

When Logic Flows: **How Environmental Logic in the Investment Field** **Make Firms Greener**

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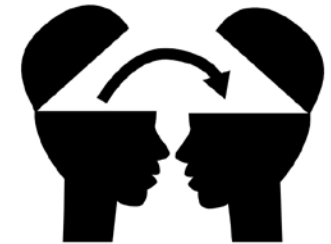
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Boundary conditions of institutional influence



Institutional logics define the content of the organizing principles of an institutional order, such as norms, values, assumptions, and practices (Ocasio, Thornton, & Lounsbury, 2017).



Institutional Logics do flow:

e.g., The institutional logics of VC firms can change young firm behaviors (Pahnke, Katila, and Eisenhardt, 2015)

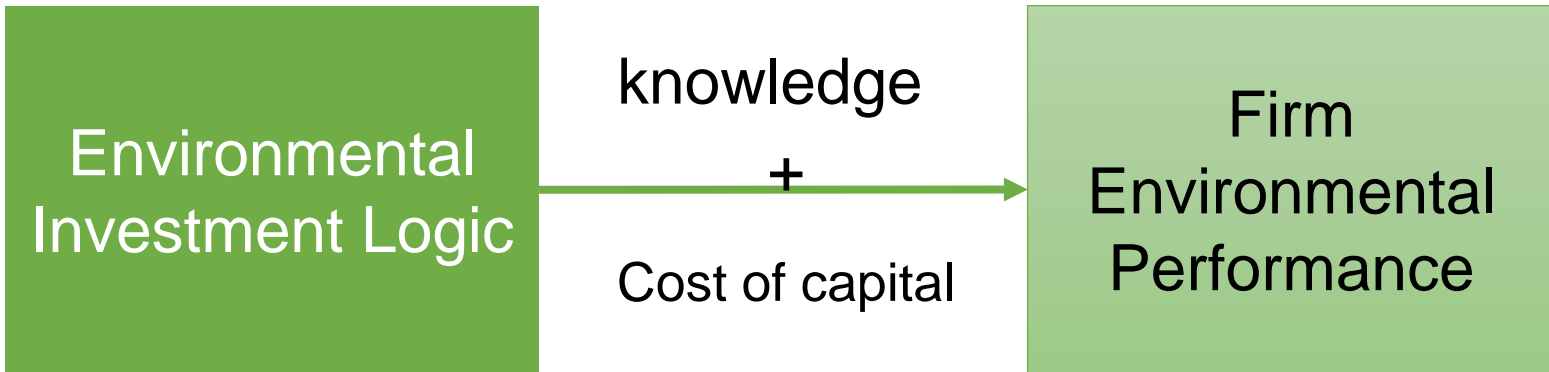
But when?

Boundary conditions of logic transmission is under-researched

Research question

Whether and when does an environmental logic in the investment field affect corporate environmental activities?

Hypothesis 1



Hypothesis 1: The higher the diffusion of environmental investing in a country's financial sector, the better the environmental performance of firms in that country.

Hypothesis 1

Mechanism 1:

A higher cost of capital (El Ghoul et al., 2011; Chava, 2014)

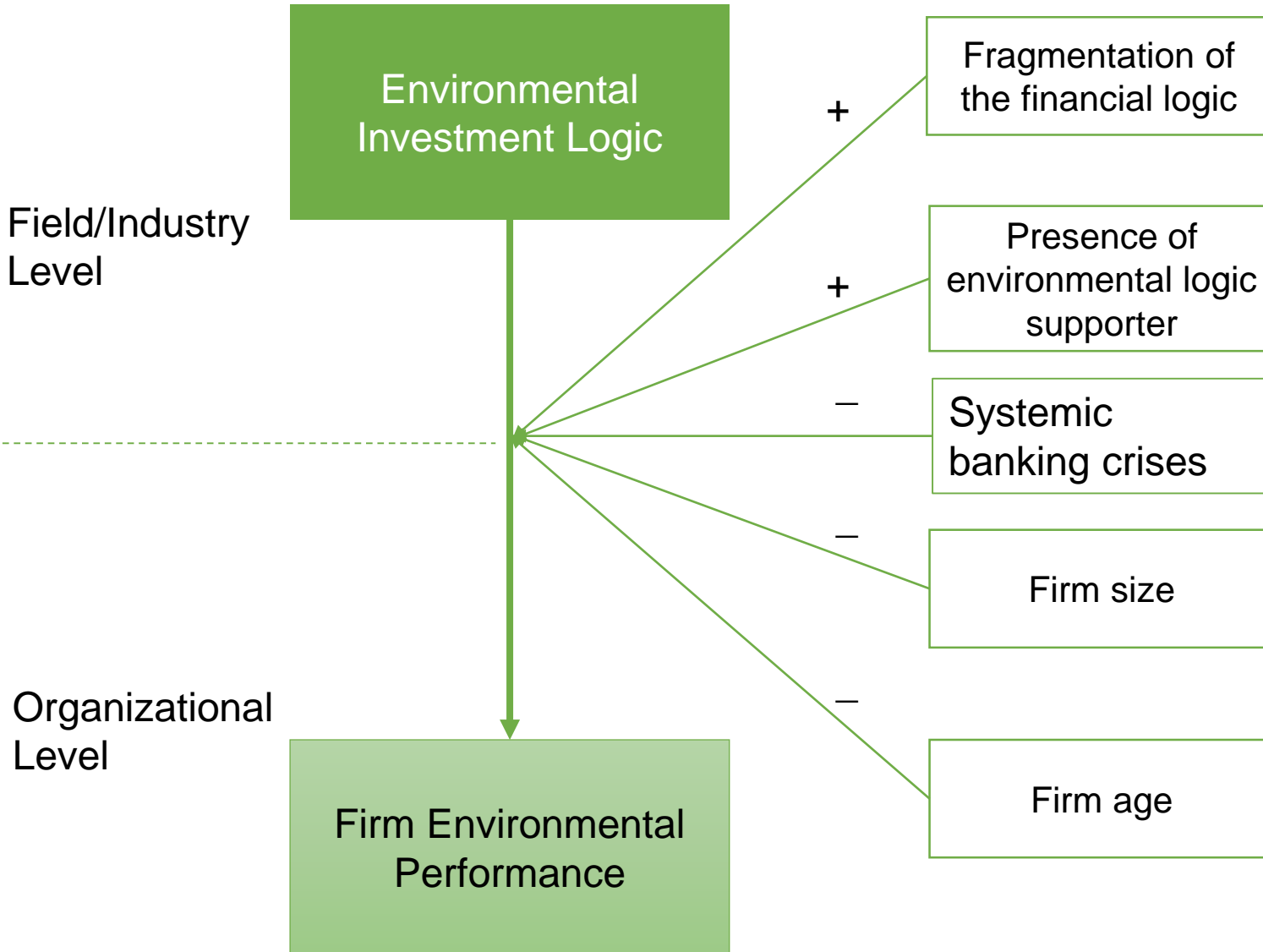


Mechanism 2:

A better knowledge of environmental issues and the need to improve it (Ferraro and Beunza, 2014; Dimson, Karakaş, and Li, 2015)



Overview of the Model



Hypothesis 2a – firm size

Small firms easier to be dominated

Green funds can more easily mobilize adequate resources to meet the threshold capital for which firms have to coopt with these funds' requirement on improving environmental performance (Pfeffer and Salancik, 1978; Heinkel, Kraus, and Zechner, 2001)



Small firms overlooked by mainstream funds:

“A lot of financial institutions look for large projects, big amount and big volume here and there...They want something much bigger (fieldnote, 2010)”



Small firms easier to implement change:

Small firm size is a reflection of less task division and specialization, which then requires a lower effort for integration (Thompson, 1976; Roberts, 2007; Puranam, Raveendran, and Knudsen, 2012).



Hypothesis 2b – firm age

Older firms:

More inert (Hannan & Freeman, 1984, 1977) and less entrepreneurial (Sørensen, 2007)



Older firms:

More likely to be legitimate to and associated with carriers of existing mainstream financial logic (Freeman, Carroll, & Hannan, 1983; Hannan, Pólos, & Carroll, 2007)



Hypothesis 3a - fragmentation

Mainstream financial logic less entrenched:

When the field of finance in a country is characterized by complexity, diversity, and fragmentation (Oliver, 1991; Seo and Creed, 2002; Kraatz and Block, 2008; Greenwood et al., 2011), the central logic is less likely to be taken-for-granted



Institutionally deviant actions more likely to occur:

disadvantaged groups are constantly searching for strategic opportunities to improve their conditions (Delmestri and Greenwood, 2016; Hampel and Tracey, 2016)



Data and Analysis

- **Dependent Variable**
 - Aggregate environmental score to comprehensively cover green initiatives because cross-national diversity of environmental issues can be diverse
- **Independent Variable: Prevalence of Environmental Logic in Investment Field**
 - Assets under “environmental” management as a percentage of capital markets (robust as a percentage of national GDP)
- **Moderating Variables**
 - Firm size (logged assets)
 - Firm age (logged number of years since founding)
 - Fragmentation (number of financial associations headquartered in the country)
 - Support group (presence of pro-green investment association)
 - Systemic banking crisis (presence of a systemic banking crisis)

List of Variables

Variable	Description	Source
Environmental AuM	Assets under management by SRI funds as a fraction of all listed equities (logistic transformed)	Bloomberg
Societal development	GDP per capita (logged)	World Bank
Education	Enrollment ratio in the secondary education	World Bank
Democracy	Unified democratic score combined (House, Polity, Polyarchy, Vannanen)	www.unified-democracy-scores.org/
Environmental policy stringency	The stringency of national environmental policy	OECD
Leverage ratio	Total equity over total assets	Worldscope
Price-to-book ratio	Market capitalization over book value	Worldscope
R&D intensity		
SGA intensity		
Return on equity	Operating profit before tax over equity	Worldscope
Product diversification	Herfindahl index of sales in product segments	Worldscope
Firm size	Total assets (logged)	Worldscope
Firm age	Logged number of years since founding of the firm	Worldscope
Fragmentation of Finance	Number of different financial associations	Yearbook of International Associations
Support organization		
Systemic banking crises	Dummy: 1 = if there is a systemic banking crisis Dummy: 1 = if there is no systemic banking crisis	(Laeven & Valencia, 2012)

Alternative explanations

Firm-level control variables

Moderating variables

Table 3: Effects of Environmental Investment Funds on Firm Environmental Performance

2002-2011	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Past environmental score	0.44*** (23.76)	0.44*** (23.93)	0.43*** (23.84)	0.44*** (24.02)	0.43*** (23.94)	0.44*** (23.86)	0.43*** (23.67)	0.43*** (23.58)
Leverage ratio	-2.66 (-0.77)	-2.10 (-0.60)	-1.81 (-0.52)	-1.99 (-0.58)	-1.82 (-0.52)	-2.16 (-0.62)	-1.83 (-0.53)	-1.73 (-0.50)
Price-to-book(log)	-0.32 (-0.45)	-0.22 (-0.31)	-0.03 (-0.04)	-0.15 (-0.22)	-0.19 (-0.27)	-0.19 (-0.27)	-0.28 (-0.39)	-0.01 (-0.01)
R&D intensity (log)	0.27 (0.33)	0.28 (0.35)	0.22 (0.27)	0.31 (0.37)	0.27 (0.33)	0.24 (0.29)	0.22 (0.27)	0.15 (0.18)
SGA intensity (log)	-1.61 (-1.19)	-1.64 (-1.21)	-1.69 (-1.24)	-1.64 (-1.20)	-1.62 (-1.19)	-1.50 (-1.11)	-1.64 (-1.20)	-1.54 (-1.12)
Return on Equity	-0.10 (-1.06)	-0.10 (-1.03)	-0.08 (-0.73)	-0.11 (-1.01)	-0.10 (-0.98)	-0.11 (-1.05)	-0.09 (-0.92)	-0.07 (-0.71)
Product diversification	-1.36 (-0.77)	-1.43 (-0.82)	-1.19 (-0.70)	-1.13 (-0.65)	-1.39 (-0.80)	-1.47 (-0.85)	-1.24 (-0.72)	-0.96 (-0.56)
GDP per capita(log)	36.40+ (1.70)	40.90+ (1.87)	18.26 (0.83)	38.44+ (1.74)	39.57+ (1.80)	42.84+ (1.96)	53.02* (2.31)	29.51 (1.26)
Democracy	-0.95 (-0.46)	-0.19 (-0.09)	0.17 (0.08)	-0.53 (-0.25)	0.21 (0.10)	-0.16 (-0.08)	-2.06 (-0.95)	-1.43 (-0.64)
Education	-0.06 (-0.60)	-0.08 (-0.85)	-0.09 (-0.92)	-0.09 (-0.88)	-0.07 (-0.71)	-0.07 (-0.74)	-0.07 (-0.72)	-0.08 (-0.76)
Environment policy stringency	0.25 (0.42)	0.57 (0.89)	-0.60 (-0.88)	0.52 (0.82)	-0.11 (-0.15)	0.64 (1.01)	0.24 (0.38)	-0.45 (-0.64)
Assets (log)	1.40 (1.14)	1.57 (1.28)	1.91 (1.52)	1.49 (1.22)	1.65 (1.34)	1.61 (1.32)	1.49 (1.21)	1.81 (1.43)
Age (log)	-2.96 (-1.15)	-3.00 (-1.20)	-3.11 (-1.26)	-2.45 (-1.08)	-2.99 (-1.19)	-3.17 (-1.27)	-2.85 (-1.17)	-2.85 (-1.27)
Fragmentation of Finance	2.35*** (4.59)	2.62*** (4.72)	2.43*** (4.40)	2.51*** (4.50)	2.55*** (4.60)	2.63*** (4.73)	2.08*** (3.62)	2.04*** (3.54)
SRI organization	3.62 (1.38)	4.36 (1.64)	4.06 (1.50)	4.55+ (1.70)	4.27 (1.60)	-0.13 (-0.03)	4.26 (1.59)	-0.85 (-0.21)
Banking crisis	0.06 (0.07)	-0.34 (-0.37)	-1.15 (-1.22)	-0.26 (-0.28)	-0.75 (-0.80)	-0.38 (-0.42)	1.18 (1.01)	0.07 (0.06)
Environmental logic		1.24* (2.11)	1.26* (2.11)	1.36* (2.32)	1.49* (2.44)	-0.32 (-0.31)	0.92 (1.63)	-0.71 (-0.68)
Environmental logic * Assets (log)			-0.82*** (-4.33)					-0.75*** (-3.51)
Environmental logic * Age				-0.85* (-2.20)				-0.52 (-1.38)
Environmental logic * Fragmentation of Finance					0.10+ (1.81)			-0.03 (-0.48)
Environmental logic * SRI organization						1.77+ (1.89)		1.97* (2.11)
Environmental logic * Banking crisis							-0.96* (-2.51)	-0.65 (-1.64)
Constant	-36.42*** (-4.21)	-39.18*** (-4.39)	-31.84*** (-3.64)	-38.51*** (-4.28)	-38.51*** (-4.28)	-35.41*** (-4.02)	-42.88*** (-4.62)	-30.57*** (-3.42)
R-square	0.38	0.38	0.39	0.38	0.38	0.38	0.39	0.39
Observations	4668	4668	4668	4668	4668	4668	4668	4668
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firms	678	678	678	678	678	678	678	678

Results

Environmental logic	1.24*	1.26*	1.36*	1.49*	-0.32	0.92
	(2.11)	(2.11)	(2.32)	(2.44)	(-0.31)	(1.63)
Environmental logic * Assets (log)		-0.82***				
		(-4.33)				
Environmental logic * Age			-0.85*			
			(-2.20)			
Environmental logic * Fragmentation of Finance				0.10+		
				(1.81)		
Environmental logic * SRI organization					1.77+	
					(1.89)	
Environmental logic * Banking crisis						-0.96*
						(-2.51)

Implications

Green investing is more effective in improving firms' environmental performance when:

- The financial sector is fragmented
- SRI support organizations (PRI, SIF) are present
- Firms are smaller and younger
- Financial Market is stable

Implications for Investors:

- Green investing might have effects beyond the portfolio
- Smaller and Younger firms might be better targets (from an environmental point of view)

Implications for Policy-Makers:

- Green investing has positive externalities for the economy's environmental performance