Appendices for

Sources of Comparative Advantage in Polluting Industries

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Appendix A: Proof of Result 2

Taking the derivative of Equation (13) with respect to A_j and rearranging we obtain

$$\frac{d\bar{E}_j^*}{dA_j} = P_d \cdot A_j^{\gamma-1} \cdot \frac{\left(P_c \cdot A \cdot L + \gamma \cdot P_d \cdot A \cdot \bar{E}_j^*\right) \cdot U''\left(I_j\left(\bar{E}_j^*\right)\right) + \gamma \cdot U'\left(I_j\left(\bar{E}_j^*\right)\right)}{V_j^{-2} \cdot W''\left(V_j^{-1} \cdot \bar{E}_j^*\right) - P_d^2 \cdot A_j^{2\cdot\gamma} \cdot U''\left(I_j\left(\bar{E}_j^*\right)\right)}.$$

The denominator is positive because $W'' > 0$ and $U'' < 0$. If $\gamma = 0$, the numerator is negative because $U'' < 0$ and the second term disappears. This proves the first result. Otherwise, since $\gamma < 1$, $U'' < 0$, and $U' > 0$, the numerator is smaller than

$$I_j\left(\bar{E}_j^*\right) \cdot U''\left(I_j\left(\bar{E}_j^*\right)\right) + U'\left(I_j\left(\bar{E}_j^*\right)\right),$$

which is negative if $-c \cdot U''(c)/U'(c) > 1$. This proves the second result.

Appendix B: The Box model

The model determines the concentration of pollutants within the box $\{(x, y, z) : x \in [0, \mathcal{L}], y \in [0, \mathcal{L}], z \in [0, h]\}$. The concentration of pollutants does not depend on height z since vertical dispersion is instantaneous. Thus, let $\rho(x, y, t)$ denote pollution at (x, y, z) at time t for all $z \in [0, h]$. Wind blows in the ascending y direction.

Consider the sub-box $\{(x', y', z') : x' \in [0, x], y' \in [0, y], z' \in [0, h]\}$. The change in total pollution within the sub-box is given by

$$\frac{d}{dt}\int_0^x \int_0^y \rho\left(x', y', t\right) \cdot h \cdot dy' \cdot dx' = x \cdot y \cdot E - \int_0^x \rho\left(x', y, t\right) \cdot u \cdot h \cdot dx', \tag{1}$$

where h is mixing height, u is wind speed, and E is emissions per unit area. The first term on the right hand side is the pollution emitted within the sub-box and the second term is the pollution that

leaves the sub-box. The latter depends on the concentration of pollution at the downwind side and the speed at which dirty air leaves the sub-box.

In steady state, the total pollution within the sub-box is constant and, thus, we have

$$\int_0^x \rho\left(x', y\right) \cdot dx' = x \cdot y \cdot \frac{E}{u \cdot h}, \tag{2}$$

where we have omitted the time dependence. Taking the derivative of Equation (2) with respect to x we find

$$\rho\left(x, y\right) = y \cdot \frac{E}{u \cdot h}. \tag{3}$$

Note that the concentration of pollutants is not constant within the urban area. It is zero at the upwind edge of the urban area and increases linearly with distance from this edge.

The average concentration of pollution in the urban area is

$$Z = \frac{1}{\mathcal{L}^2} \cdot \int_0^{\mathcal{L}} \int_0^{\mathcal{L}} \rho\left(x, y\right) \cdot dy \cdot dx. \tag{4}$$

Given Equation (3), this implies

$$Z = \frac{\mathcal{L}}{2} \cdot \frac{E}{u \cdot h}. \tag{5}$$

Appendix C: Data description

U.S. imports. Data on the value of U.S. imports refer to 2005 and come from Feenstra, Romalis and Schott (2002), updated to 2006. The original variable *gvalue* is the value in dollars paid for all U.S. general imports without consideration of import duties, freight and insurance charges. The data set comes with a 10-digits Harmonized Tariff System (HTS) product breakdown and has been aggregated to 4-digits NAICS sectors using the correspondence from 10-digits HTS to 6-digits NAICS provided by Feenstra, Romalis and Schott (2002). The dependent variable used in the regressions, country c's relative import shares into the U.S. (M_{ic}), is defined as country c's trade share in sector i divided by the average share of country c in U.S. imports. In all regressions we winsorize top and bottom 1% of observations in (M_{ic}) to reduce the importance of extreme values in our estimates. All results presented in the paper are robust to winsorizing M_{ic} at the 2.5% level.

Air pollution regulation. Our measure of air pollution regulation is maximum lead content (in grams) per liter of gasoline in 1996 multiplied by the market share of leaded gasoline. Note that the variable is defined in such a way that higher values indicate laxer air pollution regulation.

Both maximum lead content and market share of leaded gasoline are collected by the World Bank (Lovei, 1998) which has integrated data sourced from the main commercial producer of ethyl lead (Associated Octel Ltd.), with a number of industry publications, World Bank direct sources and personal contacts with government officials. The market share of leaded gasoline is equal to 1 minus the market share of unleaded gasoline and it is expressed in percentage points. For most countries (89) the information refers to 1996, but for 12 countries the variable is observed between 1992 and 1995.

Air pollution intensity. Pollution intensity at industry level is drawn from data compiled by the U.S. Environmental Protection Agency's (EPA) for their Trade and Environmental Assessment Model (TEAM), and it is based on EPA's 2002 National Emissions Inventory. Original data for Carbon Monoxide (CO), Nitrogen Oxides (NOx) and Sulfur Dioxide (SO2) emissions is defined as tons of pollutant emitted by 4-digits NAICS industries in 2002 and we divided it by total value of sales as given by TEAM. The variable used in all regressions is the log transformation of this measure expressed in tons of emissions per millions of dollars of value added. We correct and normalize these variables by multiplying factor emissions from TEAM by the value of shipments from the CES NBER Productivity Database, and then dividing the result with NBER's value added. The procedure is intended to bridge some discrepancies between the value of sales as reported by TEAM and by NBER.

The variable pollution intensity used in most regressions (e_i) is the simple average across the logarithms of pollution intensities of the three pollutants we focus on (CO, NOx and SO2). We also considered averaging across the logarithms of the standardized pollution intensities. The correlation between our baseline measure of pollution intensity and this alternative is 1.

Ventilation coefficient. We construct our own ventilation coefficient measure with wind speed and mixing height data from the ERA Interim, Synoptic Monthly Means, Full Resolution data set (Dee et al. 2011) provided by the European Centre for Medium-Term Weather Forecasting (ECMWF)[1]. This data set combines historical observational data with ECMWF's global forecasting model to construct a set of high quality weather variables on a global grid of $0.75^{\circ} \times 0.75^{\circ}$ cells (roughly 83 square kilometers).

Raw data used for the reanalysis rely on satellite observations, and are supplemented with records coming from radiosondes, pilot balloons, aircrafts, wind profilers as well as ships, drifting buoys and land weather stations' measurements. The result of ECMWF's meteorological reanalysis is a complete global grid that reports, for every month between January 1980 and December 2010, the monthly

[1] Accessible at: http://data-portal.ecmwf.int/data/d/interim_full_mnth/

average for wind speed at 10 meters above the ground (in meters per second) and mixing height[2] (in meters) at noon. In order to construct our ventilation coefficient over the whole grid, we first multiply wind speed and mixing height in every month in the sample. Next, we compute for this new variable the 12 monthly averages over the past 30 years. Finally, we take the average across these 12 monthly means. The method intends to eliminate seasonal fluctuations and produces a measure that reflects long-term meteorological characteristics only.

In order to aggregate grid data at national level, we select the grid cell whose center is closest to the capital city of every country, and assign the ventilation coefficient of that cell to the whole country. The data set of coordinates for capital cities around the world is constructed from several web sources. The main reference is the Nation Master website[3] but virtually all data points have been double checked with other online sources.

Given the latitude and the longitude of a city (lat_c and long_c) and of the coordinates of the center of a grid cell (lat_g and long_g) expressed in decimal values, distance between the city and the cell is approximated using the spherical law of cosines (Gellert et al., 1989, p. 262):

$$d(c,g) = \text{acos}\left[\sin\left(\frac{lat_c}{180}\pi\right)\sin\left(\frac{lat_g}{180}\pi\right) + \cos\left(\frac{lat_c}{180}\pi\right)\cos\left(\frac{lat_g}{180}\pi\right)\cos\left(\left(\frac{long_g}{180}\pi\right) - \left(\frac{long_c}{180}\pi\right)\right)\right] \times 6378.137$$

where the last number is the radius of the Equator in kilometers. Note that, although the formula assumes that the Earth is a perfect sphere, the inaccuracy resulting from this assumption is irrelevant for our purposes since we use these distances only to assess the relative position of different grid cells with respect to every city in the sample.

Stock of physical Capital. Capital endowment (K_c) is defined as the logarithm of capital per worker in 2002 and it is computed with data sourced from Penn World Table 6.3 (PWT: Heston, Summers and Aten, 2009) following the *Perpetual Inventory Method* suggested by Caselli (2005, p.685).

Total real capital endowment in year t is calculated as: $K_t = I_t + (1-\delta)K_{t-1}$. Investment in year t I_t is computed as investment share in total income (variable *ki* in the PWT data set) times real GDP per capita at constant 2005 Laspeyres price (*rgdpl*) times population: $I_t = rgdpl_t \times (pop_t \times 1000) \times (ki_t/100)$; δ is the rate of depreciation of capital and it is set equal to 0.06. K_{t-1} is the real value of capital in the previous year. We assume that when a country enters the data set it is in its long-run steady state: accordingly set $K_0 = I_0/(\delta + g)$ where g is average geometric growth rate for investment for the

[2] ERA-Interim refers to mixing height as "boundary layer height".
[3] Accessible at: http://www.nationmaster.com.

first 20 years of observation in the data set. The variable capital per worker is obtained by dividing total real capital by the number of workers in 2002. The number of workers in that year, is in turn calculated as real GDP per capita at constant price (*rgdpch*) times total population divided by real GDP per worker (*rgdpwok*). In all regressions we discard all 36 countries whose stock of real capital in 2002 was calculated with less than 33 years of observations.

Stock of human capital. Our measure of human capital (H_c) is computed applying the method proposed by Hall and Jones (1999) to the data organized by Barro and Lee (2010). The variable used is the average years of education in 2000 for the population above 25 years (*tyr99* in the original data set). As Hall and Jones we assume: $H_c = \exp(\varphi(tyr99))$ where $\varphi(\cdot)$ is a step function defined as:

$$\begin{aligned}
\varphi(tyr99) &= 0.134 \cdot tyr99 && \text{if} && tyr99 \leqslant 4 \\
\varphi(tyr99) &= 0.134 \cdot 4 + 0.101 \cdot (tyr99 - 4) && \text{if} \quad 4 < && tyr99 \leqslant 8 \\
\varphi(tyr99) &= 0.134 \cdot 4 + 0.101 \cdot 8 + 0.068 \cdot (tyr99 - 8) && \text{if} \quad 8 < && tyr99.
\end{aligned}$$

In the regressions we use the logarithm of H_c.

Capital and skill intensity. Our measures of capital and skill intensity are drawn from Bartelsman and Gray (1996) NBER-CES Manufacturing Industry Database and refer to 2002. The original data are defined at 6-digits NAICS: we aggregate them to 4-digits before computing factor intensities.

Capital intensity in every 4-digits NAICS industry (k_i) is equal to real capital stock in 2002 (*cap*, originally expressed in millions of 1987 dollars) divided by value added in the same year (*vadd*, in millions of dollars).

Skill intensity in 2002 (h_i) is computed as 1 minus the share of wages to production workers on total payroll from the variables *prodw* (total amount of wages to production workers, in millions of dollars) and *pay* (total payroll, also in millions of dollars) within 4-digits NAICS industries.

Income per capita. Our measure of income per capita is the logarithm of real gross domestic product per capita in U.S. dollars at PPP current prices in 2002 from the PWT database (variable *cgdp*).

TFP growth. Total factor productivity (TFP) growth is computed from variable *tfp5* in Bartelsman and Gray (1996) and it is defined as 1 plus the growth rate in TFP over the period 1997-2002. Original data are classified according to 6-digits NAICS codes: TFP growth for 4-digits NAICS sectors is the weighted average of 6-digits industries TFP growth within the wider category.

Value of sales and value added. The measures of value of sales and value added in 4-digits U.S. NAICS industries mentioned at various points in the paper are both from Bartelsman and Gray

(1996) NBER-CES Manufacturing Industry Database. We aggregated the original 6-digits NAICS industries variables in 2002 at 4-digits level. Value of sales (*vship*) is value of industry shipments in millions of dollars. Value added (*vadd*) is defined as total value of industry shipments minus the cost of materials, plus the change in finished goods, in work-in-process and in inventories during the year. It is also expressed in millions of dollars. The variable "value added" (VA_i) used in all regressions is defined as *vadd* divided by *vship*.

Oil abundance. Our measure of oil abundance is proven reserves of crude oil (in billions of barrels) in 2003 divided by 2002 population. Oil reserves are sourced from the U.S. Energy Information Administration's International Energy Statistics, available at `http://www.eia.gov`. Population information for the year 2002 is from PWT.

Oil intensity. We approximate oil intensity in 4-digits NAICS sector with oil and gas use over total output (both expressed in millions of dollars and at producer prices) from 2002 U.S. Input-Output tables[4]. Original I-O sectors are matched to 4-digits NAICS industries manually, with the table of concordance provided by BEA.

Contract intensity. The measure of contract intensity at 4-digits NAICS industry is computed by Nunn (2007) for the U.S. in 1997. The variable we use here corresponds to z_i^{rs1} in Nunn's paper (and to *frac_lib_diff* in Nunn's (2007) online database): it is defined as the fraction of inputs used by industry i that are neither traded on exchanges nor are referenced priced on trade publications. See Nunn (2007, pp. 575-577) for details on how the variable is built from U.S. I-O matrix and Rauch (1999) product pricing classification.

Efficiency of legal institutions. Our measure of efficiency of legal institutions is *num_proc*: the total number of procedures mandated by law or court regulation that demand interaction between the parties or between them and the judge or court officer in 2003. The variable comes from the database organized by Nunn (2007) and it is defined in the same manner, i.e. as 60 minus the total number of procedures. Note that under this definition a higher value indicates higher quality of the judicial system. See Nunn (2007) for details on how the variable was derived from World Bank data.

Fertile land per capita. We define fertile land per capita as hundreds of hectares per capita in 2002. The variable is drawn from data assembled by Nunn and Puga (2012) and population data from PWT as: land area in thousands of hectares times percentage of fertile soil (respectively *land_area* and *soil* in Nunn and Puga (2012)) divided by total population in 2002 from PWT (*pop*, in thousands of people). Percentage of fertile soil is defined as the percentage of land surface area of each country

[4]The exact name of the table is "The Use of Commodities by Industries after Redefinitions, 2002 Benchmark" and it is available on the BEA website: `www.bea.gov`.

whose soil is not subject to severe constraints for growing rainfed crops. See Nunn and Puga (2012) for details and references to original sources.

Table C1

Summary Statistics

PANEL A: Dependent Variable

Full Sample

Variable Name	Definition	Mean	St. Dev.	Obs.
Relative Import Share	Country c's share of U.S. imports in industry i relative to its average share	0.65	1.84	8585
Average Import Share	Country c's average share in U.S. imports	0.01	0.03	101

Sample with data on human capital

Variable Name	Definition	Mean	St. Dev.	Obs.
Relative Import Share	Country c's share of U.S. imports in industry i relative to its average share	0.72	1.85	6205
Average Import Share	Country c's average share in U.S. imports	0.01	0.03	73

PANEL B: Industry-level variables

Variable Name	Definition	Mean	St. Dev.	Obs.
NOx Intensity	Tons of NOx emitted per 2002 dollar of value added	1.51	2.17	85
SO2 Intensity	Tons of SO2 emitted per 2002 dollar of value added	1.60	2.93	85
CO Intensity	Tons of CO emitted per 2002 dollar of value added	3.54	5.62	85
Pollution Intensity	Average of NOx, SO2 and CO Intensity	2.22	3.17	85
Skill intensity	Share of wage bill to non-production workers	0.39	0.12	85
Capital Intensity	Capital over value added	1.14	0.59	85
TFP growth	1+ total factor productivity growth between 1997 and 2002	0.96	0.21	85
VA	Value added over total value of shipments	0.50	0.11	85
Contract Intensity	Share of inputs not traded on organized exchanges nor reference priced	0.51	0.21	85
Oil Intensity	Expenditure on oil and gas per dollar of gross output	0.01	0.06	85

Table C1 (continued)

Summary Statistics

PANEL C: Country-level variables

Full Sample

Variable Name	Definition	Mean	St. Dev.	Obs.
Lax Air Pollution Regulation	Average lead content of gasoline (grams/liter)	0.36	0.30	101
Ventilation Potential	Average wind speed × mixing height (square meters/second)	4046.66	2883.22	101
Income per capita	Real GDP per capita in 2002 dollars	11074.13	10464.20	101

Sample with data on human capital

Variable Name	Definition	Mean	St. Dev.	Obs.
Lax Air Pollution Regulation	Average lead content of gasoline (grams/liter)	0.30	0.29	73
Ventilation Potential	Average wind speed × mixing height (square meters/second)	3764.82	2866.17	73
Income per capita	Real GDP per capita in 2002 dollars	12450.28	10798.99	73
Skill Abundance	Log of efficiency of average worker over a worker with no education	0.76	0.27	73
Capital Abundance	Real capital per worker	86067.83	83700.97	73
Fertile Land per capita	Hundreds of hectares per capita	79.62	106.65	73
Oil Abundance	Proven reserves (millions of barrels) per capita	0.89	5.40	73
Efficiency of Legal Institutions	60 - number of procedures required to collect an overdue debt	30.99	11.72	68

Note: industries are 4-digits NAICS manufacturing sectors; countries considered are all countries with population of at least half a million. Refer to Data Appendix for further details on the variables.

Appendix D: Robustness of results to alternative standard errors and dependent variable

Table D1
Robustness of baseline OLS estimates (Table 7)
Standard errors clustered at country level
Dependent variable: Import Share

	1	2	3	4	5	6	7
Lax Air Pollution Regulation $_c$× Pollution Intensity $_i$	0.078***	0.083***	0.083***	0.079***	0.088***	0.080***	0.075***
	(0.022)	(0.023)	(0.023)	(0.024)	(0.024)	(0.023)	(0.023)
Skill Abundance $_c$× Skill Intensity $_i$		0.066***	0.068***	0.062***	0.067***	0.063***	0.057***
		(0.022)	(0.022)	(0.021)	(0.023)	(0.023)	(0.022)
Capital Abundance $_c$× Capital Intensity $_i$		0.051***	0.053***	0.060***	0.054***	0.058***	0.070***
		(0.016)	(0.016)	(0.015)	(0.016)	(0.016)	(0.016)
Income per capita $_c$× TFP growth $_i$			-0.009				
			(0.016)				
Income per capita $_c$× VA $_i$				0.024			0.036**
				(0.017)			(0.017)
Efficiency of Legal Institutions $_c$× Contract Intensity $_i$						0.043**	0.045**
						(0.018)	(0.018)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,205	6,205	6,205	6,205	5,780	5,780	5,780

Note: The regressions are estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D2
Robustness of OLS estimates with different controls (Table 8)
Standard errors clustered at country level
Dependent variable: Import Share

	1	2	3	4	5	6	7
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.062***	0.097***	0.083***	0.108***	0.107***	0.098***	0.091***
	(0.018)	(0.024)	(0.023)	(0.029)	(0.029)	(0.028)	(0.027)
Income per capita $_c\times$ Pollution Intensity $_i$		0.055**		0.050*	0.051*	0.041	0.033
		(0.022)		(0.028)	(0.028)	(0.026)	(0.025)
Skill Abundance $_c\times$ Skill Intensity $_i$			0.066***	0.070***	0.071***	0.070***	0.067***
			(0.022)	(0.022)	(0.022)	(0.022)	(0.023)
Capital Abundance $_c\times$ Capital Intensity $_i$			0.051***	0.033**	0.034**	0.034**	0.042***
			(0.016)	(0.014)	(0.015)	(0.015)	(0.015)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$					0.030	0.031*	0.030*
					(0.019)	(0.018)	(0.017)
Oil Abundance $_c\times$ Oil Intensity $_i$						0.085***	0.086***
						(0.006)	(0.006)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.039**
							(0.018)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	6,205	5,780

Note: The regressions are estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D3
Robustness of reduced form estimates (Table 9)
Standard errors clustered at country level
Dependent variable: Import Share

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c\times$ Pollution Intensity $_i$	0.057***	0.057***	0.054***	0.045***	0.045***	0.046***	0.055***	0.049***	0.053***
	(0.014)	(0.014)	(0.013)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.016)
Income per capita $_c\times$ Pollution Intensity $_i$		0.017	0.013			-0.015	-0.019	-0.024	-0.022
		(0.014)	(0.014)			(0.017)	(0.017)	(0.016)	(0.015)
Oil Abundance $_c\times$ Oil Intensity $_i$			0.057***					0.076***	0.076***
			(0.021)					(0.007)	(0.007)
Skill Abundance $_c\times$ Skill Intensity $_i$					0.058***	0.056***	0.056***	0.055***	0.056***
					(0.019)	(0.019)	(0.020)	(0.020)	(0.020)
Capital Abundance $_c\times$ Capital Intensity $_i$					0.023*	0.031**	0.042***	0.042***	0.042***
					(0.012)	(0.012)	(0.014)	(0.014)	(0.014)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.049***	0.043***	0.045***
							(0.017)	(0.016)	(0.016)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$									0.039***
									(0.011)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,750	12,750	12,580	8,075	8,075	8,075	7,140	7,140	7,140

Note: The regressions are estimates of equation (19). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D4
Robustness of first stage estimates (Table 10)
Standard errors clustered at country level
Dependent variable: Environmental Regulation $_c\times$ Pollution Intensity $_i$

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c\times$ Pollution Intensity $_i$	0.219***	0.211***	0.218***	0.217***	0.191**	0.201**	0.206**	0.203**	0.213**
	(0.081)	(0.068)	(0.082)	(0.082)	(0.088)	(0.086)	(0.086)	(0.086)	(0.086)
Income per capita $_c\times$ Pollution Intensity $_i$		-0.624***	-0.680***	-0.656***		-0.671***	-0.632***	-0.635***	-0.632***
		(0.057)	(0.067)	(0.072)		(0.072)	(0.081)	(0.080)	(0.080)
Skill Abundance $_c\times$ Skill Intensity $_i$				0.035**	0.135***		0.023	0.023	0.025
				(0.016)	(0.018)		(0.018)	(0.018)	(0.017)
Capital Abundance $_c\times$ Capital Intensity $_i$				-0.022	-0.387***		-0.015	-0.014	-0.013
				(0.028)	(0.037)		(0.029)	(0.029)	(0.029)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.088	0.085	0.084
							(0.060)	(0.060)	(0.060)
Oil Abundance $_c\times$ Oil Intensity $_i$								0.042***	0.042***
								(0.010)	(0.010)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$									0.063
									(0.101)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	5,780	5,780	5,780	5,780
F-test on excluded instruments	7.131	9.339	6.724	6.637	4.548	5.209	5.496	5.392	5.877

Note: The regressions are estimates of equation (20). The dependent variable is the interaction of environmental regulation in country c and pollution intensity in industry i ($E_c \times e_i$). Standardized beta coefficients are reported, with standard errors clustered at country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D5
Robustness of 2SLS estimates (Table 11)
Standard errors clustered at country level
Dependent variable: Import Share

	1	2	3	4	5	6	7	8	9
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.237**	0.246***	0.193**	0.186**	0.207**	0.231**	0.238**	0.213**	0.232**
	(0.094)	(0.090)	(0.084)	(0.084)	(0.100)	(0.098)	(0.096)	(0.095)	(0.094)
Income per capita $_c\times$ Pollution Intensity $_i$		0.149**	0.105*	0.100*		0.123*	0.129*	0.108	0.122*
		(0.060)	(0.061)	(0.060)		(0.072)	(0.068)	(0.068)	(0.067)
Skill Abundance $_c\times$ Skill Intensity $_i$				0.067***	0.049**		0.062***	0.062***	0.063***
				(0.022)	(0.024)		(0.023)	(0.023)	(0.023)
Capital Abundance $_c\times$ Capital Intensity $_i$				0.035**	0.099**		0.044***	0.044***	0.045***
				(0.015)	(0.045)		(0.016)	(0.016)	(0.016)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.035*	0.031*	0.029
							(0.019)	(0.019)	(0.019)
Oil Abundance $_c\times$ Oil Intensity $_i$								0.078***	0.078***
								(0.008)	(0.008)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$									0.025
									(0.030)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	5,780	5,780	5,780	5,780

Note: The table reports 2SLS estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D6
Robustness of baseline OLS estimates (Table 7)
Standard errors clustered at industry and country level
Dependent variable: Import Share

	1	2	3	4	5	6	7
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.078***	0.083**	0.083**	0.079**	0.088**	0.080**	0.075**
	(0.029)	(0.033)	(0.033)	(0.032)	(0.035)	(0.032)	(0.031)
Skill Abundance $_c\times$ Skill Intensity $_i$		0.066**	0.068***	0.062**	0.067**	0.063**	0.057**
		(0.026)	(0.026)	(0.025)	(0.027)	(0.027)	(0.025)
Capital Abundance $_c\times$ Capital Intensity $_i$		0.051**	0.053**	0.060***	0.054**	0.058***	0.070***
		(0.021)	(0.021)	(0.021)	(0.022)	(0.022)	(0.024)
Income per capita $_c\times$ TFP growth $_i$			-0.009				
			(0.012)				
Income per capita $_c\times$ VA $_i$				0.024			0.036
				(0.021)			(0.022)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$						0.043**	0.045**
						(0.021)	(0.021)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,205	6,205	6,205	6,205	5,780	5,780	5,780

Note: The regressions are estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at industry and country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D7
Robustness of OLS estimates with different controls (Table 8)
Standard errors clustered at industry and country level
Dependent variable: Import Share

	1	2	3	4	5	6	7
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.062**	0.097***	0.083**	0.108***	0.107***	0.098***	0.091***
	(0.028)	(0.036)	(0.033)	(0.038)	(0.039)	(0.033)	(0.033)
Income per capita $_c\times$ Pollution Intensity $_i$		0.055*		0.050	0.051*	0.041	0.033
		(0.030)		(0.031)	(0.031)	(0.030)	(0.029)
Skill Abundance $_c\times$ Skill Intensity $_i$			0.066**	0.070***	0.071***	0.070***	0.067**
			(0.026)	(0.025)	(0.026)	(0.026)	(0.027)
Capital Abundance $_c\times$ Capital Intensity $_i$			0.051**	0.033	0.034	0.034	0.042*
			(0.021)	(0.021)	(0.022)	(0.022)	(0.024)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$					0.030	0.031	0.030
					(0.022)	(0.021)	(0.020)
Oil Abundance $_c\times$ Oil Intensity $_i$						0.085***	0.086***
						(0.001)	(0.001)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.039**
							(0.019)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	6,205	5,780

Note: The regressions are estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at industry and country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D8
Robustness of reduced form estimates (Table 9)
Standard errors clustered at industry and country level
Dependent variable: Import Share

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c\times$ Pollution Intensity $_i$	0.057**	0.057**	0.054**	0.045**	0.045**	0.046**	0.055**	0.049***	0.053***
	(0.025)	(0.025)	(0.023)	(0.020)	(0.020)	(0.020)	(0.022)	(0.019)	(0.018)
Income per capita $_c\times$ Pollution Intensity $_i$		0.017	0.013			-0.015	-0.019	-0.024	-0.022
		(0.017)	(0.018)			(0.019)	(0.020)	(0.021)	(0.020)
Oil Abundance $_c\times$ Oil Intensity $_i$			0.057***					0.076***	0.076***
			(0.005)					(0.001)	(0.001)
Skill Abundance $_c\times$ Skill Intensity $_i$					0.058***	0.056***	0.056**	0.055**	0.056**
					(0.021)	(0.021)	(0.023)	(0.023)	(0.023)
Capital Abundance $_c\times$ Capital Intensity $_i$					0.023	0.031*	0.042**	0.042**	0.042**
					(0.017)	(0.017)	(0.020)	(0.020)	(0.020)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.049**	0.043**	0.045**
							(0.022)	(0.019)	(0.019)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$									0.039**
									(0.016)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,750	12,750	12,580	8,075	8,075	8,075	7,140	7,140	7,140

Note: The regressions are estimates of equation (19). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at industry and country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D9
Robustness of first stage estimates (Table 10)
Standard errors clustered at industry and country level
Dependent variable: Environmental Regulation $_c\times$ Pollution Intensity $_i$

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c\times$ Pollution Intensity $_i$	0.219***	0.211***	0.218***	0.217***	0.191**	0.201**	0.206**	0.203**	0.213**
	(0.079)	(0.066)	(0.080)	(0.080)	(0.086)	(0.084)	(0.084)	(0.083)	(0.084)
Income per capita $_c\times$ Pollution Intensity $_i$		-0.624***	-0.680***	-0.656***		-0.671***	-0.632***	-0.635***	-0.632***
		(0.056)	(0.065)	(0.071)		(0.070)	(0.079)	(0.079)	(0.078)
Skill Abundance $_c\times$ Skill Intensity $_i$				0.035**	0.135***		0.023	0.023	0.025
				(0.017)	(0.051)		(0.019)	(0.019)	(0.018)
Capital Abundance $_c\times$ Capital Intensity $_i$				-0.022	-0.387***		-0.015	-0.014	-0.013
				(0.027)	(0.074)		(0.028)	(0.028)	(0.028)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.088	0.085	0.084
							(0.061)	(0.060)	(0.060)
Oil Abundance $_c\times$ Oil Intensity $_i$								0.042***	0.042***
								(0.008)	(0.008)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$									0.063
									(0.099)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	5,780	5,780	5,780	5,780
F-test on excluded instruments	7.471	9.783	7.057	6.965	4.783	5.467	5.767	5.656	6.165

Note: The regressions are estimates of equation (20). The dependent variable is the interaction of environmental regulation in country c and pollution intensity in industry i ($E_c \times e_i$). Standardized beta coefficients are reported, with standard errors clustered at industry and country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D10
Robustness of 2SLS estimates (Table 11)
Standard errors clustered at industry and country level
Dependent variable: Import Share

	1	2	3	4	5	6	7	8	9
Lax Air Pollution Regulation $_c$× Pollution Intensity $_i$	0.237*	0.246*	0.193*	0.186*	0.207*	0.231*	0.238**	0.213*	0.232**
	(0.131)	(0.130)	(0.103)	(0.105)	(0.121)	(0.120)	(0.121)	(0.110)	(0.103)
Income per capita $_c$× Pollution Intensity $_i$		0.149*	0.105	0.100		0.123	0.129	0.108	0.122*
		(0.083)	(0.074)	(0.070)		(0.086)	(0.081)	(0.077)	(0.072)
Skill Abundance $_c$× Skill Intensity $_i$				0.067**	0.049		0.062**	0.062**	0.063**
				(0.026)	(0.031)		(0.027)	(0.027)	(0.027)
Capital Abundance $_c$× Capital Intensity $_i$				0.035	0.099*		0.044*	0.044*	0.045*
				(0.022)	(0.054)		(0.024)	(0.024)	(0.025)
Efficiency of Legal Institutions $_c$× Contract Intensity $_i$							0.035*	0.031*	0.029
							(0.020)	(0.019)	(0.019)
Oil Abundance $_c$× Oil Intensity $_i$								0.078***	0.078***
								(0.005)	(0.005)
Fertile Land per capita $_c$× Pollution Intensity $_i$									0.025
									(0.032)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	5,780	5,780	5,780	5,780

Note: The table reports 2SLS estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}. Standardized beta coefficients are reported, with standard errors clustered at industry and country level in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D11
Robustness of baseline OLS estimates (Table 7)
Dependent variable in logs

Dependent variable: Log of Imports

	1	2	3	4	5
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.081***	0.083***	0.077***	0.070***	0.061***
	(0.011)	(0.012)	(0.012)	(0.012)	(0.013)
Skill Abundance $_c\times$ Skill Intensity $_i$		0.079***	0.074***	0.072***	0.066***
		(0.009)	(0.009)	(0.010)	(0.010)
Capital Abundance $_c\times$ Capital Intensity $_i$		0.048***	0.062***	0.057***	0.072***
		(0.011)	(0.011)	(0.011)	(0.011)
Income per capita $_c\times$ VA $_i$			0.040***		0.045***
			(0.012)		(0.012)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$				0.054***	0.053***
				(0.011)	(0.011)
Oil Abundance $_c\times$ Oil Intensity $_i$					0.017***
					(0.002)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	4,708	4,708	4,708	4,527	4,527

Note: The regressions are estimates of equation (17). The dependent variable is the natural log of U.S. imports from country c in industry i. Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D12
Robustness of OLS estimates with different controls (Table 8)
Dependent variable in logs

Dependent variable: Log of Imports

	1	2	3	4	5	6	7
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.089***	0.088***	0.083***	0.075***	0.073***	0.069***	0.060***
	(0.010)	(0.012)	(0.012)	(0.014)	(0.014)	(0.014)	(0.014)
Income per capita $_c\times$ Pollution Intensity $_i$		-0.002		-0.020	-0.021	-0.025*	-0.014
		(0.012)		(0.015)	(0.015)	(0.015)	(0.016)
Skill Abundance $_c\times$ Skill Intensity $_i$			0.079***	0.078***	0.080***	0.079***	0.073***
			(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
Capital Abundance $_c\times$ Capital Intensity $_i$			0.048***	0.056***	0.057***	0.058***	0.062***
			(0.011)	(0.012)	(0.012)	(0.012)	(0.012)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$					0.038***	0.039***	0.041***
					(0.010)	(0.010)	(0.010)
Oil Abundance $_c\times$ Oil Intensity $_i$						0.019***	0.016***
						(0.003)	(0.002)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.051***
							(0.011)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,835	5,835	4,708	4,708	4,708	4,708	4,527

Note: The regressions are estimates of equation (17). The dependent variable is the natural log of U.S. imports from country c in industry i. Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D13
Robustness of reduced form estimates (Table 9)
Dependent variable in logs
Dependent variable: Log of Imports

	1	2	3	4	5	6
Ventilation Coefficient $_c$× Pollution Intensity $_i$	0.034***	0.042***	0.040***	0.018**	0.028***	0.030***
	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)
Income per capita $_c$× Pollution Intensity $_i$		-0.056***	-0.056***		-0.064***	-0.054***
		(0.008)	(0.008)		(0.012)	(0.012)
Oil Abundance $_c$× Oil Intensity $_i$			0.020***			0.016***
			(0.005)			(0.002)
Skill Abundance $_c$× Skill Intensity $_i$					0.075***	0.070***
					(0.008)	(0.009)
Capital Abundance $_c$× Capital Intensity $_i$					0.053***	0.061***
					(0.011)	(0.011)
Efficiency of Legal Institutions $_c$× Contract Intensity $_i$						0.053***
						(0.010)
Fertile Land per capita $_c$× Pollution Intensity $_i$						0.047***
						(0.009)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,672	7,672	7,652	5,619	5,619	5,196

Note: The regressions are estimates of equation (19). The dependent variable is the natural log of U.S. imports from country c in industry i. Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D14
Robustness of first stage estimates (Table 10)
Dependent variable in logs

Dependent variable: Environmental Regulation $_c\times$ Pollution Intensity $_i$

	1	2	3	4	5	6
Ventilation Coefficient $_c\times$ Pollution Intensity $_i$	0.130***	0.218***	0.209***	0.208***	0.203***	0.217***
	(0.023)	(0.019)	(0.022)	(0.022)	(0.022)	(0.022)
Income per capita $_c\times$ Pollution Intensity $_i$		-0.596***	-0.615***	-0.597***	-0.572***	-0.583***
		(0.020)	(0.022)	(0.025)	(0.026)	(0.025)
Skill Abundance $_c\times$ Skill Intensity $_i$				0.029***	0.013	0.017*
				(0.009)	(0.010)	(0.010)
Capital Abundance $_c\times$ Capital Intensity $_i$				-0.014	-0.003	0.002
				(0.014)	(0.014)	(0.014)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$					0.101***	0.096***
					(0.022)	(0.021)
Oil Abundance $_c\times$ Oil Intensity $_i$						0.041***
						(0.006)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$						0.099***
						(0.026)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,835	5,835	4,708	4,708	4,527	4,527
F-test on excluded instrument	33.5	130.2	91.9	91.1	85.4	96.3

Note: The regressions are estimates of equation (20). The dependent variable is the interaction of environmental regulation in country c and pollution intensity in industry i ($E_c \times e_i$). Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D15
Robustness of 2SLS estimates (Table 11)
Dependent variable in logs

Dependent variable: Log of Imports

	1	2	3	4	5	6
Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$	0.180***	0.146***	0.091**	0.089*	0.102**	0.128***
	(0.068)	(0.040)	(0.046)	(0.046)	(0.048)	(0.046)
Income per capita $_c\times$ Pollution Intensity $_i$		0.030	0.001	-0.012	0.012	0.023
		(0.025)	(0.029)	(0.029)	(0.029)	(0.028)
Skill Abundance $_c\times$ Skill Intensity $_i$				0.077***	0.071***	0.072***
				(0.010)	(0.010)	(0.010)
Capital Abundance $_c\times$ Capital Intensity $_i$				0.057***	0.061***	0.063***
				(0.012)	(0.012)	(0.012)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$					0.050***	0.045***
					(0.011)	(0.011)
Oil Abundance $_c\times$ Oil Intensity $_i$						0.013***
						(0.003)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$						0.037***
						(0.010)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,835	5,835	4,708	4,708	4,527	4,527

Note: The table reports 2SLS estimates of equation (17). The dependent variable is the natural log of U.S. imports from country c in industry i. Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D16
Robustness of cross-country estimates (Table 5)
Ventilation coefficient measured as population weighted average of ventilation coefficient in the whole country
Dependent variable: Lax Air Pollution Regulation $_c$

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c$	0.226***	0.252***	0.263***	0.262***	0.213***	0.243***	0.209**	0.256***	0.259***
	(0.081)	(0.073)	(0.072)	(0.073)	(0.075)	(0.085)	(0.092)	(0.075)	(0.073)
Income per capita $_c$		-0.637***	-0.630***	-0.643***	-0.685***	-0.684***	-0.233	-0.670***	-0.580***
		(0.056)	(0.056)	(0.055)	(0.053)	(0.067)	(0.299)	(0.058)	(0.068)
Fertile Land per capita $_c$			0.072						
			(0.080)						
Oil Abundance $_c$					0.187***				
					(0.049)				
Skill Abundance $_c$							-0.336**		
							(0.153)		
Capital Abundance $_c$							-0.168		
							(0.275)		
Efficiency Legal Institutions $_c$									-0.235***
									(0.080)
Observations	101	101	101	99	99	73	73	89	89

Note: The dependent variable is the level of laxity of environmental regulation in country c; the ventilation coefficient is measured as population weighted average of ventilation coefficient in the whole country. Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D17
Robustness of reduced form estimates (Table 9)
Ventilation coefficient measured as population weighted average of ventilation coefficient in the whole country
Dependent variable: Import Share

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c$× Pollution Intensity $_i$	0.057***	0.057***	0.053***	0.040***	0.040***	0.041***	0.047***	0.042***	0.049***
	(0.010)	(0.010)	(0.010)	(0.013)	(0.013)	(0.013)	(0.014)	(0.013)	(0.013)
Income per capita $_c$× Pollution Intensity $_i$		0.014	0.010			-0.016	-0.021	-0.026*	-0.024
		(0.010)	(0.010)			(0.014)	(0.016)	(0.015)	(0.015)
Oil Abundance $_c$× Oil Intensity $_i$			0.055**					0.077***	0.077***
			(0.021)					(0.007)	(0.007)
Skill Abundance $_c$× Skill Intensity $_i$					0.058***	0.056***	0.056***	0.055***	0.056***
					(0.011)	(0.011)	(0.012)	(0.012)	(0.012)
Capital Abundance $_c$× Capital Intensity $_i$					0.023**	0.032***	0.043***	0.042***	0.043***
					(0.011)	(0.012)	(0.013)	(0.013)	(0.013)
Efficiency of Legal Institutions $_c$× Contract Intensity $_i$							0.047***	0.042***	0.043***
							(0.014)	(0.013)	(0.013)
Fertile Land per capita $_c$× Pollution Intensity $_i$									0.043***
									(0.010)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12,750	12,750	12,580	8,075	8,075	8,075	7,140	7,140	7,140

Note: The regressions are estimates of equation (19). The dependent variable is the relative import share of country c in industry i, M_{ic}; the ventilation coefficient is measured as population weighted average of ventilation coefficient in the whole country. Standardized beta coefficients are reported, with robust standard errors in parenthesis. *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D18
Robustness of first stage estimates (Table 10)
Ventilation coefficient measured as population weighted average of ventilation coefficient in the whole country
Dependent variable: Lax Air Pollution Regulation $_c\times$ Pollution Intensity $_i$

	1	2	3	4	5	6	7	8	9
Ventilation Coefficient $_c\times$ Pollution Intensity $_i$	0.226***	0.252***	0.243***	0.241***	0.209***	0.228***	0.232***	0.229***	0.240***
	(0.018)	(0.016)	(0.018)	(0.018)	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)
Income per capita $_c\times$ Pollution Intensity $_i$		-0.637***	-0.684***	-0.661***		-0.675***	-0.639***	-0.641***	-0.639***
		(0.012)	(0.014)	(0.017)		(0.016)	(0.019)	(0.019)	(0.019)
Skill Abundance $_c\times$ Skill Intensity $_i$				0.033***	0.134***		0.021***	0.021***	0.023***
				(0.007)	(0.011)		(0.007)	(0.007)	(0.007)
Capital Abundance $_c\times$ Capital Intensity $_i$				-0.020*	-0.388***		-0.012	-0.012	-0.010
				(0.011)	(0.016)		(0.011)	(0.011)	(0.011)
Efficiency of Legal Institutions $_c\times$ Contract Intensity $_i$							0.089***	0.086***	0.085***
							(0.015)	(0.015)	(0.015)
Oil Abundance $_c\times$ Oil Intensity $_i$								0.040***	0.040***
								(0.007)	(0.007)
Fertile Land per capita $_c\times$ Pollution Intensity $_i$									0.067***
									(0.022)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	5,780	5,780	5,780	5,780
F-test on excluded instrument	165.9	257.9	177.0	175.0	109.9	142.6	150.7	147.4	160.6

Note: The regressions are estimates of equation (20). The dependent variable is the interaction of environmental regulation in country c and pollution intensity in industry i, ($E_c \times e_i$); the ventilation coefficient is measured as population weighted average of ventilation coefficient in the whole country. Standardized beta coefficients are reported, with robust standard errors in parenthesis *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.

Table D19
Robustness of 2SLS estimates (Table 11)
Ventilation coefficient measured as population weighted average of ventilation coefficient in the whole country
Dependent variable: Import Share

	1	2	3	4	5	6	7	8	9
Lax Air Pollution Regulation $_c$× Pollution Intensity $_i$	0.243***	0.219***	0.147**	0.140**	0.157**	0.175***	0.180***	0.156**	0.174***
	(0.058)	(0.051)	(0.059)	(0.060)	(0.069)	(0.067)	(0.066)	(0.064)	(0.061)
Income per capita $_c$× Pollution Intensity $_i$		0.132***	0.074*	0.071*		0.086*	0.093**	0.072*	0.085**
		(0.035)	(0.041)	(0.041)		(0.046)	(0.045)	(0.041)	(0.040)
Skill Abundance $_c$× Skill Intensity $_i$				0.069***	0.056***		0.064***	0.064***	0.064***
				(0.013)	(0.015)		(0.013)	(0.013)	(0.013)
Capital Abundance $_c$× Capital Intensity $_i$				0.034**	0.080***		0.043***	0.043***	0.044***
				(0.014)	(0.029)		(0.015)	(0.015)	(0.015)
Efficiency of Legal Institutions $_c$× Contract Intensity $_i$							0.039***	0.036**	0.033**
							(0.015)	(0.015)	(0.015)
Oil Abundance $_c$× Oil Intensity $_i$								0.082***	0.081***
								(0.009)	(0.008)
Fertile Land per capita $_c$× Pollution Intensity $_i$									0.027**
									(0.012)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,585	8,585	6,205	6,205	6,205	5,780	5,780	5,780	5,780

Note: The table reports 2SLS estimates of equation (17). The dependent variable is the relative import share of country c in industry i, M_{ic}; the ventilation coefficient is measured as population weighted average of ventilation coefficient in the whole country. Standardized beta coefficients are reported, with robust standard errors in parenthesis *** indicates significance at the 1 percent level, ** at the 5 percent and * at the 10 percent.