

Internet Appendix for
Minimum Wages, State Ownership, and Corporate Environmental Policies

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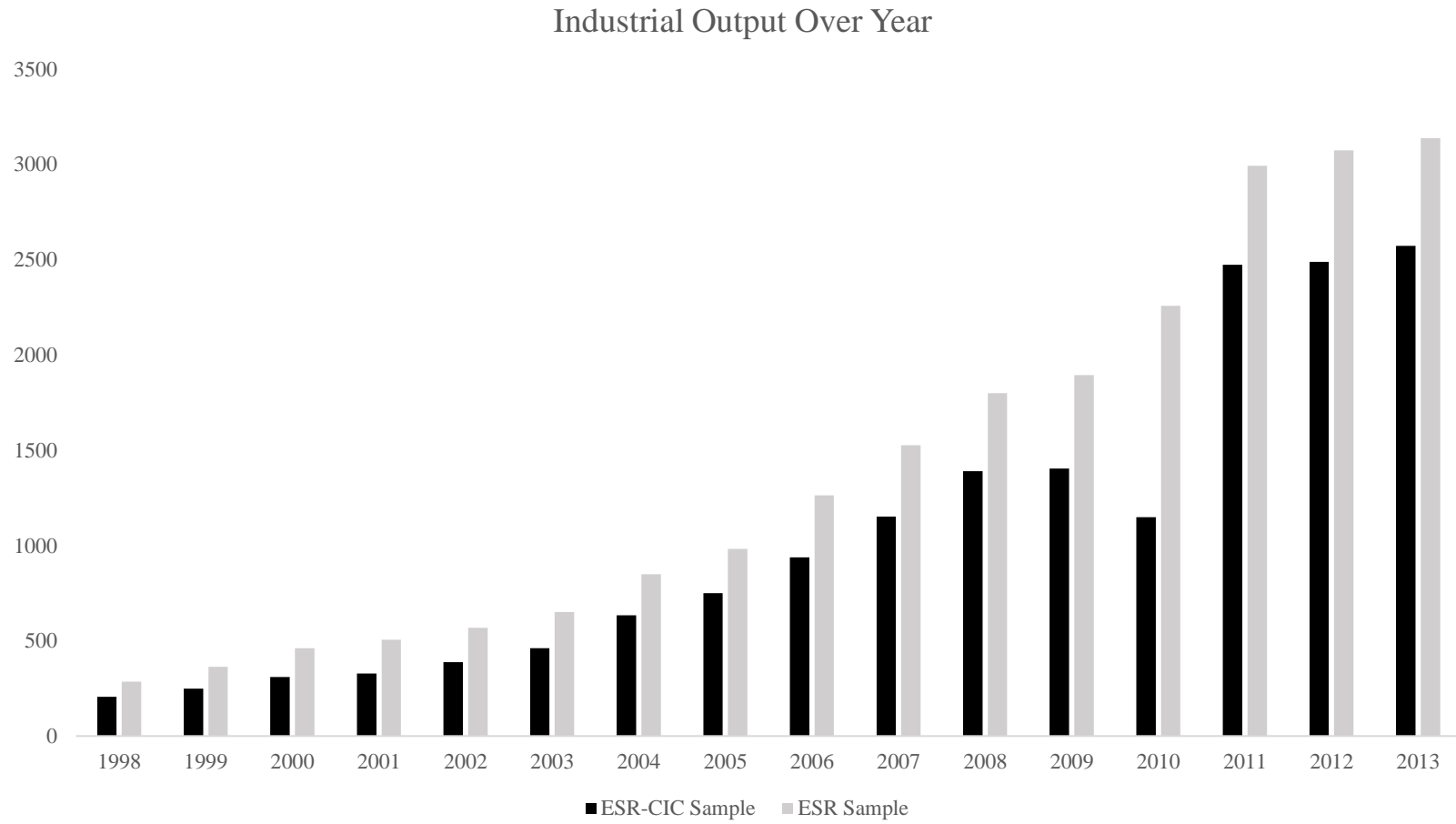


Figure A1. Industrial output over year. This figure plots the total industrial output of firms in the ESR-CIC matched sample and the ESR sample from 1998 to 2013. The grey bar denotes the total industrial output (in 10 billion RMB) for all firms covered in the ESR sample, while the black bar denotes the total industrial output (in 10 billion RMB) for all firms mutually covered by ESR and CIC database.

Table A1. Split Sample Summary Statistics (High vs. Low Minimum Wages)

This table presents summary statistics at the two subsamples (i.e., firms facing high vs. low minimum wages). We split the sample based on the working sample at the firm-year-county pair level by the yearly median minimum wages. In our working sample, we focus on firms within 10 kilometers from the border of neighboring counties. *MinWage* is the natural logarithm of the end-of-year monthly minimum wage in each county in the previous year. *CODEmission* is the natural logarithm of one plus firm's chemical oxygen demand (COD) emission in kilograms. *Wage/Worker* is the natural logarithm of yearly total wage expenditure over the total number of employees. *WaterCapacity* is the wastewater treatment capacity in tons per day over industrial output. *WaterFacility* is the number of wastewater treatment facilities over industrial output times 1000. *Size* is the natural logarithm of total asset.

Variable	Low Minimum Wages			High Minimum Wages		
	N	Mean	SD	N	Mean	SD
<i>MinWage</i>	484,933	6.090	0.475	450,661	6.482	0.423
<i>CODEmission</i>	484,933	7.140	3.825	450,661	7.497	3.183
<i>Wage/Worker</i>	438,541	9.441	0.814	410,047	9.803	0.788
<i>WaterCapacity</i>	381,865	0.314	0.891	366,166	0.218	0.673
<i>WaterFacility</i>	381,466	0.614	1.547	365,915	0.447	1.224
<i>Size</i>	484,933	11.077	1.632	450,661	11.331	1.659

Table A2. Monthly Average Minimum Wages and Pollutant Emissions

This table presents the OLS regression results of average monthly minimum wages on firms' chemical oxygen demand (COD) emissions. Regression samples are at the firm \times year \times neighboring county pair level. The dependent variable *CODEmission* is the natural logarithm of one plus firms' COD emission in kilograms. The independent variable of interest *MinAvgWage* is the natural logarithm of the average monthly minimum wage in each county in the previous year. In Columns 1, 2, and 3, samples are restricted to firms located within 5, 10, 15 kilometers from the border of neighboring counties, respectively. The firm-level controls include the firm's total assets, leverage, profitability, and industrial output. Macro-economic controls include the GDP per capita and GDP growth of the city where the firm is located. See Appendix Table for detailed variable definitions. All specifications include firm, neighboring county pair, industry \times year, and province \times year fixed effects. Standard errors are clustered at the neighboring county pair level. T-statistics are reported in parentheses. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively.

	5 KM 1	10 KM 2	15 KM 3
Variables	<i>CODEmission</i>	<i>CODEmission</i>	<i>CODEmission</i>
<i>MinAvgWage</i>	0.754*** (3.34)	0.724*** (4.60)	0.786*** (5.93)
Controls	YES	YES	YES
Firm FE	YES	YES	YES
County Pair FE	YES	YES	YES
Industry \times Year FE	YES	YES	YES
Province \times Year FE	YES	YES	YES
Observations	482,626	971,169	1,425,605
Adj. R-squared	0.657	0.67	0.681

Table A3. Minimum Wages and Firms' Production

This table presents the OLS regression results of minimum wages on firms' industrial output. Regression samples are at the firm \times year \times neighboring county pair level. The dependent variable *IndOutput* is the natural logarithm of one plus firms' industrial output. In Columns 1, 2, and 3, samples are restricted to firms located within 5, 10, 15 kilometers from the border of neighboring counties, respectively. The firm-level controls include the firm's total assets, leverage, and profitability. Macro-economic controls include the GDP per capita and GDP growth of the city where the firm is located. All specifications include firm, neighboring county pair, industry \times year, and province \times year fixed effects. Standard errors are clustered at the neighboring county pair level. T-statistics are reported in parentheses. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively.

	5 KM	10 KM	15 KM
	1	2	3
Variables	<i>IndOutput</i>	<i>IndOutput</i>	<i>IndOutput</i>
<i>MinWage</i>	0.025 (0.35)	0.018 (0.36)	0.002 (0.04)
Controls	YES	YES	YES
County Pair FE	YES	YES	YES
Industry \times Year FE	YES	YES	YES
Province \times Year FE	YES	YES	YES
Observations	462,766	935,594	1,377,089
Adj. R-squared	0.700	0.712	0.722

Table A4. Minimum Wages and Pollutant Emissions (2000-2021)

This table presents the OLS regression results of minimum wages on city-level pollutant emissions. Regression samples are at the neighboring city pair \times year level. We identify city pairs when their borders touch. The dependent variable *SO₂Emission* (*NO_xEmission*) is the natural logarithm of cities' SO₂ (NO_x) emission in tons. The independent variable of interest *MinWage* is the natural logarithm of the end-of-year monthly minimum wage in each city in the previous year. In columns 1-4, macroeconomic controls are included at the city-level in the regressions. Macroeconomic controls include the GDP per capita and GDP growth at the city-level. Columns 1 and 3 include city pair and province \times year fixed effects. Columns 2 and 4 include city, year, and city pair fixed effects. Standard errors are clustered at the neighboring city pair level. T-statistics are reported in parentheses. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively.

Variables	1 <i>SO₂Emission</i>	2 <i>SO₂Emission</i>	3 <i>NO_xEmission</i>	4 <i>NO_xEmission</i>
<i>MinWage</i>	0.673*** (0.138)	0.129** (0.063)	1.582*** (0.332)	0.287* (0.152)
<i>GDP</i>	0.211*** (0.055)	0.202*** (0.041)	0.181* (0.107)	0.194*** (0.067)
<i>GDPGrowth</i>	0.098*** (0.026)	0.069*** (0.021)	0.280*** (0.104)	0.393*** (0.125)
City FE	NO	YES	NO	YES
Year FE	NO	YES	NO	YES
City Pair FE	YES	YES	YES	YES
Province Year FE	YES	NO	YES	NO
Observations	27,162	27,175	6,245	6,245
Adj. R-squared	0.887	0.846	0.904	0.883

Table A5. Minimum Wages, State-Ownership, and SO₂ Emission Intensity

This table presents the OLS regression results of minimum wages on firms' SO₂ emission intensity. Regression samples are at the firm \times year \times neighboring county pair level. *MinWage* is the natural logarithm of the end-of-year monthly minimum wage in each county in the previous year. *SOE* is an indicator that equals one if a firm is registered as state-owned, and zero otherwise. The dependent variable *SO₂Intensity* is the natural logarithm of firms' SO₂ emitted over industrial output. All specifications include firm and macro-economic controls. The firm-level controls include the firm's total assets, leverage, and profitability. Macro-economic controls include the GDP per capita and GDP growth of the city where the firm is located. In the full sample regressions, the main effects of *SOE* are also controlled. All specifications include firm, neighboring county pair, industry \times year, and province \times year fixed effects. Standard errors are clustered at the neighboring county pair level. T-statistics are reported in parentheses. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively.

Variables	1	2	3
	<i>SO₂Intensity</i>		
	Non-SOE	SOE	Full Sample
<i>MinWage</i>	0.147** (2.13)	-0.054 (-0.48)	0.156*** (2.60)
<i>MinWage</i> \times <i>SOE</i>			-0.132*** (-4.89)
Controls	YES	YES	YES
Firm FE	YES	YES	YES
County Pair FE	YES	YES	YES
Industry \times Year FE	YES	YES	YES
Province \times Year FE	YES	YES	YES
Observations	507,769	133,110	642,667
Adj. R-squared	0.833	0.826	0.826

Table A6. Minimum Wages and Firms' Market Share Over Time

This table presents the OLS regression results of minimum wages on firms' market share over time. Regression samples are at the firm \times year \times neighboring county pair level. The dependent variable $Market\ Share_t$ is the ratio of a firm's revenue for the current year to the total revenues of firms in this industry for the same year. $Market\ Share_{t+1}$ and $Market\ Share_{t+2}$ are the firm's market share in the subsequent year and the year after that, respectively. The independent variable of interest $MinWage$ is the natural logarithm of the end-of-year monthly minimum wage in each county in the previous year. In Columns 1-3, samples are restricted to firms located within 10 kilometers from the border of neighboring counties. The firm-level controls include the firm's total assets, leverage, profitability, and industrial output. Macro-economic controls include the GDP per capita and GDP growth of the city where the firm is located. All specifications include firm, neighboring county pair, industry \times year, and province \times year fixed effects. Standard errors are clustered at the neighboring county pair level. T-statistics are reported in parentheses. ***, **, and * denote significance at 1%, 5%, and 10% level, respectively.

Variables	1 <i>Market Share_t</i>	2 <i>Market Share_{t+1}</i>	3 <i>Market Share_{t+2}</i>
<i>MinWage</i>	-0.316*** (-4.33)	-0.283*** (-3.79)	-0.262*** (-3.65)
Controls	YES	YES	YES
County Pair FE	YES	YES	YES
Industry Year FE	YES	YES	YES
Province Year FE	YES	YES	YES
Observations	935,590	775,637	633,838
Adj. R-squared	0.864	0.829	0.823