

**Is enterprise environmental protection investment a responsibility  
or rent-seeking? Evidence from China**

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**ONLINE APPENDIX**

**Table A1.** Environmental expenditure and government subsidies

	<i>Sub<sub>t</sub></i>	<i>Sub<sub>t</sub></i>
<i>EI<sub>1,t</sub></i>	0.046 <sup>***</sup> (5.95)	
<i>EI<sub>2,t</sub></i>		0.014 <sup>***</sup> (4.37)
<i>EI<sub>1,t</sub> × Relat<sub>t-1</sub></i>	0.059 <sup>***</sup> (4.82)	
<i>EI<sub>2,t</sub> × Relat<sub>t-1</sub></i>		0.008 <sup>**</sup> (2.13)
<i>Relat<sub>t-1</sub></i>	0.228 <sup>***</sup> (8.15)	0.249 <sup>***</sup> (8.38)
<i>Size<sub>t-1</sub></i>	-0.041 (-0.96)	-0.051 (-1.25)
<i>Roe<sub>t-1</sub></i>	-0.879 (-1.31)	-0.869 (-1.30)
<i>Lev<sub>t-1</sub></i>	0.072 (0.45)	0.084 (0.53)
<i>Ocf<sub>t-1</sub></i>	-0.322 <sup>***</sup> (-4.15)	-0.329 <sup>***</sup> (-4.33)
<i>Growth<sub>t-1</sub></i>	-0.042 (-1.07)	-0.040 (-1.02)
<i>Cash<sub>t-1</sub></i>	0.410 <sup>***</sup> (3.22)	0.416 <sup>***</sup> (3.20)
<i>Tobin's Q<sub>t-1</sub></i>	0.005 (0.43)	0.005 (0.39)
<i>First<sub>t-1</sub></i>	2.252 <sup>***</sup> (9.66)	2.224 <sup>***</sup> (9.21)
<i>Dual<sub>t-1</sub></i>	0.192 <sup>***</sup> (3.41)	0.207 <sup>***</sup> (3.66)
<i>Age<sub>t-1</sub></i>	-0.013 <sup>***</sup> (-7.07)	-0.014 <sup>***</sup> (-7.12)
<i>Gender<sub>t-1</sub></i>	0.369 (1.50)	0.379 (1.53)
<i>Comm<sub>t-1</sub></i>	0.060 (0.97)	0.052 (0.86)
<i>Ddrate<sub>t-1</sub></i>	-1.449 <sup>***</sup> (-2.60)	-1.430 <sup>**</sup> (-2.55)
<i>Hold<sub>t-1</sub></i>	-0.643 <sup>***</sup> (-3.07)	-0.651 <sup>***</sup> (-3.01)
<i>Iscocurp<sub>t-1</sub></i>	0.106 <sup>***</sup> (5.37)	0.111 <sup>***</sup> (5.57)
<i>Stime<sub>t-1</sub></i>	0.088 <sup>***</sup> (2.69)	0.089 <sup>***</sup> (2.75)

<i>Area</i> <sub><i>t</i>-1</sub>	0.021 (0.22)	0.017 (0.18)
<i>Fee</i> <sub><i>t</i>-1</sub>	-0.020 (-0.39)	-0.019 (-0.38)
<i>Score</i> <sub><i>t</i>-1</sub>	-0.011 (-0.16)	-0.006 (-0.08)
<i>GDP</i> <sub><i>t</i>-1</sub>	-0.037 (-0.87)	-0.038 (-0.86)
<i>Cons</i>	1.240 (0.74)	1.495 (0.89)
<i>FIRM</i>	Control	Control
<i>YEAR</i>	Control	Control
<i>N</i>	4749	4749
<i>R</i> <sup>2</sup>	0.025	0.023
<i>F</i>	60.052	62.839

\*\*Significance at the 5% level, \*\*\*significance at the 1% level.

**Table A2.** Environmental expenditure in pollution-intensive and non-pollution-intensive private companies

	Pollution-intensive		Non-pollution-intensive	
	$EI_{1,t}$	$EI_{2,t}$	$EI_{1,t}$	$EI_{2,t}$
<i>Rela</i> <sub><i>t</i>-1</sub>	0.258 <sup>*</sup> (1.70)	0.588 <sup>***</sup> (2.72)	0.109 <sup>***</sup> (2.70)	0.205 <sup>**</sup> (2.30)
<i>Size</i> <sub><i>t</i>-1</sub>	0.065 (0.99)	0.530 (1.12)	0.079 (1.37)	0.868 <sup>***</sup> (2.74)
<i>Roe</i> <sub><i>t</i>-1</sub>	0.449 (1.33)	0.366 (0.35)	0.381 (0.74)	1.248 (0.95)
<i>Lev</i> <sub><i>t</i>-1</sub>	0.844 <sup>*</sup> (1.73)	3.399 <sup>***</sup> (2.62)	0.171 (0.70)	1.005 (1.42)
<i>Ocf</i> <sub><i>t</i>-1</sub>	-0.736 <sup>***</sup> (-4.70)	-1.465 <sup>***</sup> (-4.37)	-0.090 <sup>***</sup> (-3.42)	-0.106 (-1.08)
<i>Growth</i> <sub><i>t</i>-1</sub>	0.100 <sup>***</sup> (3.37)	0.467 <sup>**</sup> (2.29)	0.016 (1.19)	0.064 <sup>*</sup> (1.68)
<i>Cash</i> <sub><i>t</i>-1</sub>	0.253 <sup>**</sup> (1.99)	0.131 (0.52)	0.155 <sup>***</sup> (6.99)	-0.080 (-0.69)
<i>Tobin's Q</i> <sub><i>t</i>-1</sub>	0.031 <sup>***</sup> (4.19)	0.152 <sup>***</sup> (2.92)	0.009 (0.76)	0.002 (0.04)
<i>First</i> <sub><i>t</i>-1</sub>	0.324 (1.10)	5.370 <sup>***</sup> (2.87)	0.145 (0.64)	1.585 (1.63)
<i>Dual</i> <sub><i>t</i>-1</sub>	0.046 (0.68)	-0.383 (-0.58)	0.418 <sup>***</sup> (3.80)	0.316 <sup>**</sup> (2.41)
<i>Age</i> <sub><i>t</i>-1</sub>	0.021 <sup>***</sup> (5.71)	0.082 <sup>***</sup> (3.86)	-0.005 (-1.56)	-0.008 (-0.59)
<i>Gender</i> <sub><i>t</i>-1</sub>	-0.026 (-0.24)	0.241 (0.39)	0.174 <sup>***</sup> (4.77)	0.199 <sup>*</sup> (1.91)
<i>Comm</i> <sub><i>t</i>-1</sub>	0.159 (1.05)	0.760 <sup>**</sup> (2.51)	-0.130 <sup>***</sup> (-3.12)	-0.105 (-1.16)
<i>Ddrate</i> <sub><i>t</i>-1</sub>	0.528 (0.99)	-2.109 (-1.07)	1.631 <sup>***</sup> (4.66)	3.599 <sup>***</sup> (3.13)
<i>Hold</i> <sub><i>t</i>-1</sub>	-1.813 <sup>***</sup> (-5.06)	0.306 (0.22)	-0.762 <sup>***</sup> (-2.77)	-0.910 <sup>***</sup> (-3.29)
<i>Iscocurp</i> <sub><i>t</i>-1</sub>	0.279 <sup>***</sup>	0.271	-0.228 <sup>***</sup>	-0.719 <sup>***</sup>

	(5.06)	(1.02)	(-5.63)	(-3.48)
<i>Stime</i> <sub><i>t</i>-1</sub>	-0.033	0.036	0.009	0.083**
	(-1.60)	(0.32)	(0.87)	(2.34)
<i>Area</i> <sub><i>t</i>-1</sub>	-0.014	-0.081	-0.357***	-0.912***
	(-0.41)	(-0.31)	(-6.02)	(-9.08)
<i>Fee</i> <sub><i>t</i>-1</sub>	0.055	-0.003	0.043***	0.002
	(1.31)	(-0.02)	(2.76)	(0.05)
<i>Score</i> <sub><i>t</i>-1</sub>	-0.254***	-0.276	-0.036	-0.683***
	(-4.53)	(-1.32)	(-0.70)	(-4.21)
<i>GDP</i> <sub><i>t</i>-1</sub>	0.123***	-0.177*	0.209***	0.702***
	(3.84)	(-1.65)	(7.02)	(6.11)
<i>Cons</i>	-1.862***	-17.056**	1.699**	-6.258
	(-4.07)	(-2.47)	(2.38)	(-1.28)
<i>FIRM</i>	Control	Control	Control	Control
<i>YEAR</i>	Control	Control	Control	Control
<i>N</i>	1202	1202	3825	3825
<i>R</i> <sup>2</sup>	0.029	0.030	0.012	0.021
<i>F</i>	86.078	238.322	41.405	43.862

\*Significance at the 10%, \*\*significance at the 5% level, \*\*\*significance at the 1% level.

**Table A3.** Correlations for private enterprises in China's eastern region

	$EI_{1,t}$	$EI_{2,t}$
$Rela_{t-1}$	0.237* (1.91)	0.409** (2.22)
$Size_{t-1}$	0.136 (1.38)	0.451** (2.29)
$Roe_{t-1}$	0.693* (1.87)	1.828*** (2.67)
$Lev_{t-1}$	0.280 (0.62)	2.207*** (3.15)
$Ocf_{t-1}$	-0.205*** (-4.20)	-0.387*** (-2.80)
$Growth_{t-1}$	0.019 (0.90)	0.088 (1.28)
$Cash_{t-1}$	0.178*** (5.90)	0.091 (0.85)
$Tobin's Q_{t-1}$	0.003 (0.22)	-0.030*** (-2.83)
$First_{t-1}$	-0.204 (-0.55)	1.279 (1.46)
$Dual_{t-1}$	0.300** (2.45)	0.550** (2.45)
$Age_{t-1}$	0.006* (1.85)	0.021*** (3.17)
$Gender_{t-1}$	-0.035 (-0.34)	-0.320*** (-3.19)
$Comm_{t-1}$	-0.166* (-1.72)	-0.241** (-2.11)
$Ddrate_{t-1}$	1.288*** (3.67)	1.084 (1.14)
$Hold_{t-1}$	-1.062*** (-3.33)	-1.621*** (-2.83)
$Iscocurp_{t-1}$	-0.093 (-1.64)	-0.530*** (-3.29)
$Stime_{t-1}$	-0.007	0.065

	(-0.15)	(0.87)
<i>Area</i> <sub><i>t</i>-1</sub>	-0.181 <sup>***</sup>	-0.502 <sup>***</sup>
	(-3.84)	(-3.38)
<i>Fee</i> <sub><i>t</i>-1</sub>	0.116 <sup>***</sup>	0.225 <sup>***</sup>
	(4.30)	(7.31)
<i>Score</i> <sub><i>t</i>-1</sub>	-0.060 <sup>**</sup>	-0.570 <sup>***</sup>
	(-2.36)	(-5.35)
<i>GDP</i> <sub><i>t</i>-1</sub>	0.158 <sup>***</sup>	0.564 <sup>***</sup>
	(3.60)	(5.36)
<i>Cons</i>	-1.786	-4.171
	(-0.74)	(-0.77)
<i>FIRM</i>	Control	Control
<i>YEAR</i>	Control	Control
<i>N</i>	3610	3610
<i>R</i> <sup>2</sup>	0.012	0.018
<i>F</i>	78.916	158.645

\*Significance at the 10%, \*\*significance at the 5% level, \*\*\*significance at the 1% level.

**Table A4.** The efficiency of environmental expenditure

	State-owned enterprises		Private enterprises	
	<i>Reduce<sub>t</sub></i>	<i>Reduce<sub>t</sub></i>	<i>Reduce<sub>t</sub></i>	<i>Reduce<sub>t</sub></i>
<i>EI<sub>1,t</sub></i>	0.005 <sup>***</sup> (4.17)		-0.003 (-1.62)	
<i>EI<sub>2,t</sub></i>		0.003 <sup>***</sup> (5.50)		-0.001 <sup>*</sup> (-1.95)
<i>EI<sub>1,t</sub>×Rela<sub>t-1</sub></i>	0.003 (0.32)		-0.003 <sup>***</sup> (-2.91)	
<i>EI<sub>2,t</sub>×Rela<sub>t-1</sub></i>		0.000 (0.20)		-0.001 <sup>*</sup> (-1.80)
<i>Rela<sub>t-1</sub></i>	-0.011 (-1.46)	-0.010 (-1.59)	-0.030 <sup>***</sup> (-4.75)	-0.031 <sup>***</sup> (-4.88)
<i>Size<sub>t-1</sub></i>	0.074 <sup>***</sup> (7.92)	0.073 <sup>***</sup> (8.02)	0.050 <sup>***</sup> (4.15)	0.051 <sup>***</sup> (4.23)
<i>Roe<sub>t-1</sub></i>	0.039 (0.40)	0.035 (0.36)	0.133 <sup>***</sup> (6.94)	0.133 <sup>***</sup> (6.96)
<i>Lev<sub>t-1</sub></i>	0.072 <sup>***</sup> (2.77)	0.069 <sup>**</sup> (2.46)	0.318 <sup>***</sup> (3.61)	0.319 <sup>***</sup> (3.60)
<i>Ocf<sub>t-1</sub></i>	0.009 (0.28)	0.008 (0.24)	-0.048 <sup>*</sup> (-1.84)	-0.048 <sup>*</sup> (-1.84)
<i>Growth<sub>t-1</sub></i>	0.005 (1.00)	0.004 (0.94)	-0.023 <sup>***</sup> (-5.42)	-0.023 <sup>***</sup> (-5.43)
<i>Cash<sub>t-1</sub></i>	-0.028 <sup>***</sup> (-3.75)	-0.028 <sup>***</sup> (-3.73)	-0.044 <sup>***</sup> (-4.01)	-0.045 <sup>***</sup> (-3.94)
<i>Tobin's Q<sub>t-1</sub></i>	0.039 <sup>***</sup> (9.22)	0.039 <sup>***</sup> (9.26)	0.028 <sup>***</sup> (8.12)	0.028 <sup>***</sup> (8.15)
<i>First<sub>t-1</sub></i>	-0.447 <sup>***</sup> (-3.33)	-0.448 <sup>***</sup> (-3.20)	-0.185 <sup>***</sup> (-3.21)	-0.182 <sup>***</sup> (-3.19)
<i>Dual<sub>t-1</sub></i>	0.110 <sup>***</sup> (7.40)	0.110 <sup>***</sup> (7.74)	-0.009 (-0.73)	-0.010 (-0.76)
<i>Age<sub>t-1</sub></i>	-0.004 <sup>***</sup> (-3.34)	-0.004 <sup>***</sup> (-3.38)	0.002 <sup>***</sup> (6.16)	0.002 <sup>***</sup> (6.09)
<i>Gender<sub>t-1</sub></i>	-0.420 <sup>***</sup>	-0.421 <sup>***</sup>	-0.243 <sup>***</sup>	-0.243 <sup>***</sup>



	(-4.07)	(-4.05)	(-4.78)	(-4.78)
<i>Comm</i> <sub><i>t</i>-1</sub>	-0.007	-0.007	-0.005	-0.005
	(-1.16)	(-1.26)	(-0.86)	(-0.83)
<i>Ddrate</i> <sub><i>t</i>-1</sub>	0.076	0.078	-0.050	-0.052
	(1.05)	(1.08)	(-0.83)	(-0.87)
<i>Hold</i> <sub><i>t</i>-1</sub>	-2.184***	-2.231***	-0.034	-0.033
	(-3.53)	(-3.84)	(-0.78)	(-0.74)
<i>Iscocurp</i> <sub><i>t</i>-1</sub>	-0.016*	-0.018*	-0.018***	-0.018***
	(-1.66)	(-1.79)	(-3.02)	(-3.05)
<i>Stime</i> <sub><i>t</i>-1</sub>	-0.122***	-0.122***	-0.124***	-0.124***
	(-6.20)	(-6.23)	(-4.52)	(-4.52)
<i>Area</i> <sub><i>t</i>-1</sub>	-0.162**	-0.161**	-0.122***	-0.122***
	(-2.25)	(-2.24)	(-4.11)	(-4.10)
<i>Fee</i> <sub><i>t</i>-1</sub>	0.140***	0.140***	0.145***	0.145***
	(4.07)	(4.05)	(3.85)	(3.85)
<i>Score</i> <sub><i>t</i>-1</sub>	-0.082	-0.083	0.016	0.016
	(-0.94)	(-0.94)	(0.31)	(0.30)
<i>GDP</i> <sub><i>t</i>-1</sub>	0.168***	0.168***	0.134**	0.134**
	(4.45)	(4.46)	(2.34)	(2.34)
<i>Cons</i>	1.549***	1.570***	-0.541	-0.560
	(4.13)	(4.22)	(-1.10)	(-1.13)
<i>FIRM</i>	Control	Control	Control	Control
<i>YEAR</i>	Control	Control	Control	Control
<i>N</i>	4955	4955	5025	5025
<i>R</i> <sup>2</sup>	0.573	0.574	0.658	0.658
<i>F</i>	44.819	63.451	122.222	118.291

\*Significance at the 10%, \*\*significance at the 5% level, \*\*\*significance at the 1% level.

**Table A5.** The impact of philanthropic donations of private enterprises

	High donation amount		Low donation amount	
	$EI_{1,t}$	$EI_{2,t}$	$EI_{1,t}$	$EI_{2,t}$
<i>Rela</i> <sub><i>t</i>-1</sub>	-0.206** (-2.51)	-0.536*** (-6.00)	0.503*** (7.04)	1.113*** (6.75)
<i>Size</i> <sub><i>t</i>-1</sub>	0.233*** (3.02)	2.177*** (6.26)	0.644*** (3.73)	1.687*** (3.99)
<i>Roe</i> <sub><i>t</i>-1</sub>	-0.494*** (-5.80)	-2.699*** (-4.73)	-1.666*** (-3.41)	-1.668 (-1.38)
<i>Lev</i> <sub><i>t</i>-1</sub>	0.675** (2.57)	-0.348 (-0.47)	0.825* (1.79)	1.956* (1.73)
<i>Ocf</i> <sub><i>t</i>-1</sub>	-0.069 (-0.91)	-0.444* (-1.89)	-0.435*** (-4.34)	-1.183*** (-5.04)
<i>Growth</i> <sub><i>t</i>-1</sub>	-0.075*** (-2.65)	-0.199*** (-2.95)	-0.049*** (-2.96)	-0.229*** (-3.16)
<i>Cash</i> <sub><i>t</i>-1</sub>	-0.277*** (-5.70)	-0.560*** (-6.73)	0.164*** (3.04)	0.081 (0.50)
<i>Tobin's Q</i> <sub><i>t</i>-1</sub>	0.035*** (2.80)	0.147*** (5.07)	-0.013 (-0.72)	0.021 (1.31)
<i>First</i> <sub><i>t</i>-1</sub>	0.178 (1.01)	3.457*** (3.96)	0.143 (0.63)	1.405** (2.06)
<i>Dual</i> <sub><i>t</i>-1</sub>	-0.265 (-1.57)	-1.878*** (-3.76)	0.399*** (4.54)	1.081*** (5.07)
<i>Age</i> <sub><i>t</i>-1</sub>	-0.007* (-1.82)	-0.045*** (-2.74)	-0.004 (-0.48)	-0.021* (-1.77)
<i>Gender</i> <sub><i>t</i>-1</sub>	-0.162 (-0.97)	-0.670 (-1.28)	-0.392** (-2.43)	-0.567*** (-3.38)
<i>Comm</i> <sub><i>t</i>-1</sub>	0.282*** (4.74)	0.972*** (4.62)	-0.338*** (-6.59)	-0.168 (-1.02)
<i>Ddrate</i> <sub><i>t</i>-1</sub>	0.517* (1.67)	0.895 (0.53)	0.593*** (3.02)	1.783*** (3.19)
<i>Hold</i> <sub><i>t</i>-1</sub>	0.427 (1.36)	3.935*** (4.21)	-0.346 (-0.81)	-1.609*** (-2.80)
<i>Iscocurp</i> <sub><i>t</i>-1</sub>	0.184**	0.404*	-0.313***	-0.481*

	(2.13)	(1.73)	(-4.36)	(-1.67)
<i>Stime</i> <sub><i>t</i>-1</sub>	0.024	0.034	-0.000	-0.018
	(0.76)	(0.74)	(-0.00)	(-0.13)
<i>Area</i> <sub><i>t</i>-1</sub>	-0.220 <sup>***</sup>	-0.677 <sup>***</sup>	-0.124 <sup>*</sup>	0.829 <sup>***</sup>
	(-3.90)	(-3.92)	(-1.92)	(5.23)
<i>Fee</i> <sub><i>t</i>-1</sub>	-0.055 <sup>***</sup>	-0.094	0.138 <sup>***</sup>	0.204 <sup>***</sup>
	(-2.95)	(-0.99)	(3.32)	(2.68)
<i>Score</i> <sub><i>t</i>-1</sub>	-0.538 <sup>***</sup>	-1.609 <sup>***</sup>	0.346 <sup>***</sup>	-0.093
	(-4.66)	(-6.32)	(7.23)	(-0.70)
<i>GDP</i> <sub><i>t</i>-1</sub>	0.180 <sup>***</sup>	0.521 <sup>**</sup>	-0.155 <sup>**</sup>	-0.157
	(3.78)	(2.37)	(-2.57)	(-1.30)
<i>Cons</i>	1.048	-28.340 <sup>***</sup>	-14.330 <sup>***</sup>	-45.583 <sup>***</sup>
	(0.63)	(-4.40)	(-3.64)	(-4.42)
<i>FIRM</i>	Control	Control	Control	Control
<i>YEAR</i>	Control	Control	Control	Control
<i>N</i>	2362	2362	2665	2665
<i>R</i> <sup>2</sup>	0.033	0.074	0.041	0.033
<i>F</i>	34.595	68.841	112.370	75.487

\*Significance at the 10%, \*\*significance at the 5% level, \*\*\*significance at the 1% level.

**Table A6.** Political connections and environmental expenditure: change independent variable

	Full	Full	State	State	Private	Private
	$EI_{1,t}$	$EI_{2,t}$	$EI_{1,t}$	$EI_{2,t}$	$EI_{1,t}$	$EI_{2,t}$
<i>Level</i> <sub><i>t</i>-1</sub>	-0.032 <sup>**</sup> (-2.34)	-0.171 <sup>***</sup> (-2.96)	-0.038 <sup>***</sup> (-7.30)	-0.161 <sup>***</sup> (-5.70)	0.042 <sup>*</sup> (1.77)	0.097 <sup>**</sup> (2.31)
<i>Size</i> <sub><i>t</i>-1</sub>	0.094 <sup>*</sup> (1.92)	1.484 <sup>***</sup> (7.56)	-0.131 <sup>***</sup> (-2.75)	0.331 <sup>*</sup> (1.84)	0.061 (1.07)	0.776 <sup>***</sup> (3.14)
<i>Roe</i> <sub><i>t</i>-1</sub>	-0.612 <sup>**</sup> (-2.22)	-4.143 <sup>***</sup> (-4.56)	0.698 <sup>**</sup> (2.53)	2.266 <sup>*</sup> (1.91)	0.441 (1.10)	1.104 (1.14)
<i>Lev</i> <sub><i>t</i>-1</sub>	0.397 <sup>***</sup> (6.45)	1.439 <sup>***</sup> (9.50)	-0.051 (-0.34)	0.680 (1.32)	0.408 (1.48)	1.829 <sup>***</sup> (2.94)
<i>Ocf</i> <sub><i>t</i>-1</sub>	0.309 <sup>***</sup> (7.71)	1.623 <sup>***</sup> (8.19)	0.013 (0.17)	0.505 <sup>***</sup> (3.74)	-0.198 <sup>***</sup> (-3.46)	-0.332 <sup>*</sup> (-1.76)
<i>Growth</i> <sub><i>t</i>-1</sub>	-0.127 <sup>***</sup> (-3.08)	-0.425 <sup>***</sup> (-4.07)	-0.020 (-0.78)	0.006 (0.06)	0.027 (1.33)	0.116 (1.51)
<i>Cash</i> <sub><i>t</i>-1</sub>	0.039 (0.82)	-0.283 <sup>**</sup> (-2.41)	-0.068 (-0.99)	-0.014 (-0.10)	0.189 <sup>***</sup> (3.33)	-0.011 (-0.07)
<i>State</i> <sub><i>t</i>-1</sub>	-0.160 <sup>***</sup> (-3.99)	-0.656 <sup>***</sup> (-5.14)				
<i>Tobin's Q</i> <sub><i>t</i>-1</sub>	-0.031 (-1.63)	0.089 (1.43)	-0.003 (-0.17)	-0.001 (-0.05)	0.010 (0.71)	0.026 (0.62)
<i>First</i> <sub><i>t</i>-1</sub>	-0.033 (-0.19)	0.759 (1.28)	1.032 <sup>***</sup> (2.90)	2.730 <sup>*</sup> (1.78)	0.109 (0.43)	2.346 <sup>***</sup> (4.37)
<i>Dual</i> <sub><i>t</i>-1</sub>	0.161 <sup>**</sup> (2.20)	0.344 <sup>***</sup> (9.00)	0.160 <sup>**</sup> (2.37)	0.426 <sup>**</sup> (2.20)	0.351 <sup>***</sup> (2.98)	0.217 (0.73)
<i>Age</i> <sub><i>t</i>-1</sub>	0.003 (0.52)	0.008 (0.77)	0.006 (0.91)	0.017 (0.65)	-0.001 (-0.36)	0.008 (0.52)
<i>Gender</i> <sub><i>t</i>-1</sub>	0.330 <sup>**</sup> (2.39)	1.313 <sup>***</sup> (10.75)	-0.060 (-1.09)	0.021 (0.14)	0.145 <sup>***</sup> (2.63)	0.221 <sup>*</sup> (1.82)
<i>Comm</i> <sub><i>t</i>-1</sub>	0.038 <sup>*</sup> (1.78)	0.085 <sup>**</sup> (2.33)	-0.023 (-1.26)	-0.023 (-0.15)	-0.070 (-1.27)	0.055 (0.38)
<i>Ddrate</i> <sub><i>t</i>-1</sub>	-0.875 <sup>***</sup> (-3.85)	-4.552 <sup>***</sup> (-7.35)	-1.170 <sup>***</sup> (-3.84)	-3.329 <sup>**</sup> (-2.12)	1.284 <sup>***</sup> (3.75)	1.758 <sup>**</sup> (2.15)
<i>Hold</i> <sub><i>t</i>-1</sub>	-0.052	0.148	20.996 <sup>***</sup>	46.148 <sup>***</sup>	-0.923 <sup>***</sup>	-0.665

	(-0.51)	(0.62)	(3.65)	(3.54)	(-3.90)	(-1.45)
<i>Iscocurp</i> <sub>t-1</sub>	0.102*	0.346***	0.128***	0.740***	-0.131*	-0.537**
	(1.76)	(4.30)	(5.53)	(3.49)	(-1.91)	(-2.12)
<i>Stime</i> <sub>t-1</sub>	-0.013***	-0.025***	0.080***	0.228**	0.005	0.069
	(-5.14)	(-2.98)	(4.01)	(2.31)	(0.28)	(1.03)
<i>Area</i> <sub>t-1</sub>	-0.148***	-0.497**	-0.146*	-0.750***	-0.229***	-0.590***
	(-3.41)	(-2.26)	(-1.79)	(-2.75)	(-5.65)	(-3.92)
<i>Fee</i> <sub>t-1</sub>	0.074***	0.077	0.083***	0.079	0.042*	-0.006
	(2.92)	(1.06)	(7.44)	(1.31)	(1.90)	(-0.10)
<i>Score</i> <sub>t-1</sub>	-0.028***	-0.275***	-0.018	0.041	-0.093**	-0.567***
	(-2.67)	(-7.39)	(-0.49)	(0.31)	(-2.10)	(-2.88)
<i>GDP</i> <sub>t-1</sub>	0.059***	0.249***	-0.119**	-0.227	0.174***	0.463***
	(2.88)	(5.01)	(-2.04)	(-0.88)	(5.05)	(3.29)
<i>Cons</i>	-0.730	-24.780***	3.550***	-1.274	0.876	-9.399*
	(-0.53)	(-4.77)	(3.74)	(-0.25)	(0.85)	(-1.83)
<i>FIRM</i>	Control	Control	Control	Control	Control	Control
<i>YEAR</i>	Control	Control	Control	Control	Control	Control
<i>N</i>	9982	9982	4955.000	4955.000	5027.000	5027.000
<i>R</i> <sup>2</sup>	0.017	0.077	0.023	0.016	0.010	0.017
<i>F</i>	97.997	154.944	50.800	16.107	23.146	24.578

\*Significance at the 10%, \*\*significance at the 5% level, \*\*\*significance at the 1% level.

**Table A7.** Political connections and environmental expenditure: 2SLS regression

	Full	Full	State	State	Private	Private
	$EI_{1,t}$	$EI_{2,t}$	$EI_{1,t}$	$EI_{2,t}$	$EI_{1,t}$	$EI_{2,t}$
<i>Rela</i> <sub><i>t</i>-1</sub>	-0.742*** (-4.75)	-1.597*** (-3.98)	-0.908*** (-6.60)	-3.252*** (-4.14)	-0.255 (-0.76)	1.230* (1.73)
<i>Size</i> <sub><i>t</i>-1</sub>	0.054* (1.73)	0.600*** (4.66)	-0.070 (-1.53)	0.545*** (2.68)	0.095 (1.49)	0.735*** (3.23)
<i>Roe</i> <sub><i>t</i>-1</sub>	0.657*** (4.95)	2.025*** (3.30)	0.670** (2.58)	2.166** (2.00)	0.419 (1.16)	1.090 (1.19)
<i>Lev</i> <sub><i>t</i>-1</sub>	0.052 (0.28)	1.192*** (4.01)	-0.078 (-0.72)	0.600 (1.21)	0.370 (1.44)	1.885*** (3.51)
<i>Ocf</i> <sub><i>t</i>-1</sub>	-0.074 (-1.46)	0.089 (0.69)	0.017 (0.40)	0.517*** (3.87)	-0.196*** (-5.18)	-0.332*** (-3.28)
<i>Growth</i> <sub><i>t</i>-1</sub>	0.001 (0.07)	0.040 (0.70)	-0.017 (-0.87)	0.016 (0.18)	0.027* (1.77)	0.108** (2.14)
<i>Cash</i> <sub><i>t</i>-1</sub>	0.094* (1.90)	-0.054 (-0.52)	-0.086 (-1.60)	-0.077 (-0.88)	0.179*** (5.27)	-0.004 (-0.04)
<i>State</i> <sub><i>t</i>-1</sub>	0.107 (0.43)	0.160 (0.59)				
<i>Tobin's Q</i> <sub><i>t</i>-1</sub>	0.010 (1.45)	0.016 (0.44)	0.003 (0.34)	0.021 (1.60)	0.012 (1.06)	0.020 (0.54)
<i>First</i> <sub><i>t</i>-1</sub>	0.601** (2.09)	2.596*** (3.21)	1.171*** (5.36)	3.235** (2.16)	0.195 (1.18)	2.196*** (3.79)
<i>Dual</i> <sub><i>t</i>-1</sub>	0.088 (1.33)	-0.089 (-0.47)	0.062 (0.72)	0.085 (0.56)	0.300*** (4.13)	0.329* (1.91)
<i>Age</i> <sub><i>t</i>-1</sub>	0.007** (2.48)	0.023*** (4.38)	0.012*** (2.76)	0.035** (2.23)	0.002 (1.31)	0.003 (0.23)
<i>Gender</i> <sub><i>t</i>-1</sub>	-0.019 (-1.05)	-0.057 (-0.53)	-0.166*** (-5.77)	-0.351*** (-5.47)	0.082** (2.42)	0.324*** (3.20)
<i>Comm</i> <sub><i>t</i>-1</sub>	-0.014	0.065	-0.015	0.006	-0.067	0.055

	(-0.62)	(0.48)	(-0.86)	(0.04)	(-1.14)	(0.70)
<i>Ddrate</i> <sub><i>t</i>-1</sub>	-0.068	-1.040	-1.177***	-3.341***	1.299***	1.801***
	(-0.40)	(-1.44)	(-7.56)	(-3.62)	(6.22)	(2.91)
<i>Hold</i> <sub><i>t</i>-1</sub>	-0.226	0.274	21.307***	47.333***	-0.838***	-0.975***
	(-1.30)	(0.47)	(5.82)	(6.47)	(-5.71)	(-3.88)
<i>Iscocurp</i> <sub><i>t</i>-1</sub>	0.038	0.250	0.136***	0.767***	-0.122***	-0.541**
	(1.44)	(1.54)	(7.26)	(6.05)	(-2.71)	(-2.40)
<i>Stime</i> <sub><i>t</i>-1</sub>	0.021	0.124*	0.050**	0.124	-0.012	0.104**
	(1.59)	(1.93)	(2.17)	(1.04)	(-0.62)	(2.05)
<i>Area</i> <sub><i>t</i>-1</sub>	-0.188***	-0.715***	-0.144**	-0.744***	-0.225***	-0.608***
	(-3.41)	(-3.71)	(-2.37)	(-4.34)	(-5.10)	(-4.80)
<i>Fee</i> <sub><i>t</i>-1</sub>	0.061***	0.030	0.087***	0.092**	0.043***	-0.017
	(4.43)	(0.61)	(11.51)	(2.25)	(2.86)	(-0.51)
<i>Score</i> <sub><i>t</i>-1</sub>	-0.063*	-0.247**	-0.024	0.020	-0.094**	-0.574***
	(-1.71)	(-2.03)	(-0.69)	(0.17)	(-2.31)	(-3.10)
<i>GDP</i> <sub><i>t</i>-1</sub>	0.017	0.070	-0.110**	-0.200	0.177***	0.448***
	(0.48)	(0.40)	(-2.27)	(-0.75)	(6.20)	(4.26)
<i>Cons</i>	0.761	-5.297*	2.519***	-4.858	0.274	-8.500*
	(0.84)	(-1.79)	(3.42)	(-1.18)	(0.26)	(-1.95)
<i>FIRM</i>	Control	Control	Control	Control	Control	Control
<i>YEAR</i>	Control	Control	Control	Control	Control	Control
<i>N</i>	9982	9982	4955	4955	5027	5027
<i>R</i> <sup>2</sup>	0.006	0.010	0.023	0.016	0.009	0.017

\*Significance at the 10%, \*\*significance at the 5% level, \*\*\*significance at the 1% level.