The Evidence Base for Environmental and Socioeconomic Impacts of "Sustainable" Certification

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Outline

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Introduction 1/3

Sustainable certification

Definition. Three activities:

- Setting environmental and/or social welfare production standards
- Checking adherence with those standards
- Certifying producers that adhere
- Increasingly popular. Globally:
 - Bananas: 15%
 - Wild fisheries: 12%
 - Forest products: 10%
 - Coffee: 7%

Introduction 2/3

Rationale for environmental and socioeconomic benefits of certification

Consumers differentiate among goods based on env. and social attributes

Price premiums for certified goods

Financial incentives for producers to meet certification standards

> Producers improve their environmental and/or social performance



Introduction 3/3

Challenges to realizing benefits

- Certification standards and enforcement must be stringent enough to exclude poorly performing producers
- Price premiums must be high enough to offset certification costs and create financial incentives for certification
- Selection effects must not dominate: producers already meeting standards are not the only ones being certified.



Objectives 1/1

What can we learn about certification impacts from existing empirical studies? Objectives

- Identify empirical studies of sustainable certification
- Classify them on the basis of whether they use methods likely to generate credible results
- Consider the implications for research and policy



Methods 1/4

Identifying studies

Databases

- Digital, including Econlit, Google, Google Scholar, Science Direct
- Library catalogues including CATIE, GWU, U. of Washington
- Keywords
 - "certification," "ecolabel," "label," etc.



Methods 2/4

Criteria for inclusion

- Focuses specifically on identifying environmental and socioeconomic impacts
- Ex post empirical analysis of existing certification scheme
 - Four categories of goods and services
 - Agricultural commodities
 - Tourism enterprises
 - Fish products
 - Forest products



Methods 3/4

NOT criteria for inclusion

- Published; included gray literature as well
- Geography; included studies of developing and industrialized country experiences



Methods 4/4

Classification: does the study construct a reasonably credible counterfactual?

A1 Yes

A2 No



Counterfactuals 1/3

Counterfactual and certification impacts

- Counterfactual: an estimate of certified producers' environmental and socioeconomic performance would have been absent certification
- Impact: Difference between:
 - actual measured performance of certified producers
 - counterfactual



Counterfactuals 2/3

Problematic counterfactuals

- Certified producers' pre-certification performance
 - Assumption: certified producers performance would not have changed absent certification
 - Problem: performance may change for reasons unrelated to certification
 - Non-certified producers' performance
 - Assumption: certified and noncertified producers would have the same average performance absent certifications
 - Problem: certain types of producers select into certification

Counterfactuals 3/3

Constructing a reasonable counterfactual

Experimental (randomized design)

 Randomly select producers to certify from among qualified and interested group, non-certified group = control

Quasi-experimental

- Matching: Match certified producers with very similar noncertified producers = control
- Instrumental variables: Econometric technique that takes advantage of correlation between certification and an instrument: variables affect certification, but not performance



Findings 1/6

Findings: overview of studies

- Included in evidence base
 - 37
- Construct reasonable counterfactual
 - 14
- Find some evidence of positive impacts
 - 6

Findings 2/6

Table 1. Studies of sustainable certification, by relevance category and sector

	Category/Sector	Bananas	Coffee	Fish and shrimp	Timber	Tourism	Miscellaneous
	A1: Credible	Fort & Ruben (2008a)	Arnould et al. (2009)	None	de Lima et al. (2008)	Rivera (2002)	Becchetti & Constantino
-1	counterfactual	Ruben & van Schendel	Blackman & Naranjo (2010)			Rivera & de Leon (2004)	(2008)
		(2008)	Bolwig et al. (2009)			Rivera et al. (2006)	
		Zúñiga-Arias & Sáenz	Fort & Ruben (2008b)				
		Segura (2008)	Lyngbaek et al. (2001)				
		-	Sáenz Segura & Zúñiga-Arias				
			(2008)				
	A2: Lacks	Melo & Wolf (2007)	Bacon (2005)	Hicks & Schnier (2008)	Ebeling & Yasue (2009)	None	None
	credible	Ruben et al. (2008)	Barbosa de Lima et al. (2009)		Kukkonen et al. (2008)		
	counterfactual		Consumers Int'l (2005)		Madrid & Chapela		
			Jaffee (2008)		(2003)		
			Kilian et al. (2004)		Markopoulos (1998)		
			Martínez-Sánchez (2008)		Morris & Dunne (2003)		
			Millard (2006)		Owari et al. (2006)		
			Philpott et al. (2007)		Nebel et al. (2005)		
			Quispe Guanca (2007)		Thornber et al. (1999)		
			Raynolds et al. (2004)				
			Ronchi (2002)				
			Valkila (2009)				

Findings 3/6

	A1 Counterfactual	A2 No counterfactual	Total
Bananas	3	2	5
Coffee	6	12	18
Fish	0	1	1
Timber	1	8	9
Tourism	3	0	3
Miscellaneous			
Ag. products	1	0	1
Total	14	23	37

Table 2. Count of studies of sustainable certification, by relevance category and sector

Type of counterfactual in A1 studies: all but 3 matching

	A1		A2		A1+A2	
	Any impact	Environmental impact	Any impact	Environmental impact	Any impact	Environmental impact
Bananas	3	0	2	1	5	1
Coffee	6	1	12	6	18	7
Fish	0	0	1	1	1	1
Timber	1	1	8	5	9	6
Tourism	3	2	0	0	3	2
Miscellaneous					0	0
Ag. products	1	0	0	0	1	0
Beef, pork	0	0	0	0	0	0
Biofuels	0	0	0	0	0	0
Cacao	0	0	0	0	0	0
Total	14	4	23	13	37	17

Table 3. Count of studies of sustainable certification, by relevance category, sector,and environmental focus



Findings 5/6

Table 4. Studies of sustainable certification, by relevance category, sector,and type of certification

	A1		A2		
	No.	Туре	No.	Туре	
		certification (no.)		certification (no.)	
Bananas	3	FT (3)	2	FT (1); RA	
Coffee	6	FT (3); Organic	12	FT (9); Organic; RA; Utz; Starbucks; SAN; C.A.F.E.	
Fish	0		1	Dolphin-Safe	
Timber	1	FSC	8	FSC (5); RA; FFCS;	
Tourism	3	CST; SSP	0		
Miscellaneous					
Ag. products	1	FT (1)	0		
Beef, pork	0		0		
Biofuels	0		0		
Cacao	0		0		
Total	14		23		

C.A.F.E. = Farmer Equity Practices; CST = Certification for Sustainable Tourism; FFCS = Finnish Forest Certification System; FSC = Forest Stewardship Council; FT = Fair Trade;

RA = Rainforest Alliance;

SAN = Sustainable Agriculture Network;

SSP = Sustainable Slopes Program

Findings 6/6

Table 5. Count of (A1) studies of sustainable certification that construct counterfactualby sector, and findings of observable positive impacts on firms and farms

	No.	Positive socioeconomic impact	Positive environmental impact
Bananas	3	1	
Coffee	6	2	1
Fish	0		
Timber	1		0
Tourism	3	1	0
Miscellaneous			
Ag. products	1	1	
Beef, pork	0		
Biofuels	0		
Cacao	0		
Total	14	5	1



Summary

 Empirical evidence on certification impacts is thin, and the findings are mixed



Conclusion 1/2

Implications for research. Need more studies of...

- Causal impacts of certification
- Fish, timber, cacao, biofuels, beef and pork, and other agricultural products
- Non-Fair Trade certification
- Environmental (versus socioeconomic) impacts

Conclusion 2/2

Implications for policy. Certifying organizations and funders can

- Set specific goals for outcomes (vs. process)
- Build evaluation into project design
- Employ independent evaluators
- Train project personnel in evaluation principals
- Maximize opportunities for knowledge creation by, e.g.,
 - Collecting data for non-certified control groups
 - When practical, incorporating randomization into project design

Thank you

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