	dollor	8.242	1.715	4.882	11.811
Openness	840	%	4.314	0.598	3.096	6.132
KL	840	Dollars per person	13.607	2.203	5.107	16.953
Energy	840	dollars per 1000 tons	8.366	1.656	1.614	15.985
Manufacturing	840	%	3.281	0.545	1.576	4.605
Population	840	square meters per person	4.285	1.673	0.509	9.874
ER	840	1	1.613	0.399	0	1.946
node degree						
FNet(Degree)	840	1	29.649	30.078	0	142
Net(Strength)	840	10 billion dollars	1.221	4.261	0.028	52.155
FNet(Out-degree)	840	1	14.825	16.177	0	71
FNet(Out-strength)	840	10 billion dollars	0.610	2.323	0	32.838
FNet(In-degree)	840	1	14.825	19.878	0	97
FNet(In-strength)	840	10 billion dollars	0.610	2.543	0	33.287
node importance of capital outflow countries						
Importance(IV = 1)	840	%	4.019	4.463	0	15.734
Importance(IV = IS)	840	%	-2.875	6.592	-14.897	10.703
Importance(IV = RU)	840	%	2.292	5.326	-5.500	14.787
node importance of capital recipient countries						
Importance(IV = 1)	840	%	0.945	0.919	0	2.220
Importance(IV = IS)	840	%	-5.104	4.261	-14.898	0.815
Importance(IV = RU)	840	%	-0.336	2.506	-5.500	2.240
node centrality						
Centrality(Degree)	840	1	1.851	1.486	-0.512	4.362
Centrality(Closeness)	840	1	3.675	0.230	3.255	4.410
Centrality(Betweenness)	840	1	0.599	2.831	0	35.398
Centrality(RWBC)	840	1	5.785	21.305	0	228.065

Table S3. Estimated results of node importance and node centrality on CO₂ emissions in different capital outflow countries.

	Node importance							Node centrality						
	Developed countries			Developing countries				Developed countries			Developing countries			
pgdp	−6.667*** (−2.586)	−6.698*** (−2.601)	−6.661*** (−2.585)	−5.079** (−2.004)	−4.967** (−2.018)	−5.978** (−2.360)	−6.442** (−2.504)	−6.658*** (−2.584)	−6.461** (−2.516)	−6.385** (−2.493)	−2.989 (−1.262)	−6.179*** (−2.425)	−6.944*** (−2.794)	−5.769*** (−2.371)
pgdp ²	0.982*** (3.030)	0.985*** (3.042)	0.981*** (3.028)	0.774** (2.427)	0.753** (2.433)	0.879*** (2.758)	0.955*** (2.952)	0.981*** (3.027)	0.956*** (2.961)	0.947*** (2.942)	0.510* (1.713)	0.919*** (2.868)	1.001*** (3.205)	0.871*** (2.848)
pgdp ³	−0.045*** (−3.368)	−0.045*** (−3.377)	−0.044*** (−3.366)	−0.036*** (−2.741)	−0.035*** (−2.726)	−0.040*** (−3.061)	−0.044*** (−3.297)	−0.045*** (−3.365)	−0.044*** (−3.303)	−0.043*** (−3.287)	−0.025** (−2.085)	−0.042*** (−3.209)	−0.045*** (−3.505)	−0.041*** (−3.237)
Importance (IV = 1)	0.001 (0.049)			0.095*** (6.118)										
Importance (IV = IS)		0.052*** (3.806)			0.108*** (9.233)									
Importance (IV = RU)			0.046** (2.238)			0.083*** (5.640)								
Centrality (Degree)							0.016*** (4.011)				0.053*** (12.885)			
Centrality (Closeness)								−0.001 (−0.457)					0.013*** (4.474)	
Centrality (Betweenness)									0.314** (2.566)				0.245*** (8.057)	
Centrality (RWBC)										0.038*** (3.219)				0.029*** (9.833)
Control variables	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
λ	0.527*** (8.089)	0.522*** (7.950)	0.529*** (8.145)	0.511*** (7.651)	0.484*** (6.965)	0.505*** (7.493)	0.523*** (7.977)	0.529*** (8.145)	0.526*** (8.064)	0.530*** (8.174)	0.467*** (6.562)	0.523*** (7.977)	0.474*** (6.724)	0.517*** (7.813)

Table S3. Cont.

	Node importance							Node centrality						
	Developed countries			Developing countries				Developed countries			Developing countries			
R ²	0.490	0.491	0.498	0.513	0.539	0.509	0.493	0.491	0.493	0.497	0.578	0.503	0.527	0.547
Log L	−1526.043	−1524.916	−1512.015	−1507.812	−1485.864	−1510.533	−1523.952	−1525.413	−1522.768	−1520.897	−1451.326	−1516.168	−1495.2404	−1480.525
Moran'I	9.618***	9.449***	9.601***	9.299***	8.265***	9.041***	9.557***	9.651***	9.696***	9.809***	8.229***	9.347***	7.950***	9.678***

***, ** and * denote significance at 1%, 5% and 10%, respectively.