Appendix: Transboundary Air Pollution and Hazy Accountability: Evidence from South Korea

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1 Tables

Tables 1 through 4 replicate Tables 2 to 5 from the manuscript, including all control variables and their respective estimates. Table 5 shows OLS regressions without the instrument to illustrate the unobserved confounding problem when not using instrumental variables for inference. Tables 6 to 10 present alternative versions of Table 3 from the main text, incorporating various control variables and fixed effects. Table 11 shows the Two-Stage Least Squares (2SLS) results, examining the link between Confidence in the Local Economy and Approval of Chinese Leadership, as discussed in Footnote 12 of the manuscript. Finally, Tables 12-14 focus on analyses that differentiate between pollution originating from China and local sources, utilizing air pollution data from Ganghwa Island as detailed on page 25 of the manuscript. Table 15 shows results using wind speed and direction as an instrument. Table 16 shows the equivalence test described on page 26. Table 17 shows a robustness test using Germany, Japan, and Russia as placebos. Table 18 shows the mediation analysis by Dippel, Ferrara, and Heblich 2020 mentioned on page 23. Finally, Table 19 shows results with rescaled quartile-based measure of Local Economic Confidence Index.

1.1 Manuscript Tables 2 to 5 Including Control Variable Estimates

Tables 1 through 4 replicate Tables 2 to 5 from the manuscript, including all control variables and their respective estimates.

Table 1: First stage regression with all control variables (robust standard errors clustered on region)

	(1)	(2)	(3)	(4)	(5)	(6)
Composite AQI (lag)	0.082***		0.074***			
	(0.016)		(0.015)			
Ideology	-0.195***	-0.192***	-0.194***	-0.192***		
	(0.025)	(0.025)	(0.025)	(0.025)		
left	0.042*	0.045*	0.043*	0.046*		
	(0.022)	(0.023)	(0.022)	(0.022)		
left × Ideology	-0.012	-0.015	-0.012	-0.015		
	(0.025)	(0.025)	(0.025)	(0.025)		
Female	-0.005	-0.006	-0.005	-0.006		
	(0.012)	(0.012)	(0.012)	(0.012)		
Age	-0.001**	-0.001**	-0.001**	-0.001**		
	(0.000)	(0.000)	(0.000)	(0.000)		
Education Lev.2	0.048***	0.049***	0.048***	0.049***		
	(0.014)	(0.014)	(0.014)	(0.014)		
Education Lev.3	0.082***	0.083***	0.082***	0.082***		
	(0.023)	(0.023)	(0.023)	(0.023)		
Household Income	0.000	0.000	0.000	0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
AQI pm2.5 (lag)		0.072***		0.062***	0.086***	0.073***
		(0.014)		(0.014)	(0.015)	(0.015)
Red Warning			0.028	0.036		0.045*
			(0.020)	(0.023)		(0.023)
Constant	0.617***	0.622***	0.620***	0.625***	0.510***	0.515***
	(0.027)	(0.025)	(0.027)	(0.025)	(0.017)	(0.016)
Obs.	7743	7726	7743	7726	7751	7751
R2	0	0	0	0	0	0
Robust effective F	26	27	17	15	18	19
Critical F value	23	23	10	10	10	10
Region/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	No	No

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 2: Instrumental Variables Estimates for Dissatisfaction with Air Quality on Leadership Evaluations with All Control Variables (robust standard errors clustered on region, instrument is AQI pm2.5)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	−0.071	0.667**	0.057	0.322	−0.230	−0.030
	(0.268)	(0.288)	(0.158)	(0.325)	(0.413)	(0.290)
Ideology	−0.580***	−0.011	−0.218***	−0.380***	−0.530***	−0.525***
	(0.062)	(0.077)	(0.042)	(0.070)	(0.088)	(0.057)
left	−0.021	0.364***	0.369***	−0.135***	−0.154***	−0.169***
	(0.027)	(0.022)	(0.025)	(0.026)	(0.045)	(0.034)
left × Ideology	0.007	0.007	0.005	0.101***	0.300***	0.172***
	(0.027)	(0.038)	(0.030)	(0.029)	(0.028)	(0.035)
Female	0.025***	0.022***	0.065***	−0.024***	−0.039***	0.018**
	(0.010)	(0.006)	(0.007)	(0.007)	(0.013)	(0.009)
Age	−0.001***	0.001	−0.000	0.002***	−0.002***	−0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Education Lev.2	0.077***	0.007	−0.045**	0.007	0.022	0.040**
	(0.020)	(0.021)	(0.018)	(0.021)	(0.026)	(0.016)
Education Lev.3	0.132***	−0.034	−0.017	−0.012	0.047	0.018
	(0.024)	(0.022)	(0.026)	(0.031)	(0.035)	(0.025)
Household Income	0.000	−0.000**	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.932***	0.044	0.416***	0.567***	1.005***	0.994***
	(0.190)	(0.205)	(0.112)	(0.216)	(0.288)	(0.214)
Obs.	7723	7718	7716	7704	6717	7711
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 3: Reduced Form Regressions of Air Quality and Dissatisfaction with Government (robust standard errors clustered on region with all control variables)

	Gvt Environment	China	ROK	USA	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
AQI pm2.5 (lag)	−0.003	0.050**	0.021	0.003	−0.021	−0.002
	(0.018)	(0.018)	(0.023)	(0.012)	(0.030)	(0.021)
Ideology	−0.567***	−0.136***	−0.441***	−0.225***	−0.485***	−0.522***
	(0.020)	(0.015)	(0.012)	(0.016)	(0.020)	(0.015)
left	−0.026	0.393***	−0.114***	0.370***	−0.160***	−0.168***
	(0.030)	(0.021)	(0.028)	(0.027)	(0.045)	(0.040)
left × Ideology	0.014	−0.005	0.093***	0.002	0.304***	0.183***
	(0.028)	(0.032)	(0.025)	(0.033)	(0.033)	(0.036)
Female	0.025**	0.018*	−0.027***	0.064***	−0.038***	0.017
	(0.011)	(0.009)	(0.006)	(0.008)	(0.011)	(0.010)
Age	−0.001***	−0.000	0.002***	−0.000	−0.002***	−0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.075***	0.036***	0.018	−0.042***	0.010	0.036**
	(0.015)	(0.011)	(0.015)	(0.014)	(0.022)	(0.014)
Education Lev.3	0.128***	0.021*	0.011	−0.011	0.029*	0.015
	(0.015)	(0.010)	(0.015)	(0.015)	(0.015)	(0.013)
Household Income	0.000	−0.000**	0.000	−0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.883***	0.457***	0.777***	0.452***	0.858***	0.979***
	(0.035)	(0.029)	(0.024)	(0.027)	(0.045)	(0.044)
Obs.	7946	7940	7926	7938	6919	7934
R2	0	0	0	0	0	0
Region/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 4: Instrumental Variable Regressions of Perception of Air Quality with Subjective Evaluations of Economy, Daily Experiences, and Personal Health (robust standard errors clustered on region with all control variables)

	Nat Econ	Local Econ	Personal Econ	Daily Experience	Personal Health
	(1)	(2)	(3)	(4)	(5)
Dissatisfied w. Air	75.704	−95.295**	−10.127	1.063	−1.584
	(98.550)	(37.510)	(13.804)	(14.136)	(12.907)
Ideology	91.687***	39.756***	19.559***	19.966***	14.267***
	(26.049)	(9.412)	(2.880)	(3.422)	(3.060)
Female	−2.388	9.271***	3.159***	1.567**	−2.854***
	(2.247)	(2.403)	(0.649)	(0.696)	(0.555)
Age	0.464***	−0.834***	−0.223***	−0.037	−0.110***
	(0.151)	(0.116)	(0.027)	(0.027)	(0.032)
Education Lev.2	−15.825**	−1.752	1.270	3.910***	5.584***
	(6.798)	(5.032)	(1.185)	(1.076)	(0.904)
Education Lev.3	−29.843***	6.865	4.710***	7.859***	9.606***
	(9.239)	(7.970)	(1.626)	(1.330)	(1.181)
Household Income	0.000*	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
left		−4.930	0.986	−1.087	1.136
		(4.922)	(1.543)	(1.583)	(1.400)
left × Ideology		−19.855**	−7.224***	−1.355	−1.175
		(7.737)	(1.336)	(2.146)	(1.861)
Constant	−135.835**	72.005***	29.562***	48.443***	62.905***
	(61.661)	(26.136)	(8.941)	(10.346)	(9.435)
Obs.	1915	5811	7726	7726	7726
Region/Year FE	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.2 OLS Regression

Table 5 shows OLS regressions without the instrument to illustrate the unobserved confounding problem when not using instrumental variables for inference.

Table 5: OLS Regression of Dissatisfaction with Air Quality on Leadership Evaluations (robust standard errors clustered on region with all control variables)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	0.151***	0.032***	0.022*	0.054***	0.059***	0.068***
	(0.013)	(0.010)	(0.011)	(0.011)	(0.015)	(0.011)
Ideology	−0.537***	−0.133***	−0.224***	−0.433***	−0.470***	−0.507***
	(0.020)	(0.016)	(0.016)	(0.012)	(0.019)	(0.015)
left	−0.024	0.381***	0.373***	−0.128***	−0.156***	−0.167***
	(0.029)	(0.020)	(0.026)	(0.024)	(0.047)	(0.040)
left × Ideology	0.010	−0.002	0.001	0.100***	0.298***	0.178***
	(0.030)	(0.033)	(0.033)	(0.027)	(0.035)	(0.036)
Female	0.027**	0.017*	0.065***	−0.025***	−0.039***	0.019*
	(0.010)	(0.009)	(0.007)	(0.005)	(0.012)	(0.010)
Age	−0.001***	−0.000	−0.000	0.002***	−0.002***	−0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.065***	0.036***	−0.041***	0.019	0.006	0.036***
	(0.015)	(0.012)	(0.013)	(0.016)	(0.021)	(0.012)
Education Lev.3	0.113***	0.017	−0.013	0.008	0.021	0.010
	(0.015)	(0.011)	(0.015)	(0.015)	(0.016)	(0.013)
Household Income	0.000	−0.000**	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.779***	0.473***	0.437***	0.750***	0.808***	0.925***
	(0.033)	(0.022)	(0.028)	(0.023)	(0.038)	(0.037)
Obs.	7783	7778	7776	7764	6776	7770
R2						
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.3 Alternative Specifications of Table 3 in Manuscript

Tables 6 to 10 present alternative versions of Table 3 from the main text, incorporating various control variables and fixed effects.

Table 6: Including Daily Regional Temperature and Precipitation (Logged)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	0.019	0.465*	−0.234	0.283	0.060	−0.498*
	(0.360)	(0.260)	(0.254)	(0.457)	(0.440)	(0.299)
Ideology	−0.577***	−0.046	−0.271***	−0.374***	−0.432***	−0.594***
	(0.083)	(0.055)	(0.054)	(0.089)	(0.098)	(0.070)
left	−0.011	0.388***	0.348***	−0.096**	−0.125	−0.135**
	(0.052)	(0.040)	(0.061)	(0.041)	(0.088)	(0.057)
left × Ideology	−0.014	−0.013	0.013	0.132***	0.275***	0.163***
	(0.045)	(0.041)	(0.052)	(0.028)	(0.044)	(0.035)
Female	0.021	0.023*	0.069***	−0.007	−0.048**	0.006
	(0.014)	(0.012)	(0.017)	(0.017)	(0.019)	(0.020)
Age	−0.001	0.001	−0.000	0.003***	−0.002**	−0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Education Lev.2	0.071***	0.019	−0.062***	0.017	−0.002	0.019
	(0.023)	(0.025)	(0.023)	(0.025)	(0.023)	(0.039)
Education Lev.3	0.130***	−0.002	−0.018	−0.016	0.017	0.023
	(0.030)	(0.027)	(0.033)	(0.045)	(0.031)	(0.048)
Household Income	0.000	−0.000*	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
rain	−0.000	0.000	−0.000*	−0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
temp	0.001	0.002	0.002	−0.004***	−0.006	−0.009***
	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.002)
Constant	0.850***	0.126	0.595***	0.586*	0.914***	1.554***
	(0.284)	(0.198)	(0.201)	(0.301)	(0.329)	(0.222)
Obs.	3299	3298	3298	3292	2966	3296
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 7: Month and Day Fixed Effects

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	−0.137	0.907**	0.357**	0.298	−0.441	−0.373
	(0.313)	(0.361)	(0.178)	(0.390)	(0.634)	(0.389)
Ideology	−0.591***	0.035	−0.161***	−0.383***	−0.572***	−0.590***
	(0.072)	(0.098)	(0.050)	(0.083)	(0.131)	(0.079)
left	−0.013	0.350***	0.362***	−0.091***	−0.073	−0.106***
	(0.020)	(0.023)	(0.027)	(0.033)	(0.056)	(0.041)
left × Ideology	0.004	0.009	0.008	0.095***	0.294***	0.163***
	(0.026)	(0.041)	(0.032)	(0.028)	(0.025)	(0.030)
Female	0.026**	0.019***	0.064***	−0.027***	−0.042***	0.016
	(0.011)	(0.007)	(0.009)	(0.006)	(0.013)	(0.012)
Age	−0.002***	0.001	0.000	0.002***	−0.002***	−0.002*
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Education Lev.2	0.080***	−0.005	−0.059***	0.009	0.035	0.057**
	(0.021)	(0.026)	(0.021)	(0.024)	(0.034)	(0.022)
Education Lev.3	0.138***	−0.053*	−0.041	−0.009	0.068	0.048
	(0.028)	(0.028)	(0.030)	(0.035)	(0.052)	(0.037)
Household Income	0.000	−0.000**	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.993***	−0.229	−0.051	0.646**	1.186***	1.463***
	(0.240)	(0.190)	(0.139)	(0.258)	(0.430)	(0.289)
Obs.	7723	7718	7716	7704	6717	7711
Region/Year/Day/Month FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 8: Excluding the worst Covid year in South Korea

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	−0.148	0.648**	0.109	0.392	−0.174	0.056
	(0.247)	(0.272)	(0.156)	(0.324)	(0.357)	(0.226)
Ideology	−0.580***	−0.023	−0.198***	−0.359***	−0.537***	−0.505***
	(0.064)	(0.073)	(0.045)	(0.071)	(0.084)	(0.048)
left	−0.010	0.362***	0.373***	−0.133***	−0.168***	−0.171***
	(0.028)	(0.023)	(0.026)	(0.027)	(0.048)	(0.038)
left × Ideology	−0.009	0.014	−0.005	0.093***	0.319***	0.170***
	(0.029)	(0.038)	(0.032)	(0.029)	(0.034)	(0.040)
Female	0.028***	0.021***	0.063***	−0.028***	−0.048***	0.016**
	(0.010)	(0.006)	(0.010)	(0.007)	(0.011)	(0.008)
Age	−0.002***	0.001	0.000	0.003***	−0.001**	−0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.079***	0.012	−0.045***	0.006	0.024	0.036**
	(0.018)	(0.019)	(0.017)	(0.026)	(0.030)	(0.016)
Education Lev.3	0.135***	−0.036*	−0.031	−0.024	0.039	0.002
	(0.024)	(0.021)	(0.026)	(0.035)	(0.032)	(0.022)
Household Income	0.000	−0.000***	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.974***	0.067	0.366***	0.502**	0.939***	0.915***
	(0.175)	(0.190)	(0.107)	(0.212)	(0.238)	(0.161)
Obs.	6749	6745	6744	6736	5749	6740
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 9: Including Regional Coal Plant Electricity Production (Logged, KW)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	−0.079	0.686**	0.049	0.336	−0.229	−0.013
	(0.281)	(0.303)	(0.166)	(0.337)	(0.425)	(0.298)
Ideology	−0.581***	−0.008	−0.219***	−0.378***	−0.530***	−0.522***
	(0.064)	(0.079)	(0.043)	(0.072)	(0.090)	(0.057)
left	−0.020	0.363***	0.370***	−0.136***	−0.154***	−0.170***
	(0.026)	(0.022)	(0.026)	(0.026)	(0.045)	(0.034)
left × Ideology	0.006	0.008	0.004	0.101***	0.300***	0.173***
	(0.027)	(0.038)	(0.031)	(0.029)	(0.027)	(0.035)
Female	0.025***	0.022***	0.065***	−0.024***	−0.039***	0.018**
	(0.010)	(0.006)	(0.007)	(0.007)	(0.013)	(0.009)
Age	−0.001***	0.001	−0.000	0.002***	−0.002***	−0.001
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Education Lev.2	0.077***	0.006	−0.045**	0.007	0.022	0.040**
	(0.020)	(0.021)	(0.018)	(0.021)	(0.026)	(0.016)
Education Lev.3	0.133***	−0.035	−0.016	−0.013	0.047	0.017
	(0.025)	(0.023)	(0.026)	(0.032)	(0.035)	(0.025)
Household Income	0.000	−0.000**	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log(Coal Plant Capacity)	−0.002	0.004	−0.001	0.003	0.000	0.003
	(0.002)	(0.003)	(0.002)	(0.003)	(0.005)	(0.004)
Constant	0.939***	0.030	0.422***	0.556**	1.003***	0.982***
	(0.199)	(0.215)	(0.118)	(0.225)	(0.296)	(0.221)
Obs.	7723	7718	7716	7704	6717	7711
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 10: Including Number of Daily Media on China

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	−0.117	0.665**	0.057	0.249	−0.310	−0.108
	(0.276)	(0.313)	(0.166)	(0.346)	(0.409)	(0.308)
Ideology	−0.589***	−0.012	−0.218***	−0.394***	−0.546***	−0.540***
	(0.064)	(0.081)	(0.044)	(0.073)	(0.088)	(0.061)
left	−0.012	0.364***	0.369***	−0.121***	−0.141***	−0.154***
	(0.029)	(0.022)	(0.026)	(0.028)	(0.051)	(0.035)
left × Ideology	0.006	0.007	0.005	0.100***	0.300***	0.171***
	(0.027)	(0.038)	(0.030)	(0.028)	(0.026)	(0.034)
Female	0.025**	0.022***	0.065***	−0.023***	−0.039***	0.019*
	(0.010)	(0.006)	(0.007)	(0.006)	(0.013)	(0.010)
Age	−0.002***	0.001	−0.000	0.002***	−0.002***	−0.001*
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Education Lev.2	0.079***	0.007	−0.045**	0.010	0.025	0.043**
	(0.020)	(0.021)	(0.018)	(0.021)	(0.027)	(0.017)
Education Lev.3	0.135***	−0.034	−0.017	−0.007	0.052	0.024
	(0.025)	(0.023)	(0.026)	(0.032)	(0.035)	(0.027)
Household Income	0.000	−0.000**	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
China Media Mentions	0.001**	0.000	0.000	0.001**	0.001	0.002***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
Constant	0.952***	0.045	0.416***	0.599***	1.043***	1.028***
	(0.194)	(0.215)	(0.115)	(0.223)	(0.286)	(0.225)
Obs.	7723	7718	7716	7704	6717	7711
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.4 Two-Stage Least Squares(2SLS) Evaluating Link between Confidence in the Local Economy and Approval of Chinese Leadership

Table 11 shows the Two-Stage Least Squares (2SLS) results, examining the link between Confidence in the Local Economy and Approval of Chinese Leadership as discussed in Footnote 12 of the manuscript.

Table 11: Instrumental Variable Regressions of Subjective Evaluations of Economy and Leadership Evaluation (robust standard errors clustered on region)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Local Economic Confidence Index	−0.003	−0.009***	0.002	−0.005**	0.005	−0.003
	(0.004)	(0.003)	(0.002)	(0.003)	(0.009)	(0.004)
Ideology	−0.414	0.376**	−0.343***	−0.114	−0.689	−0.291
	(0.254)	(0.164)	(0.122)	(0.161)	(0.540)	(0.215)
left	−0.048	−0.154***	0.227***	−0.227***	−0.219*	−0.216***
	(0.044)	(0.052)	(0.044)	(0.038)	(0.113)	(0.043)
left × Ideology	−0.034	−0.161**	0.054	−0.023	0.314	0.072
	(0.086)	(0.074)	(0.057)	(0.064)	(0.196)	(0.074)
Female	0.052	0.096***	0.049**	0.026	−0.089	0.037
	(0.040)	(0.034)	(0.024)	(0.024)	(0.091)	(0.035)
Age	−0.003	−0.006***	0.001	−0.000	0.005	−0.001
	(0.003)	(0.002)	(0.001)	(0.002)	(0.006)	(0.002)
Education Lev.2	0.053*	−0.005	−0.010	−0.008	0.054	0.027
	(0.029)	(0.037)	(0.028)	(0.026)	(0.046)	(0.025)
Education Lev.3	0.114***	0.035	0.003	−0.010	0.011	−0.000
	(0.020)	(0.046)	(0.026)	(0.030)	(0.032)	(0.024)
Household Income	0.000	0.000	−0.000	0.000*	−0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.891***	0.982***	0.573***	0.829***	0.757***	0.938***
	(0.034)	(0.057)	(0.040)	(0.045)	(0.102)	(0.040)
Obs.	5964	5963	5961	5949	4948	5957
Region/Year FE	0	.	0	.	.	0
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Weak IV F-stat	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
10criticalf	23	23	23	23	23	23

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.5 Analyses Differentiating between Pollution Originating from China and Local Sources

Tables 12-14 focus on analyses that differentiate between pollution originating from China and local sources, utilizing air pollution data from Ganghwa Island as detailed in pg.25 of the manuscript.

Table 12: Including Interactions of Region-specific R-squared and PM2.5

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
AQI pm2.5 (lag)	0.082^{*}	0.164^{*}	-0.043	0.197^{***}	0.042	0.093
	(0.041)	(0.089)	(0.088)	(0.061)	(0.095)	(0.110)
R2	0.044	0.139^{**}	0.068	0.291^{***}	0.203^{***}	0.229^{***}
	(0.035)	(0.061)	(0.059)	(0.039)	(0.057)	(0.071)
AQI pm2.5 (lag) × R2	-0.124^{*}	-0.166	0.067	-0.256^{***}	-0.092	-0.139
	(0.065)	(0.122)	(0.118)	(0.083)	(0.126)	(0.147)
Ideology	-0.568^{***}	-0.137^{***}	-0.224^{***}	-0.442^{***}	-0.486^{***}	-0.523^{***}
	(0.020)	(0.015)	(0.016)	(0.012)	(0.020)	(0.015)
left	-0.027	0.392^{***}	0.370^{***}	-0.116^{***}	-0.160^{***}	-0.169^{***}
	(0.030)	(0.021)	(0.028)	(0.028)	(0.045)	(0.040)
left × Ideology	0.014	-0.005	0.002	0.093^{***}	0.304^{***}	0.183^{***}
	(0.028)	(0.032)	(0.033)	(0.025)	(0.033)	(0.036)
Female	0.025^{**}	0.018^{*}	0.064^{***}	-0.027^{***}	-0.039^{***}	0.017
	(0.010)	(0.009)	(0.008)	(0.006)	(0.011)	(0.010)
Age	-0.001^{***}	0.000	-0.000	0.002^{***}	-0.002^{***}	-0.001^{**}
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.075^{***}	0.036^{***}	-0.042^{***}	0.018	0.010	0.036^{**}
	(0.015)	(0.011)	(0.014)	(0.015)	(0.022)	(0.014)
Education Lev.3	0.128^{***}	0.021^{*}	-0.011	0.011	0.029^{*}	0.015
	(0.015)	(0.010)	(0.015)	(0.015)	(0.015)	(0.013)
Household Income	0.000	-0.000^{**}	-0.000	0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.858^{***}	0.358^{***}	0.389^{***}	0.559^{***}	0.698^{***}	0.802^{***}
	(0.042)	(0.047)	(0.049)	(0.027)	(0.055)	(0.057)
Obs.	7946	7940	7938	7926	6919	7934
R2	0	0	0	0	0	0
Region/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 13: First stage regressions using Gangwha pm2.5 and the estimated local and Chinese sources of pollution (robust standard errors clustered on region)

	(1)	(2)	(3)	(4)
AQI pm2.5 (lag)	0.101***			0.101***
	(0.027)			(0.029)
lagpm25Ganghwa	-0.053*	0.019		
	(0.030)	(0.016)		
Ideology	-0.190***	-0.194***	-0.194***	-0.190***
	(0.027)	(0.026)	(0.026)	(0.027)
left	0.043*	0.028	0.029	0.045*
	(0.022)	(0.021)	(0.021)	(0.022)
left × Ideology	-0.025	-0.022	-0.022	-0.025
	(0.026)	(0.027)	(0.027)	(0.026)
Female	-0.006	-0.006	-0.006	-0.006
	(0.012)	(0.012)	(0.012)	(0.012)
Age	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.052***	0.051***	0.051***	0.052***
	(0.014)	(0.014)	(0.014)	(0.014)
Education Lev.3	0.088***	0.087***	0.087***	0.088***
	(0.024)	(0.024)	(0.024)	(0.024)
Household Income	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
lagpmChina			0.033*	-0.066*
			(0.017)	(0.034)
Constant	0.629***	0.660***	0.652***	0.636***
	(0.027)	(0.028)	(0.028)	(0.026)
Obs.	7308	7323	7323	7308
R2	0	0	0	0
Robust effective F	10	1	4	11
Critical F value	14	23	23	14
Region/Year FE	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$
The dependent variable is perception of air quality

Table 14: Reduced Form Regressions of Estimated Chinese and Locally Sourced Air Pollution on Political Evaluations (robust standard errors clustered on region)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
AQI pm2.5 (lag)	0.022	0.039	0.014	0.001	0.001	−0.032
	(0.021)	(0.026)	(0.022)	(0.045)	(0.058)	(0.030)
lagpmChina	−0.046	0.014	−0.030	0.039	−0.047	0.060
	(0.044)	(0.035)	(0.030)	(0.049)	(0.065)	(0.036)
Ideology	−0.572***	−0.134***	−0.220***	−0.438***	−0.487***	−0.520***
	(0.019)	(0.016)	(0.015)	(0.012)	(0.021)	(0.015)
left	−0.031	0.399***	0.389***	−0.105***	−0.155**	−0.158***
	(0.038)	(0.020)	(0.034)	(0.032)	(0.053)	(0.045)
left × Ideology	0.017	−0.011	−0.003	0.080***	0.306***	0.175***
	(0.025)	(0.030)	(0.033)	(0.025)	(0.034)	(0.041)
Female	0.028**	0.020**	0.061***	−0.029***	−0.039***	0.017*
	(0.011)	(0.008)	(0.008)	(0.005)	(0.013)	(0.009)
Age	−0.001***	−0.000	−0.000	0.002***	−0.002***	−0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.077***	0.033**	−0.042**	0.016	0.007	0.029*
	(0.013)	(0.011)	(0.015)	(0.017)	(0.022)	(0.015)
Education Lev.3	0.129***	0.015	−0.009	0.011	0.026	0.010
	(0.012)	(0.011)	(0.016)	(0.017)	(0.017)	(0.014)
Household Income	0.000	−0.000**	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.893***	0.458***	0.472***	0.769***	0.885***	0.969***
	(0.037)	(0.036)	(0.029)	(0.028)	(0.039)	(0.049)
Obs.	7519	7513	7511	7500	6494	7507
R2	0	0	0	0	0	0
Region/Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.6 Using Wind Speed and Direction as Instrument

This analysis uses wind speed and direction as an instrument for air pollution (which is common in the literature). We measure wind direction by quadrants (NorthEast, NorthWest, SouthEast, SouthWest) and wind speed in meters per second. This interaction by itself is not a sufficiently strong instrument. The relationship is context-dependent. For example, in some areas, pollution is higher when wind speed is low (pollution doesn't move), whereas in others, it is higher when wind speed is high. Similarly, the influence of wind direction depends on the origin of the transported pollution. We thus had to interact wind speed and direction with region to get a sufficiently strong first stage (F=35). In reality the relationship may be more complex, for example, the link between wind direction, speed, and pollution may differ in summer compared to winter, but that would require a quadruple interaction (for which we don't have sufficient statistical power). We do include a control for month of the year in the first and second stages. Since the first stage is a triple interaction, it would take several pages to display. We thus focus on the second stage.

Table 15: Air-Quality Dissatisfaction and Domestic Leadership Evaluations (Instrument: Wind Direction X Region)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
AQI pm2.5 (lag)	0.014	−0.141***	−0.128***	0.045	−0.012	0.115*
	(0.035)	(0.053)	(0.031)	(0.052)	(0.067)	(0.061)
Ideology	−0.553***	−0.161***	−0.222***	−0.440***	−0.499***	−0.513***
	(0.020)	(0.011)	(0.016)	(0.015)	(0.023)	(0.014)
left	−0.010	0.331***	0.338***	−0.104***	−0.176***	−0.138***
	(0.031)	(0.023)	(0.026)	(0.036)	(0.054)	(0.039)
left × Ideology	−0.005	0.021	−0.005	0.090***	0.325***	0.177***
	(0.026)	(0.028)	(0.031)	(0.023)	(0.034)	(0.037)
Female	0.028***	0.017*	0.063***	−0.028***	−0.044***	0.016
	(0.011)	(0.009)	(0.011)	(0.006)	(0.011)	(0.010)
Age	−0.001***	−0.000	0.000	0.002***	−0.001**	−0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.075***	0.034***	−0.043***	0.028*	0.032	0.047***
	(0.015)	(0.012)	(0.012)	(0.017)	(0.021)	(0.011)
Education Lev.3	0.123***	0.015	−0.027**	0.011	0.034**	0.016
	(0.018)	(0.014)	(0.012)	(0.016)	(0.015)	(0.012)
Household Income	0.000	−0.000***	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Obs.	6372	6367	6366	6360	5450	6363
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table 16: Air-Quality Dissatisfaction and Domestic Leadership Evaluations (Instrument: Wind Speed X Direction X Region)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
AQI pm2.5 (lag)	−0.016	−0.105**	−0.130***	0.013	−0.022	0.069
	(0.024)	(0.049)	(0.032)	(0.054)	(0.060)	(0.049)
Ideology	−0.554***	−0.159***	−0.222***	−0.441***	−0.500***	−0.515***
	(0.020)	(0.011)	(0.016)	(0.015)	(0.022)	(0.014)
left	−0.018	0.341***	0.338***	−0.112***	−0.178***	−0.151***
	(0.028)	(0.017)	(0.026)	(0.036)	(0.054)	(0.040)
left × Ideology	−0.005	0.020	−0.006	0.091***	0.325***	0.178***
	(0.026)	(0.027)	(0.031)	(0.023)	(0.034)	(0.037)
Female	0.028**	0.018**	0.064***	−0.029***	−0.044***	0.015
	(0.011)	(0.009)	(0.011)	(0.007)	(0.011)	(0.010)
Age	−0.001***	−0.000	0.000	0.002***	−0.001**	−0.001*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Education Lev.2	0.075***	0.034***	−0.043***	0.028	0.032	0.047***
	(0.016)	(0.012)	(0.012)	(0.017)	(0.021)	(0.011)
Education Lev.3	0.122***	0.015	−0.027**	0.010	0.034**	0.015
	(0.018)	(0.014)	(0.012)	(0.017)	(0.015)	(0.012)
Household Income	0.000	−0.000***	−0.000	0.000	0.000	−0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.881***	0.592***	0.546***	0.759***	0.819***	0.899***
	(0.037)	(0.046)	(0.030)	(0.054)	(0.072)	(0.049)
Obs.	6371	6366	6365	6359	5449	6362
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.7 Equivalence Test

Table 17: Equivalence Testing Results Across Confidence Levels

Dependent Variable	**80%**	**85%**	**90%**	**95%**	**99%**
International Attitudes					
China	No	No	No	No	No
USA	Yes	Yes	Yes	Yes	Yes
Domestic Political Attitudes					
Environmental Efforts	Yes	Yes	Yes	Yes	Yes
ROK Leadership	Yes	Yes	Yes	Yes	No
Presidential Approval	Yes	Yes	Yes	No	No
National Government	Yes	Yes	Yes	Yes	Yes

Notes: Table shows whether effects are statistically equivalent to zero (within ± 0.07 bounds) at different confidence levels. "Yes" indicates equivalence can be established; "No" indicates equivalence cannot be established. All models include controls for ideology, gender, age, income, region, and year fixed effects. Standard errors clustered by region.

1.8 Russia, Germany and Japan as Placebo

Table 18: Air-Quality Dissatisfaction and International Leadership Evaluations

	Russia	Germany	Japan	China	USA	ROK
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	0.287	−0.179	−0.411**	0.667**	0.057	0.322
	(0.273)	(0.194)	(0.178)	(0.288)	(0.158)	(0.325)
Ideology	−0.102	−0.042	−0.258***	−0.011	−0.218***	−0.380***
	(0.065)	(0.062)	(0.037)	(0.077)	(0.042)	(0.070)
left	0.109***	−0.057	0.063**	0.364***	0.369***	−0.135***
	(0.028)	(0.036)	(0.029)	(0.022)	(0.025)	(0.026)
left × Ideology	0.003	0.003	0.055*	0.007	0.005	0.101***
	(0.026)	(0.049)	(0.030)	(0.038)	(0.030)	(0.029)
Female	−0.020***	0.279***	0.023*	0.022***	0.065***	−0.024***
	(0.008)	(0.026)	(0.012)	(0.006)	(0.007)	(0.007)
Age	0.003***	−0.003***	−0.000	0.001	−0.000	0.002***
	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)
Education Lev.2	0.064***	−0.422***	0.010	0.007	−0.045**	0.007
	(0.014)	(0.039)	(0.014)	(0.021)	(0.018)	(0.021)
Education Lev.3	0.116***	−0.572***	0.013	−0.034	−0.017	−0.012
	(0.027)	(0.039)	(0.021)	(0.022)	(0.026)	(0.031)
Household Income	0.000**	−0.000***	−0.000	−0.000**	−0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.283	2.207***	1.119***	0.044	0.416***	0.567***
	(0.197)	(0.158)	(0.105)	(0.205)	(0.112)	(0.216)
Obs.	7714	7726	7717	7718	7716	7704
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

1.9 Mediation Analysis

Table 19: Mediation Analysis of Air Pollution (T) on Approval of China (Y) via Economic Confidence (M)

Effect	**Coef.**	**SE**	z	p	**95% CI**
Total effect	0.8396	0.2179	3.85	0.000	[0.4125, 1.2666]
Direct effect	−0.1643	0.1030	−1.60	0.110	[−0.3661, 0.0375]
Indirect effect	0.9974	0.5504	1.81	0.070	[−0.0814, 2.0763]
Mediator explains 118.8% of total effect.					
Kleibergen–Paap F (T on Z) = 27.319; F (M on Z — T) = 4.364; instrument: lagpm25.					

Notes: Y = approval of China; T = air pollution; M = economic confidence (INDEX_LEC). 5,807 observations across 16 regions; standard errors clustered by REGION_KOR.

1.10 Rescaled Local Economic Confidence Index

Table 20

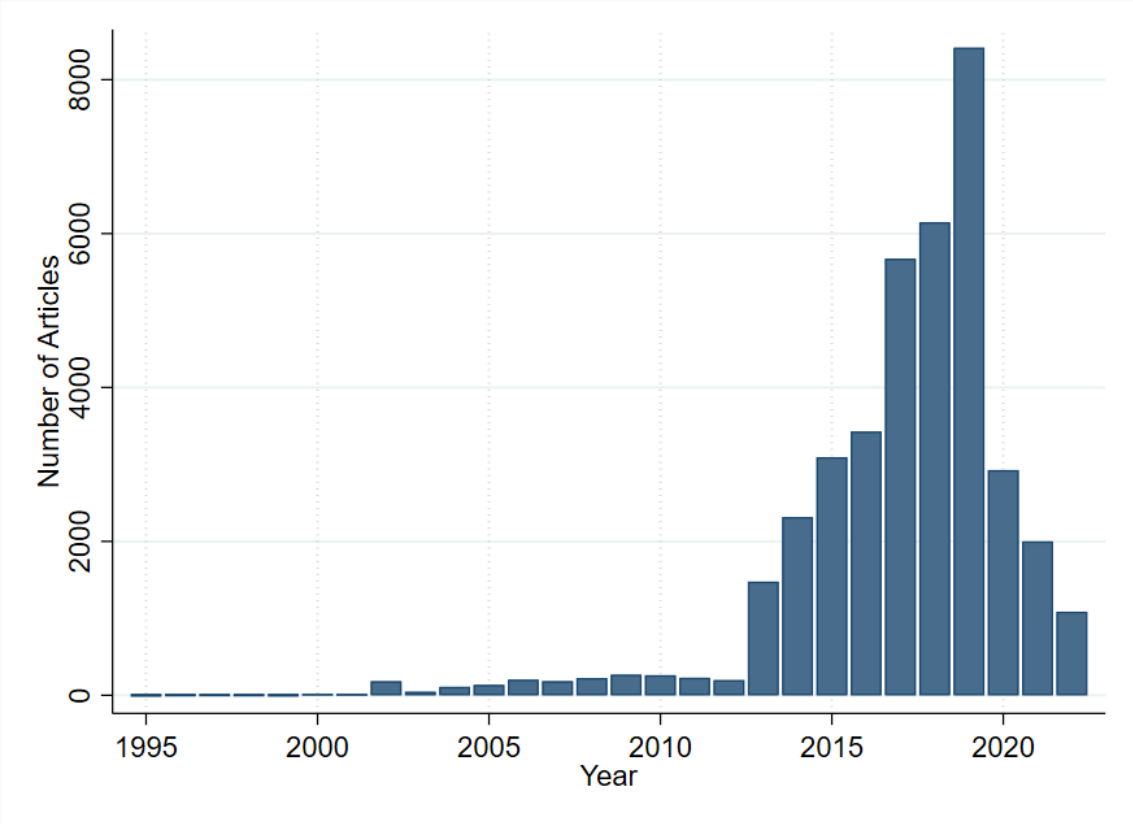
	Nat Econ	Local Econ	Personal Econ	Daily Experience	Personal Health
	(1)	(2)	(3)	(4)	(5)
Dissatisfied w. Air	1.798	−1.689***	−10.127	1.063	−1.584
	(2.109)	(0.581)	(13.804)	(14.136)	(12.907)
Ideology	1.779***	0.589***	19.559***	19.966***	14.267***
	(0.558)	(0.154)	(2.880)	(3.422)	(3.060)
Female	−0.001	0.131***	3.159***	1.567**	−2.854***
	(0.037)	(0.041)	(0.649)	(0.696)	(0.555)
Age	0.008***	−0.014***	−0.223***	−0.037	−0.110***
	(0.003)	(0.002)	(0.027)	(0.027)	(0.032)
Education Lev.2	−0.270**	−0.003	1.270	3.910***	5.584***
	(0.129)	(0.088)	(1.185)	(1.076)	(0.904)
Education Lev.3	−0.563***	0.149	4.710***	7.859***	9.606***
	(0.179)	(0.141)	(1.626)	(1.330)	(1.181)
Household Income	0.000**	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
left		−0.036	0.986	−1.087	1.136
		(0.088)	(1.543)	(1.583)	(1.400)
left × Ideology		−0.348***	−7.224***	−1.355	−1.175
		(0.134)	(1.336)	(2.146)	(1.861)
Constant	0.051	3.445***	29.562***	48.443***	62.905***
	(1.328)	(0.416)	(8.941)	(10.346)	(9.435)
Obs.	1915	5811	7726	7726	7726
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

2 Figures

Figure 1 illustrates the proportion of articles that mention China in relation to microdust when discussing air pollution in South Korea.

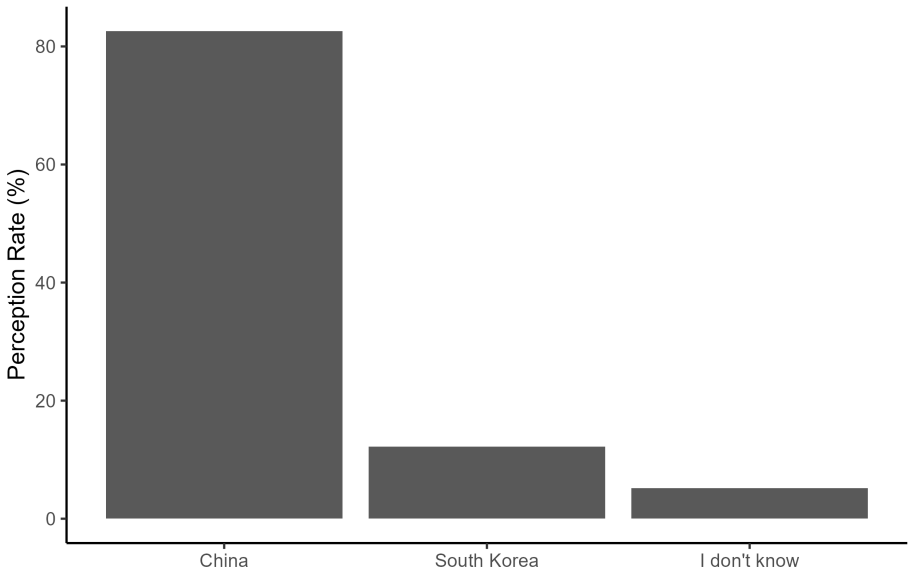
Figure 1: Number of Korean News Articles Linking China and Microdust



2.1 Proportion of Koreans Attributing Air Pollution in Korea to Chinese vs. Local Sources (Gong Jung Public Opinion Survey Results)

Figure 2 presents data from a survey conducted by the public opinion company "GongJung" in South Korea, highlighting the ratio of respondents who blame China for air pollution in Korea compared to those who blame South Korea.

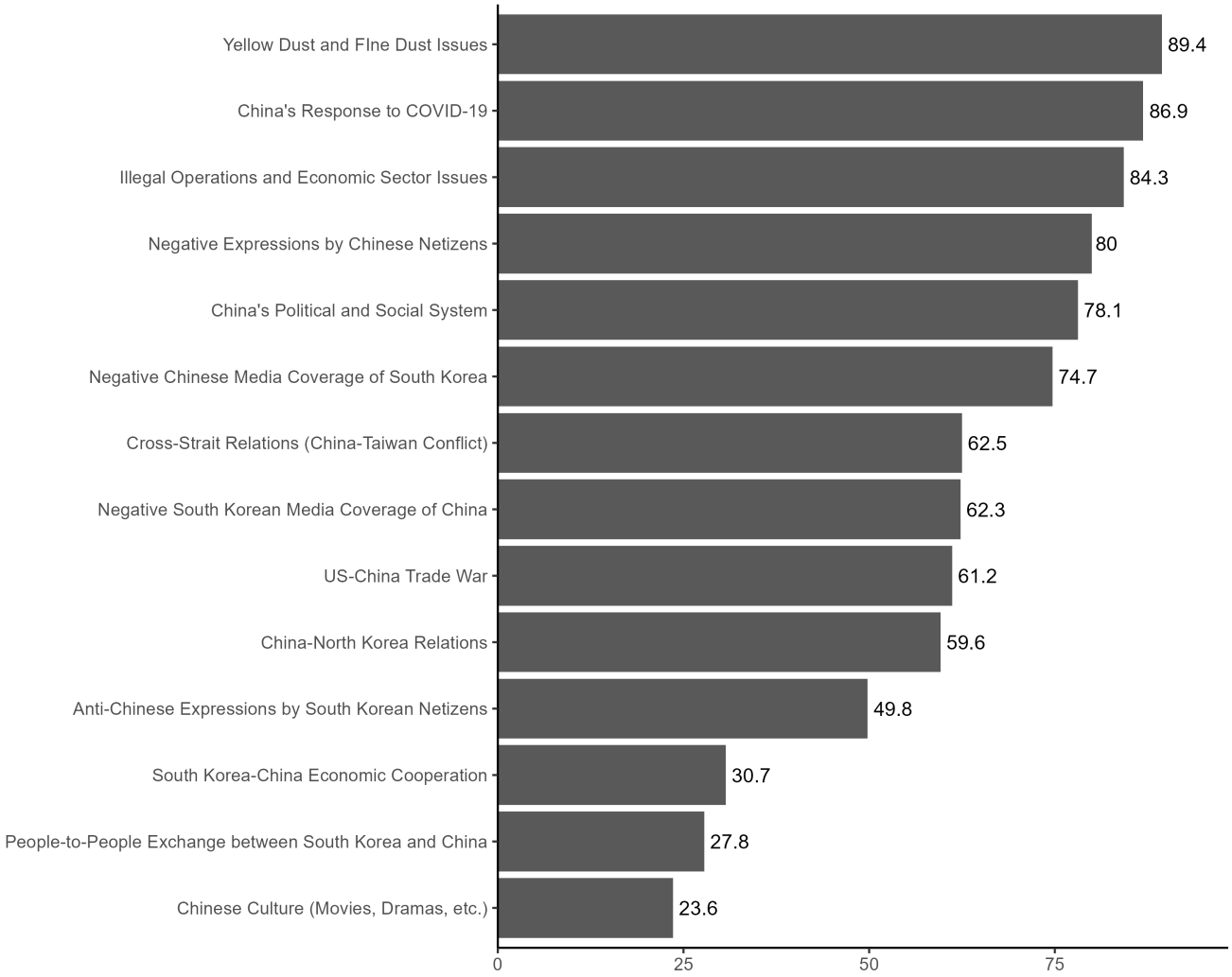
Figure 2: Proportion of Koreans Attributing Air Pollution in Korea to Chinese vs. Local Sources (Gong Jung Public Opinion Survey Results)



2.2 Distribution of Factors Cited by Respondents for Negative Perception of China (Sisain Public Opinion Survey Results)

Figure 3 displays the results of a Sisain survey, focusing on the factors contributing to negative perceptions of Korea among the public.

Figure 3: Distribution of Factors Cited by Respondents for Negative Perception of China (Sisain Public Opinion Survey Results)



3 Openness and Transparency and Survey Methodology

Here, we address the limitations related to Openness and Transparency in out study. Our analysis uses the Gallup World Poll microdata. The authors gained licensed access to this data through an agreement with our University library on February 10, 2023. The license agreement stipulates that: "The Licensed User may retain, but not share, the generated subsets of the data files necessary to facilitate work toward publication and any re-analysis in line with original project goals required thereby." We will make available detailed STATA code to replicate the findings from the raw data, which are accessible to researchers who have an affiliation with an institution that has a license agreement with Gallup. In addition, the license agreement stipulates that: "Upon request, Gallup will provide data access to any researcher or research institution performing peer review of any report made by a Licensed User for publication in a peer-reviewed publication." Thus, any researcher who wishes to replicate our findings should be able to do so with our code and a request to Gallup.

Below outlines the methodology employed for each wave of the Gallup Survey conducted in South Korea from 2005 to 2022. It details the dates of the surveys, the number of respondents interviewed, the survey method (including landline and mobile telephone interviews), and the language used.

Year	County	Date	Start	End	Interviews	Mode	Language
2005-2006	South Korea	6-Mar			1,100	Landline Telephone	Korean
2007	South Korea	7-May			1,000	Landline Telephone	Korean
2008	South Korea	Sep 5 - 30-Sep-08	9/5/2008	9/30/2008	1,000	Landline Telephone	Korean
2008	South Korea	Sep 5 - 30-Sep-08	9/5/2008	9/30/2008	1,000	Landline Telephone	Korean
2009	South Korea	Sep 2 - Sep 27 2009	9/2/2009	9/27/2009	1,000	Landline Telephone	Korean
2010	South Korea	Jun 7 - Jul 16 2010	6/7/2010	7/16/2010	1,000	Landline Telephone	Korean
2011	South Korea	Jun 16 - Jul 12 2011	6/16/2011	7/12/2011	1,001	Landline and Mobile Telephone	Korean
2012	South Korea	Feb 8 - Mar 18 2012	2/8/2012	3/18/2012	1,000	Landline and Mobile Telephone	Korean
2012	South Korea	Apr 23 - May 24 2012	4/23/2012	5/24/2012	1,000	Landline and Mobile Telephone	Korean
2013	South Korea	Jun 10 - Sep 13 2013	6/10/2013	9/13/2013	1,000	Landline and Mobile Telephone	Korean
2014	South Korea	May 9 - Jul 12 2014	5/9/2014	7/12/2014	1,000	Landline and Mobile Telephone	Korean
2014	South Korea	Oct 1 - Nov 25 2014	10/1/2014	11/25/2014	1,000	Landline and Mobile Telephone	Korean
2015	South Korea	Sep 4 - Nov 27 2015	9/4/2015	11/27/2015	1,000	Landline and Mobile Telephone	Korean
2016	South Korea	May 12 - Jul 18 2016	5/12/2016	7/18/2016	1,000	Landline and Mobile Telephone	Korean
2017	South Korea	Mar 28 - Jul 2 2017	3/28/2017	7/2/2017	1,000	Landline and Mobile Telephone	Korean
2018	South Korea	Jul 6 - Sep 14 2018	7/6/2018	9/14/2018	1,015	Landline and Mobile Telephone	Korean
2019	South Korea	Aug 19 - Oct 18 2019	8/19/2019	10/18/2019	1,016	Landline and Mobile Telephone	Korean
2020	South Korea	Aug 25 - Oct 7 2020	8/25/2020	10/7/2020	1,005	Landline and Mobile Telephone	Korean
2021	South Korea	Jun 23 - Aug 11 2021	6/23/2021	8/11/2021	1,001	Landline and Mobile Telephone	Korean
2022	South Korea	Aug 8 - Sep 28 2022	8/8/2022	9/28/2022	1,010	Landline and Mobile Telephone	Korean

Table 21: Survey Methodology for South Korea

4 Partisan Politics in Korea

To further investigate how partisan dynamics influence public accountability under conditions of transboundary air pollution, we analyze variations in the South Korean political context during our study period (2015–2022). This period covers administrations with differing partisan orientations: the conservative administration of President Park Geun-hye (2015–2016), the progressive administration of President Moon Jae-in (2018–2021, explicitly excluding his first and last years to avoid transitional dynamics). Qualitatively, our manuscript documents how leaders across both conservative and progressive parties actively promoted narratives attributing air pollution primarily to China, reinforcing external blame within public discourse (as illustrated earlier in the manuscript).

Empirically, we conducted supplementary analyses interacting respondents' dissatisfaction with air quality and the incumbent administration's partisan orientation (coded as "left=1" during the specified Moon administration years and "left=0" otherwise). As shown in Table 22, dissatisfaction with air quality significantly increases dissatisfaction with Chinese leadership under both political contexts. However, dissatisfaction with air quality does not significantly increase dissatisfaction toward the Korean government under either administration type. These findings highlight a consistent pattern: regardless of the incumbent government's partisan orientation, the public consistently directs blame externally toward China rather than internally toward domestic political authorities. Thus, these empirical results robustly support the "hazy accountability" hypothesis, emphasizing that external blame narratives persist independently of partisan leadership and complicate domestic accountability processes.

Table 22: Partisan Conditionality of Hazy Accountability (Incumbent Government Ideology)

	Gvt Environment	China	USA	ROK	President	Gvt Confidence
	(1)	(2)	(3)	(4)	(5)	(6)
Dissatisfied w. Air	−0.123	0.814*	0.064	0.385	−0.348	−0.054
	(0.354)	(0.477)	(0.195)	(0.417)	(0.626)	(0.367)
left	−0.153	0.731***	0.388***	0.013	−0.355	−0.229
	(0.167)	(0.201)	(0.092)	(0.186)	(0.285)	(0.181)
Dissatisfied w. Air × left	0.261	−0.722	−0.038	−0.291	0.397	0.117
	(0.324)	(0.451)	(0.182)	(0.392)	(0.586)	(0.331)
Obs.	7723	7718	7716	7704	6717	7711
Region/Year FE	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Control Variables	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$