

# **Effects of environmental policy on consumption - lessons from the Chinese plastic bag regulation**

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## **Online appendix**

**Table A1. Regression results from OLS models regarding weekly bag consumption**

Model specification	[1] OLS model 1 without interaction variables	[2] OLS model 2 with interaction variables
<i>Dependent variable</i>	<i>Number of new plastic bags per week</i>	
	Coeff./M.E.	Coeff./M.E.
After policy implementation	-10.716 (-14.75)***	-6.907 (-1.33)
Supportive attitude	-1.168 (-4.25)***	-0.238 (-0.46)
Inconvenience of not using plastic bags	0.475 (2.12)**	0.703 (1.87)*
Percentage of paid-for bags	-0.026 (-2.47)**	-0.027 (-2.52)**
Age	-0.015 (-0.73)	0.041 (1.17)
Male	1.519 (2.74)***	2.354 (2.48)**
Businessman	4.131 (4.23)***	4.235 (2.47)**
Rural register	0.836 (1.10)	0.917 (0.67)
Education years	-0.647 (-6.49)***	-0.929 (-5.28)***
Monthly income	0.567 (3.21)***	0.416 (1.30)
Party member	0.196 (0.28)	0.635 (0.54)
Family size	0.485 (2.54)**	0.881 (2.41)**
Supermarket	-5.008 (-9.13)***	-5.331 (-5.76)***
Guiyang	7.473 (12.63)***	5.216 (5.15)***
Attitude*After policy imple.		-1.231 (-2.01)**
Inconvenience*After policy imple.		-0.082 (-0.17)
Age*After policy imple.		-0.086 (-2.03)**
Male*After policy imple.		-1.300 (-1.11)
Businiessman*After policy imple.		0.035 (0.02)
Rural register*After policy imple.		0.229 (0.14)
Eduyear*After policy imple.		0.423 (1.98)**
Income*After policy imple.		0.195 (0.51)
Party member*After policy imple.		-0.587 (-0.40)
Family size*After policy imple.		-0.596 (-1.39)
Supermarket*After policy imple.		0.509 (0.44)
Guiyang*After policy imple.		3.244 (2.59)***
Dummies for weekdays and weekends/holidays	Yes	Yes
Dummies for time of day conducting survey	Yes	Yes
No. of Obs.	3074	3074
Adjusted R-square	0.220	0.226
Prob > chi2	0.000	0.000

Notes: 1. Absolute value of t statistics in parentheses;

2. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table A2. Regression results from OLS models regarding bag consumption during the surveyed shopping trip**

Model specification	[1] OLS model 1 without interaction variables	[2] OLS model 2 with interaction variables
<i>Dependent variable</i>	<i>Number of new plastic bags during the surveyed shopping trip</i>	
	Coeff./M.E.	Coeff./M.E.
After policy implementation	-2.132 (21.26)***	-1.109 (1.56)
Supportive attitude	-0.092 (2.43)**	0.083 (1.17)
Inconvenience of not using plastic bags	0.052 (1.67)*	0.048 (0.94)
Percentage of paid-for bags	0.002 (1.51)	0.003 (1.76)*
Age	-0.007 (2.44)**	-0.000 (0.04)
Male	0.126 (1.64)	-0.112 (0.86)
Businessman	0.038 (0.28)	0.073 (0.31)
Rural register	-0.090 (0.86)	-0.548 (2.92)***
Education years	0.014 (1.04)	0.019 (0.79)
Monthly income	0.058 (2.38)**	0.036 (0.83)
Party member	-0.173 (1.77)*	-0.022 (0.13)
Family size	0.042 (1.59)	0.089 (1.78)*
Supermarket	-1.081 (14.28)***	-0.930 (7.33)***
Guiyang	0.216 (2.64)***	-0.223 (1.61)
Attitude*After policy imple.		-0.224 (2.67)***
Inconvenience*After policy imple.		0.049 (0.76)
Age*After policy imple.		-0.010 (1.72)*
Male*After policy imple.		0.320 (1.99)**
Businiessman*After policy imple.		0.023 (0.08)
Rural register*After policy imple.		0.692 (3.06)***
Eduyear*After policy imple.		-0.005 (0.18)
Income*After policy imple.		0.010 (0.20)
Party member*After policy imple.		-0.230 (1.15)
Family size*After policy imple.		-0.082 (1.39)
Supermarket*After policy imple.		-0.194 (1.23)
Guiyang*After policy imple.		0.672 (3.90)***
Dummies for weekdays and weekends/holidays	Yes	Yes
Dummies for time of day conducting survey	Yes	Yes
No. of Obs.	3074	3074
Adjusted R-square	0.225	0.240
Prob > chi2	0.000	0.000

Notes: 1. Absolute value of t statistics in parentheses;

2. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table A3. Regression results from negative binomial models regarding bag consumption at the surveyed shopping trip with price information**

Model specification	[1] Negative Binomial model 1 without interaction variables	[2] Negative Binomial model 2 with interaction variables
<i>Dependent variable</i>	<i>Number of new plastic bags at the surveyed shopping trip</i>	
	Mar. Eff.	Mar. Eff.
After policy implementation	-1.489 (14.02)***	-0.826 (1.71)*
Bag price in the surveyed shop	-3.305 (14.02)***	-1.557 (4.83)***
Supportive attitude	-0.084 (3.64)***	0.037 (1.13)
Inconvenience of not using plastic bags	0.049 (2.62)***	0.020 (0.85)
Percentage of paid-for bags	0.006 (5.36)***	0.005 (4.4)
Age	-0.006 (3.35)***	0.001 (0.26)
Male	0.120 (2.55)**	-0.051 (0.87)
Businessman	-0.004 (0.05)	0.035 (0.32)
Rural register	-0.004 (0.06)	-0.238 (3.01)***
Education years	0.014 (1.65)	0.007 (0.59)
Monthly income	0.037 (2.60)	0.015 (0.80)
Party member	-0.141 (2.49)**	-0.018 (0.25)
Family size	0.040 (2.41)**	0.035 (1.61)
Supermarket	-0.581 (10.33)***	-0.396 (6.75)***
Guiyang	0.010 (0.19)	-0.091 (1.44)
Attitude*After policy imple.		-0.230 (2.65)***
Inconvenience*After policy imple.		-0.016 (0.49)
Age*After policy imple.		-0.001 (0.15)
Male*After policy imple.		0.341 (2.49)**
Businiessman*After policy imple.		-0.027 (0.18)
Rural register*After policy imple.		0.503 (1.83)*
Eduyear*After policy imple.		-0.005 (0.34)
Income*After policy imple.		-0.012 (0.45)
Party member*After policy imple.		0.014 (0.14)
Family size*After policy imple.		-0.028 (0.90)
Supermarket*After policy imple.		-0.315 (2.60)***
Guiyang*After policy imple.		0.472 (3.80)***
Dummies for weekdays and weekends/holidays	Yes	Yes
Dummies for time of day conducting survey	Yes	Yes
No. of Obs.	3074	3074
Adjusted/pseudo R-square	0.135	0.153
Prob > chi2	0.000	0.000

Notes: 1. Absolute value of t or z statistics in parentheses;

2. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

**Table A4. Regression results from the negative binomial model regarding weekly bag consumption after regulation implementation**

Model specification	Negative binomial model
<i>Dependent variable</i>	<i>Number of new plastic bags per week</i>
	Mar. Eff.
Supportive attitude	-1.044 (5.76)***
Inconvenience of not using plastic bags	0.626 (3.88)***
Percentage of paid-for bags	-0.015 (2.31)**
Age	-0.023 (1.7)*
Male	1.234 (3.13)***
Businessman	2.412 (2.96)***
Rural register	1.180 (2.02)**
Education years	-0.360 (4.94)***
Monthly income	0.315 (2.43)**
Party member	-0.282 (0.57)
Family size	0.169 (1.30)
Holiday or weekend	-1.312 (3.44)***
Noon	-1.949 (4.42)***
Afternoon	-0.825 (1.77)*
Supermarket	-4.069 (9.74)***
Guiyang	8.314 (20.97)***
Dummies for weekdays and weekends/holidays	Yes
Dummies for time of day conducting survey	Yes
No. of Obs.	2035
Adjusted/pseudo R-square	0.057
Prob > chi2	0.000

Notes: 1. Absolute value of z statistics in parentheses;

2. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.