

***Corruption & Environmental Standard
Certification:
The Countervailing Impacts of
Policy-Specific & General Corruption***

Ivan Montiel

California State University, Los Angeles

Bryan Husted

York University

Petra Christmann

Rutgers University

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Presentation Outline

- 1) *Research Question*
- 2) *Theory & Hypotheses Development*
- 3) *Data & Method*
- 4) *Results*
- 5) *Conclusions*

Research Question

- Voluntary EMS standards advocated as a tool for firm self-regulation to offset failure of governmental regulations to protect the environment (Prakash & Potoski, 2007), especially where regulations are lax and lack enforcement is likely (Christmann & Taylor, 2001)
- How does corruption impact firms' adoption of voluntary EMS standards? Will corruption deter or enhance their adoption?

Certification as a signaling tool

- Signaling theory suggests mechanisms for the transfer of information to another party to resolve information asymmetries (Spence, 1973)
- Certification to voluntary standards may function as a signal in business
- How does corruption interfere in this signaling value?

Theory: 2 opposing effects

- **High levels of corruption** may **increase the signaling value** of independent certification because compliance with government regulations does not assure responsible environmental conduct
- **High levels of corruption** may **reduce the signaling value** of independent certification because corruption reduces not only credibility of government agencies but also other organizations with power to grant and withhold resources from firms such as auditors

Policy-specific Corruption

Perceptions of corruption directly related to specific domains of economic and social life (e.g. governmental transactions with government) might impact firms' decision to adopt EMS standards.

Third-party certification can become a powerful signal of a firms' environmental performance to stakeholders.

•Hypothesis 1: Facilities located in regions characterized by high levels of policy-specific corruption related to environmental protection will be *more likely* to obtain ISO 14001 certification than facilities located in other regions

General Corruption

A general lack of trust in governmental agencies may extend to non-governmental agencies who have the power to enforce rules and grant and withhold resources.

General corruption decreases the credibility of EMS certification as a signal of firm's environmentally responsible conduct.

•Hypothesis 2: Facilities located in regions characterized by high levels of general corruption will be *less likely* to obtain ISO 14001 certification than facilities located in other regions.

Moderating Effect of Exports

Customers' awareness about corruption moderate the relationships between general and policy-specific corruption and EMS certification.

•Hypothesis 3: The positive impact of policy-specific corruption on firms' decisions to obtain ISO 14001 certification is smaller for firms that export their products to foreign countries

•Hypothesis 4: The negative impact of general corruption on firms' decisions to obtain ISO 14001 certification is smaller for firms that export their products to foreign countries.

Data

1. Database with **433** automotive supplier facilities operating in Mexico from the ELM Guide Automotive Supplier Database.
2. Match with ISO 14001 North American World Preferred Registry Database, available up to 2004.
3. Corruption data from the Governance & Business Development Survey (EDGE), from Tec Monterrey.

Method

- **Logit Regression Model**

To investigate underlying causes for initial certification

- **Dependent Variable**

Dummy Variable indicating whether the facility had ISO 14001 by 2004

(Source: World Preferred Registry)

Independent Variables

Hypothesis	Source
1. Policy-specific Corruption (related to environmental regulation): Dishonesty of Semarnat, the federal environmental agency	EDGE Survey
2. General Corruption: Firm perception whether firms similar to them pay bribes to inspectors to avoid compliance in 3 levels of government.	EDGE Survey
3. Moderating effects of exports in policy-specific corruption	GASD Database
4. Moderating effects of exports in general corruption	GASD Database

Results (I)

	EMS certification with ISO 14001			
	1	2	3	4
Policy-specific Corruption		0.68* (0.35)	0.67* (0.34)	0.79* (0.49)
General Corruption		-1.11* (0.53)	-2.31* (0.93)	-1.09* (0.53)
Policy-specific Corruption*Exports				-0.17 (0.59)
General Corruption*Exports			1.52 (0.99)	
Exports	0.46 (0.30)	0.38 (0.30)	0.49 (0.33)	0.37 (0.30)
MNE	1.40** (0.40)	1.51** (0.40)	1.49** (0.40)	1.50** (0.40)
Environmental Inspection Intensity	9.11+ (5.44)	-3.80 (7.82)	-4.24 (7.80)	-3.67 (7.87)
Big Three customer	0.38 (0.44)	0.31 (0.44)	0.30 (0.44)	0.31 (0.44)
Log Employees	0.32* (0.13)	0.36* (0.14)	0.37* (0.15)	0.36* (0.14)
QS 9000 certification	-0.04 (0.27)	-0.12 (0.29)	-0.05 (0.29)	-0.11 (0.28)
Constant	-5.42** (0.90)	-5.35** (0.93)	-5.46** (0.94)	-5.35** (0.93)
Observations	433	433	433	433
Wald χ^2	30.64**	40.25**	39.78**	40.40**
Log likelihood full model	-185.45	-182.35	-181.07	-182.31

Results (II)

	EMS Certification with ISO 14001				
	5	6	7	8	9
Policy-specific Corruption		0.85*	0.80*	1.31**	0.92*
		(0.36)	(0.34)	(0.40)	(0.46)
General Corruption		-1.60**	-1.78**	-1.32*	-1.27*
		(0.54)	(0.60)	(0.55)	(0.52)
Policy-specific Corruption*Exports to Japan				-1.45*	
				(0.63)	
Policy-specific Corruption*Exports to Europe					-0.17
					(0.57)
General Corruption*Exports to Japan		1.73+			
		(0.99)			
General Corruption*Exports to Europe			1.56+		
			(0.85)		
Exports to Japan	0.72*	0.96**	0.77*	0.77*	0.81*
	(0.32)	(0.33)	(0.33)	(0.35)	(0.33)
Exports to Europe	-0.20	-0.30	-0.10	-0.29	-0.21
	(0.29)	(0.29)	(0.29)	(0.29)	(0.28)
MNE	1.23**	1.40**	1.34**	1.45**	1.38**
	(0.41)	(0.41)	(0.41)	(0.41)	(0.41)
Environmental Inspection Intensity	8.53	-5.98	-5.37	-7.10	-6.95
	(5.63)	(7.96)	(8.13)	(7.99)	(8.12)
Big Three customer	0.50	0.45	0.51	0.39	0.43
	(0.45)	(0.46)	(0.46)	(0.47)	(0.46)
Log Employees	0.29*	0.34*	0.32*	0.34*	0.35*
	(0.13)	(0.14)	(0.14)	(0.14)	(0.14)
QS 9000 certification	-0.05	-0.12	-0.06	-0.08	-0.12
	(0.28)	(0.29)	(0.28)	(0.29)	(0.29)
Constant	-4.96**	-5.04**	-5.04**	-5.04**	-5.05**
	(0.82)	(0.88)	(0.86)	(0.88)	(0.87)
Observations	433	433	433	433	433
Wald χ^2	32.87**	45.41**	44.73**	49.61**	43.77**
Log likelihood full model	-184.34	-178.44	-178.35	-177.27	-180.13

Conclusions

Different types of corruption impact the likelihood of voluntary EMS standards adoption differently

- Firms more likely to certify in regions with lower general corruption levels but high policy-specific (environmental) corruption
- Exports to distant customers moderates these effects

Conclusions

We need to be cautious when using country corruption indices from Transparency International (Corruption Perceptions Index), World Bank, World Competitiveness Index

It is important to take into account these different dimensions in perceptions of corruption:

- general corruption vs corruption related to specific issues
- corruption specific to different jurisdictions within a country.

Thank you!

ivanmontiel@gmail.com