Standards as Strategies: Forestry Standards and Public Procurement Policies

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Context

- Last-round of feedback before submission
- Followed by case-studies (on/off line)
- Job Market

Transnational Private Standards

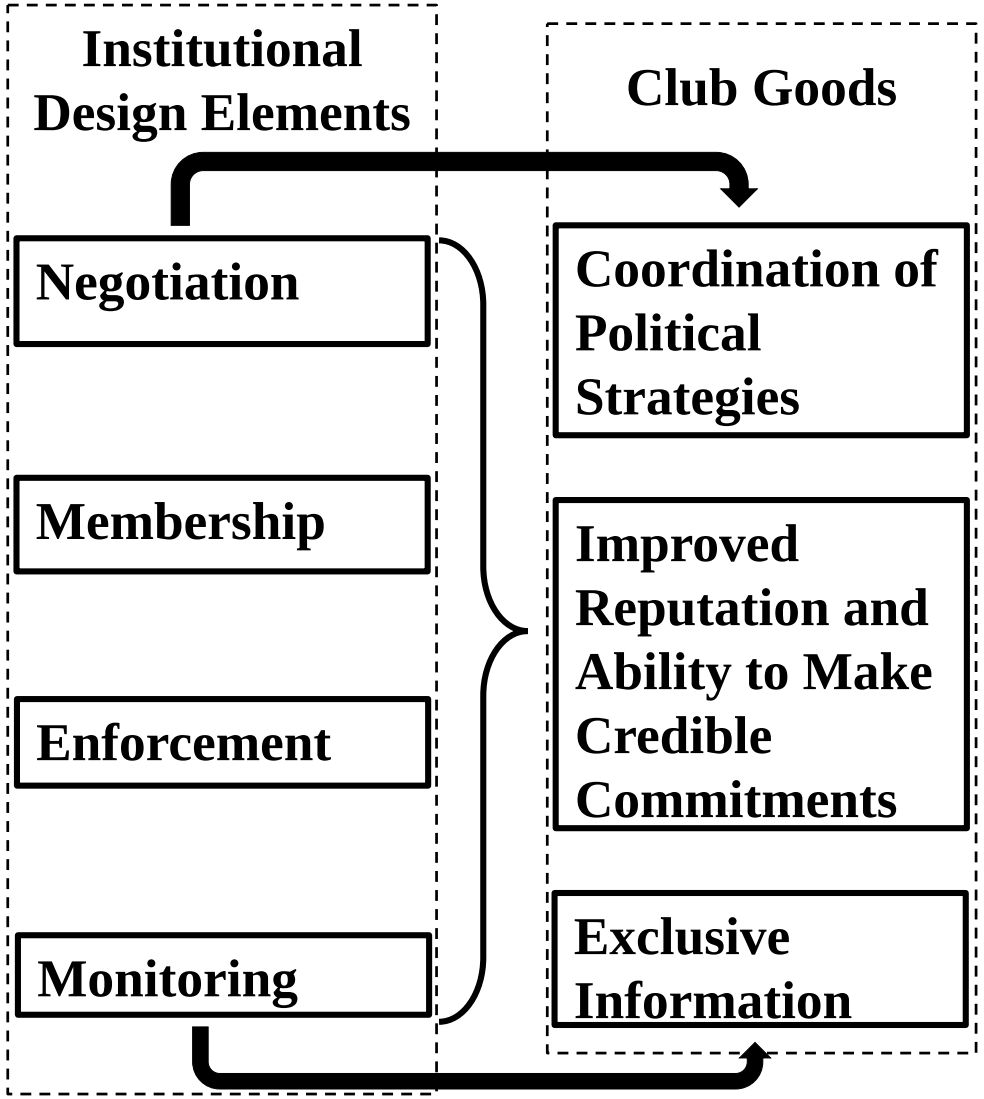
- Principally Established by Firms and NGOs
- Non-trivial costs of adoption
- Require adopters exceed government regulation

Why Adopt?

- Some firms receive market benefits from differentiating their product
  - Consumers pay premium for label
- Some use standards for supply-chain management
- Many standards do not appear to provide market benefits
  - Technical
  - Firms don't sell directly to end consumers
  - Consumers unwilling to pay premium

- My Argument: Adoption → Club Goods → Political advantages

Institutional Design of Transnational Private Standards



Transnational Private Standards as Club Goods

(Prakash and Potoski 2006, Green 2013, Abbot and Snidal 2009)

Aims of Lobbying

- Cynical version: Status quo, weak government regulation, self-regulation
  - Bhopal, Chernobyl, Exxon Valdez, Deepwater Horizon, Detergent Industry
- Slightly less cynical version: stronger government regulation, barriers for competitors
  - Dolphin-Free Tuna in US, ISO 14001 in developed countries, Marine Steward Council

Hypothesis

The adoption of sustainable forestry certifications by firms in the forestry sector has lead to stronger regulation in national government timber procurement policies.

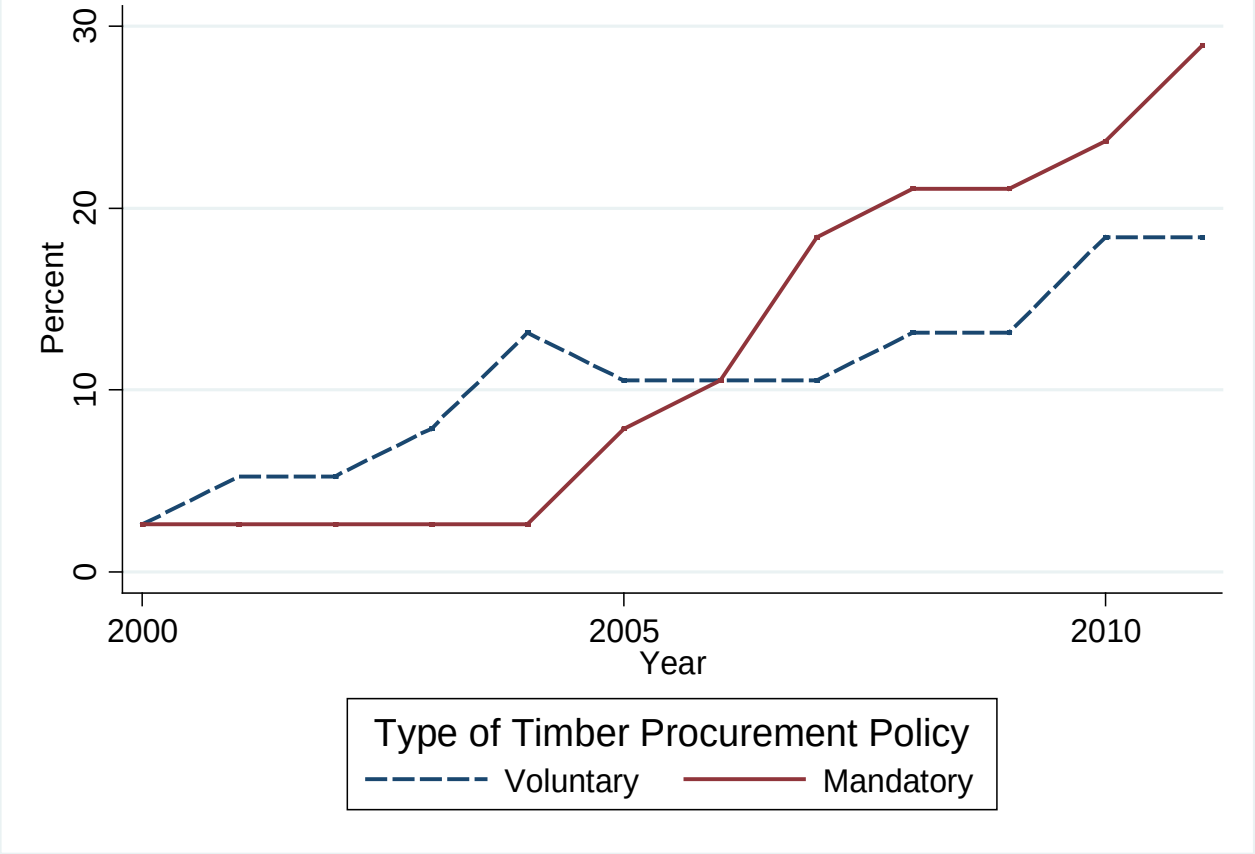
The Case: Private Forestry Standards and National Public Procurement Policies

- Sustainability standards:
  - Forest Management
    - Forestry industry (roundwood and non-wood forest products);
  - Chain-of-Custody
    - Wood industry (sawnwood, wood-based panels, wood chips and residues, charcoal and further processed wood products excluding furniture.);
    - Pulp and paper industry (pulp, recovered paper, paper, and further processed paper products excluding printed articles);
    - Wooden furniture industry

- National Public Procurement Policies
  - Rules and regulations regarding sustainability of purchasing by National Governments

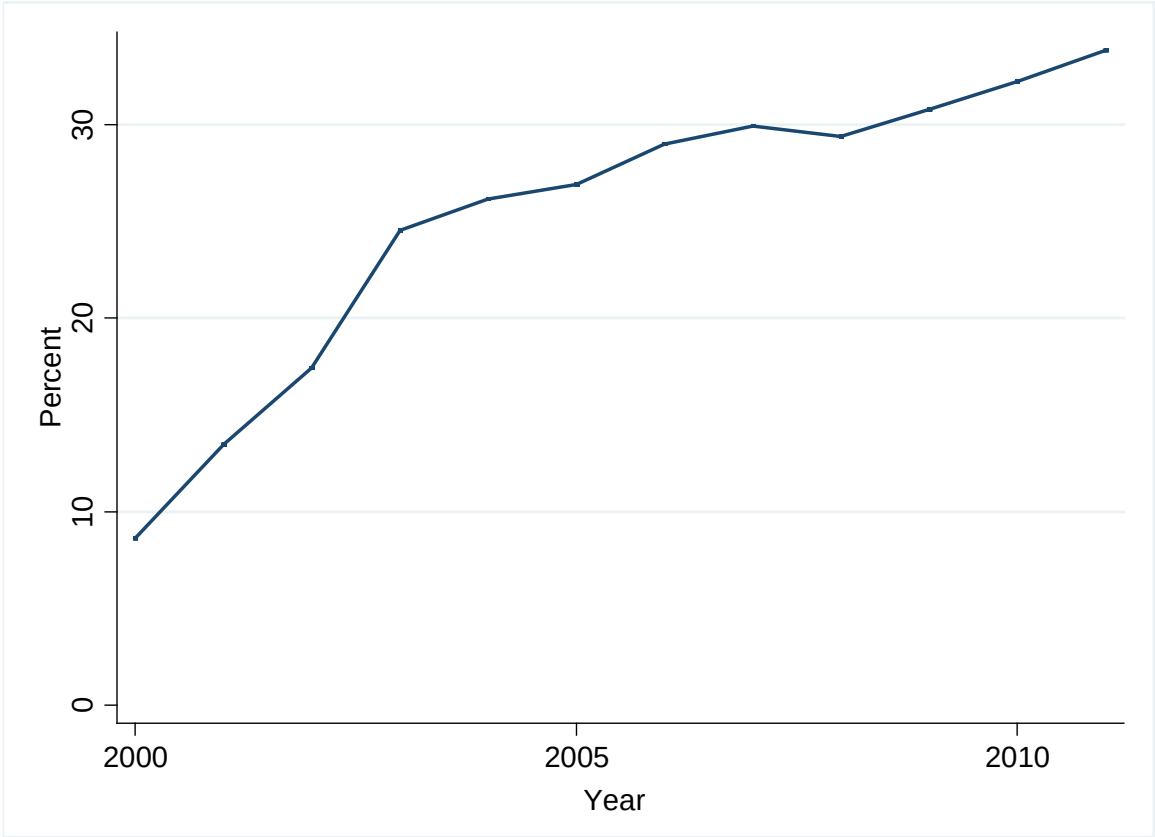
Forest Standards and Procurement Policies

- Government Procurement (Purchasing) has significant market effects
  - Between 3.5% (Belgium) and 60% (UK) of demand for timber
  - 'Follow the leader'



Forest Standards and Procurement Policies

- Two Transnational Private Forestry Standards
  - FSC (1993)
  - PEFC (1995)



Dependent Variable

Content: Stringency of Timber Public Procurement Policy

Ordinal Scale:

- No requirements / General 'Green Public Procurement'
- Voluntary requirements
- Mandatory requirements

Timing: Time to Adoption

- Number of years from year 2000 before adopting voluntary or mandatory sustainability policies

Explanatory Variables

- (+) Percent of Forest Area certified by Transnational Private Standards
  - Proxy for resources and size of Forestry industry

- (+) Density of Chain-of-Custody certificates
  - # of certificates / Gross-Value added of Forestry Sector
  - Proxy for resources and size of forest-goods manufacturing sector

Control Variables

Institutional Variables

- (-) Number of corporate campaign finance Regulations on
- (-) Majoritarian electoral system
- (+) EU Membership

NGO Influence

(+) Policy Engagement

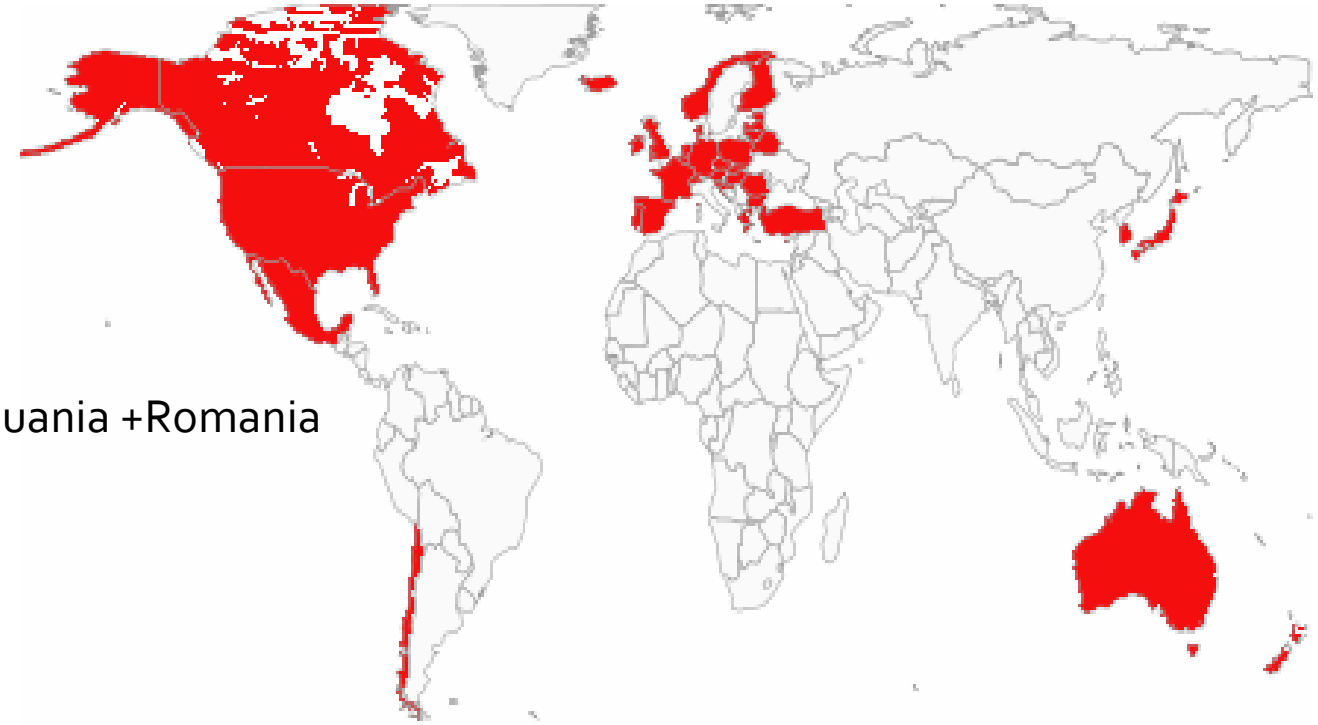
(+) Number of Environmental NGOS

Economic Variables

- (+) GDP per Capita
- (+) Forest Rents as share of GDP
- (+) Share of GDP from Forest Sector
- (-) Share of Employment from Forest Sector
- (+) Share of Imports

() Expected direction of relationship

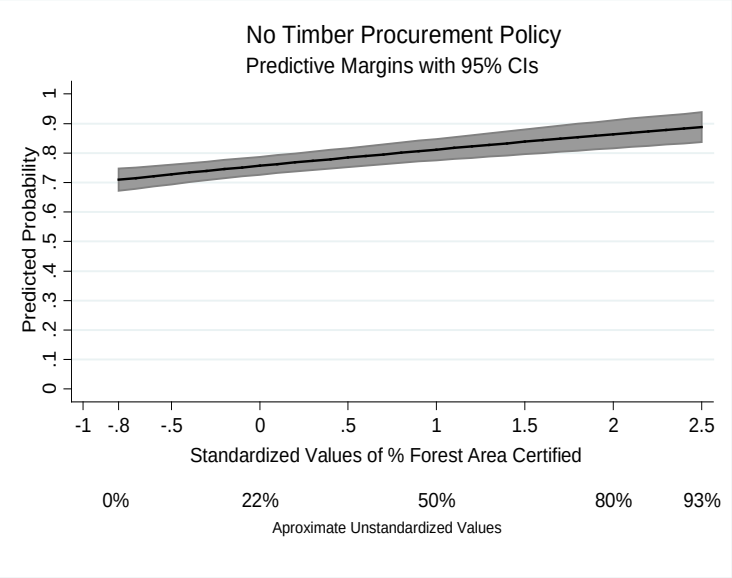
The Models

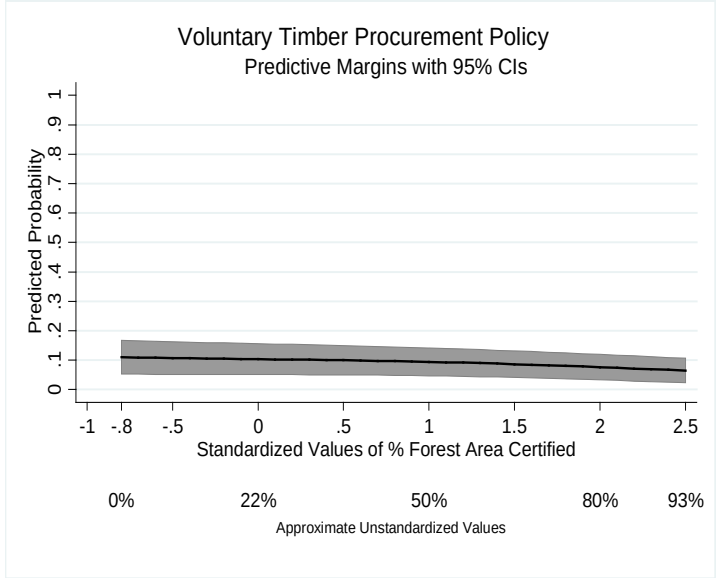


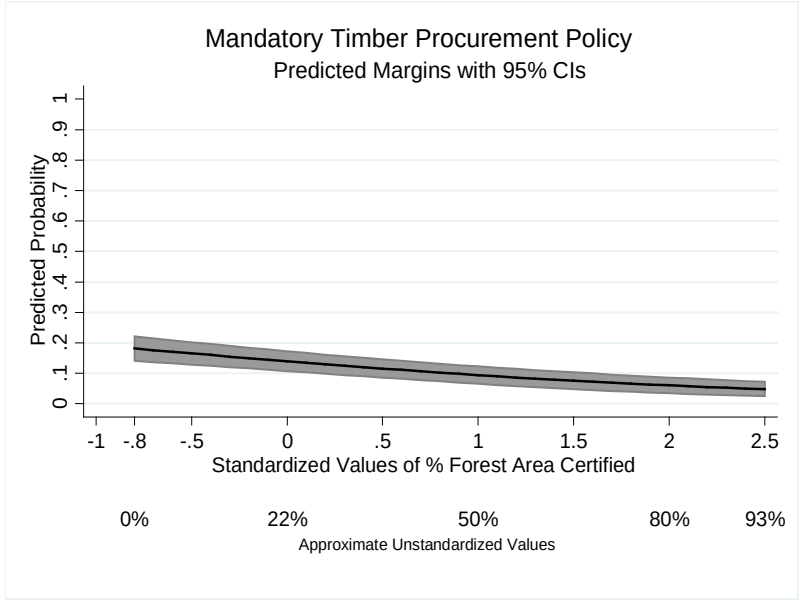
- 38 mid and high income countries
  - OECD – ITALY + Bulgaria + Croatia + Lithuania +Romania
- 456 observations
- 2000-2011 (strongly balanced)

- Random-Effects Ordered Logistic Regression
  - Include Institutional Effects
  - Variety of fixed-effects models as robustness check
- Survival model: Weibull parametric model
  - Time variant parameters included as anxillary
  - Cox semi-parametric model as robustness check

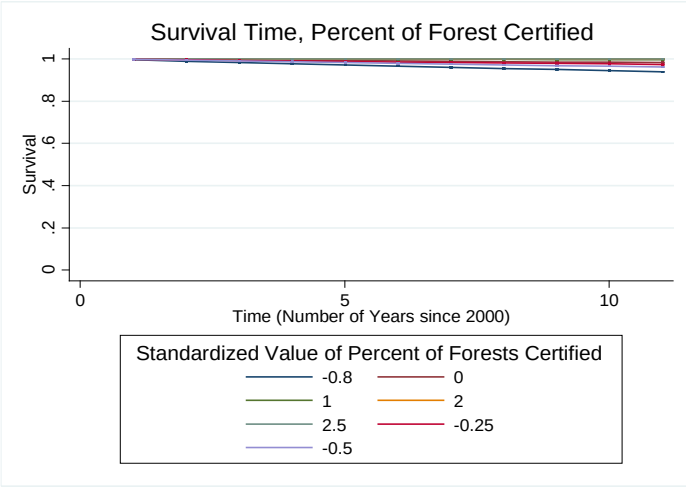
Results: Percent of Forests Certified



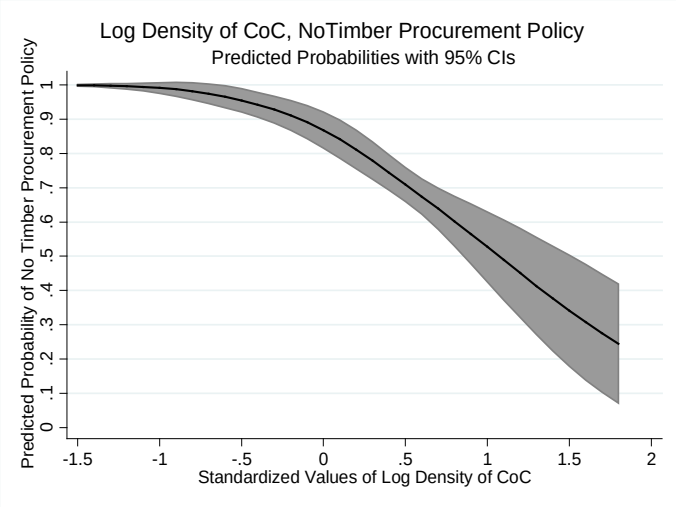


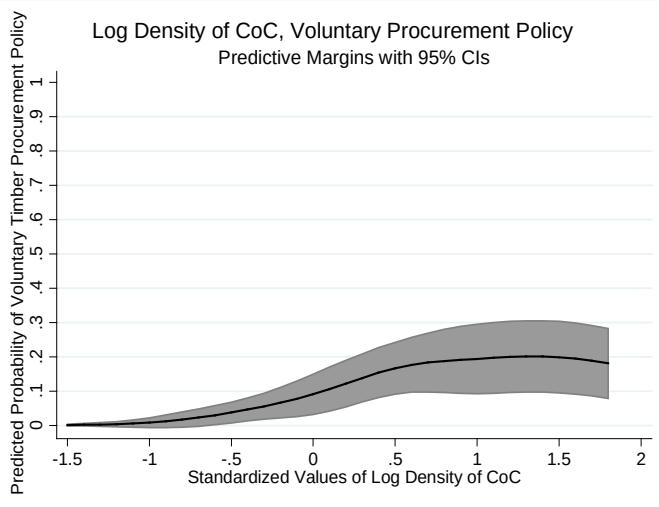


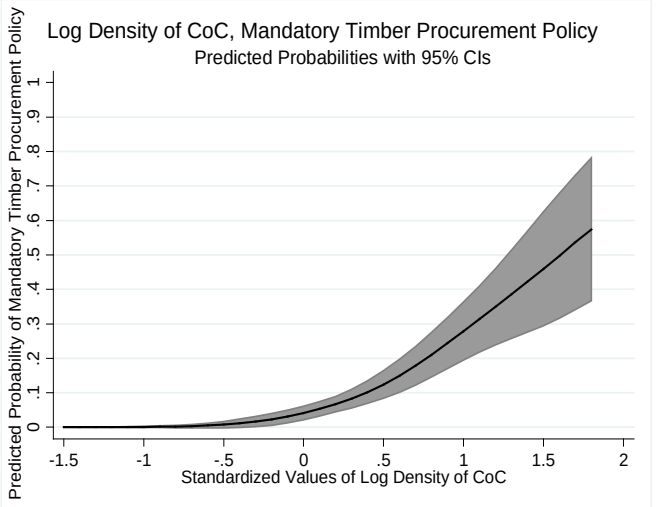
- Increase in percent of forests certified associated with slight decrease in likelihood of adoption
- Associated with later adoption (decreased hazard)



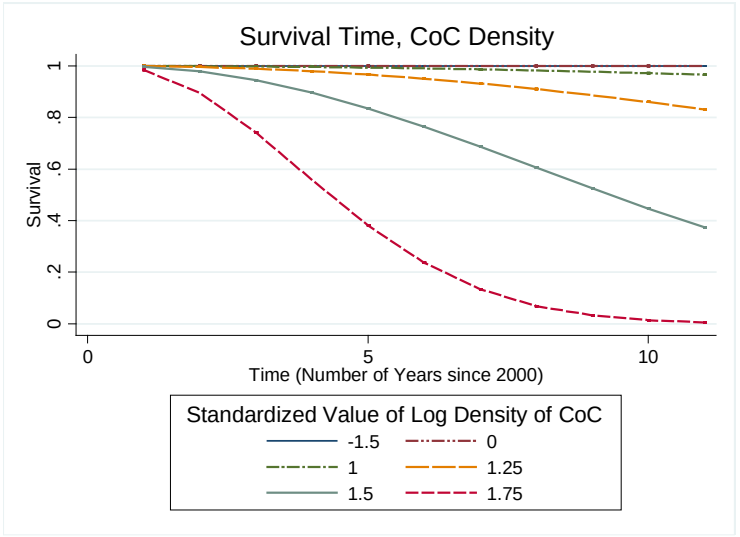
Results: Density of Chain of Custody Certificates







- Increase in density of Chain of Custody Certificates associated with increase in likelihood of adoption
- Associated with earlier adoption (increased hazard)



Significant Results from Control Variables

Significance level $p < 0.5$ in both Survival and Random-Effects model

Variable	Relationship
Number of ENGOs	Positive
Forest Sector GDP	Positive
Forest Sector Employment	Negative
Share of Imports	Positive

Summary of Results

- Firms in forestry sector share different sets of regulatory preferences depending on where they are in the supply chain
  - Forestry industry: Adoption to maintain low regulation
  - Manufacturing industries: Adoption to increase regulation

- Forestry industry: costs of adoption higher, benefits smaller
- Manufacturing Industries: Lower costs of adoption, greater benefits

- Influence of NGOs suggests possibility of Baptist-Bootlegger Coalitions
- Given relationship with imports, may be used as form of protectionism

Narrative

- NGOs and Rio Earth Summit (1992)
- Forest Stewardship Council Standard (1993)
- Campaign against big retailers of timber and forest products
  - E.g. Home Depot, Wal-Mart, Ikea, Staples and Random House
- Retailers change policy, sustainable timber as Corporate Social Responsibility
  - Created market for manufactured goods
- Some manufacturers adopt standards to meet demand

Consequence

- Heterogeneous manufacturer firm preferences on sustainability requirements in public procurement policies
- Adopters of FSC and PEFC stand to gain competitive advantages over non-adopters in manufacturing sector.
  - Lobby Governments
- Evidence of lobbying in US, UK and EU by forestry sector and NGOs
  - PACs, political donations and registered lobbyists in US
  - Political Donations and registered lobbyists in UK and EU
- But, forestry industry usually does not sell directly to governments
  - Governments purchase manufactured goods
  - Benefits of adoption marginal, competition from firms in other countries

Conclusion

- The adoption of TPS by firms is associated with a change in likelihood in the adoption and the timing of Timber Procurement Policies by national governments
- Firms hold different preferences depending on where they are located in the supply chain
  - Increase in Forest Industry adoption **decreases** likelihood
  - Increase in Manufacturing Industries **increases** likelihood

Challenges

- Non-Proportional Hazards
  - Interactions with time
- Lack of reliability of fixed-effect ordinal models
  - New alternative fixed-effect methodologies as robustness check
- Endogeneity
  - Lagged variables
  - Alternative variables
  - Duration model

- Next Steps:
  - Spatial lag using forestry trade dyads

Acknowledgements

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Feedback

- Panels at ISA 2015/16, MPSA 2016, APSA 2016
- Duck Family Graduate Workshop at University of Washington
- APSA STEP Dissertation Workshop 2016
- Thomas Bernauer; Jessica Green; Craig Kauffman; Ronald Mitchell; Aseem Prakash

		Random-Effects Ordered Logistic		Duration (Weibull)	
Explanatory Variables	Density of CoC	924.4***	96.77***	5.428***	815.2***
		(83.91 - 10,184)	(24.13 - 388.0)	(2.322 - 12.69)	(55.24 - 12,032)
	% Forest Area TPS	0.164***	0.283***	0.163***	0.000368***
		(0.0816 - 0.330)	(0.155 - 0.518)	(0.0431 - 0.616)	(3.45e-05 - 0.004)
Institutional Variables	Majoritarian		0.845		0.316
			(0.172 - 4.156)		(0.0677 - 1.471)
	Campaign Finance		0.913		0.389***
			(0.739 - 1.128)		(0.222 - 0.682)
	EU Membership		1.146		0.529
			(0.547 - 2.400)		(0.122 - 2.299)
NGO Influence	Number of ENGOs		6.819***		398.2***
			(1.750 - 26.57)		(22.15 - 7,157)
	Policy Engagement		1.200		9.748**
			(0.424 - 3.401)		(1.660 - 57.25)
Economic Variables	Forest Sector GDP		66.73***		1,023***
			(8.899 - 500.4)		(45.03 - 23,237)
	Forest Sector Employment		0.0125***		0.0112***
			(0.00173 - 0.0898)		(0.00152 - 0.0829)
	Forest Area		0.115***		0.129
			(0.0413 - 0.320)		(0.00692 - 2.417)
	Share of Imports		2.261**		65.27***
			(1.078 - 4.742)		(5.130 - 830.3)
	Forest Rents		0.341		0.0170***
			(0.0447 - 2.608)		(0.00182 - 0.158)
	GDP per Capita		3.629		0.706
			(0.604 - 21.80)		(0.176 - 2.837)

Goodness-of-Fit