



Annex

Table A.1 – Descriptive Statistics

Variable	Mean	Std. Dev	Min	Max	Obs	Period	Source
Hosp. rate – resp. (per 100,000 people)	61.90	68.12	0	1471.47	65,520	Jan 2010 – Dec 2019	DATASUS
Mort. rate – resp. (per 100,000 people)	2.84	5.19	0	96.18	58,944	Jan/2010 – Dec/2018	DATASUS
PM _{2.5} (µg/m ³)	16.38	17.88	2.6	657.71	65,520	Jan/2010 – Dec/2019	INPE
Active fire hotspots	14.07	70.26	0	35577	24,336	Jan/2016 – Dec/2019	INPE
Deforestation (in km ²)	0.89	4.56	0	178.64	22,386	Aug/2016-Dec/2019	INPE

Table A.2 – Correlation between active fire hotspots, deforestation and ambient air pollution

VARIABLES	(1) Ln_PM _{2.5}	(2) Ln_CO	(3) Ln_SO ₂	(4) Ln_NO ₂
Ln(active fire hotspots)	0.151*** (0.007)	0.126*** (0.005)	0.064*** (0.004)	0.109*** (0.005)
Ln(Deforestation)	0.022*** (0.003)	0.014*** (0.002)	0.005*** (0.001)	0.010*** (0.002)
Rainfall	0.032*** (0.002)	0.027*** (0.001)	0.005*** (0.001)	0.012*** (0.001)
Temperature	0.104*** (0.007)	0.113*** (0.007)	0.098*** (0.007)	0.100*** (0.008)
Observations	22,386	15,834	15,834	15,834
R-squared	0.591	0.781	0.744	0.677
Municipality FE	Y	Y	Y	Y
Month by Year FE	Y	Y	Y	Y
Municipality Trend	Y	Y	Y	Y
Number of municipalities	546	546	546	546
Mean	2.704	4.975	0.306	0.431

Notes: Table reports Ordinary Least Squares estimates with municipality, month-by-year fixed effects and municipality trends. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: own elaboration.



Table A.3 – Hospitalization rates due to respiratory illness and other pollutants

VARIABLES	(1) Hosp. Rate Resp.	(2) Hosp. Rate Resp.	(4) Hosp. Rate Resp.
CO	0.008*** (0.002)		
NO ₂		1.088*** (0.235)	
SO ₂			1.555*** (0.377)
Observations	58,944	58,944	58,940
R-squared	0.609	0.609	0.609
Municipality FE	Y	Y	Y
Month by Year FE	Y	Y	Y
Weather variables	Y	Y	Y
Municipality Trend	Y	Y	Y
Number of municipalities	546	546	546
Mean	62.83	62.83	62.83

Notes: Table reports OLS estimates with municipality, month-by-year fixed effects and municipality trends. Dependent variable is the rate of hospitalization (per 100,000 inhabitants) due to respiratory illness. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

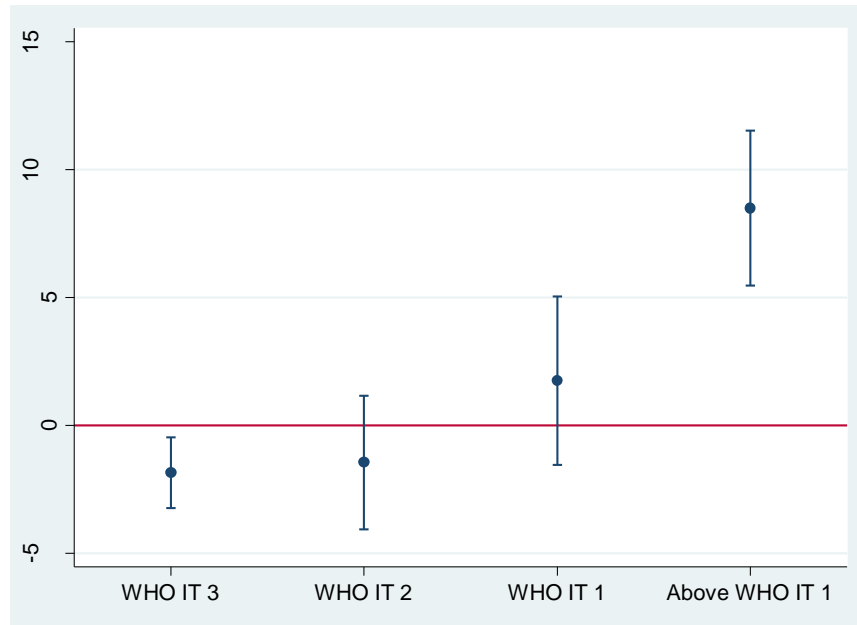
Table A.4 – Mortality rates due to respiratory illness and ambient air pollution, among age groups

VARIABLES	(1) [0-1yr]	(3) [1-5yr]	(5) >60yr
PM _{2.5}	-0.000 (0.000)	-0.000 (0.000)	-0.001 (0.001)
Observations	58,728	56,568	58,944
R-squared	0.066	0.032	0.081
Municipality FE	Y	Y	Y
Month by Year FE	Y	Y	Y
Weather variables	Y	Y	Y
Municipality Trend	Y	Y	Y
Number of municipalities	544	524	546
Mean	0.174	0.0924	2.016

Notes: Table reports OLS estimates with municipality and month-by-year fixed effects. Dependent variable is the rate of mortality (per 100,000 inhabitants) due to respiratory illness. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: own elaboration.



Figure A.1 – Estimated coefficients for the World Health Organization’s Air Quality Guidelines (2006) thresholds for PM 2.5 concentration in 24-hour mean



Source: own elaboration.

The estimated parameters must be interpreted as a difference to benchmark pollution, which is WHO air quality guidelines and refers to $PM_{2.5}$ less than $25 \mu g/m^3$ in 24-hour mean. WHO IT 3 refers to the Interim Target 3, which is between 25 and $37.5 \mu g/m^3$ in 24-hour mean. WHO IT 2 refers to the Interim Target 2, which is between 37.5 and $50 \mu g/m^3$ in 24-hour mean. WHO IT 1 refers to the Interim Target 1, which is between 50 and $75 \mu g/m^3$ in 24-hour mean. Finally, Above WHO IT 1 refers to air pollution above interim target 1 and is, therefore, a significant amount of air pollution.

On Figure 5, we plot the values of the estimated coefficients having the WHO Air Quality Guidelines (WHO ACG) as a benchmark. In other words, the estimated coefficients are compared to a case where the parameter of WHO ACG is set equal to zero.