

Planet Finance: The Governance of Climate Change Risks in Financial Markets

by

Jason Thistlethwaite

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Doctor of Philosophy
in
Global Governance

Waterloo, Ontario, Canada, 2011

©Jason Thistlethwaite 2011

AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

This thesis asked two research questions: 1) how are the Climate Disclosure Standards Board (CDSB) and ClimateWise designed to achieve their objectives and 2) what explains the emergence of these unique initiatives? In answer to the first question, the thesis argues that the CDSB and ClimateWise adopt an “unconventional” approach to environmental co-regulation that embraces what I call “cognitive governance” within accounting (CDSB) and insurance (ClimateWise) markets. Many scholars describe environmental co-regulation as a voluntary agreement between transnational corporations (TNCs) and environmental non-governmental organizations (NGOs) to enforce best practice standards that improve corporate environmental performance without the use of state authority. Cognitive governance employs a more unconventional approach to co-regulation by trying to embed financial knowledge that links a firm’s environmental performance to financial risks throughout the global economy vis-à-vis an expansion of state authority. More specifically, the CDSB and ClimateWise use best practice standards to leverage accounting and insurance knowledge in generating a technical and political consensus that supports expanding public regulation to govern financial risks related to climate change.

In answer the second question, the thesis argues that this unconventional co-regulatory strategy adopted by the CDSB and ClimateWise emerged in response to three factors. First, financial firms (in addition to corporate emitters in the case of the CDSB) had material interests in using public regulation to govern climate change risks. Second, these actors realized that collaboration was needed to generate a technical and political consensus among constituencies willing to support public regulation governing climate change risks. Third, NGOs existed that had interests in using their technical expertise and political capacity to help generate this needed consensus through co-regulation.

The thesis makes three contributions to the advancement of scholarly knowledge in the fields of international political economy (IPE) and global environmental politics (GEP). First, IPE and GEP scholars have largely overlooked the emergence of environmental co-regulation in financial markets, and in particular, have yet to analyze the CDSB and ClimateWise. This study addresses this gap by revealing an effort to mobilize the accounting and insurance industry in strengthening global climate governance. Second, scholars have also tended to view co-regulation through a “post-Westphalian” lens that sees co-regulation as designed to pre-empt or generate an alternative to public regulation. The CDSB and ClimateWise’s strategy, and the factors that explain the creation of these initiatives, challenge this perspective. Third, analysis of this strategy also contributes to emerging scholarship on the influence of “cognition” in shaping market actors’ behavior in conditions of uncertainty.

Acknowledgements

I would first like to thank Professor Eric Helleiner, my supervisor for this project. Since the beginning of my PhD, Professor Helleiner has been a constant source of motivation and support. He has devoted considerable time to improving my academic research and writing skills by providing amazing feedback on this thesis and many other projects. More than anything, he is an inquisitive, hard-working, and inspiring teacher that has encouraged myself as well as many other students to ask interesting and innovative questions about politics. It has been a privilege to work with Professor Helleiner, and I will no doubt benefit from his insights and expertise in any future endeavor.

I would also like to thank my committee members, Professor Jennifer Clapp and Professor Olaf Weber. Their hard work and insights helped strengthen my arguments and complete the thesis. This project would not have been possible without the support of many colleagues at the Balsillie School of International Affairs. A PhD can be a difficult and isolating process. My colleagues never let this happen. In addition to listening and providing encouraging feedback on my ideas, they never hesitated in forcing needed breaks from my work. I owe particular gratitude to my “first year” colleagues, Mike Stevenson, Leah McMillan, Laura Reidel and Stefano Pagliari. We have been through it all together, and we managed to laugh our way through most of it.

The completion of this project would not have been possible without the support of my partner, Kristina Baxter. She is a beautiful, wonderful and caring person for putting up with me throughout this process. Her support and love have been a constant fuel for me to complete the PhD. Kristina always makes me smile when I am discouraged and gives me some perspective on the broader importance of my research. She undoubtedly has helped make my time in Waterloo the best years of my life. Finally, I would like to thank my parents, Andrew and Janet Thistlethwaite. They have worked tirelessly to provide for my education and are a constant source of confidence. Without their support and encouragement, I would have not made it to where I am today, and am forever in debt for these efforts. As a small token of my gratitude, I dedicate this dissertation to my loving and dedicated parents.

Table of Contents

AUTHOR'S DECLARATION	ii
Abstract	iii
Acknowledgements	iv
Table of Contents	v
List of Figures	viii
List of Tables.....	ix
List of Abbreviations.....	x
Chapter 1 Introduction	1
1.1 Contributions to IPE and GEP Research.....	8
1.2 Methodology and the Objects of Analysis	11
1.2.1 Governing International Accounting Markets and the CDSB	12
1.2.2 Governing International Insurance Markets and ClimateWise.....	19
1.3 Brief Outline of the Dissertation	24
Chapter 2 Co-Regulating Climate Change Risks: Governing Climate Change Risks within Accounting and Insurance Markets.....	28
2.1 Introduction	28
2.2 The Influence of Transnational Non-State Actors in IPE and GEP Literature: The Emergence of Private Governance and Co-Regulation.....	29
2.2.1 Private Governance in Global Financial and Environmental Politics.....	31
2.2.2 Environmental Co-Regulation in Financial Markets	38
2.2.3 The INCR and CDP.....	42
2.2.4 The Distinctiveness of the CDSB and ClimateWise.....	48
2.3 Ideas and Global Governance: Cognitive Governance in the Accounting and Insurance Sectors	50
2.3.1 The Power of Financial Knowledge in the Global Economy.....	51
2.3.2 Accounting and Insurance Knowledge and Global Environmental Governance.....	56
2.3.3 The CDSB and ClimateWise as forms of “Cognitive Governance”	61
2.4 Conclusion.....	66
Chapter 3 Explaining the Emergence of Environmental Co-Regulation in Financial Markets	68
3.1 Introduction	68
3.2 Explaining the Emergence of Conventional Environmental Co-regulation.....	69

3.2.1 Economic Globalization and Neoliberal Ideology.....	69
3.2.2 The Rising Influence of Non-State Actors	71
3.2.3 Radical Explanations	73
3.3 Conceptualizing the Emergence of Environmental Co-regulation in Financial Markets.....	75
3.3.1 Governing Climate Change Risks through Public Regulation	76
3.3.2 Generating a Technical and Political Consensus.....	82
3.3.3 ENGO Expertise and Capacity in Governing Climate Change Risks	89
3.3.4 Possible Post-Westphalian Critiques?	95
3.4 Conclusion	97
Chapter 4 Measuring Climate Change Risks: The Climate Disclosure Standards Board	98
4.1 Introduction.....	98
4.2 Harmonizing Voluntary Climate Change Risk Disclosure Standards	99
4.3 Governing Climate Change Risks in Accounting Markets.....	105
4.3.1 Material Interests in Challenging International Accounting Standards.....	105
4.3.2 Technical and Political Consensus in Governing Climate Change Risks	110
4.3.2.1 Measuring “Decision-Useful” Risks.....	111
4.3.2.2 The Politics of a Mandatory Climate Risk Standard	114
4.4 Co-Regulation and Cognitive Governance in the CDSB.....	117
4.4.1 Technical Consensus Building.....	120
4.4.2 Political Consensus Building	127
4.4.3 The Limitations of the CDSB?	129
4.5 Conclusion	132
Chapter 5 Pricing Climate Change Risks: The ClimateWise Principles	134
5.1 Introduction.....	134
5.2 Leveraging Insurers in Governing Climate Change Risks	135
5.3 Governing Climate Change Risks in Insurance Markets.....	145
5.3.1 Material Interests from Challenges to the Standards of Insurability	147
5.3.2 Technical and Political Consensus in Governing Climate Change Risks	152
5.3.2.1 Modeling Climate Change Risks	152
5.3.2.2 The Politics of Pricing Climate Change Risks.....	155
5.4 Co-Regulation and Cognitive Governance in ClimateWise	159
5.4.1 Technical Consensus Building.....	162

5.4.2 Political Consensus Building	165
5.4.3 Limitations of ClimateWise?	171
5.5 Conclusion.....	173
Chapter 6 Conclusion: Cognitive Governance and “Greening” Private Finance.....	175
6.1 Introduction	175
6.2 The CDSB, ClimateWise and Cognitive Governance	175
6.3 Contributions to the Advancement of Knowledge.....	179
6.4 Conclusion: Future Research Agendas	185
Appendix A The ClimateWise Principles	188
BIBLIOGRAPHY	190

List of Figures

Figure 1.1 The CDSB's organization	17
Figure 1.2 ClimateWise's organization	23
Figure 2.1 Cognitive governance	62
Figure 4.1 The CDSB as cognitive governance	118
Figure 5.1 Munich Re's data on insured and overall weather catastrophe losses 1950-2010	149
Figure 5.2 ClimateWise as cognitive governance	160
Figure 5.3 ClimateWise compliance rates	162

List of Tables

Table 1.1 Financial risks related to climate change	3
Table 1.2 CDSB Participants	18
Table 1.3 ClimateWise participants	23
Table 2.1 Comparing co-regulation in financial markets.....	49
Table 3.1 Generating technical and political consensus in governing climate change risks	85
Table 5.1 Katrina/Rita/Wilma primary and reinsurance losses.....	150

List of Abbreviations

ABI	Association of British Insurers
ACCA	Association of Chartered Certified Accountants
BIS	Bank of International Settlements
CAT	Catastrophe
CCRF	Climate Change Reporting Framework
CDM	Clean Development Mechanism
CDP	Carbon Disclosure Project
CDSB	Climate Disclosure Standards Board
CEO	Chief Executive Officer
Ceres	Coalition for Environmentally Responsible Economies
CICA	Canadian Institute of Chartered Accountants
CLG	UK Corporate Leaders Group on Climate Change
CPSL	Cambridge Programme for Sustainability Leadership
COP	Conference of the Parties
CSR	Corporate Social Responsibility
DEFRA	Department for Environment, Food and Rural Affairs
ENGO	Environmental Non-Governmental Organization
EP	Equator Principles
EU	European Union
EU ETS	European Union Emissions Trading Scheme
FASB	Financial Accounting Standards Board
FDI	Foreign Direct Investment
FSC	Forest Stewardship Council
GAAP	Generally Accepted Accounting Principles
G-20	The Group of Twenty Finance Ministers and Central Bank Governors
G-7	Group of Seven Nations
GEP	Global Environmental Politics
GHGs	Greenhouse Gases
GRI	Global Reporting Initiative
IAIS	International Association of Insurance Supervisors
IASB	International Accounting Standards Board

ICAEW	Institute of Chartered Accountants in England and Wales
IFAC	International Federation of Chartered Accountants
IETA	International Emissions Trading Association
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Committee
ILS	Insurance Linked Securities
INCR	Investor Network on Climate Risk
IPE	International Political Economy
IOSCO	International Organization of Securities Commissions
ISO	International Organization for Standardization
JICPA	Japanese Institute of Certified Public Accountants
MCII	Munich Climate Insurance Initiative
NAIC	National Association of Insurance Commissioners
NAMIC	National Association of Mutual Insurance Companies
NBER	National Bureau of Economic Research
NGO	Non-Governmental Organization
NSMD	Non-State Market Driven Governance
NZ ETS	New Zealand Emissions Trading Scheme
P&C	Property & Casualty Insurance
PEG	Private Environmental Governance
RAN	Rain Forest Action Network
RGGI	Regional Greenhouse Gas Initiative
RBS	Royal Bank of Scotland
RMS	Risk Management Solutions
TCM	Transformational Change Model
TNC	Transnational Corporation
TWG	Technical Working Group
SEC	Securities and Exchange Commission
SME	Small and Medium sized Enterprise
SPE	Special Purpose Entity
UN	United Nations
UNCED	United Nations Conference on Environment and Development

UNEP	United Nations Environment Programme
UNEP-FI	United Nations Environment Programme Finance Initiative
UNEP-II	United Nations Environment Programme Insurance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
WCI	Western Climate Initiative
WEF	World Economic Forum
WRI	World Resources Institute
WWF	World Wildlife Fund

Chapter 1

Introduction

Most debates on international financial governance ignore the powerful influence that financial markets have on the environment. Indeed, in the official debates concerning global financial regulatory reform in the aftermath of the 2007-2008 financial crisis, the relationship between global financial regulation and the environment was completely ignored. Most international political economy (IPE) literature specializing in the politics of international financial regulation has tended to follow policymakers and has overlooked environmental issues as well.

Scholars of global environmental politics (GEP) have also largely ignored the significance of international finance for the environment. But a small, emerging literature within GEP scholarship has begun to try to fill this gap by studying what Phillip Pattberg has identified as environmental “co-regulation” between financial firms and environmental non-governmental organizations (ENGOS). Co-regulation refers to an agreement between profit and non-profit actors to design and implement regulation of a transnational or international problem. In most circumstances, environmental co-regulation involves an agreement among TNCs to adopt voluntary best practice standards designed and monitored by ENGOS to improve corporate environmental performance. Scholars researching examples of environmental co-regulation in financial markets have focused on efforts between ENGOS and institutional investors to co-regulate through such initiatives as the Carbon Disclosure Project (CDP) and the Investor Network on Climate Risks (INCR)¹ Each of these initiatives attempts to leverage the market power of institutional investors over the firms they invest in to adopt best practices in the disclosure of financial risks related to climate change.

Although this emerging scholarship represents an important effort in studying the growing interface between financial markets and environmental issues, it has yet to analyze two new examples of co-regulation in this field which were both created in 2007: the Climate Disclosure Standards Board (CDSB) and ClimateWise. The CDSB and ClimateWise have targeted the internalization of the

¹ This literature will be explored in more detail in section 1.3. Relevant literature that will be discussed includes See Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability* (Cheltenham, UK: Edward Elgar, 2007); Michael MacLeod, “Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms,” *St Antony’s International Review* 5, no. 2 (2010): 46-65; Michael Macleod and Jacob Park, “Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks,” *Global Environmental Politics* 11, no. 2 (2011): 54-74; Adam Harmes, “The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism,” *Global Environmental Politics* 11, no. 2 (2011): 96-119.

financial risks associated with climate change as a significant “gap” in the way financial markets are governed. Both initiatives have designed voluntary best-practice standards that attempt to measure and price (or govern) climate change risks within international financial markets.² But these initiatives depart from their predecessors by involving partnerships with the insurance and accounting sectors rather than with institutional investors.

How are these new initiatives designed to achieve their objectives? And what explains their emergence? This thesis addresses these questions in order to build upon the new GEP literature examining environmental co-regulation in financial markets (and the finance-environment interface more broadly). The CDSB and ClimateWise are important initiatives to study not just because they represent a fascinating expansion of co-regulatory practices to accounting and insurance. These initiatives are also unique because of what they are designed to achieve.

Many examples of environmental co-regulation are designed to provide an alternative to public regulation. Scholars debate the effectiveness of this approach with supporters arguing that co-regulation is an effective alternative, while critics maintain that these efforts are really just examples of corporate “greenwashing” designed to generate reputational credibility to defend against ENGO protests and even regulatory intervention. These debates reveal a “post-Westphalian” assumption that co-regulation is designed to either replace or subvert public regulation. The CDSB and ClimateWise, however, stand outside this debate.³ These co-regulatory initiatives create private standards whose long-term goal includes the *expansion* of public authority in governing climate change risks.

They pursue this goal through a strategy of what I call “cognitive governance”.⁴ This approach to co-regulation uses “best practice” standards to embed financial knowledge that links a firm’s environmental performance to financial risks throughout the global economy.⁵ To facilitate this objective, these standards target the generation of a technical and political consensus within and

² The notation of “measuring and pricing climate change risks” will be used synonymously with “governing” or “internalizing” climate change risks throughout this thesis. Currently, financial risks associated with climate change are considered “externalities” that have yet to be priced into financial markets. As explained later in the thesis, the accountants and insurers involved in the CDSB and ClimateWise would like to see these risks internalized into these markets by measuring them in a firm’s corporate accounts, pricing them into premiums and deductibles, and more generally regulating that firms pay for their exposure or contribution to these risks.

³ As noted later in the thesis, the INCR is another example, although somewhat less robust, of environmental co-regulation within the financial industry that targets the expansion of public regulation.

⁴ It is important to note that cognitive governance is distinct from what IPE and GEP scholars identify as an “epistemic community”. See Chapter 2 (section 2.3.3).

⁵ The term “best practice” is not intended to suggest that the CDSB or ClimateWise have developed the “best” approach to governing climate change risk. Rather, “best practice” is intended as a neutral term that simply refers to the voluntary standards each initiative believes at some point will facilitate best practice.

outside of accounting and insurance markets that supports the public regulation of financial risks related to climate change. To generate a technical consensus, these standards leverage financial knowledge to identify strategies and regulations that can improve market decision-making by governing climate change uncertainty as a financial risk. These standards then try to expand political support for embedding this technical consensus within public regulation. Like the CDP and INCR, the CDSB and ClimateWise target the governance of a specific type of corporate environmental performance, specifically exposure to financial risks created by uncertainty over the impacts of climate change. As noted in Table 1.1, financial risks relating to climate change can include a wide range of physical, regulatory, legal and reputational risks.

Table 1.1 Financial risks related to climate change⁶

Climate Change Risk	Description
Physical Risk	Changing weather patterns resulting in stronger hurricanes, windstorms, drought, winter storms, coastal erosion, and, melting permafrost, are likely to create risks for various industries, specifically infrastructure intensive industry (transportation, energy, commercial, residential).
Regulatory Risk	As climate change impacts increase, regulators are more likely to regulate the emission of green house gases (GHG), increasing the cost of operations for GHG intensive areas of the economy. Risks associated with these regulations can emerge throughout a firm’s production process, supply-chain, and among various subsidiaries or equity holdings.
Legal Risk	Litigation against firms is likely to increase risk as shareholders and stakeholders sue over corporate mismanagement of climate change risks.
Reputational Risk	Higher expectations among shareholders, stakeholders and consumers vis-à-vis a firm’s policies towards climate change can create risks for corporate brand value. For some firms, this risk is related to the short-term impacts of changing perceptions within civil society about the private sector’s responsibility for climate change on <i>corporate</i> or <i>brand reputation</i> . For firms participating in financial markets, either as service providers or end-users, these risks are more “material” and related to the long-term physical, regulatory and legal impacts of climate change on a firm or industry’s <i>financial reputation</i> within these markets.

Supporters of the CDSB and ClimateWise hope that, once accounting and insurance markets incorporate knowledge that can measure and price these risks within their business practices, other firms will be forced to demonstrate that they have measured and priced these risks as conditions for accessing accounting and insurance services. Financial knowledge of the market value of climate change risks will then spread, they argue, throughout the economy and become embedded within existing cognitive expectations for rational economic behavior. In theory, the use of accounting and

⁶ This list was compiled based on research in the following documents: Trucost, “Carbon Risks and Opportunities in the S&P 500” (Investor Responsibility Research Centre Institute for Corporate Responsibilities, June 2, 2009), http://www.irrestitute.org/pdf/irrc_trucost_0906.pdf; Beth Young, Celine Suarez, and Kimberly Gladman, “Climate Risk Disclosure in SEC Filings: An Analysis of 10-K Reporting by Oil and Gas, Insurance, Coal, Transportation and Electric Power Companies” (Ceres and Environmental Defense Fund, June 2009).

insurance markets to shift these market expectations will create incentives for financial markets to begin rewarding economic behavior that supports mitigation and adaptation via greater access to capital and investment, while imposing costs on behavior exposed to these risks. Firms using accounting services, for example, will be forced to measure their exposure to climate change risks within their accounts. Disclosure of these risks has the potential to create incentives for financial markets to reward firms that reduce their exposure to these risks by providing access to capital, and punish firms who contribute or are exposed to these risks through divestment. Insurance markets could create similar incentives if firms were forced to pay a “climate premium” that provides coverage for their contribution or exposure to insurance losses linked with climate change.

To achieve these objectives, the strategy of “cognitive governance” involves a two-stage process governed by a “reflexive mechanism” designed to identify weaknesses and “ratchet-up” a firm’s capacity to improve its environmental performance, specifically the governance of climate change risks. The first stage involves the establishment of a technical consensus within accounting and insurance markets concerning the issue of how uncertainty around the impacts of climate change can be governed as a financial risk in ways that improve market efficiency. This “technical consensus building” stage attempts to generate consensual knowledge within the accounting and insurance industry on the regulations necessary to effectively govern climate change risks.

The second stage attempts to spread this consensus among key constituencies to build support for the implementation of public regulations necessary for accountants and insurers to measure and price these risks throughout the global economy. For the accounting and insurance industry, climate change risks are generated by other firms that use their financial services. Without the implementation of public regulation, accountants and insurers could expose their markets to reputational and regulatory risk by imposing additional, and in some instances, costly conditions on firms and individuals that require the internalization of climate change risks. Before any public regulation can be implemented, it is important to build support for the initiative among the constituencies that will be affected. These constituencies include various stakeholders involved in accounting and insurance markets such as: other accounting and insurance firms who have not joined the CDSB or ClimateWise, regulators, government policymakers, as well as corporate and individual users of each industry’s services. This “political consensus building” stage attempts to cultivate legitimacy among these politically important constituencies for expanding the use of public regulation in ways that allow accounting and insurance markets to measure and price climate change risks.

Both technical and political consensus building are governed by a “reflexive mechanism” that attempts to consistently audit and improve the efforts of participants as a means of cultivating support for internalizing climate change risks within accounting and insurance services. This process is a standard component of most co-regulative agreements where an ENGO (or another external auditor) acts as a third-party monitor to improve compliance among a group of industry actors with a set of voluntary best-practice standards. When used to support cognitive governance in financial markets, however, this reflexive mechanism is designed to improve compliance with a set of standards designed to cultivate a technical and political consensus that supports measuring and pricing climate change risks within accounting and insurance markets.

While the co-regulation initiatives with institutional investors through the CDP and INCR incorporate aspects of cognitive governance into their approach to co-regulation, the CDSB and ClimateWise are more robust in trying to facilitate this strategy. The CDP, for example, engages in technical and political consensus building and employs a reflexive mechanism to improve the measurement and disclosure of climate change risks, but it does not explicitly seek an expansion of public regulation as a part of its mandate. The INCR is largely focused on political consensus building with corporate emitters and public actors by coordinating shareholder resolutions and lobbying for securities reform at the US domestic level, but it does not govern this process with a formal reflexive mechanism and it does not devote as much effort to technical consensus building. By comparison, the CDSB and ClimateWise are distinctive in their approach because they explicitly target the expansion of public regulation and they both use a robust form of cognitive governance that combines technical and political consensus building governed by a reflexive mechanism to achieve their objectives.

It is important to quickly qualify the how the CDSB and ClimateWise are distinctive by supporting an expansion of public regulation. The CDP and INCR, in addition to other non-state initiatives in the global climate governance transnational space, do routinely support the “public governance” of the environment. For example, the CDP certainly speaks out in favor of emissions reductions regulations in the same way as ClimateWise. But the CDSB and ClimateWise (in addition to the INCR) formally ask participants to support an expansion of public regulation governing climate change risks as a part of each initiative’s mandate, whereas other voluntary initiatives like the CDP are more informal and indirect in their support for the use of public resources. From this perspective, the CDSB and ClimateWise build on an emerging trend among co-regulatory initiatives within

financial markets by formally recognizing that expanding state regulation should be a part of their mandate.

What explains the emergence of this “unconventional” form of co-regulation? Many explanations for environmental co-regulation see it through the lens of a “post-Westphalian” perspective on world politics by identifying factors that shape TNCs and ENGOs preferences to support “governance beyond the state.” The growth of this “private” form of governance is often seen in structural terms as an emerging alternative to public authority in the context of economic globalization and neoliberal ideology.⁷ Others focus on incentives for transnational ENGOs to use co-regulation as a “second best” alternative to public regulation.⁸ More radical scholars identify short-term incentives for transnational corporate actors to initiate co-regulation as a strategy for generating reputational credibility in the face of ENGO protests and potential regulatory intervention.⁹

These various post-Westphalian explanations of co-regulation are challenged by the cases of the CDSB and ClimateWise. To be sure, transnational non-state actors, specifically ENGOs, initiated the negotiations between the actors that formed each initiative. But these initiatives have each adopted an “unconventional” approach to co-regulation that attempts to empower rather than subvert or replace public regulation.¹⁰

This thesis shows how three important factors supported the adoption of this unconventional form of co-regulation. First, financial firms (in addition to the corporate actors involved in the CDSB) realized that public regulation was required to advance their material interests in governing climate change uncertainty as a financial risk. Without public regulation, financial firms that try and impose additional conditions on accessing their services, such as measuring or pricing exposure to climate change risks, can be exposed to reputational and regulatory risks. Reputational risks are linked with the potential that the consumers or “end-users” of financial services, such as other firms and

⁷ Steven F. Bernstein, *The Compromise of Liberal Environmentalism* (Columbia University Press, 2001), 94; Robert Falkner, “Private Environmental Governance and International Relations: Exploring the Links,” *Global Environmental Politics* 3, no. 2 (2003): 72-87, 74.

⁸ John Ruggie, “Reconstituting the Global Public Domain: Issues, Actors and Practices,” *European Journal of International Relations* 10, no. 4 (2004): 499-531, 510; Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 89; Peter Utting, “The Struggle for Corporate Accountability,” *Development and Change* 39, no. 6 (2008): 959 - 975, 965.

⁹ David L. Levy and Peter J. Newell, “Business Strategy and International Environmental Governance,” *Global Environmental Politics* 2, no. 4 (2002): 84-100, 90; Harnes, “The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism”, 105.

¹⁰ It is important to note that not all scholars see co-regulation through a “post-Westphalian” lens where it is designed to act as an alternative to public regulation. Some scholars, such as Peter Utting, suggest that non-state actors can engage in co-regulation as a strategy for strengthening public regulation. See Utting, “The Struggle for Corporate Accountability.”

individuals, could turn to industry rivals as accountants and insurers try and force the internalization of climate change risks. Regulators could also intervene on behalf of consumers and sanction these firms for raising costs or “price-gouging.” Material interests in using public regulation to govern climate change risks explains the objective of the CDSB and ClimateWise, but it does not explain why firms with these interests pursued a collaborative approach rather than unilaterally lobbying policymakers and regulators.

The second factor that explains the emergence of this “unconventional” co-regulation is the need to collaborate in generating a technical and political consensus within and outside of the industry that public regulation is necessary to govern climate change risks. Because public regulation has yet to be implemented firms are unsure of both the design of regulations that will be effective in governing climate change risks, and whether they have enough political support to avoid opposition in implementing these regulations. For these reasons, firms have turned to the formation of a “private regime” as a platform to incrementally build a technical and political consensus behind the design and implementation of such regulation.¹¹ In the case of the CDSB and ClimateWise, the specific type of “private regime” created was one involving co-regulation with ENGOs. Why did these firms decide to pursue co-regulation rather than simply an inter-firm regime?

The third factor was the existence of ENGOs that had interests in using their technical expertise and political capacity to help these firms generate the consensus necessary to implement public regulation. This technical expertise and political capacity represented welcome assets that financial firms could access through co-regulation to generate the consensus necessary for regulation. As previously mentioned, these ENGOs often initiated the negotiations to create the CDSB and ClimateWise as a means to leverage the firms’ material interests in measuring and pricing climate change risks to serve broader environmental goals. Some ENGOs have developed specialized technical expertise and political capacity in helping financial firms use best practice standards to govern climate change risks. In terms of technical expertise, ENGOs are able to supervise and monitor the use of best practice standards that harness an industry’s own knowledge in generating a technical consensus. More specifically, ENGOs can help design and govern standards that are able to “ratchet-up” a financial firm’s capacity in measuring and pricing climate change risks, and thus support a technical consensus justifying regulation. In terms of political capacity, ENGOs offer

¹¹ See A. Claire Cutler, Virginia Haufler, and Tony Porter, “Introduction,” in *Private Authority and International Affairs*, ed. Claire Cutler A., Virginia Haufler, and Tony Porter (Albany, NY: SUNY Press, 1999), 333-370, 9.

logistical support in organizing public policy advocacy, and they also can use best practice standards to coordinate an industry's political resources in support of public regulation.

1.1 Contributions to IPE and GEP Research

What is the contribution of these arguments to the advancement of knowledge? The contributions can be grouped into three categories. The first set of contributions is to existing IPE and GEP research on the link between financial markets and environmental issues.¹² This analysis of the CDSB and ClimateWise provides the first scholarly examination within IPE and GEP of these initiatives.¹³ Even emerging analyses of environmental co-regulation in financial markets have ignored these initiatives in favour of a focus on “investor environmentalism.” Analyzing the strategy and emergence of the CDSB and ClimateWise provides an important contribution to this new literature by demonstrating the emerging role of the accounting and insurance industry in promoting environmental governance.

IPE scholars have devoted a great deal of attention to the influence of the accounting profession in international financial regulatory debates, but have not linked the industry to environmental issues. The CDSB reveals that the accounting industry has a strong interest in using its markets to communicate financial information in ways that shifts decision-making in the global economy to promote sustainable economic behavior. Some GEP scholars have focused on the potential role of the insurance industry as form of private authority in promoting global climate governance, but have discounted the industry's potential based on its history of avoiding a political stance on climate change issues.¹⁴ ClimateWise demonstrates an important shift in this position within

¹² It is important to note that GEP scholars have examined the link between the structural influence of financial markets and the emergence of emissions trading or “marketized climate governance” as a frontline regulatory mechanism in climate change politics. But this literature has largely overlooked the specific relationship between financial service providers and environmental issues. For an overview on the debate about the influence of financial markets on the rise of “climate capitalism” see Peter Newell and Matthew Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy* (Cambridge: Cambridge University Press, 2010).

¹³ Heather Lovell and Donald MacKenzie identify the CDSB's “Technical Working Group” in a recent article as an example of the emerging interests of the professional accounting community in climate change, but do not expand on the politics behind its establishment, or its design as an example of private governance, specifically, co-regulation. See Heather Lovell and Donald MacKenzie, “Accounting for Carbon: The Role of Accounting Professional Organisations in Governing Climate Change,” *Antipode* 43, no. 3 (2011): 704-731.

¹⁴ See Matthew Paterson, “Risky Business: Insurance Companies in Global Warming Politics,” *Global Environmental Politics* 1, no. 4 (2001): 18-41; Sverker Jagers, Matthew Paterson, and Johannes Stripple, “Privatising Governance, Practising Triage: Securitization of Insurance Risks and the Politics of Global Warming,” in *Business in International Environmental Politics: A Political Economy Approach*, ed. David

the sector that needs to be explored to understand what is driving this robust engagement with climate change politics.

The second set of contributions is to the literature within IPE and GEP about the purpose and sources of environmental co-regulation. The dissertation's analysis of the unconventional approach adopted by the CDSB and ClimateWise expands on critiques of scholarship which embrace "post-Westphalian" assumptions when describing the purpose of environmental co-regulation.¹⁵ The latter scholarship often assumes that this form of "private governance" has emerged as a novel form of global governance challenging the state system, and it focuses on whether or not environmental co-regulation is effective as an alternative to the state.¹⁶ The CDSB and ClimateWise's use of cognitive governance as a strategy to expand public regulation constitutes a particular challenge for these assumptions.¹⁷ In particular, it challenges scholars who tend to see environmental co-regulation as "greenwash" or a strategy to generate reputational credibility and pre-empt public regulation. The strategy adopted by these initiatives demonstrates that co-regulation can be used as a tool to cultivate support for the expansion of public regulation, rather than its subversion.

The dissertation's explanation of the emergence of the CDSB and ClimateWise also challenges the common "post-Westphalian" interpretations of the rise of environmental co-regulation noted above. Rather than reflecting a structural shift towards markets driven by economic globalization and neoliberalism, the CDSB and ClimateWise emerged in response to conditions contingent on the actors involved. In fact, the CDSB and ClimateWise demonstrate a "loophole" or "contradiction" within the structural influence of neoliberalism.¹⁸ The CDSB and ClimateWise support an expansion of public regulation, which is opposed by neoliberal ideology, but with the intention of improving the efficiency of their markets, which is coherent with neoliberal ideology. Similarly, rather than simply pushing for a "second best" alternative to public regulation, the ENGOS

Levy L, Peter Newell, and Matthew Paterson (Cambridge, MA: MIT Press, 2004); Sverker Jagers and Johannes Stripple, "Climate Governance Beyond the State," *Global Governance* 9, no. 3 (2003): 385–400.

¹⁵ It is important to note that not all scholars agree that co-regulation is designed to act as an alternative to public regulation. Chapter 2 (section 2.2.1) will highlight some scholars who see co-regulation as supporting a broad effort to engage private actors in supporting regulatory changes.

¹⁶ A. Claire Cutler, Virginia Haufler, and Tony Porter, *Private Authority and International Affairs* (SUNY Press, 1999); Thomas Biersteker and Rodney Bruce Hall, "The Emergence of Private Authority in the International System," in *The Emergence of Private Authority in Global Governance*, ed. Thomas Biersteker and Rodney Bruce Hall (Cambridge University Press, 2002).

¹⁷ As previously mentioned, other co-regulatory initiatives such as the CDP also tend to challenge this "post-Westphalian" consensus even if they do not explicitly target an expansion of public regulation within their mandate. The CDSB and ClimateWise (in addition to the INCR), however, do explicitly target an expansion of public regulation in their mandates.

¹⁸ See Bernstein, *The Compromise of Liberal Environmentalism*, 237.

involved were able to take advantage of preferences among accountants and insurers to push for a more robust regulatory approach. The financial firms involved also supported co-regulation for other reasons than short-term market concerns about reputational credibility; they saw public regulation as a means to advance their long-term material interests.

The third set of contributions of this dissertation is to literature within social constructivism concerning the power of financial knowledge. To begin with, this analysis of the CDSB and ClimateWise contributes to an emerging strand of constructivist research examining the influence of “cognition” in shaping a market actors’ behavior.¹⁹ Although IPE scholars have analyzed the influence of financial knowledge on market behavior, they have yet to isolate how certain cognitive qualities of this knowledge can influence a market actors’ behavior. This gap is unfortunate because certain types of financial knowledge can influence the way market actors respond to conditions of economic uncertainty. This thesis begins to fill this gap by focusing on the influence of accounting and insurance “cognitive expectations” of the conditions necessary if financial markets are to efficiently govern exposure to climate change uncertainty.

In particular, this analysis provides evidence for constructivist arguments that ideas matter in explaining the behavior of market actors in conditions of market uncertainty.²⁰ The thesis argues that many in the accounting and insurance industry (in addition to institutional investors and corporate emitters in the case of the CDSB) support co-regulation because of their material interests in treating climate change risk as a financial risk that must be governed through public regulation. These interests reflect a departure from the “short-term” reputational concerns, or the perspective that climate change risks are a long-term issue that do not need to be measured or priced in the global economy. The thesis demonstrates that these interests are influenced by cognitive expectations within the accounting and insurance industry that “rational” market behavior should treat climate change uncertainty as a risk. This research supports constructivists who argue that ideas and knowledge influence the perception of market actors towards uncertainty in ways that support a longer-term perspective towards such uncertainty.

The analysis of the unconventional approach to co-regulation adopted by the CDSB and ClimateWise provides another contribution to constructivist literature. IPE literature on financial knowledge has described its influence over market behavior, but has yet to link the political use of

¹⁹ See Rawi Abdelal, Mark Blyth, and Craig Parsons, “Introduction: Constructing the International Economy,” in *Constructing the International Political Economy*, ed. Rawi Abdelal, Mark Blyth, and Craig Parsons (Ithaca: Cornell University Press, 2010), 1-19.

²⁰ Bernstein, *The Compromise of Liberal Environmentalism*, 237.

this knowledge to environmental governance, as this dissertation does. Moreover, this literature points to the political use of financial knowledge as a strategy to subvert public regulation, whereas the CDSB and ClimateWise take the opposite approach of trying to empower public authorities to expand regulation. From this perspective, this analysis of the CDSB's and ClimateWise's strategy provides a novel contribution to debates about the political use of financial knowledge.

In sum, this thesis makes three sets of contributions to existing scholarly knowledge. First, this thesis contributes to recent efforts aimed at filling a gap in IPE and GEP research on the link between financial markets and environmental issues by analyzing the extension of environmental co-regulatory practices to accounting and insurance markets. Second, the thesis contributes to IPE and GEP literature on environmental co-regulation by challenging "post-Westphalian" perspectives on the purposes and sources of this form of governance. Third, this dissertation contributes to constructivist arguments about the power of financial knowledge by examining the influence of cognitive expectations as a novel approach to the political use of financial knowledge.

1.2 Methodology and the Objects of Analysis

This study engages in process tracing based on qualitative analysis. Primary documents, web sites, and secondary sources, including academic and technical analysis, were consulted to inform analysis of the organization, design, purpose, and origins of each example of co-regulation. These primary documents included various publications from each initiative that explain their internal operation, and most importantly, external audits and feedback on compliance to their standards. An exhaustive key word search was also conducted on any reference to each of the initiatives mentioned in newspapers and trade journals since their establishment. Various primary documents written by accounting and insurance industry professionals on climate change were also consulted.

To buttress this analysis, I conducted a set of interviews (approved by the University of Waterloo's Office of Research Ethics: ORE #15928). I sent out 65 interview requests, and was successful in conducting thirty-seven interviews across seven countries. These interviews targeted actors involved in the negotiations to form each initiative, current members and employees of each initiative, financial industry professionals working on CSR or climate change issues, and NGOs with experience in lobbying the financial industry. To facilitate a level of comparability between each case study but maintain flexibility for the respondent to contribute expert knowledge, the interviews were "semi-structured". Each respondent was asked a series of standard questions that

focused on identifying: the motivation behind initiating co-regulation, potential obstacles experienced in forming the co-regulative agreement, the strategy pursued by actors involved within the negotiations, and the overall objective of the initiative for both the profit and non-profit actors involved. The goal for the semi-structured approach was to ensure that common processes and trends were identified while allowing for each respondent to elaborate and “teach” the interviewer about the core problems and challenges involved in environmental co-regulation.²¹ In order to preserve anonymity, the names and the positions of various respondents are not disclosed in the text.

This dissertation engages in an inductively driven analysis to understand two fascinating examples of co-regulation within financial markets. To provide some key background, the following two sections outline how international accounting and insurance markets are governed and introduce the CDSB and ClimateWise as two unique examples of co-regulation that attempt to cultivate constituencies within these markets that are willing to support the implementation of public regulations governing climate change risks.

1.2.1 Governing International Accounting Markets and the CDSB

The International Accounting Standards Board (IASB) currently governs the design and implementation of international accounting standards. The mandate of this institution is to harmonize national accounting standards into a set of international accounting standards so that investors are able to make capital allocation decisions based on a comparable benchmark for the measurement of financial value across borders.

The IASB is located in London and designs the International Financial Reporting Standards (IFRS), which have now either replaced national accounting standards or are in the process of being implemented by national securities regulators in over 120 countries. The EU Commission, which governs the second largest capital market in the world, adopted IFRS in 2005, while the US Securities and Exchange Commission (SEC), which regulates the world’s largest capital market, will announce its timetable for adoption in 2011.²² IFRS has also been incorporated into the Financial Stability Board’s (FSB) “12 Standards for Sound Financial Systems,” and received endorsements from the

²¹ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 23.

²² IASB, “Use Around the World” (International Accounting Standards Board, 2011), <http://www.ifrs.org/use+around+the+world/use+around+the+world.htm>; Michael Wells, “International Financial Reporting Standards”, January 2011, <http://www.ifrs.org/NR/rdonlyres/272B5170-BF00-4B46-95EF-2BEE10024ECF/0/Typicalvisitingstudentspresentation.pdf>.

International Organization of Securities Commissions (IOSCO), and the G7.²³ In response to the 2007-2008 global financial crisis, G-20 leaders have given the FSB a mandate to coordinate and implement an international financial standards regime. The IASB is charged with developing standards for the global accounting sector as part of its membership responsibilities in the FSB.²⁴

The IASB is organized according to the “indirect-rule” tradition for standard setting in which the authority to design standards is delegated to a professional body of accountants.²⁵ The rationale behind this approach is to ensure standards are designed using due process in an apolitical and neutral setting, maximizing the use of accounting knowledge to measure financial information in ways that promote efficient investment decisions. In this respect, the IASB is able to maintain the accounting community’s historical role as an arbiter between investor and manager without political interference.²⁶

Because professional accountants are delegated decision-making authority over the design of international accounting standards, some IPE scholars have suggested that the IASB represents a form of private governance.²⁷ But others have challenged this argument on the grounds that any decision made by the IASB must be implemented by “public” national/regional public financial securities regulators or accounting standard setters.²⁸ Indeed, the EU Commission, which was an early adopter of the IFRS, has refused to adopt standards that it deems contrary to European interests.²⁹ The even

²³ Martinez-Diaz Leonardo, “Strategic Experts and Improvising Regulators: Explaining the IASC’s Rise to Global Influence, 1973-2001,” *Business and Politics* 7, no. 3 (2005), <http://www.bepress.com/bap/vol7/iss3/art3>.

²⁴ Andreas Nolke, “The Politics of Accounting Regulation: Responses to the Subprime Crisis,” in *Global Finance in Crisis: The Politics of International Regulatory Change*, ed. Eric Helleiner, Stefano Pagliari, and Hubert Zimmermann (London: Routledge, 2009), 37-55, 49.

²⁵ Susan Strange, *The Retreat of the State: The Diffusion of Power in the World Economy* (Cambridge: Cambridge University Press, 1996), 138.

²⁶ To facilitate these goals, the IASB is composed of fifteen accounting experts appointed by a group of Trustees based on their professional accomplishments and experience in the accounting sector. This membership criterion largely limits the composition of the IASB to members from industrialized economies with large and sophisticated capital markets. The group of Trustees, which is also composed of accounting experts and professionals, is proportionally selected to represent different regions (six members from Asia/Oceania, six from Europe, six from North American and four from any region). Recently, a Monitoring Board with public officials from the world’s major financial regulators was given oversight in this selection process. IASB, “Use Around the World”; Wells, “International Financial Reporting Standards.”

²⁷ See James Perry and Andreas Nolke, “The Political Economy of International Accounting Standards,” *Review of International Political Economy* 13, no. 4 (2006): 559-586.

²⁸ See Daniel Drezner, *All Politics is Global: Explaining International Regulatory Regimes* (Princeton: Princeton University Press, 2007); Beth Simmons, “The International Politics of Harmonization: The Case of Capital Market Regulation,” *International Organization* 55, no. 3 (2001): 589-620.

²⁹ Financial Times, “Thickening Fog Over Accounting Row,” *Financial Times*, October 14, 2004, <http://www.ft.com/cms/s/0/4b8e4b78-1d7e-11d9-abbf-00000e2511c8.html#axzz1KfzAGf6K>.

more important challenge to arguments about the “private” nature of the IASB, however, come from the fact these public regulators have now been given formal oversight in the decision-making of the IASB. In the aftermath of the financial crisis, the IASB’s decision-making formula came under close scrutiny by G-20 leaders for a perceived lack of accountability to the IASB’s member-states. In response, the IASB created a Monitoring Board composed of “public” officials from IOSCO, the European Commission, the Financial Services Agency of Japan, and the SEC.³⁰ This Monitoring Board now oversees appointments to the decision-making IASB.³¹ These reforms have now clearly brought the IASB within the “public realm.”

The IASB and its members, specifically national/regional securities regulators and accounting standard setters, are tasked with maintaining efficient accounting markets by establishing international standards that identify what type of financial information should be measured and disclosed to reduce information asymmetries and encourage efficient decision-making by investors. The ability of the IASB to achieve this outcome, however, is contingent on the political interests of its main constituents and the expertise that the accounting profession uses to identify “decision-useful” financial information that must be measured and disclosed to maintain efficient capital markets.

The harmonization of national accounting standards through the IASB has created a new governable space at the international level where global financial accounting practices and their influence on the environment are now exposed to the IASB’s decision-making. More directly, the value of a firm’s environmental performance and consequent impact on its bottom-line is exposed to the same decision-making process. For example, the IASB develops accounting standards that determine how firms value their environmental liabilities and risks in international financial markets.³²

Because publicly listed firms in over 120 countries use or are in the process of adopting these standards, the IASB represents an influential institution in attributing value and costs to specific forms of economic behavior throughout the global economy. The IASB in addition to its national accounting setter counterparts, however, have failed to develop any standard addressing the measurement and disclosure of climate change risks.³³ This inaction has led to increasing demands

³⁰ Nolke, “The Politics of Accounting Regulation: Responses to the Subprime Crisis”, 46.

³¹ IASB, “Monitoring Board,” *Governance and Accountability*, December 30, 2010, <http://www.ifrs.org/The+organisation/Governance+and+accountability/Monitoring+Board.htm>.

³² See Jason Thistlethwaite, “Counting the Environment: The Environmental Implications of International Accounting Standards,” *Global Environmental Politics* 11, no. 2 (2011): 75-97.

³³ The IASB has worked on developing a standard for GHG accounting for firms participating in emissions trading markets. While an important effort, the accounting industry, in addition to institutional investors and

among ENGOs, institutional investors and corporate emitters concerned about exposure to climate change uncertainty for the strengthening of the disclosure of climate change risks at the international level.

Accountants have also taken an interest in using their knowledge to govern climate change risk disclosure as a way to expand their markets. Although Heather Lovell and Donald McKenzie do not explicitly discuss material gains as a motivation for accountants, they do describe how the accounting professional organizations, such as the Canadian Institute for Chartered Accountants (CICA), the Institute of Chartered Accountants in England and Wales (ICAEW), have started to engage in debates about how their industry can help govern climate change. In particular, accounting professional organizations have started to recognize how climate change represents an emerging “policy space” where their practices and expertise can be useful.³⁴

Demands for increased disclosure have led to a proliferation of multiple voluntary accounting standards designed to capture a more accurate measurement on the material impacts of climate change. As a consequence, the accounting sector, ENGOs, institutional investors and corporate emitters are faced with a patchwork of different standards that fail to generate an adequate market signal capturing the material risks associated with climate change (See Section 4.2).

At the 2007 World Economic Forum (WEF) annual meeting, many of the stakeholders using these standards came together to form the Climate Disclosure Standards Board (CDSB) as a strategy for harmonizing existing standards with the long term goal of promoting the implementation of a mandatory international standard. After consultations were held with the accounting sector on the harmonization process, the Big Four accounting firms, and several national chartered accountancy bodies, were invited to participate in a Technical Working Group (TWG).³⁵ After almost three years of work, the CDSB released the Climate Change Reporting Framework (CCRF). The completed framework extends the definition of “decision-useful” financial information to include climate change

ENGO have called on the IASB to take a much more robust approach. Specifically, these actors want standards developed to govern GHG accounting, material (or regulatory) risks associated with these emissions, in addition to exposure to physical, legal and reputational risks. IASB, “Emissions Trading Schemes: Background and History” (IASB, June 2010), http://www.ifs.org/NR/rdonlyres/A6F56527-957F-4614-B3DE-A7EE5F4D4A1C/0/Background_historyETS.pdf; See for the appeal made by these actors for a more robust effort on the part of the IASB Rachel Singh, “Calls for Global Standard on Carbon Reporting Grow,” *Accountancy Age*, December 7, 2009, <http://www.accountancyage.com/aa/news/1748283/calls-global-standard-carbon-reporting-grow>.

³⁴ Lovell and MacKenzie, “Accounting for Carbon: The Role of Accounting Professional Organisations in Governing Climate Change”, 724.

³⁵ CDSB, “Technical Working Group,” *Climate Disclosure Standards Board*, 2010, <http://www.cdsb-global.org/technical-working-group/>.

risks and offers various metrics for determining how to measure and disclose these risks.

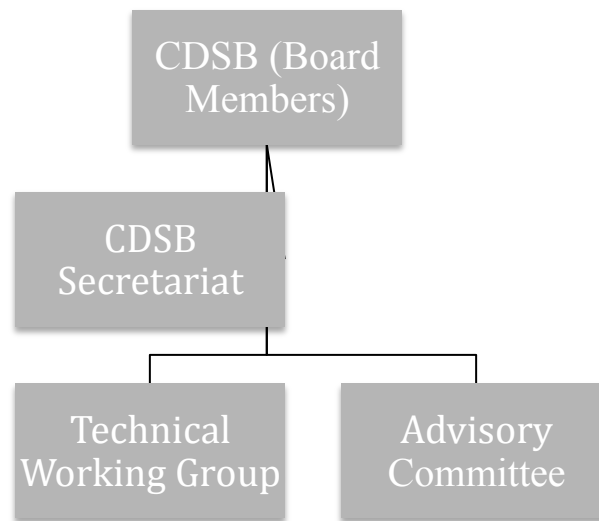
The CDSB was designed as a standard setter that uses cognitive governance to generate a technical and political consensus on an accounting framework capable of capturing “decision-useful” information concerning the financial uncertainty surrounding climate change impacts. Technical consensus building involves the design and implementation of a voluntary disclosure framework that is “cycled” through a reflexive mechanism to capture and address weaknesses among preparers (firms or corporate emitters exposed to risks), end-users (investors, and financial markets more broadly) and auditors (accounting firms) in capturing “decision-useful” financial information related to climate change risks. Political consensus building involves a strategic effort on the part of the CDSB’s constituents to cultivate a constituency among stakeholders whose support is necessary for the eventual implementation of a mandatory standard.

The CDSB Secretariat is hosted by the CDP and coordinates the standard setting process through its three institutional bodies including the decision-making Board, a Technical Working Group (TWG) and an Advisory Committee (see Figure 1.1). The CDSB’s decision-making process for the design of an international standard begins with the TWG and ends with the CDSB Board Members, who represent the founding parties to the CDSB. The TWG is charged with harmonizing existing accounting approaches to climate change risks into a comparable international standard. Members of the TWG represent the expertise and interests of the accounting sector, including representatives from the Big Four accounting firms³⁶, in addition to representatives from various professional accounting bodies.³⁷ These bodies are funded by and represent the interests of the accountancy profession.

³⁶ The Big Four accounting firms include PriceWaterhouseCoopers, KPMG, Deloitte & Touche and Ernst & Young.

³⁷ CDSB, “Technical Working Group.”

Figure 1.1 The CDSB's organization



Once the TWG has developed a set of standards they are “cycled” through the CDSB’s reflexive mechanism to capture potential weaknesses. The Advisory Committee provides the first feedback on whether the standards are effective in adequately capturing the risks associated with climate change. The Advisory Committee is composed of twenty-five different organizations including large GHG emitters, investor groups and a few government departments and IOs (see Table 1.2 for full list of participants).³⁸ After feedback from the Advisory Committee, the Board provides approval for the public release of the standards in the form of an “Exposure Draft” (ED). External stakeholders, including investors, corporate emitters or any other interested party are encouraged to provide feedback on the standard during a predetermined “comment period”. The Board then collects these comments and asks the TWG to integrate this feedback into a revised standard. The TWG then re-submits a completed standard for feedback from the Advisory Committee. The final step involves formal approval of the completed standard by the CDSB Board.

Once preparers, end-users, and auditors have been given an opportunity to formerly adopt the framework, the CDSB will collect feedback and start the standard setting process over again until a technical consensus that the standards accurately capture decision-useful information is reached. Over time, the CDSB is designed to leverage this technical consensus to build political support for embedding this consensus into international or national regulations that force mandatory disclosure.

³⁸ CDSB, “Advisory Committee,” *Climate Disclosure Standards Board*, 2010, <http://www.cdsb-global.org/technical-working-group/>.

Table 1.2 CDSB Participants

CDSB Board Members	Technical Working Group	Advisory Committee
<ul style="list-style-type: none"> • Paul Dickinson from the CDP; Mindy Lubber from Ceres; Mark Kenber from the Climate Group (a business focused climate change NGO). • Diane Wittenberg from the Climate Registry (an US non-profit organization that coordinates GHG emission disclosure). • Henry Derwent from the International Emissions Trading Association (IETA) (a business association that represents the interests of firms in climate change legislation negotiations). • Richard Samans from the World Economic Forum (WEF) (a business association that hosts a popular annual summit). • Pankaj Bhatia from the GHG Protocol (the world’s most popular GHG emissions disclosure standard). 	<ul style="list-style-type: none"> • The Big Four Accounting firms (PricewaterhouseCoopers, KPMG, Deloitte & Touche, and Ernst & Young), in addition to Grant Thornton. • The Association of Chartered Certified Accountants (ACCA) • Canadian Institute of Chartered Accountants (CICA) • International Federation of Accountants (IFAC) • Institute of Chartered Accountants in England and Wales (ICAEW) • Japanese Institute of Certified Public Accountants (JICPA) 	<ul style="list-style-type: none"> • AIG • APX • Climate Counts • Confederation of British Industry • Duke Energy • Haskell & White LLP • Marsh McLennan • Royal Dutch Shell • JP Morgan Chase • PG&E Corporation; Praxair Inc • Rio Tinto • Swiss Re • Tokyo Electric Power Company • Sun Group • Skaden, Arps, Slate Meagher & Flom LLP • Institutional Investors Group on Climate Change • Investor Group on Climate Change • UK Department of Environment, Food and Rural Affairs; California State Assembly • The Carbon Trust • The Greenhouse Gas Management Institute • United Nations Environment Program Finance Initiative (UNEP-FI) • United Nations Foundation.

The participation of “public” actors (the UK Department of Environment, Food and Rural Affairs, the California State Assembly, the United Nations Environment Finance Initiative, and the United Nations Foundation) might lead some to wonder whether the CDSB is best seen as an example

of “hybrid” co-regulation between public and private actors.³⁹ But the participation of these public actors is only in the Advisory Committee which has no formal authority in the decision-making process behind the CDSB’s standards.⁴⁰ Each of these public organizations has expertise in developing climate change risk disclosure frameworks, and supports the mandate of the CDSB as an independent body charged with harmonizing different voluntary and existing mandatory standards. Public actors are often involved in providing feedback to the Board’s decisions, but do not have authority over how the standard is designed. The CDSB’s Advisory Committee provides a similar form of feedback after decisions by the “private” Board and TWG are finalized. For this reason, the CDSB still remains within the definitional boundaries of “non-state” environmental co-regulation, which is the phenomenon under inquiry in this study. The participation of these “public” actors does, however, signal the CDSB’s longer-term goal of embedding its standard in public regulation.

1.2.2 Governing International Insurance Markets and ClimateWise

ClimateWise is an initiative that tries to leverage global insurance markets to strengthen global climate governance. The global insurance market collected over \$4.2 trillion in premiums in 2008. These premiums are split in half between health and life insurers and property and casualty insurers (P&C), which constitute two distinct markets with each sector pricing different sources of risk.⁴¹ Although both health and life insurers and P&C insurers face climate change risks, the impacts are particularly relevant for P&C markets that provide insurance against weather-related losses, which are predicted to significantly increase under climate change conditions.

Insurance coverage in developed countries, specifically Europe and North America, constitute almost 87% of the market share.⁴² This concentration creates a high level of competition between insurers for premium revenues in the industrialized world and significant incentives to establish markets in the developing world. Indeed, emerging markets in India, China and Brazil are

³⁹ See Jennifer Clapp, “Privatization of Global Environmental Governance: ISO 14000 and the Developing World,” *Global Governance* 4 (1998): 295-316; Liliana B. Andonova, Michele M. Betsill, and Harriet Bulkeley, “Transnational Climate Governance,” *Global Environmental Politics* 9, no. 2 (2009): 52-73.

⁴⁰ CDSB, “Advisory Committee.”

⁴¹ UNEP FI, “The Global State of Sustainable Insurance” (Insurance Working Group United Nations Environment Programme Finance Initiative, October 2009), 19.

⁴² *Ibid.*, 19.

potentially worth over \$100 billion in premium revenue and represent the next source of growth for the insurance sector.⁴³

These international insurance markets are governed in part by the International Association of Insurance Supervisors (IAIS), which is located in Basel, Switzerland, where its Secretariat is housed at the Bank for International Settlements (BIS). The IAIS was founded in 1994, and as of 2010, its members include insurance regulators from over 190 jurisdictions in 140 countries.⁴⁴ The IAIS develops standards and guidance that national or sub-state regulators use to harmonize the way they supervise their own markets. The goal for these standards is to “establish and maintain fair and efficient insurance markets for the benefit and protection of policyholders.”⁴⁵

Compared to international accounting markets, which are governed by the IASB, regulatory authority is much more decentralized in insurance markets. This is particularly the case in P&C markets where regulators at the national or sub-state level play a much more prominent role in making sure that risk markets are efficient.⁴⁶ Insurance regulators also embrace the indirect-rule tradition by delegating decision-making authority to officials with an insurance background.⁴⁷ This design attempts to protect regulatory decisions from political interference and maintains the insurance sector’s historical role as a market mechanism for “spreading risk and pricing the engagement in risky activities.”⁴⁸

These regulators are tasked with maintaining “efficient” insurance markets through the preservation of the availability and affordability of insurance by making sure insurers accurately price

⁴³ Evan Mills, “From Risk to Opportunity - Insurer Responses to Climate Change” (Ceres, November 2007), 18.

⁴⁴ IAIS, “International Association of Insurance Supervisors,” *Improving Insurance Supervision*, 2011, <http://www.iaisweb.org/>.

⁴⁵ IAIS, “Principles on Capital Adequacy and Solvency” (International Association of Insurance Supervisors, January 2002), http://www.iaisweb.org/_temp/Principles_on_capital_adequacy_and_solvency.pdf.

⁴⁶ For example, In the UK and Germany, national regulators are tasked with governing insurance markets, whereas in the US and Canada, state and provincial regulators govern these markets. FSA, “FSA Regulation of Insurance Selling and Administration - do I need to be Authorised?,” *Financial Services Authority*, November 1, 2010, http://www.fsa.gov.uk/pubs/other/ins_reg.pdf; BaFin, “Act on the Supervision of Insurance Undertakings (Insurance Supervision Act),” *Bundesanstalt fur Finanzdienstleistungsaufsicht*, November 1, 2010,

http://www.bafin.de/cln_179/nn_721176/SharedDocs/Aufsichtsrecht/EN/Gesetze/vag_ab_070326_en.html?__nnn=true; NAIC, “About the NAIC,” *National Association of Insurance Commissioners*, November 1, 2010, http://www.naic.org/index_about.htm; OSFI, “Property and Casualty Insurance Companies Section,” *Office of the Superintendent of Financial Institutions Canada*, November 1, 2010, http://www.osfi-bsif.gc.ca/osfi/index_e.aspx?ArticleID=178; FSCO, “Insurance,” *Financial Services Commission of Ontario*, November 1, 2010, <http://www.fSCO.gov.on.ca/english/insurance/>.

⁴⁷ See section 4.4.1 for a discussion of insurance regulation. See also IAIS, “International Association of Insurance Supervisors.”

⁴⁸ Benjamin J. Richardson, *Environmental Regulation Through Financial Organisations* (London: Kluwer Law International, 2002), 325.

the risks they are covering at affordable rates. This mandate is achieved partly by enforcing capital adequacy requirements, but more importantly by supervising the rate setting process, specifically the underwriting practices used to inform rate prices.⁴⁹ This oversight ensures that consumers are protected from unaffordable rates through collaborative “price-fixing” and that insurance markets are protected from competitive pricing wars which can threaten their solvency if firms price risk too low.

Climate change risks in the insurance sector largely materialize in markets associated with P&C coverage for “natural hazard” or weather risks.⁵⁰ National insurance regulators are mandated to ensure that weather risk markets are efficient at governing risks by ensuring that insurers have enough capital reserves to cover large losses, and by supervising the rate setting and underwriting processes that insurers use to model and price risks.

Governments also play a significant role in maintaining the efficiency of weather risk markets by implementing legislation that reduces behavior likely to contribute to these risks.⁵¹ Three loss-prevention policies where public authorities can play a significant role in preserving the efficiency of weather risk markets are: infrastructure spending, enforcing building codes, and land-use planning.⁵² In the context of climate change these policies represent important sources of adaptation within insurance markets. Mitigation of GHGs through emissions trading or a tax and adaptation policies constitute another policy area where governments have influence in preserving the efficiency of these markets. Without effective policy in these areas, weather risks can become “uninsurable” (ie. recurring flooding due to inadequate drainage and sewage systems), forcing insurers to raise rates to unaffordable levels or to pull out of markets. In an efficient market, such a crisis of insurance availability and affordability should send a signal to governments and consumers that additional spending and policy is required to reduce these risks.

Climate change risks represent an important example of an “uninsurable” risk that justifies government intervention if insurance markets are to remain efficient. At the same time, insurers can also play an important role in governing these risks by pricing economic activity that contributes to these risks. According to a research paper commissioned by ClimateWise, insurers can use their skills

⁴⁹ In the US, regulators either require insurers to submit rates before implementation, put their rates into use and then file them with regulators. See Howard Kunreuther and O. Michel-Kerjan, Erwann, *At War with the Weather: Managing Large-Scale Risks in a New Era of Catastrophes* (Cambridge: MIT Press, 2009), 33.

⁵⁰ As the climate changes, weather risks, such as flood and wind damage, are predicted to increase. See Evan Mills and Eugene Lecomte, “Availability and Affordability of Insurance Under Climate Change: A Growing Threat for the U.S.” (Ceres, September 8, 2005).

⁵¹ Richardson, *Environmental Regulation Through Financial Organisations*, 327.

⁵² Evan Mills and Eugene Lecomte, “From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change” (Ceres, August 2006), 35.

in risk modeling to “inform a debate about where a ‘climate premium’ could be levied to discourage high-carbon activity and fund action to mitigate and adapt to climate change.”⁵³ But before insurers can take these steps, governments, insurers and stakeholders within these markets must believe climate change risks exist in the first place and be willing to impose costs on the behavior (ie. mitigation and adaptation regulations) that create these risks.

Given the uncertainty around the impacts of climate change and the liabilities associated with these impacts, there is a “lag” between insurers, who argue that these risks are material and need to be priced, and wider constituencies.⁵⁴ To overcome this “lag” and preserve the efficiency of risk-transfer markets, insurers need to engage in collective rule making to identify the impacts of climate change on their industry, and inform regulations and market practices that can be used to internalize these risks.

The Prince of Wales recognized this emerging uncertainty within the insurance sector towards climate change, and through his ENGO, the Cambridge Programme for Sustainability Leadership (CPSL), initiated several meetings with insurers throughout 2006 and 2007. These meetings led to the establishment of the ClimateWise Principles (ClimateWise) in September 2007.⁵⁵ ClimateWise is designed to use cognitive governance to harness expertise and resources of the insurance industry in generating a technical and political consensus that climate change risks must be priced into global economic activity through international regulations and insurance markets. Similar to the CDSB, technical consensus building involves the use of best practice standards that target the generation of a market signal within insurance markets that climate change risks can be internalized as costs in an effort to increase investments in economic behavior that supports mitigation and adaptation. ClimateWise also supports political consensus building among strategic constituencies to generate support for international and national loss-prevention policies (ie. mitigation and adaptation policy) that assist insurers in maintaining the efficiency of their markets.

The CPSL was delegated with the responsibility to host the ClimateWise Secretariat and monitor the implementation of forty standards among the insurers who signed up to the initiative (see Figure 1.2). These standards are categorized into six principles that encourage the adoption of best practices in governing climate change risks. These principles include 1) leading in risk analysis; 2)

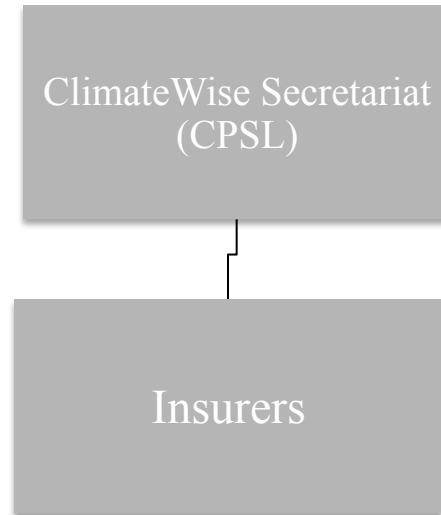
⁵³ Alice Chapple, “Responding to the Challenge of Climate Change” (Forum for the Future, January 12, 2010), <http://www.forumforthefuture.org/files/2010-10-04-Climatewise-web%20%282%29.pdf>, 1.

⁵⁴ UNEP FI, “The Global State of Sustainable Insurance”, 13.

⁵⁵ ClimateWise, “Member Signatories,” *ClimateWise*, November 5, 2010, <http://www.climatewise.org.uk/member-signatories/>.

informing public policy making; 3) supporting climate awareness among their customers; 4) incorporating climate change into investment strategies; 5) reducing the GHG footprint of their operations; and, 6) accountable reporting on their progress towards these goals (see the appendix for a detailed breakdown of the principles).⁵⁶

Figure 1.2 ClimateWise's organization



Currently, thirty-nine insurers have signed up to ClimateWise (see Table 1.3). Each year the ClimateWise Secretariat asks a third-party to perform an audit of each member’s progress towards best practices. The Secretariat collects information from the audit to identify weaknesses or challenges that insurers face in mobilizing their resources towards the governance of climate change risks. By identifying how certain firms have overcome these weaknesses and successfully implemented best practices, the Secretariat governs a reflexive mechanism that identifies strategies that other insurers can use to do the same. In the long-term, this process is designed to spread best practices that are conducive to a technical and political consensus that supports the implementation of regulations necessary to assist insurers in governing climate change risks.

Table 1.3 ClimateWise participants

Insurer	Type of insurance firm	Country
Association of British Insurers	Business association	UK

⁵⁶ ClimateWise, “The ClimateWise Principles”, December 2009, <http://www.climatewise.org.uk/storage/climatewise-docs/ClimateWise%20Factsheet.pdf>. See Appendix for detail on the 40 best practice standards.

ACE European Group	P&C	UK
Allianz	P&C/health and life	Germany
Aon-Benfield	P&C/reinsurance	UK
Argo International	P&C	UK
Aviva	Health and life	UK
Axa	P&C/health and life/reinsurance	France
Beazley	Reinsurance	UK
Catlin	P&C/reinsurance	UK
Chartis	P&C	US
Chaucer	P&C	US
Chartered Insurance Institute	Business association	UK
Co-operative Insurance	P&C/health and life	UK
Ecclesiastical	P&C	UK
Equity Redstar	P&C	UK
F&C Investments	Institutional investments	UK
Fireman's Fund	P&C	US
Friends Provident	Health and life	UK
Hardy	Reinsurance	UK
Hiscox	P&C	Bermuda
Kiln	P&C/ Health and life/reinsurance	UK
Legal & General	Health and life	UK
Lloyd's of London	P&C/Health and life/reinsurance	UK
Lloyd's Banking Group	P&C/health and life	UK
Navigators	P&C	US
NFU Mutual	P&C/health and life	UK
Prudential	Health and life	US
QBE	P&C	Australia
RBS	P&C	UK
RMS	Risk-modeling	US
RSA	P&C	UK
Santam	P&C	South Africa
Spectrum	P&C	US
Standard Life	Health and life	Canada
Swiss Re	Reinsurance	Switzerland
Tokio Marine Nichido	P&C	Japan
Trygvesta	P&C	Norway
XL Insurance	P&C	Bermuda
Zurich	P&C/health and life	Switzerland

1.3 Brief Outline of the Dissertation

The emergence of the CDSB and ClimateWise represents an important opportunity to build on previous analyses of environmental co-regulation in financial markets and private governance more broadly by exploring the extension of environmental co-regulation to accounting and insurance

markets. Now that this chapter has introduced the major research questions, core arguments, contributions to the advancement of knowledge, and methodology and cases, it is necessary to provide a brief outline of the following chapters.

Chapter 2 begins by reviewing existing literature on private governance and environmental co-regulation that might be relevant to answering the first thesis question: how are the CDSB and ClimateWise designed to achieve their objectives? This literature review is used to differentiate the approach to co-regulation adopted by the CDSB and ClimateWise. Many scholars argue that environmental co-regulation is designed as a strategy for establishing “governance beyond the state.” The chapter highlights how the CDSB and ClimateWise instead are designed to use co-regulation as a tool for *expanding* state authority through the use of cognitive governance. The chapter also notes that these two initiatives are not entirely unique in this respect. Recent work examining environmental co-regulation with institutional investors reveals a similar goal. But the CDSB and ClimateWise are distinctive in their strategy of leveraging accounting and insurance knowledge to convince constituencies throughout these markets that climate change uncertainty can be governed as a financial risk and that public regulation is necessary to do so.

Chapter 3 turns to survey existing explanations for the emergence of environmental co-regulation that might be useful for addressing the second thesis question: what explains the emergence of the CDSB and ClimateWise? Many explanations for environmental co-regulation start from the “post-Westphalian” assumption that the emergence of co-regulation is contingent on factors conducive to a strategy designed to establish “governance beyond the state.” More specifically, scholars explain co-regulation with reference to factors such as economic globalization and neoliberal ideology, efforts by transnational ENGOs to create “second best” alternatives to state authority, and/or the desire of TNCs to generate reputational credibility in the face of various challenges. The chapter highlights how these explanations are not terribly helpful for explaining co-regulation in the financial industry that is designed to support the expansion of public regulation. Drawing instead on explanations of the emergence of co-regulation with institutional investors, the chapter uses inductive analysis to hypothesize an alternative framework that could be used to explain the emergence of the CDSB and ClimateWise.⁵⁷ The framework points to three explanatory factors: the existence of financial firms with material interests in using public regulation to govern climate change risks, the

⁵⁷ It is important to note that this hypothesis is not designed to generalize “conditions” conducive to “unconventional” co-regulation. Rather, this chapter has the more modest goal of exploring the sources of the CDSB and ClimateWise’s strategy as two unique and robust examples of environmental co-regulation within financial markets.

need to collaborate in generating a technical and political consensus to implement this regulation, and the presence of NGOs with an interest in using their expertise and political capacity to help overcome these obstacles.

Chapter 4 explores in more detail the conditions that led to the emergence of the CDSB and its strategy for achieving influence. The CDSB is designed to use cognitive governance in leveraging accounting knowledge to cultivate constituencies willing to implement a mandatory international accounting standard governing climate change risks. Institutional investors and corporate emitters support this strategy based on material interests in resolving an existing inefficient patchwork of voluntary standards governed by NGOs. The accounting industry has its own material interests in implementing a mandatory standard to expand its services in governing climate change risks. But to fulfill these material interests, these actors must generate a technical consensus on standards capable of measuring these risks, and a political consensus supporting the use of public regulation. Co-regulation with NGOs governing the existing patchwork provides an optimal strategy to overcome these obstacles. These NGOs have developed important expertise and political capacity necessary to cultivate constituencies supporting the implementation of a mandatory standard. Co-regulation between these NGOs and the accounting industry provides an important platform for implementing this strategy.

Chapter 5 explores in more detail the emergence of ClimateWise and its strategy for governing climate change risks within insurance markets. ClimateWise uses cognitive governance by leveraging insurance knowledge to link certain economic behavior to climate change risks and cultivate a constituency that supports pricing these risks in insurance markets and throughout the global economy with the assistance of public regulation. Insurers have material interests in supporting this strategy based on increasing exposure to weather-related losses associated with climate change. But to advance these interests, insurers must generate a technical consensus within and outside the industry on how to price these risks in ways that defend the industry. In addition, insurers must cultivate political support among consumers, regulators and policymakers that mitigation and adaptation regulation is necessary to defend the industry from increasing weather-related losses and reputational risks associated with rate increases. NGOs and policy entrepreneurs have developed strategies for using best practice standards to generate this technical and political consensus. The CPSL was able to propose co-regulation as an optimal strategy for insurers to access this expertise and capacity.

Chapter 6 provides a conclusion to the thesis. The chapter summarizes the main arguments of the dissertation and its answers to the two core research questions. The chapter also revisits the contributions of the dissertation to existing literature and highlights potential future research agendas to build on these contributions.

Chapter 2

Co-Regulating Climate Change Risks: Governing Climate Change Risks within Accounting and Insurance Markets

2.1 Introduction

How are CDSB and ClimateWise designed to achieve their objectives? This chapter begins to address this question by examining how existing research describes the strategy behind private governance, particularly that of environmental co-regulation. This analysis is used to differentiate the approach adopted by the CDSB and ClimateWise. The chapter develops an argument that the CDSB and ClimateWise have adopted a form of environmental co-regulation that embraces what I call “cognitive governance” within accounting and insurance markets with the longer-term goal of expanding public regulation governing climate change risks. To make this argument, the chapter examines how IPE and GEP literature on private governance has overlooked the unique form of co-regulation adopted by the CDSB and ClimateWise.

This scholarship often takes a “post-Westphalian” perspective that points to environmental co-regulation as a strategy for establishing “governance beyond the state” as a core objective. Recent research on co-regulation within financial markets, specifically between ENGOs and institutional investors, demonstrates that co-regulation can in fact be used to support the expansion of public regulation.¹ This approach demonstrates an interesting departure from the way most IPE and GEP scholars have conceptualized the objective of private governance. The CDSB and ClimateWise provide further support for this argument since they try to expand public regulation in governing climate change risks through the strategy of cognitive governance.

The chapter is divided into two sections. The first section begins by outlining how IPE and GEP literature have analyzed the objective of transnational non-state actors in using private governance to influence the global economy. In addition, this section takes a closer look at recent literature on co-regulation within international financial markets and highlights a gap in research identifying “cognitive governance” targeting public regulation as a strategy for realizing influence.

¹See Peter Utting, “Social and Environmental Liabilities of Transnational Corporations: New Directions, Opportunities and Constraints,” in *Corporate Accountability and Sustainable Development* (Oxford: Oxford University Press, 2008), 92-119; Utting, “The Struggle for Corporate Accountability.”

The second section takes a closer look at what distinguishes the unique approach adopted by the CDSB and ClimateWise to achieve influence. After a closer look at literature on the power of financial knowledge in the global economy, the section examines how the accounting and insurance industries govern “knowledge structures” with important implications in shaping the relationship between the global economy and the environment. The section then describes in more detail the use of cognitive governance by the CDSB and ClimateWise as a strategy to achieve influence through the reform of these knowledge structures and the expansion of public regulation.

2.2 The Influence of Transnational Non-State Actors in IPE and GEP Literature: The Emergence of Private Governance and Co-Regulation

This section explains how IPE and GEP scholars have explored the role of transnational non-state actors and the use of private governance to achieve influence within the global economy. In particular, it demonstrates how IPE and GEP scholars researching transnational non-state actors have mostly seen the objective of private governance as an attempt to generate “governance beyond the state”, rather than as a strategy to expand state authority.

According to Robert Gilpin’s *The Political Economy of International Relations*, IPE emerged as a field in which scholars debated whether states or markets were the central sites of authority in the international economy. While Gilpin maintained that states or public authority remained the ultimate arbiter of resources in the global economy, the onset of economic globalization provided evidence for scholars who argued a structural shift had occurred within the global economy towards “private” markets and global business as sites of authority.²

Susan Strange was the biggest proponent of this argument writing in her 1996 book, *The Retreat of the State* that markets “are now more powerful than states to whom ultimate political authority over society and economy is supposed to belong.”³ Scholars such as Claire Cutler interpreted the rise of global business and markets as a shift back to private authority over the governance of transnational space, which predated efforts by sovereign states to establish

² Robert Gilpin, *The Political Economy of International Relations* (Princeton: Princeton University Press, 1987).

³ Strange, *The Retreat of the State: The Diffusion of Power in the World Economy*, 4.

international rules and regulations.⁴ This argument was informed by Gramscian or historical materialist approaches which contend that private authority has emerged in response to the interests of a dominant “corporate hegemonic bloc”, pursuing greater power in determining their own regulations and rules.⁵

Claire Cutler, Virginia Haufler, and Tony Porter’s 1999 edited volume, *Private Authority and International Affairs*, developed the analysis of private authority further. When private actors formally collaborate to govern a specific issue-area, these authors suggested that an “international private regime” was formed. These regimes were not different from the “principles, norms, rules and decision-making procedures” that generate authority behind intergovernmental regimes, but they were designed and enforced by private actors.⁶ Cutler, Haufler and Porter focused primarily on the emergence of “international inter-firm regimes” where business actors agree to “self-regulate” their behavior by “either going beyond current regulatory requirements or establishing new standards in areas in which government rules or standards are lacking.”⁷ Other scholars soon went further to study private international regimes involving other actors, including trade unions, and most importantly, civil-society organizations and their advocacy groups – non-governmental organizations (NGOs).

In 2000, Karsten Ronit and Volker Schneider described the concept of a “private organization” where various actors, including private firms, trade unions, think tanks, religious groups and environmental groups, formed alternative governance arrangements in issue-areas where intergovernmental regimes did not exist.⁸ Jean-Christophe Graz and Andreas Nolke described what they called “transnational private governance” where non-state actors, including businesses and civil-society actors “obey norms that are not set by states.”⁹ Klaus Dingwerth described this movement by a whole range of non-state actors to generate their own rules - instead of lobbying their governments

⁴ Claire Cutler A., “Artifice, Ideology and Paradox: The Public/Private Distinction in International Law,” *Review of International Political Economy* 4, no. 2 (1997): 261-285.

⁵ Robert Cox, *Production, Power and World Order* (New York: Columbia University Press, 1987); See Levy and Newell, “Business Strategy and International Environmental Governance.”

⁶ Cutler, Haufler, and Porter, “Introduction”, 336-338.

⁷ Virginia Haufler, *A Public Role for the Private Sector: Industry Self-Regulation in a Global Economy* (Washington D.C.: Carnegie Endowment for International Peace, 2001), 8.

⁸ Karsten Ronit and Schneider Volker, “Global Governance Through Private-Organizations.,” *Governance: International Journal of Policy Administration and Institutions* 12, no. 3 (1999): 243-266, 8; Karsten Ronit and Volker Schneider, “Private Organizations and Their Contribution to Problem-Solving in the Global Arena,” in *Private Organizations*, ed. Karsten Ronit and Volker Schneider (London: Routledge, 2000).

⁹ Ronit and Volker, “Global Governance Through Private-Organizations.,” 8; Ronit and Schneider, “Private Organizations and Their Contribution to Problem-Solving in the Global Arena.”

or international organizations - as the “new transnationalism.”¹⁰ He even went so far as to say that the analysis of private governance now constituted a legitimate “third pillar” in global governance alongside intergovernmental regimes and transgovernmental networks.¹¹ For the rest of this thesis, these initiatives involving non-state actors in an agreement to regulate transnational business behavior will be identified as *transnational private governance*, or more directly, *private governance*.

Scholars researching international financial politics and those focused on global environmental politics have discussed the important role of private governance in determining outcomes in their respective fields, but they each tend to limit their discussion to debates about the influence of private governance as alternatives to public authority. In doing so, they have yet to discuss the emergence of the kind of environmental co-regulation represented by the CDSB and ClimateWise. The following two sections will explore this gap in analyses of private governance more specifically within literature on international financial politics and global environmental governance.

2.2.1 Private Governance in Global Financial and Environmental Politics

Within IPE, the financial industry has received particular attention as an example of the growing authority of private actors. The rising influence of the industry in the global economy has been attributed to a number of factors such as liberalization and globalization of capital markets since the end of the Bretton Woods era, the growing complexities of regulating these markets, and the technical expertise or “knowledge” of private financial actors. In her 1988 book *States and Markets*, Susan Strange argued that the financial industry had accumulated “structural power” through its monopoly over private credit creation.¹² According to Strange, the accounting and insurance industries constituted important examples of the private authority of financial actors.

She highlighted how the globalization of financial markets has increased the accounting sector’s influence in communicating financial information.¹³ Financial markets require transparency to make efficient decisions in allocating private capital. As governments have relaxed regulations over their capital accounts and financial markets have grown, so too has the demand for the

¹⁰ Klaus Dingwerth, *The New Transnationalism: Transnational Governance and Democratic Legitimacy* (New York: Palgrave MacMillan, 2007).

¹¹ Klaus Dingwerth, “Private Transnational Governance and the Developing World: A Comparative Perspective,” *International Studies Quarterly* 52, no. 3 (2008): 607-634.

¹² Susan Strange, *States and Markets* (London: Pinter Publishers, 1988).

¹³ Strange, *The Retreat of the State: The Diffusion of Power in the World Economy*, 135.

accounting profession's services and expertise in providing transparency for these markets. While its information is meant to be neutral, or reflect the "economic reality" of a firm's corporate accounts, the accounting profession's perspective on what should count towards this reality represents an important structural influence over the way market actors perceive value.¹⁴

Strange also noted how the insurance industry has enjoyed a similar increase in influence as a consequence of economic globalization. As global markets have grown, the potential for risk has increased, giving the insurance industry a vital role in regulating economic behavior by defining and pricing these risks.¹⁵ Virginia Haufler's analysis of the industry confirmed this influence. When insurers collectively decide that a risk is uninsurable, she showed how they could force states into implementing regulations that reduce these risks in order to maintain the efficiency of insurance markets.¹⁶ Indeed, as analysis in Chapter 5 will demonstrate, this strategy is one of the key planks in convincing governments to regulate climate change risks.

In addition to the accounting and insurance industries, scholars have identified other increasingly influential private financial authorities within the world economy. Tim Sinclair, for example, has pointed to private credit rating agencies as a significant form of private governance within financial markets because their ratings are the "basis for the subsequent decision-making by participants."¹⁷ Particularly important for the purposes of this thesis is the growing influence of institutional investors, such as pension, mutual and hedge funds. Adam Harmes has analyzed their rapid growth in size and their acquisition of increasingly significant shares in most of the global economy's largest companies. These shares constitute an important lever of influence in enforcing financial market demands for increased efficiency of these companies.¹⁸

Within this IPE literature analyzing the growing influence of private financial actors, the emergence of "private governance" arrangements has generally been linked to efforts to generate "governance beyond the state." The use of private governance or co-regulation to generate an

¹⁴ Andreas Nolke and James Perry, "The Power of Transnational Private Governance: Financialization and the IASB," *Business & Politics* 9, no. 3 (2007): 1-34.

¹⁵ Strange, *The Retreat of the State: The Diffusion of Power in the World Economy*, 124.

¹⁶ Virginia Haufler, *Dangerous Commerce: Insurance and the Management of International Risk* (Ithaca, NY: Cornell University Press, 1997).

¹⁷ Timothy Sinclair, "An Institutional Approach to the Politics of Global Finance," in *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, ed. Torsten Strulik and Helmut Willke (Chicago: University of Chicago Press, 2007), 103-130, 112. Timothy Sinclair, *The New Masters of Capital: American Bond Rating Agencies and the Politics of Creditworthiness* (Ithaca, NY: Cornell University Press, 2005).

¹⁸ Adam Harmes, *Unseen Power: How Mutual Funds Threaten the Political and Economic Wealth of Nations* (Toronto: Stoddart, 2001), 14.

alternative to public regulation can be categorized as a “post-Westphalian” explanation for the strategy behind this approach to achieving influence. An examination of debates concerning private regimes, or “private environmental governance” in GEP literature reveals a similar “post-Westphalian” perspective.

The increasing role of private actors in environmental governance was first described in Jennifer Clapp’s 1998 journal article, *The Privatization of Global Environmental Governance: ISO 14000 and the Developing World*.¹⁹ She observed how the design and implementation of ISO 14000 provided a window for an emerging trend within environmental politics where private actors were able to “privatize” the standard setting process.²⁰ Clapp describes that the privatization of environmental governance was largely contingent on the recognition that private governance is more efficient and compatible with “liberal norms that call for a reduced role for the state.”²¹ The goals of “private environmental governance” (PEG) are to use a range of voluntary initiatives to encourage firms to regulate their environmental performance.²²

In response to the constraints facing states in their efforts to regulate environmental protection, many civil-society organizations and NGOs started campaigning to encourage TNCs to adopt a specific form of PEG that scholars and practitioners call Corporate Social Responsibility (CSR). These efforts proved quite successful, and CSR has become a commonly accepted form of business practice. The most successful example of CSR (although a public-private or hybrid partnership) is the UN Global Compact, which has over 3,600 participating companies.²³

Private governance also offered a useful strategy for TNCs, which argued that they could identify the most efficient processes for improving their environmental performance.²⁴ One of the key strategies in this approach is promote the adoption of private governance based on potential efficiency-gains associated with “eco-efficiency”.²⁵ The latter is associated with the implementation of standards or programs that minimize the environmental impact of a firm’s production process,

¹⁹ Clapp, “Privatization of Global Environmental Governance.”

²⁰ Jennifer Clapp, “The Privatization of Global Environmental Governance: ISO 14000 and the Developing World,” in *The Business of Global Environmental Governance*, ed. David L. Levy and Peter J. Newell (Cambridge, MA: MIT Press, 2005), 223-248, 223.

²¹ Clapp, “Privatization of Global Environmental Governance”, 298.

²² For the phrase “private environmental governance”, See Falkner, “Private Environmental Governance and International Relations.”

²³ Peter Utting, “The Struggle for Corporate Accountability,” *Development and Change* 39, no. 6 (2008): 959 - 975, 963.

²⁴ Clapp, “Privatization of Global Environmental Governance”, 298.

²⁵ See Stephan Schmidheiny and Federico Zorraquin, *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development* (Cambridge, MA: MIT Press, 1996), xxii-xxiv.

while simultaneously identifying ways of improving efficiency and reducing overall costs. In addition to efficiency gains, PEG helps firms promote a “green” brand or image encouraging reputational gains, which can attract new customers, and even attract new investors. In this regard, “firms are self-motivated to make environmental improvements without being forced into doing so by state-based regulation.”²⁶ Private environmental governance can thus be used as a strategy to avoid the implementation of command-and-control regulations by convincing firms to regulate their own environmental performance. The popularity of PEG has spread throughout the private sector with various programs being adopted by the utilities, chemical, nuclear power and hospitality and recreation sectors to self-regulate their environmental performance.²⁷

By the end of the 1990s, however, many NGOs started to notice that PEG schemes, such as CSR, had failed to fill the “regulatory void” left by states unwilling to implement effective environmental regulation. The most significant flaw in these approaches was a gap between “rhetoric and policy” and a failure on the part of TNCs to enforce the commitments they had made.²⁸ These observations led to a shift in NGO strategy towards what Peter Utting called the “corporate accountability movement.” Instead of relying on the firm to realize the “eco-efficient” gains from PEG as an incentive to improve environmental performance, NGOs argued that firms required their assistance in monitoring and providing expertise on effective enforcement measures. By adopting a more cooperative approach to TNCs, NGOs hoped they could “open new channels for exerting influence.”²⁹ From this perspective, co-regulation was designed as a “second best” alternative in addressing the regulatory void compared to official regulation backed by states.

Phillip Pattberg identified this growing trend towards TNC and NGO partnerships as distinctive from “public-private partnerships” or “global public-policy networks” embodied by efforts

²⁶ See Falkner, “Private Environmental Governance and International Relations.”

²⁷ Magali A. Delmas and Maria Montes-Sancho, “Voluntary Agreements to Improve Environmental Quality: Symbolic and Substantive Cooperation,” *Strategic Management Journal* 31 (2010): 575-601; Andrew King, Michael Lenox, and Michael Barnett, “Strategic Responses to the Reputation Commons Problem,” in *Organizations, Policy and the Natural Environment: Institutional and Strategic Perspectives*, ed. Andrew Hoffman and M Ventresca (Stanford, CA: Stanford University Press, 2002), 393-406; Joseph Rees, *Hostages of Each Other: The Transformation of Nuclear Safety Since Three Mile Island* (Chicago: University of Chicago Press, 1994); Joseph Rivera and Peter De Leon, “Is Greener Whiter? The Sustainable Slopes Program and Voluntary Environmental Performance of Western Ski Slopes,” *Policy Studies Journal* 34 (2004): 195-221.

²⁸ Utting, “The Struggle for Corporate Accountability”, 965.

²⁹ *Ibid.*, 966; Among environmental groups, public backlash against Greenpeace’s efforts to stop Shell from dumping an oil storage into the North Sea encouraged many NGOs to take a more cooperative stance towards TNCs in addressing environmental performance. See Bas Arts, “Green Alliances of Business and NGOs. New Styles of Self-Regulation or Dead-End Roads?,” *Corporate Social Responsibility and Environmental Management* 9, no. 1 (2002): 26-36.

such as the UN Global Compact or ISO 14000. Pattberg expanded the notion of PEG to include specific arrangements between TNCs and NGOs, which he called “co-regulation.”³⁰ In Pattberg’s words, “co-regulation arises when two or more actors or “stakeholders” are involved in the design and implementation of norms and instruments that attempt to improve the social and environmental performance of firms.”³¹

As Utting correctly notes, the growing involvement of NGOs in working with TNCs to improve corporate environmental performance through co-regulation has been interpreted in both positive and negative ways as an alternative to public regulation. Benjamin Cashore’s assessment of the Forest Stewardship Council (FSC) as a form of “non-state market driven governance” (NSMD) offers perhaps the most optimistic argument in favor of PEG as an alternative to public authority. The key provision within his conception of NSMD is an “external audience evaluation” by ENGOs and other market participants along the timber supply-chain which acts an “achievement strategy” for influencing effective enforcement.³² Third party monitoring represents an important opportunity to give voluntary initiatives some “teeth” because ENGOs can use their assessments to put pressure on firms to comply with their commitments by publicly “naming and shaming” poor compliance.³³ In addition to providing a negative incentive for enforcement, this achievement strategy can also work to identify why some firms lag others, and find solutions that could encourage greater compliance.

Neo-Gramscian scholars provide the strongest criticisms of the strategy for achieving influence through PEG. From their perspective, the use of voluntary standards demonstrates that the corporate actors involved are not accountable for improving environmental performance. Instead, PEG constitutes a strategy designed simply to generate reputational credibility for corporate actors to defend them against civil-society protests and pre-empt potential regulation.³⁴ A partnership with an ENGO as a third-party monitor, for example, represents a key source of legitimacy in signaling to

³⁰ Phillip Pattberg, “The Institutionalization of Private Governance: How Business and Nonprofit Organizations Agree on Transnational Rules,” *Governance: An International Journal of Policy, Administration, and Institutions* 18, no. 4 (2005): 589-610, 590.

³¹ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 87; See also Peter Utting, “Regulating Business via Multistakeholder Initiatives: A Preliminary Assessment,” in *Voluntary Approaches to Corporate Social Responsibility: Readings and Resources Guide*, ed. R Jenkins, P Utting, and R.A. Pino (Geneva: NGLS, 2002), 61-130, 65.

³² Benjamin Cashore, “Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority,” *Governance: An International Journal of Policy, Administration, and Institutions* 15, no. 4 (October 2002): 503-539, 511.

³³ Utting, “The Struggle for Corporate Accountability”, 969.

³⁴ Levy and Newell, “Business Strategy and International Environmental Governance”, 92; See also Michael Barnett and Andrew King, “Good Fences Make Good Neighbours: A Longitudinal Analysis of an Industry Self-Regulatory Institution,” *Academy of Management Journal* 51, no. 6 (2008): 1150-1170, 1155-1156.

public authorities and consumers that the regulation is being enforced.³⁵ It is for these reasons that many critics argue that the impact of PEG in strengthening the governance of the environment is largely overstated, and public authority remains critical for enforcing effective environmental governance.³⁶

Utting has analyzed how some approaches to co-regulation do in fact recognize that voluntary approaches are insufficient over the long term and that ultimately public regulation is necessary if firms are to successfully improve their environmental performance.³⁷ Utting argues that the corporate accountability movement, or co-regulation, “has expanded the terrain where so-called voluntary and legalistic approaches merge in ways that are complementary and synergistic.”³⁸ For example, co-regulation could encourage national governments to legalize “soft” voluntary initiatives into “hard” laws through formal legislation.

From this perspective, the use of voluntary standards is a strategic component in facilitating regulatory change. Rather than generating reputational credibility or pre-empting regulation, voluntary standards are designed to provide a flexible platform for corporate actors to refine policy ideas, and build a constituency supporting the implementation of these ideas into official policy.³⁹ A voluntary approach designed to influence public regulation makes a trade off in its initial efforts by promoting participation at the expense of compliance. Over time, the use of a reflexive mechanism can “ratchet-up” compliance by directing corporate actors to weaknesses or opposition in their efforts to reform government policy.

As the analysis in the following section on environmental co-regulation in financial markets will demonstrate, the CDP, INCR, CDSB and ClimateWise provide evidence for the strategic use of

³⁵ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 58.

³⁶ Falkner, “Private Environmental Governance and International Relations”, 79; See also Jennifer Clapp and Jason Thistlethwaite, “Private Voluntary Programs in Environmental Governance: Climate Change and the Financial Sector” (presented at the Paper presented at the International Studies Association Annual Conference, New Orleans, LA, 2009).

³⁷ Utting, “Social and Environmental Liabilities of Transnational Corporations: New Directions, Opportunities and Constraints”, 99.

³⁸ Utting, “The Struggle for Corporate Accountability”, 969.

³⁹ In management studies literature, scholars refer to this constituency building approach as a “relational” strategy to public policy making. Corporate actors can target policy issues that are likely to become more significant in the long-term and work to establish alliances with powerful policymakers to secure their preferences. Collaboration between corporate actors to share costs associated with lobbying or influencing regulation has also been identified as a key objective and incentive for forming a private “inter-firm” regime. This literature, however, overlooks the role of voluntary standards governed by an ENGO in supporting rather than subverting regulatory intervention. See Amy Hillman and Michael Hitt, “Corporate Political Strategy Formulation: A Model of Approach, Participation, and Strategy,” *The Academy of Management Review* 24, no. 4 (October 1999): 825-842, 380; Cutler, Haufler, and Porter, “Introduction”, 8-9.

voluntary standards, or co-regulation in facilitating official regulatory change. Whereas the INCR and CDSB are closely related to Utting's conception of co-regulation, ClimateWise is slightly different because it attempts to act as a platform for expanding various forms of regulation, rather than embedding its own voluntary standards in public regulation. ClimateWise is thus similar to the CDP, which, as will be discussed below, does support climate change regulations. But, unlike the INCR, CDSB and ClimateWise, it does not explicitly ask its participants to promote the expansion of specific regulations.

This "unconventional" form of co-regulation adopted by initiatives such as the INCR, CDSB and ClimateWise challenges scholars who invoke a post-Westphalian assumption that co-regulation is primarily designed as an alternative to state-based forms of governance. It is important to note that some scholars researching private governance do argue that co-regulation can be designed to "align [corporate] behavior in ways that support both private and *public* goals" (emphasis added).⁴⁰ Environmental co-regulation within financial markets certainly reflects this trend in private governance. But as section 2.2.4 will demonstrate, they tend to be much more specific and up-front about their regulatory goals compared to more "conventional" or "post-Westphalian" approaches. Whereas NSMD, for example, is designed to operate autonomously from public authorities, and even "reduce or alter the scope of authority of traditional and international *public* policy-making processes", the INCR, CDSB and ClimateWise target and depend on an eventual expansion of public regulation to effectively govern climate change risks.⁴¹

To facilitate support for this regulation, each initiative uses cognitive governance by implementing voluntary best practice standards designed to spread financial knowledge that climate change economic uncertainty constitutes a financial risk that must be governed through public regulation. This strategy reveals a second distinction between NSMD and the approach to co-regulation adopted by the INCR, CDSB and ClimateWise. NSMD involves the use of reputational arguments in shaming a firm to comply with the FSC based on its poor environmental image, whereas co-regulation in financial markets promotes an explicit business case that financial firms should comply with these initiatives to support regulations that will advance their material interests in governing climate change risks.⁴²

⁴⁰ Andonova, Betsill, and Bulkeley, "Transnational Climate Governance", 63.

⁴¹ Cashore, "Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority", 504.

⁴² Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks", 60.

While most IPE and GEP literature on private governance assumes that it is designed as an alternative to the authority of the state, Utting's work thus provides an important link to the approach adopted by initiatives such as the INCR, CDSB and ClimateWise. Utting does not, however, describe how cognitive governance could be used to facilitate this objective. He also does not discuss the emergence of these initiatives and other forms of co-regulation within financial markets.

2.2.2 Environmental Co-Regulation in Financial Markets

Environmental co-regulation in financial markets has begun to attract the attention of some other scholars. This section draws on their work to show how environmental co-regulation in financial markets has often adopted strategies that are designed to embed private co-regulatory preferences into public regulation. By taking a closer look at these initiatives, this section will also reveal that, despite some similarities between the form of co-regulation pursued by the Coalition for Environmentally Responsible Economies' (Ceres) Investor Network on Climate Risk (INCR) and the Carbon Disclosure Project (CDP), the CDSB and ClimateWise are distinctive in their approach in two respects. First, the CDSB and ClimateWise target the use of cognitive governance within accounting and insurance markets. Second, while the CDP and INCR incorporate several aspects of cognitive governance, more broadly their approach is not as robust as the CDSB and ClimateWise. Before taking a closer look at the CDP and INCR, however, it is necessary to briefly provide a history on previous efforts to engage financial firms through co-regulation.

The first discussions on the relationship between private finance and the environment occurred among NGOs and the policy world as a part of a broader concern about the increasing role of private capital in foreign direct investment (FDI) in developing countries during the early 1990s.⁴³ In response, NGOs began to target investors and fund managers investing in companies in the developing world with poor environmental track records.⁴⁴

In 1992, policymakers within the United Nations Environment Programme (UNEP) addressed emerging concerns about the environmental impact of private capital in developing

⁴³ Andrea Durbin and Carol Welch do identify shareholder activism on environmental issues among groups such as Ceres and other institutional investors as an emerging "private" trend. But the majority of their effort focuses on efforts by NGOs to lobby public financial institutions to implement environmental reform. See Andrea Durbin and Carol Welch, "The Environmental Movement and Global Finance," in *Civil Society and Global Finance*, ed. Jan Aart Scholte and Albrecht Schnabel (London: Routledge, 2002), 213-228.

⁴⁴ Schmidheiny and Zorraquin, *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development*, 16.

countries by partnering with Deutsche Bank, HSBC Holdings, Natwest, Royal Bank of Canada and Westpac. In 1995 a group of concerned insurers took a similar approach and partnered with UNEP to address the environmental implications of insurer decision-making.⁴⁵

In 1996 Stephan Schmidheiny and Federico Zorraquin identified this emerging engagement with environmental issues within the financial sector and attempted to explain the relationship between decision-making in these markets and the environment in their volume *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development*. The book began by asking whether the world's private global financial markets, including stocks, bonds and debt, are a "force for sustainable human progress, or are they an impediment against it?"⁴⁶ Works such as *Financing Change* raised the potential that private financial markets could be leveraged to impose costs on environmental pollution and dramatically improve the sustainability of the global economy.⁴⁷

Academic work on the role of co-regulation in governing the relationship between private financial markets and the environment first emerged through a debate on the potential influence of the insurance sector in climate change politics. In 2001, Matthew Paterson examined efforts by Greenpeace and UNEP-FI during the 1990s to convince the insurance sector to adopt a private regime leveraging their political and market resources in the fight against climate change.⁴⁸ Paterson's analysis focused on the efforts of Jeremy Leggett, head of Greenpeace's international climate change campaign, to encourage insurers to adopt his idea of "solidarity within the risk community."

Although Leggett's plan identified several of the key goals set out by ClimateWise half a decade later, his efforts were ultimately unsuccessful, and thus represent an incomplete attempt to establish environmental co-regulation in the insurance sector. In 2005, Paterson, Sverker Jagers and Johannes Stripple argued that insurers had few incentives to co-regulate because they could govern climate change risks through financial securitization as an "exit option" to engaging in climate change politics.⁴⁹ By "pricing" weather-related risks linked to climate change through securitization, insurers

⁴⁵ UNEP FI, "About UNEP FI: Background", April 21, 2011, <http://www.unepfi.org/about/background/index.html>.

⁴⁶ Schmidheiny and Zorraquin, *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development*, 3.

⁴⁷ Ibid.; See John Ganzi et al., "Leverage for the Environment: A Guide to the Private Financial Services Industry" (World Resources Institute, 1998), http://pdf.wri.org/leverage_for_the_environment.pdf.

⁴⁸ Paterson, "Risky Business: Insurance Companies in Global Warming Politics."

⁴⁹ Jagers, Paterson, and Stripple, "Privatising Governance, Practising Triage: Securitization of Insurance Risks and the Politics of Global Warming"; Jagers and Stripple took a more optimistic position about the potential role of the insurance industry in promoting "climate governance beyond the state" in their 2003 article. They contend that efforts to securitize climate change risks have the potential to strengthen climate governance. See Jagers and Stripple, "Climate Governance Beyond the State"; Paterson and Newell also discuss how insurers,

had alternative strategies available to offset potential losses rather than supporting the use of public regulation, specifically international mitigation regulation. For example, insurers could issue what they call catastrophe bonds or “CAT bonds”. These bonds are contracts between investors and insurers structured so that in the event of a significant climate change related event (ie. a higher than average hurricane season) occurring in a specific area and time period, the investor who bought the bond loses their money to pay for the insured losses. If there is no weather event, the investor is able to collect what is usually a favorable rate of interest.⁵⁰ Their analysis was written before the implementation of ClimateWise. As Chapter 5 will discuss, insurers participating in ClimateWise claim that this securitization does not in fact provide enough benefits to allow them to avoid political engagement in climate change politics.

Outside of the insurance sector, Christopher Wright and Alexis Rwabizambuga have examined the adoption of the Equator Principles. These are a set of principles established in 2003 to limit the environmental impact of banks involved in project financing. They encourage project developers to abide by certain environmental rules in order to access loans from these banks.⁵¹ The Principles ask banks to implement an extra layer of due diligence on project financing where banks evaluate the environmental impacts of their loan on a project-by-project basis.⁵² The Equator Principles were initiated in response to a campaign launched by ENGOs against the environmental impacts of lending practices of banks involved in providing loans to infrastructure projects in developing countries. But because only member banks are charged with implementing the Principles through the “EP Association Steering Committee”, the Equator Principles do not represent an example of co-regulation. Indeed, BankTrack, a network of civil society organizations that monitors the environmental impacts of international banking, has been highly critical about the initiative’s lack of a reflexive mechanism to improve accountability and oversight.⁵³

specifically Swiss Re, was involved in the initial debates about CO2 “benchmarking” within the investment community. These discussions involved some of the policy entrepreneurs who founded CDP, which formerly engaged in an effort to benchmark CO2 emissions throughout financial markets. See Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 63.

⁵⁰ Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 63.

⁵¹ Christopher Wright and Alexis Rwabizambuga, “Institutional Pressures, Corporate Reputation, and Voluntary Codes of Conduct: An Examination of the Equator Principles,” *Business and Society Review* 111, no. 1 (January 1, 2006): 89-117.

⁵² *Ibid.*, 99.

⁵³ BankTrack, “Bold Steps Forward: Towards Equator Principles that Deliver to People and the Planet”, 2010, http://www.banktrack.org/download/bold_steps_forward_towards_equator_principles_that_deliver_to_people_and_the_planet/100114_civil_society_call_equator_principles.pdf.

There are other more robust examples of environmental co-regulation in financial markets that have similar objectives and strategies to the CDSB and ClimateWise. Although overlooked by academic scholarship, the Climate Principles, developed by the Climate Group, a business friendly ENGO, represents an important example of environmental co-regulation in financial markets at the international level. Financial institutions such as Credit Agricole, HSBC, Standard Chartered, Swiss Re, F&C Asset Management, and BNP Paribas have signed up to its Principles. The Climate Principles outline six best practice standards, including 1) the minimization of each member's carbon footprint, 2) business decision-making that reduces climate change risks, 3) developing new products and services that enable customers to manage climate change risks, 4) engagement with customers on strategies for reducing climate change risks, 5) supporting "sound energy and climate policy"; and, 6) disclosure on each member's progress towards the principles.⁵⁴ Similar to other forms of environmental co-regulation to be discussed below, the Climate Principles attempt to use financial knowledge to govern climate change risks, and even leverage this knowledge to engage within external constituencies, including consumers and policymakers.⁵⁵

Other recent importance academic efforts to understand environmental co-regulation in financial markets has been the research of Phillip Pattberg on Ceres, as well as that of Michael MacLeod and Jacob Park on the INCR and the CDP.⁵⁶ These examples of co-regulation attempt to leverage the interests of institutional investors in using their broad investments throughout the economy to encourage the governance of climate change risks. Rather than emphasizing brand reputation or gains achieved through eco-efficiency as an incentive to adopt a voluntary environmental program, these cases of co-regulation in financial markets leverage material interests among both institutional investors and the firms they invest in to reduce investors' exposure to climate change risks.⁵⁷

⁵⁴ The Climate Group, "The Climate Principles: A Framework for the Finance Sector" (The Climate Group, 2008).

⁵⁵ Although an important example of environmental co-regulation in financial markets using co-regulation, this dissertation focuses on the CDSB and ClimateWise. These initiatives are more robust in their institutional design and, more importantly, facilitate much higher levels of participation from financial firms.

⁵⁶ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*; Pattberg, "The Institutionalization of Private Governance: How Business and Nonprofit Organizations Agree on Transnational Rules"; Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks"; MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms"; See also Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*.

⁵⁷ Analysis in chapter 3 will look at scholars who suggest that these initiatives are indeed strategies to generate reputational credibility rather than climate governance. See Harnes, "The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism."

Ceres, the INCR and the CDP all target TNCs' financial reputation among their key suppliers of capital. The goal of these initiatives is to shrink the capital available to firms contributing or exposed to high levels of climate change risk, while redirecting capital to corporations mitigating these risks. Efforts by Ceres, the INCR and the CDP to leverage the expertise and resources of institutional investors to implement standards governing the disclosure of climate change risks represent an important precursor to the strategy developed by the CDSB and ClimateWise. Indeed, both initiatives represent the first successful attempts at environmental co-regulation with private financial actors.

2.2.3 The INCR and CDP

The following analysis explains briefly the form of co-regulation adopted by the INCR and CDP since existing literature has covered these initiatives. Environmental co-regulation between financial firms, specifically institutional investors, and ENGOs first emerged with the formation of Ceres.⁵⁸ In the aftermath of the Exxon Valdez spill in 1989, institutional investors faced significant losses associated with the impact of fines, clean-up costs and lawsuits on the company's financial performance. These losses revealed that institutional investors faced an information asymmetry in determining their exposure to financial risks associated with the environmental performance of the firms in which they invested. In response, a group of investors and pension funds met with ENGOs to discuss strategies for how investors could get more access to information on a firm's environmental performance.⁵⁹ These efforts resulted in the establishment of Ceres and the "Ceres Principles."⁶⁰

The Ceres Principles asked TNCs to provide disclosure on various aspects of their environmental performance. Ceres realized that institutional investors could leverage their market power over the firms they invest in to encourage disclosure of their environmental performance through the principles. If adopted across the financial sector, these standards could create a comparable market signal on a firm's exposure to environmental risks. Institutional investors and other financial actors could then use this information to allocate their assets in ways that avoided

⁵⁸ The Interfaith Centre on Corporate Responsibility (ICCR), which was established in 1971, is considered to be the first example of co-regulation between an NGO and institutional investors. But the ICCR's mandate is not specific to environmental issues. For this reason, Ceres can be considered the first example of environmental co-regulation between financial actors and ENGOs. Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks", 64.

⁵⁹ MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms", 55.

⁶⁰ *Ibid.*, 55.

these risks and by doing so create financial incentives for firms to adopt sustainable practices. Through these efforts to compare corporate environmental performance, Ceres attempted to “reframe” corporate environmental performance as a proxy for good overall corporate management, rather than a simple reputational signal for “ethical” corporate citizenship. According to Pattberg, the use of corporate environmental reporting by Ceres helped resolve the “myth of CSR,” by arguing that a firm’s environmental performance was indeed an important measure of market competitiveness.⁶¹ For this reason, Ceres can be considered the first ENGO to promote a cognitive frame linking corporate environmental performance to more material concerns by spearheading the norm that this performance could generate risks within financial markets.⁶²

Although Ceres’ initial objective was to govern the disclosure of corporate environmental information through its Ceres Principles, it turned its focus in the early 2000s towards the governance of climate change risks. After conducting extensive research on climate change risks within financial markets, Ceres decided to take a more direct approach in facilitating risk disclosure than the implementation of a voluntary disclosure framework. In 2003, Ceres hosted the “Institutional Investors Summit on Climate Change” in cooperation with the United Nations Foundation and the State of Connecticut Treasurer’s Office. The Summit was able to attract fifteen institutional investors worth over a trillion dollars in invested capital.⁶³ This meeting resulted in the formation of the INCR as a network of investors with a mandate to co-ordinate institutional investors in facilitating climate change risk disclosure.⁶⁴ The key outcome from this meeting was the establishment of a Climate Risk Action Plan.

The Action Plan uses voluntary best practice standards to coordinate efforts among institutional investors to improve climate change risk disclosure. The Action Plan requires the following: implementation of a due diligence mechanism for screening climate change risks; improvements in efforts to invest in companies developing clean technology; identification of ways of expanding investments in companies developing clean technology; introduction of measures to

⁶¹ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 176.

⁶² This analysis demonstrates the important distinction between two types of reputational risk. Brand risk is more commonly linked with ethical concerns among consumers about a firm’s environmental performance, whereas reputational risk within financial markets is explicitly linked to the impact of a firm’s environmental performance on its financial value. For example, a large oil & gas firm is likely concerned about its brand image as consumers become more aware of their industry’s contribution to GHG emissions, whereas investors are more concerned about the financial reputation of the firm’s they invest in, and the potential impact of regulatory and physical risks that emerge as climate change impacts increase on this reputation.

⁶³ MacLeod, “Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms”, 56.

⁶⁴ *Ibid.*, 56.

improve the energy performance of real estate and investment portfolios; encouragement to firms that they invest in to develop comprehensive responses to climate change; and, support for public policy action encouraging the mandatory disclosure of climate change risks and the implementation of GHG emission regulations.⁶⁵

In a recent article, Michael MacLeod and Jacob Park provide evidence that the INCR does support aspects of what I am labeling the “cognitive governance” approach adopted by the CDSB and ClimateWise, which is discussed in more detail later (section 2.3.3).⁶⁶ Specifically, it promotes technical and political consensus building among various constituencies within financial markets. The INCR is most focused on political consensus building. The preamble to the Action Plan clearly reflects this objective by arguing that political leaders must implement “legislation that would provide regulatory certainty, provide incentives for climate solutions, and minimize the risks that climate change poses to business, investors and the economy.”⁶⁷

The INCR targets two important constituencies in generating support for the disclosure of climate change risks. First, it targets corporations by using shareholder resolutions and awareness campaigns to ask corporate boards about their actions on governing climate change risks. The INCR is also designed to leverage investors to convince the firms that they invest in that US federal regulations on GHG emissions are necessary if climate change risks are to be effectively governed.⁶⁸ Second, the INCR also targets the use of public authority in strengthening official regulations over the disclosure of climate change risks. After six years of filing petitions with the Securities and Exchange Commission (SEC) to force the disclosure of climate change risks, these latter efforts were rewarded

⁶⁵ INCR, “Investor Network on Climate Risk Action Plan: Capitalizing the New Energy Future: Minimizing Climate Risks, Seizing Opportunities” (Ceres, 2005), <http://www.un.org/partnerships/Docs/Investor%20Network%20on%20Climate%20Risk%20Action%20Plan.pdf>.

⁶⁶ Technical consensus building involves generating evidence that measuring and pricing climate change risks improves market efficiency and identifying effective strategies and regulations to govern these risks. In the case of the INCR and CDP, this consensus is necessary to justify disclosure as a strategy that delivers improvements in market decision-making for both investors and publicly listed firms. This consensus is an important precursor to successful political consensus building. By leveraging a “business case” that the effective governance of climate change risks through disclosure improves market efficiency, these initiatives attempt to build constituencies throughout financial markets that support disclosure. Political consensus building is designed to leverage supporters of disclosure to overcome potential opposition among firms or investors that fail to see the market benefits. Chapter 2 (section 2.3.3) elaborates more specifically on the details of cognitive governance.

⁶⁷ INCR, “Investor Network on Climate Risk Action Plan: Capitalizing the New Energy Future: Minimizing Climate Risks, Seizing Opportunities.”

⁶⁸ Ceres and the INCR sponsored a majority of the 101 climate-related shareholder resolutions filed in 2010. See Macleod and Park, “Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks”, 66.

in 2010 when the SEC announced it would include “guidance” that firms can use to measure and disclose their climate change risks.⁶⁹ Although this guidance is not a mandatory requirement for disclosure, it is a significant accomplishment for the INCR, in addition to its success in encouraging shareholder resolutions on climate change risk information. The INCR thus shares a similar form of co-regulation to the CDSB and ClimateWise by attempting to use financial knowledge to convince external constituencies to support expanding public regulation in governing climate change risks.

In terms of technical consensus building, the INCR encourages its members to pressure the firms they invest in to disclose exposure to climate change risks through Ceres’ Global Framework for Climate Change Risk Disclosure.⁷⁰ The INCR also asks that members use information obtained through disclosure to encourage and improve risk scrutiny among investors, stock market analysts, and rating agencies.⁷¹ By encouraging these actors to expand climate risk analysis among other financial actors so that it becomes a part of “their routine financial analysis and company and portfolio valuation”, INCR supports technical consensus building.⁷² Although not as organized as the CDP’s survey (see below), these efforts are designed to promote a technical consensus that climate change risk analysis can improve investor decision-making. Unlike the CDP, CDSB or ClimateWise, however, the INCR does not govern technical and political consensus building with a reflexive mechanism that regularly evaluates the compliance of its members towards its Action Plan.

The CDP also implements a similar form of co-regulation to the CDSB and ClimateWise, but it is more focused on technical consensus building than the INCR. To help institutional investors generate a consensus on strategies for governing climate change risks, Paul Dickinson and Tessa Tennant approached these investors in 2001 and formed the CDP Secretariat to coordinate a strategy.⁷³ This Secretariat is the core organization behind the CDP as it facilitates the logistics and organization needed to implement the disclosure survey and the reflexive mechanism used to improve the survey. Throughout this thesis, the Secretariat will be referred to as the CDP, which acts as the central platform for coordinating institutional investors in governing climate change risk disclosure. Similar to Ceres and the INCR, the CDP is an example of co-regulation with institutional investors

⁶⁹ Ibid., 67.

⁷⁰ Ceres, “Global Framework for Climate Risk Disclosure: A Statement of Investor Expectations for Comprehensive Corporate Disclosure” (Ceres, 2006), <http://www.ceres.org/Document.Doc?id=73>.

⁷¹ INCR, “Investor Network on Climate Risk Action Plan: Capitalizing the New Energy Future: Minimizing Climate Risks, Seizing Opportunities.”

⁷² Ibid.

⁷³ MacLeod, “Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms”, 52.

designed to leverage their market power in facilitating climate change risk disclosure. The CDP, however, has a much larger membership compared to its counterparts. Currently, 534 institutional investors representing over \$64 trillion in assets have signed up to support the CDP.⁷⁴

The CDP is designed to encourage the disclosure of climate change risks among the world's largest publicly traded firms through an annual disclosure survey sent to each firm's corporate board.⁷⁵ Each survey asks these firms to disclose four categories of information, including their governance strategy for climate change risks, physical risks, regulatory risks, and a measure of the amount of their current emissions.⁷⁶ To encourage its members to include more information on their disclosure, the CDP ranks each emitter based on their level of transparency on the CDP Leadership Index, which is made public along with the survey each year.⁷⁷

Ranking the disclosure of its members represents a limited form of political consensus building by trying to reduce opposition to disclosure.⁷⁸ The CDP also encourages political consensus building by promoting its survey as a tool for institutional investors who have joined the initiative to target firms with a poor record of disclosure with shareholder resolutions. The CDP attempts to leverage its vast network of institutional investors to convince other investors and financial actors that climate change uncertainty represents a financial risk that must be governed. Based on MacLeod and Park's judgment, the CDP has been quite effective in this strategy because it now represents over 75 percent of the worldwide assets managed by the investment industry.⁷⁹

Unlike the INCR, the CDP attempts to improve its survey and accountability to its objectives through a reflexive mechanism governed by the Secretariat. The CDP's goal is to generate a technical consensus that institutional investors can use to promote disclosure by standardizing a strategy on the way climate change risks can be measured and evaluated to improve market decision-making.⁸⁰ To facilitate this consensus, the CDP Secretariat reviews each annual survey results, identifies weaknesses in the disclosure of climate change risk data, and attempts to address these weaknesses in

⁷⁴ CDP, "Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights" (CDP, September 21, 2010), <https://www.cdproject.net/CDPResults/2010-G500-SP500-report-highlights.pdf>.

⁷⁵ *Ibid.*, 1.

⁷⁶ CDP, "CDP: Assessing Risks and Opportunities" (CDP, 2010), <https://www.cdproject.net/en-US/Respond/Documents/2010%20webinars/Risks%20and%20Opportunities.pdf>.

⁷⁷ CDP, "Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights", 4.

⁷⁸ *Ibid.*

⁷⁹ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks", 67.

⁸⁰ Ans Kolk, David Levy, and Jonathan Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure," *European Accounting Review* 17, no. 4 (2008): 719-745, 727.

the next survey. The goal of this process is to facilitate the “commensuration” of different accounting methodologies for climate change risks so that institutional investors are able to assess their exposure based on a comparable approach used throughout the economy.⁸¹

Some have criticized the CDP and INCR for their voluntary approach, seeing them as a form of “greenwash”. For example, Adam Harmes suggests that the form of co-regulation these initiatives support is “entirely consistent with the analysis that mainstream investors will promote climate change mitigation for primarily reputational reasons in a low-cost or “soft” manner.”⁸² In the case of the INCR, however, this criticism overlooks the fact that this co-regulatory initiative explicitly recognizes that a voluntary approach is not sufficient, and government regulation is necessary to effectively measure climate change risks. Its voluntary approach simply reflects a recognition of the strategic challenges in the short-to-medium term involved in cultivating constituencies within financial markets to measure climate change risks. The CDP does not explicitly embrace the long-term goal of strengthening government regulation in the same way.⁸³ But its use of a reflexive mechanism to improve the capacity of its survey demonstrates recognition on the part of its participants that effective climate change risk disclosure is a long-term project.

This brief description of the CDP and INCR reveals that these initiatives support some aspects of the kind of “cognitive governance” strategy which is explained in the following section. The INCR is engaged in some forms of technical consensus building but it is primarily focused on political consensus building that includes organizing shareholder resolutions and lobbying for the expansion of public regulations in governing the disclosure of climate change risks. Its initiatives, however, are not governed by a reflexive mechanism. The CDP is more focused on technical consensus building by using its survey to support the “commensuration” of climate change risk measurement, but it also supports political consensus building by attempting to target corporate emitters with poor levels of disclosure. The CDP also includes a reflexive mechanism that is designed to improve its survey. Both initiatives in various capacities attempt to shift markets’ expectations

⁸¹ Ibid., 727.

⁸² Harmes, “The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism”, 116.

⁸³ The CDP does support climate change regulations, such as international regulations on emissions, in the same way as ClimateWise. But unlike ClimateWise, its voluntary standards do not ask participants to collectively engage in public policy advocacy. The CDSB’s standards are similar to the CDP, which also develops voluntary risk disclosure standards, but it has also implemented an engagement program that asks members to lobby regulators for support in implementing a mandatory standard. This is one reason that the CDSB and ClimateWise are more robust in their approach to cognitive governance.

about the economic value of a firm’s environmental performance by supporting investor knowledge that exposure to climate change uncertainty represents a financial risk.

2.2.4 The Distinctiveness of the CDSB and ClimateWise

The CDSB and ClimateWise are distinctive from the INCR and CDP in two respects (see also Table 2.1 for a comparison). First, each initiative adopts more robustly both of the two characteristics of co-regulation using cognitive governance outlined below in section 2.3.3. These are: 1) the use of voluntary best-practice standards to generate technical and political consensus that a firm’s environmental performance has an economic value that, if measured and priced through public regulation, can improve the efficiency of market decision-making; and, 2) a reflexive mechanism to govern compliance among participants to these standards. Both initiatives adopt a similar approach to the INCR in trying to leverage technical and political consensus building to support an expansion of national and international public regulation, but the CDSB and ClimateWise engage in a more thorough effort at using cognitive governance to facilitate this change. For this reason, they represent compelling cases to build on existing analysis of voluntary co-regulatory standards within financial markets that use cognitive governance and target a long-term goal of expanding public regulation.

To reinforce this latter point, it is useful to briefly examine how each initiative communicates this long-term objective. The objective is expressed clearly in the CDSB’s 2009 document outlining the Basis for Conclusions for supporting mandatory or “mainstream” climate change risk reporting: “Whilst acknowledging the important role these developments [standards supporting voluntary disclosure] have made in advancing disclosure practices”, the CDSB supports “progressing climate change related reporting from a solely voluntary activity into “mainstream financial reporting.”⁸⁴ ClimateWise targets different public authorities, specifically national governments, insurance market regulators, and policymakers involved in the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). The initiative also shares with the CDSB the goal of supporting governments to take the lead in developing policy that incentivizes market actors – in this case, insurers - to use their resources in the governance of climate change risks. ClimateWise’s Principle Two, for example, asks insurers to help policy makers both nationally and internationally “develop and maintain an economy that is resilient to climate risk”, establish “national and global

⁸⁴ CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework” (CDSB, 2009), 3.

emissions reduction targets,” and implement regulation that will “enhance the resilience and reduce the environmental impact of infrastructure and communities”.⁸⁵

The second, and perhaps the more important, distinctive feature of the co-regulation employed by the CDSB and ClimateWise is that they leverage accounting and insurance knowledge in their cognitive governance strategy, whereas the INCR and CDP rely solely on the knowledge and market power of investors. As the next section will demonstrate, accountants and insurers govern powerful “knowledge structures” with important implications for the relationship between the global economy and the environment. This form of financial knowledge plays an important role in defining market expectations for the economic value of corporate environmental performance and efforts to protect the environment. The leveraging of this knowledge represents an important difference from environmental co-regulation involving institutional investors.

Table 2.1 Comparing co-regulation in financial markets

	Core Participants	Technical Consensus Building	Political Consensus Building	Reflexive Mechanism
CDP	Institutional investors, CDP Secretariat, publicly-listed corporations	Annual CDP disclosure survey designed to generate a comparable market signal on climate change risks to improve investor decision-making.	Evaluates level of disclosure among participants using CDP Leadership Index. Institutional investors can use this information to target firms that fail to provide adequate disclosure with shareholder resolutions.	Annual analysis on disclosure results by the CDP Secretariat. Commission’s internal and external research to improve depth and consistency of disclosure.
INCR	Institutional investors, Ceres	Encourages disclosure through Ceres Global Framework, and asks members to motivate other financial actors to incorporate evaluations on climate change risks.	Coordinates shareholder resolutions and public policy advocacy supporting implementation of mandatory climate change risk disclosure.	No formal reflexive mechanism.
CDSB	ENGOs, institutional investors, corporate	Climate Change Reporting Framework (CCRF) is used to improve	Supports embedding its CCRF into mandatory international accounting standards. Engages in	“Cycles” CCRF through standard setting process involving public feedback facilitated by a

⁸⁵ ClimateWise, “The ClimateWise Principles.”

	emitters, accounting industry	capacity of climate change risk information to be “decision-useful” for investors.	outreach to potential opposition to mandatory disclosure among investors, regulators, corporate emitters.	comment period. Weaknesses in complying with disclosure requirements are identified. CDSB Secretariat directs members to resolve these weaknesses.
ClimateWise	CPSL, insurance industry	Principles 1 and 4 are designed to generate knowledge on the regulations and practices necessary to internalize climate change risk in insurance premiums and investments.	Principles 2, 3 and 5 are designed to support coordinated public policy advocacy, outreach among customers and other stakeholders, and reduction of GHG footprint among members to legitimize political consensus building.	Annual third-party audit of compliance to each principle including an annual report tracking progress and recommending strategies for improved compliance.

2.3 Ideas and Global Governance: Cognitive Governance in the Accounting and Insurance Sectors

Within global governance literature, debates about the influence of “ideas” at the global level first emerged as a critique of “rationalist” arguments that international actors only respond to material interests. For scholars who support the latter perspective, most explanations for the behavior of international actors can derive from “some function of rational responses to objective and largely knowable and transparent environments.”⁸⁶ In IPE, this environment is shaped by market incentives where rational responses are largely determined based on short-term cost-benefit calculations. From this “rationalist” perspective co-regulation emerges in response to, for example, short-term concerns among TNCs about corporate reputation, rather than long-term concerns about market uncertainty related to climate change. Constructivists have challenged this conclusion by demonstrating that actors interpret and respond to economic structures in different ways. To explain this variation,

⁸⁶ Abdelal, Blyth, and Parsons, “Introduction: Constructing the International Economy”, 3; See Robert Keohane and Helen Milner, *Internationalization and Domestic Politics* (Cambridge, UK: Cambridge University Press, 1996).

constructivists cite the influence of various ideational conditions such as identity, ethnicity, professional background and knowledge that inform an actor's behavior.⁸⁷

Constructivist insights are particularly important in understanding the strategy employed by the CDSB and ClimateWise. For constructivists, "actions taken by human beings depend on the substantive quality of available ideas, since such ideas help to clarify principles and conceptions of causal relationships, and to coordinate individual behavior."⁸⁸ These ideational conditions often play a significant role in defining what is "rational" behavior for market actors when material interests are unclear or exposed to uncertainty. From this perspective, TNCs could support co-regulation based on their own interpretation of whether climate change economic uncertainty is a short-term priority for their market strategy. The following analysis will take a closer look at a specific "strand" of social constructivism that explains how the cognitive qualities of knowledge can influence the rational response of market actors to conditions of market uncertainty in ways that support linking a firm's environmental performance to measures of economic value.

2.3.1 The Power of Financial Knowledge in the Global Economy

The political authority associated with different forms of knowledge represents a key plank within the constructivist school of IPE. Constructivism is varied in its approach to conceptualizing the authority of different forms of knowledge. Rawi Abdelal, Mark Blyth and Craig Parson divide constructivist literature in political economy into four different strands. The first describes how economic actors inform their behavioral decisions based on how they associate meaning to different ideational constructs, such as their profession or national identity.⁸⁹ The second focuses on how economic actors' decisions can be "pre-constituted" by the actors' "subjective" identity within an environment where certain actions are made possible and impossible by their position and role within this environment.⁹⁰

More important for explaining the political influence of accounting and insurance knowledge are the two other strands that focus on "cognition" and "uncertainty". "Cognitive constructivism" describes how economic actors respond to "cognitive schemas" or psychological expectations that are

⁸⁷ Andonova, Betsill, and Bulkeley, "Transnational Climate Governance", 63.

⁸⁸ Judith Goldstein and Robert O. Keohane, *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change*, Reprint. (Ithaca, NY: Cornell University Press, 1993), 3.

⁸⁹ Abdelal, Blyth, and Parsons, "Introduction: Constructing the International Economy", 9.

⁹⁰ *Ibid.*, 13.

“connected to social identities, as opposed to merely individual psychological biases and predispositions.”⁹¹ These “shared mental models” can generate a “script for behavior based on a logic about how the world works, socially constructed framings of decision points, and taken-for-granted understandings of economic phenomenon.”⁹²

Constructivist literature on “uncertainty” focuses on how, despite common definitions of meaning or similar cognitive expectations, actors still respond in ways that are not contingent on past experiences or existing knowledge. For example, cognitive constructivists tend to view uncertainty as a “complex” problem that can be resolved using existing knowledge that identifies a “rational” course of action to reduce this uncertainty. Uncertainty constructivists see the world as genuinely uncertain where previous expertise or identity cannot be used to predict how an actor is likely to respond.⁹³

Because accounting and insurance knowledge derives its authority as a “lens” that filters market uncertainty towards certain “rational” actions, the influence of this knowledge should most accurately be viewed as an example of the cognitive strand of constructivism. As mentioned above, the key distinction between “cognitive” and “uncertainty” constructivism is that the latter does not constrain its explanation of economic behavior to existing knowledge or expectations. In this respect, the influence of cognition in the accounting and insurance industry is closer to a “thin” type of constructivism where certain common ideas act as focal points in shaping an actor’s behavior, as opposed to “thicker” types of constructivism, such as uncertainty or subjectivity constructivism which are concerned more with intersubjective processes of identify formation.⁹⁴

In the context of accounting and insurance, a “common knowledge base” shaped by shared education and professional experiences defines expectations for how to respond to new economic information or uncertainty in ways conducive to common pathways that are considered implicitly more “rational” than others.⁹⁵ For example, rather than waiting for issues creating economic uncertainty to emerge as a risk or a source of market value, accountants are likely to take a “precautionary” approach and test out metrics for measuring new forms of economic uncertainty to determine its impact on a business, whereas insurers are likely to develop models for testing whether this uncertainty represents a risk that can be priced. The key obstacle for each actor is using their

⁹¹ Ibid., 10; See also Ian H. Rowlands, *The Politics of Global Atmospheric Change*, Issues in Environmental Politics (Manchester: Manchester University Press, 1995), 25.

⁹² Abdelal, Blyth, and Parsons, “Introduction: Constructing the International Economy”, 91.

⁹³ Ibid., 12.

⁹⁴ For a discussion of how ideas can act as focal points, see Goldstein and Keohane, *Ideas and Foreign Policy*.

⁹⁵ Peter M. Haas, “Introduction: Epistemic Communities and International Policy Coordination,” *International Organization* 46, no. 1 (Winter 1992): 1-35, 18.

knowledge base to govern the complexity associated with developing practices that can measure and assign probabilities to certain events that any market actor can easily implement.⁹⁶

While institutional investors are loosely organized and come from a variety of different business backgrounds, accountants and insurers have their own professional schools and requirements. Before financial accountants can sell their services, they must be a registered as a Chartered Accountant, which requires a professional accounting degree, and a series of professional tests developed by the sector that must be passed to acquire certification. Insurers, specifically the actuaries who model and price risk which drives the industries' business model, must be professionally certified, and similarly must pass several industry tests before taking on a job in risk modeling. Institutional investors are governed much more loosely and usually only require a government administered course providing a certificate that allows them to sell securities.⁹⁷

While a common background may be conducive to similar interpretations of economic uncertainty among accountants and insurers, they can also shape the interpretation of complex economic information among external economic actors who use this knowledge to inform their own expectations for “rational” market decision-making in conditions of uncertainty. Although scholars have yet to link “cognitive expectations” within the accounting and insurance professions to the way market actors perceive economic information, there is research that points to this potential connection. Tony Porter, for example, has built on Peter Haas' notion of an “epistemic community” to describe how the financial industry produces knowledge that “involves a normative dimension in which compliance with rules is elicited as a result of a belief in the inherent superiority of a technical or scientific way of doing things.”⁹⁸ Timothy Sinclair has been the most explicit in his arguments about the power of technical knowledge in financial markets, specifically efforts by credit rating agencies to create “embedded knowledge networks” whereby their expertise is “generally considered legitimate rather than imposed on entities by market participants.”⁹⁹ Sinclair discusses how the

⁹⁶ Lovell and MacKenzie, “Accounting for Carbon: The Role of Accounting Professional Organisations in Governing Climate Change”, 717.

⁹⁷ See Association of Chartered Accountants in the United States, “The CA Qualification,” *Association of Chartered Accountants in the United States*, April 11, 2011, http://www.acaus.org/content.aspx?page_id=22&club_id=825456&module_id=31760; Chartered Accountants of Canada, “How to Become a CA,” *Chartered Accountants of Canada*, April 12, 2011, <http://www.cica.ca/become-a-ca/how-to-become-a-ca/index.aspx>; Canadian Institute of Actuaries, “About Actuaries,” *Canadian Institute of Actuaries*, April 11, 2011, http://www.actuaries.ca/actuaries/career_e.cfm.

⁹⁸ Tony Porter, “Private authority, Technical Authority, and the Globalization of Accounting Standards,” *Business and Politics* 7, no. 3 (2005): 1–32, 4.

⁹⁹ Sinclair, *The New Masters of Capital: American Bond Rating Agencies and the Politics of Creditworthiness*, 17.

“knowledge output” from credit raters is usually some form of “recommendation, ranking or rating, which claims to condense these forms of knowledge” into a “benchmark around which market players subsequently organize their affairs.”¹⁰⁰

Accountants and insurers govern similar forms of knowledge by developing standards on how market players should communicate financial information (accountants) and respond to risk (insurance). Similar to credit rating, these rules are seamlessly embedded into cognitive expectations used by investors, businesses, shareholders and consumers in interpreting economic information because accounting and insurance services are necessary to access private capital. Because accounting and insurance services are often required by law before any commercial activity takes place, these sectors project informal governance that “can shape the environment of other private sector actors in ways that regulate their behavior, and amount to informal governance.”¹⁰¹

The financial sector’s legitimacy in dispensing important technical expertise about the proper functioning of markets and desired behavior of market actors demonstrates how financial actors can act as an intermediary between the cognitive functions of economic knowledge and the governance of financial markets. More specifically, accountants and insurers possess knowledge that reduces market uncertainty or complex economic information into a set of probabilities or risks that market actors can then use to better inform their decision-making. For this reason, the way the accounting and insurance profession define how a market should attribute value to economic activity has tremendous influence. Indeed, Susan Strange argues that such authority over the knowledge necessary to govern financial markets represents what she calls a “knowledge structure.” The knowledge structure represents a set of ideational resources that determines “what knowledge is discovered, how it is stored, and who communicates it by what means, and on what terms.”¹⁰²

Both the accounting and insurance industries govern powerful knowledge structures that influence the way financial information is communicated to market actors, and how these actors perceive the risks associated with market decision-making. Debates in IPE on the influence of the accounting and insurance industry were initiated by Susan Strange who devoted a chapter to both accountants and insurers in her 1996 book, *The Retreat of the State*. She demonstrated how these industries enjoy “structural power” and have become powerful private authorities in dictating outcomes in the global economy. Her arguments inspired an impressive body of research on the

¹⁰⁰ Sinclair, “An Institutional Approach to the Politics of Global Finance,” 110.

¹⁰¹ *Ibid.*, 3.

¹⁰² Sinclair, “An Institutional Approach to the Politics of Global Finance”, 110.

accounting industry's growing influence in international financial politics.¹⁰³ Virginia Haufler has devoted similar efforts to analyzing how the insurance industry governs a powerful “international risk regime.”¹⁰⁴

The capacity to govern a knowledge structure is often linked to important political influence at the international level. As Ian Rowlands argues, international actors “who are perceived to have a monopoly of knowledge” are often “given greater access to decision-makers.”¹⁰⁵ Indeed, the accounting and insurance industry's influence over powerful regulatory institutions has received considerable attention in these IPE debates. While institutional investors are primarily “rule-takers”, accountants and insurers are “rule-makers” who belong to financial professions that have been delegated authority at both the international and national level in developing rules for their own industry.¹⁰⁶

Chapter 1 (section 1.2.1 and 1.2.2) outlined the important influence of these industries in shaping the way their markets are regulated. In the accounting industry, the International Accounting Standard Board (IASB) designs and implements international accounting standards as a part of its mandate to harmonize national accounting standards. The accounting profession has important influence in this institution based on its expertise on communicating financial information and its formal role in designing the standards.¹⁰⁷ In the insurance industry, the International Association of Insurance Supervisors (IAIS) has a similar mandate to the IASB in facilitating the harmonization of national insurance regulations. Insurers, like accountants, play a significant role in the design of these regulations based on their expertise in pricing risks.¹⁰⁸

By influencing these regulations based on their cognitive expectations for an efficient or rational market behavior, the accountancy and insurance professions enjoy asymmetrical influence over the private sector and global economy because they function as gatekeepers to accessing capital

¹⁰³ Peter Miller and Anthony Hopwood, “Accounting as a Social and Institutional Practice: An Introduction,” in *Accounting as a Social and Institutional Practice* (Cambridge, UK: Cambridge University Press, 1994), 1-40.

¹⁰⁴ Porter, “Private authority, Technical Authority, and the Globalization of Accounting Standards”; Leonardo, “Strategic Experts and Improvising Regulators”; Perry and Nolke, “The Political Economy of International Accounting Standards”; Nolke and Perry, “The Power of Transnational Private Governance: Financialization and the IASB”; Nolke, “The Politics of Accounting Regulation: Responses to the Subprime Crisis.”

¹⁰⁵ Haufler, *Dangerous Commerce: Insurance and the Management of International Risk*, 16.

¹⁰⁶ Rowlands, *The Politics of Global Atmospheric Change*, 25.

¹⁰⁷ At both the international and national levels, insurers and accountants have been delegated decision-making authority over the regulation of their markets. See IAIS, “About the IAIS,” *International Association of Insurance Supervisors*, 2010, <http://www.iaisweb.org/index.cfm?pageID=28>; IASB, “About the IASB,” *International Accounting Standards Board*, 2010,

<http://www.iasb.org/About+Us/About+the+IASB/IFRSs+around+the+world.htm>.

¹⁰⁸ IAIS, “About the IAIS.”

and reputational intermediaries. Although governments have delegated authority to institutions that protect the transmission of accounting and insurance knowledge into regulations from political interference, IPE scholars increasingly recognize that this governance process masks important political trade-offs with significant consequences for the global economy. As Sinclair puts it more generally, “any social behavior which has potentially enormous consequences for hundreds of millions of people can hardly be considered apolitical.”¹⁰⁹

IPE scholars have thus recognized important links between financial knowledge and market behavior in conditions of uncertainty. Financial industries embed knowledge into their services and even regulations, which influence market expectations for “rational” behavior in response to such uncertainty. Despite this important recognition, IPE scholars have yet to analyze the potential role that cognitive qualities within the accounting and insurance “knowledge structure” can have in governing the relationship between financial markets and the environment. In addition, these scholars tend to describe the political use of financial knowledge as strategy to subvert, rather than expand, public regulation.¹¹⁰

2.3.2 Accounting and Insurance Knowledge and Global Environmental Governance

This section examines how the cognitive expectations that accountants and insurers use to interpret economic information can be drawn upon to reform the financial “knowledge structure” that currently disregards the economic value of corporate environmental performance from consideration in financial decision-making. More specifically, it describes how these cognitive expectations interpret economic uncertainty around the market value of a firm’s corporate environmental performance as an opportunity to develop new financial practices and knowledge. Accountants and insurers can use their expertise to reduce this uncertainty around the economic impacts of climate change into a “risk” that can be measured, priced, and ultimately internalized in financial decision-making throughout the economy.

As is widely recognized in debates over the governance of climate change, the most significant obstacle to implementing effective regulation is the uncertainty that exists concerning the

¹⁰⁹ Sinclair, “An Institutional Approach to the Politics of Global Finance,” 122.

¹¹⁰ See Eleni Tsingou, “Transnational Governance Networks in the Regulation of Finance - The Making of Global Regulation and Supervision Standards in the Banking Industry,” in *Theoretical Perspectives on Business and Global Governance: Bridging Theoretical Divides*, ed. Morten Ougaard and Anna Leander (London: Routledge, 2010).

future impacts of climate change, and who should be held liable for the cost of such impacts. In this context, accounting and insurance cognitive expectations are potentially significant sources of technical authority in strengthening the governance of climate change. Before describing how these expectations can be used to support global climate governance, it is first necessary to describe at a more general level how accounting and insurance knowledge governs the relationship between the economy and the environment.

Within the accounting profession, there is a growing recognition that “financial accounting, and in particular, the reported profit figures in financial statements, lie at the very heart of the environmental crisis.”¹¹¹ Financial accounting is designed to identify and eliminate information asymmetries that exist between investors and their investments by developing calculative practices that organize, evaluate and communicate financial information to generate a cohesive signal on whether a certain economic activity is a source of value or a potential risk or cost. According to scholars of accounting, the elimination of information asymmetries relating to a firm’s environmental performance has the potential to improve decision-making among investors in ways that support a more environmentally sustainable allocation of their resources.¹¹²

Before accountants are willing to measure a firm’s environmental performance, however, they must determine whether information about this performance fits within their cognitive expectations for information that is “decision-useful” for capital providers in improving their decision-making.¹¹³ The boundary between information that *is* and *is not* decision-useful is a source of technical debate for accountants. These debates create uncertainty for accountants in fulfilling their responsibilities as auditors and communicators of financial information. This uncertainty provides an incentive for “practitioners and researchers to develop new accounting approaches to cope with the reporting gap.”¹¹⁴

These debates are particularly active over whether or not a firm’s environmental performance constitutes a risk that is decision-useful information and should be measured and disclosed. Because

¹¹¹ Rob Gray and Jan Bebbington, *Accounting for the Environment*, 2nd ed. (London: Sage Publications, 2002), 221.

¹¹² See Mary, E Barth and Maureen McNichols, “Estimation and Market Valuation of Environmental Liabilities Relating to Superfund Sites,” *Journal of Accounting Research* 32 (1994): 177-209; Denis Cormier and Michael Magnan, “Investors’ Assessment of Implicit Environmental Liabilities: An Empirical Investigation,” *Journal of Accounting and Public Policy* 16, no. 2 (1997): 205-244.

¹¹³ Richardson, *Environmental Regulation Through Financial Organisations*, 330.

¹¹⁴ Alexandra Hessling, “Cognitive Shifts in Regulation: The Role of Ignorance in the Regulatory Fields of Accounting,” in *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, ed. Torsten Strulik and Helmut Willke (Chicago: University of Chicago Press, 2007), 178-208, 197.

environmental risks are usually defined as the “exposure to *potential* environmental losses” which depend on the confirmation of a *future* outflow of resources from a firm, accountants are generally hesitant to disclose such information given that there is no *present* measurable outflow of resources.¹¹⁵ Despite this hesitation, investors who prefer to err on the side of transparency continually push accountants “to put a price on the environmental risks faced by companies.”¹¹⁶

To resolve these debates and determine whether a firm’s environmental performance (ie. exposure to environmental risk) is considered decision-useful, accountants will experiment in how to measure these risks in ways that progressively improve its decision-useful qualities. More specifically, accountants test measurement and valuation techniques to understand whether a firm’s environmental performance is decision-useful for investors. By working to identify weaknesses in these practices, accounting knowledge renders uncertainty about the impacts of a firm’s environmental performance “visible in financial terms” by demonstrating how financial flows “come to be transformed” by these impacts.¹¹⁷ Miller and O’Leary make a similar conclusion arguing that while accountancy is meant in practice to “reflect economic reality”, it can also end up shaping this reality.¹¹⁸

The insurance industry also governs a powerful “knowledge structure” with significant implications for environmental governance. As a market mechanism for spreading and pricing economic risk, insurance “provides a framework for communicating to economic actors the nature and cost of environmental risks, and offers incentives for firms to behave more carefully.”¹¹⁹ These incentives manifest in premium and deductible adjustments, which can raise or lower the cost of economic activity depending on an insurer’s assessment of a firm’s exposure to risk. The environmental performance of a firm can thus be governed through the availability of insurance and the cost of the premiums to adequately cover such risks. As Benjamin Richardson argues, “the insurance market *prima facie* provides reflexive-style incentives for improved [environmental] corporate conduct.”¹²⁰

¹¹⁵ Rogers 2005, 293.

¹¹⁶ Schmidheiny and Zorraquin, *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development*, 131.

¹¹⁷ Miller and Hopwood, “Accounting as a Social and Institutional Practice: An Introduction,” 5.

¹¹⁸ Lovell and MacKenzie, “Accounting for Carbon: The Role of Accounting Professional Organisations in Governing Climate Change,” 709; Miller and Hopwood, “Accounting as a Social and Institutional Practice: An Introduction.”

¹¹⁹ Richardson, *Environmental Regulation Through Financial Organisations*, 325.

¹²⁰ *Ibid.*, 330.

Increasingly, insurers have been looking to strengthen their ability to predict risks associated with corporate environmental performance, specifically exposure to weather-related property and casualty losses, which many insurers believe are increasing in response to a warming climate. But before insurers can begin to price a risk, they must use their cognitive expectations to evaluate whether this risk is in fact insurable. These expectations are informed by “actuarialism”, or the capacity to accurately predict and price future risks based on a statistical model that determines the frequency and magnitude of these risks using the historical record of these risks manifesting into losses.¹²¹

Essentially, insurers are willing to price a future risk if: 1) they can predict the probability of the risk materializing into a loss, 2) it can be priced at a level that customers are willing to pay, and 3) it can compensate insurers for any claims made without suffering a net loss.¹²² Often environmental risks do not perfectly satisfy the actuarial process (e.g. some weather events happen more frequently with more severity in certain geographic locations).¹²³ Insurers, like accountants, are compelled to take up the challenge created by risks that remain outside their calculative practices.

For example, insurers were initially only able to price fire risks, but as technology and actuarial science has improved, insurers can now model and provide coverage for a plurality of weather related risks, including wind, thunderstorms, hurricanes, wildfires, and flooding. By working to expand their modeling capacity, insurers can reduce the uncertainty around potential losses in ways that bring these uninsurable risks “back in line” with their models. Guy Carpenter confirms this process in reference to catastrophe or CAT models that predict losses associated with significant natural hazards: “catastrophe models create information where none would exist otherwise to enable analysis and effective risk management decision-making.”¹²⁴

Examining the influence of accounting and insurance knowledge in governing the relationship between the global economy and the environment reveals that these industries have tremendous potential to use this knowledge to regulate the impacts of the global economy on the environment. This influence derives from two intrinsic qualities of the accounting and insurance

¹²¹ Richard V. Ericson, Aaron Doyle, and Dean Barry, *Insurance as Governance* (Toronto: University of Toronto Press, 2003), 8.

¹²² Richardson, *Environmental Regulation Through Financial Organisations*, 329.

¹²³ Evan Mills, Eugene Lecomte, and Andrew Peara, “U.S. Insurance Perspectives on Global Climate Change” (Lawrence Berkeley National Laboratory, U.S. Department of Energy, University of California, 2001), http://evanmills.lbl.gov/pubs/pdf/climate_report.pdf, 85.

¹²⁴ Guy Carpenter, “World Catastrophe Reinsurance Market 2009” (Marsh, Mercer Kroll, Guy Carpenter, 2009), 8.

“knowledge structure”. First, both industries are influenced by cognitive expectations that invoke the “precautionary principle” when faced with conditions of economic uncertainty.¹²⁵ Because the economy currently excludes a firm’s environmental performance as a source of economic information, there is a great deal of uncertainty and even controversy over whether and how to measure this information. Despite this uncertainty, accountants and insurers are encouraged by their professions’ cognitive expectations to identify strategies and practices that can reduce this uncertainty into a governable risk. These expectations are therefore conducive to market behavior that supports an expansion of accounting and insurance services that can mitigate market uncertainty through this conversion into a risk.

Indeed, the second important quality of accounting and insurance knowledge is its capacity to govern market uncertainty in ways that convert this uncertainty into a financial risk that is internalized in accounting and insurance services. Because climate change represents a source of economic uncertainty, both in terms of its potential costs to the economy and in terms of how these costs are attributed to certain economic behavior as a liability, accountants and insurers govern “knowledge structures” with the potential to reduce this uncertainty into governable risks. By making this connection, accountants and insurers have the potential to use their technical authority, in addition to their access to powerful rule-making authorities over financial markets, to encourage economic behavior supporting mitigation and adaptation to climate change risks. More precisely, accountants and insurers are predisposed to knowledge that links a firm’s financial performance to climate change risks that must be governed through regulations that measure and price these risks.

Chapter 4 will discuss how accountants could implement international accounting standards that measure a firm’s exposure to climate change risks in its corporate accounts (e.g. by measuring the cost of GHG emissions, and exposure to physical or legal risks). Similarly, Chapter 5 will analyze how insurers could model the impacts of climate change on their markets to inform a “climate premium” on economic behavior that contributes to climate change (e.g. by raising premiums on GHG intensive areas of the economy), and economic behavior that exposes insurers to weather related losses (e.g. by raising premiums in areas with poor building infrastructure as an incentive to reduce physical climate change risks). These models could also inform various international mitigation and adaptation regulations necessary to ensure risk-transfer markets remain efficient as climate change impacts increase. In this respect, accountants and insurers govern knowledge that, if

¹²⁵ See Jagers and Stripple, “Climate Governance Beyond the State,” 391.

spread among market actors throughout financial markets, could attribute market value to behavior supporting mitigation and adaptation.

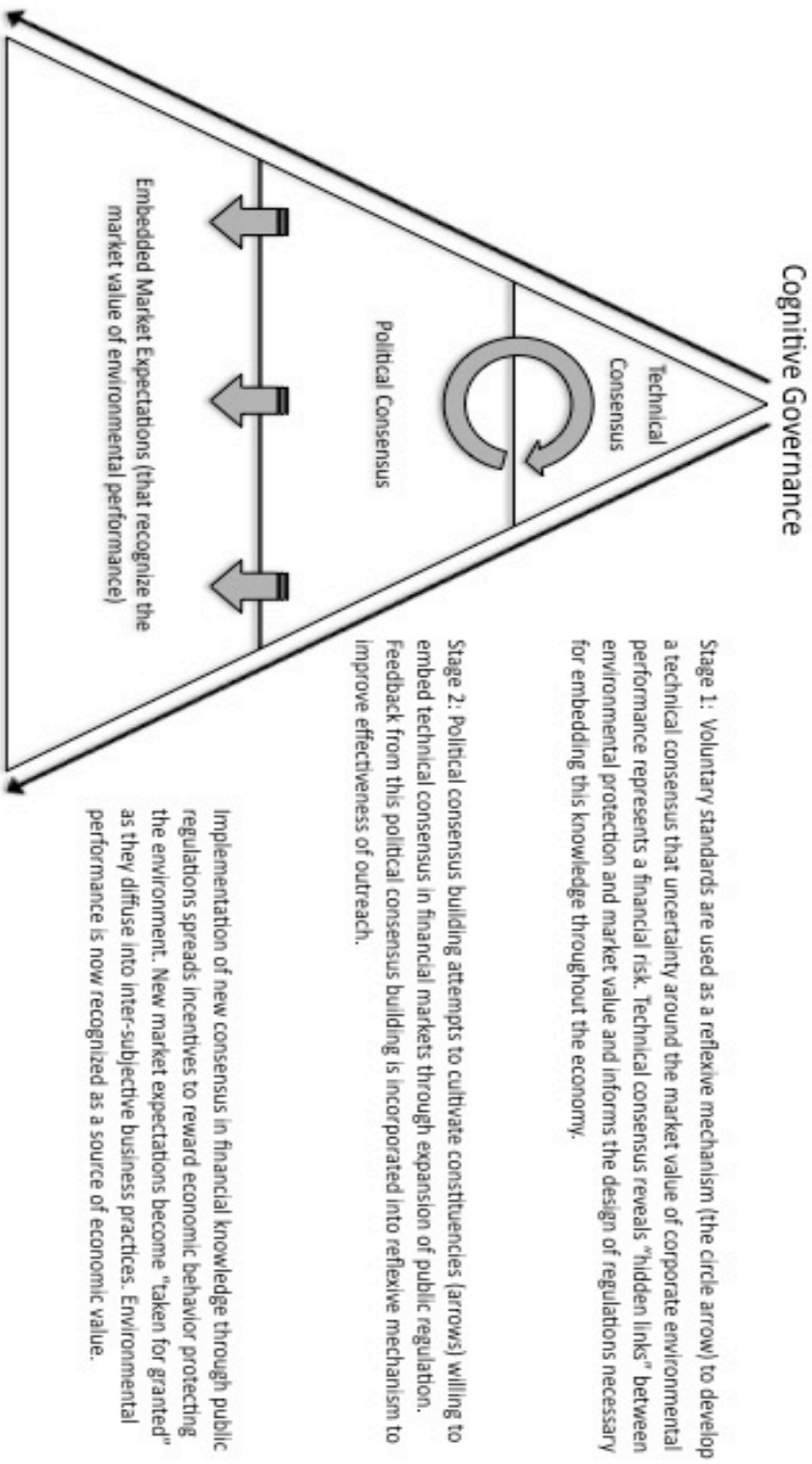
2.3.3 The CDSB and ClimateWise as forms of “Cognitive Governance”

The main objective of cognitive governance in the cases discussed in this thesis is to use best practice standards to embed financial knowledge that links a firm’s environmental performance to financial risks throughout the economy vis-à-vis public regulation. The strategic use of financial knowledge is critical to the effectiveness of cognitive governance. In the case of the CDSB and ClimateWise, accounting and insurance knowledge that interprets climate change uncertainty as a financial risk is used to challenge existing market expectations that disregard the economic value of this uncertainty. Financial knowledge can reduce this uncertainty by “creating ways to make more expectations expectable and giving improbabilities a structuring function.”¹²⁶ Co-regulation provides an organizational platform for cognitive governance by creating a system where financial knowledge can be tested and refined to improve decision-making in response to economic uncertainty, and determine strategies and regulations that embed this knowledge throughout the economy (See Figure 2.1). Indeed, once a technical consensus is reached on how to improve market decision-making in response to this uncertainty, co-regulation also provides a platform for cultivating political support to embed this consensus within new kinds of public regulation.

Environmental co-regulation using cognitive governance attempts to connect existing market expectations that disregard a firm’s corporate environmental performance as a form of market uncertainty to financial knowledge that can govern this uncertainty as a risk. By demonstrating that the treatment of this uncertainty as a risk can improve the efficiency of market decisions, cognitive governance reveals “hidden links” between economic behavior protecting the environment and the creation of market value. Conversely, cognitive governance can also reveal links between economic behavior damaging the environment and market costs. Once this knowledge is embedded within global financial markets with the assistance of public regulation, these “hidden links” should influence market decisions in ways that shift capital towards the former economic behavior, and away from the latter.

¹²⁶Torsten Strulik, “Introduction,” in *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System* (Chicago: University of Chicago Press, 2007), 9-35, 20.

Figure 2.1 Cognitive governance



To facilitate the goal of shifting market expectations within the global economy to recognize the economic value of a firm's environmental performance (i.e. exposure to climate change risks), cognitive governance involves two key characteristics. First, cognitive governance involves the use of voluntary best-practice standards to generate technical and political consensus that a firm's environmental performance has an economic value that, if measured and priced with the assistance of regulation, can improve the efficiency of market decision-making. Second, the adoption of these best practice standards is governed by a "reflexive mechanism." These mechanisms have received a lot of attention as a key component of the "corporate accountability" movement among ENGOs.¹²⁷ Reflexive mechanisms traditionally take the form of ENGO or third party oversight to monitor compliance among corporate actors to voluntary best practice standards that target environmental improvement. This oversight constitutes an important source of reflexivity in environmental co-regulation. By identifying weaknesses in a corporate actors ability to comply with best practices, ENGOs can provide neutral expertise on how to improve compliance.

In the case of the CDSB and ClimateWise, the reflexive mechanism takes on a unique role because of the unconventional objectives targeted by each initiative's best practice standards. Whereas most best practices standards target "eco-efficiency" improvements by asking individual firms or sectors to reduce their environmental footprint, the standards adopted by the CDSB and ClimateWise targets the creation of financial incentives to improve environmental performance among firms participating in accounting and insurance markets. These standards are somewhat similar to NSMD governance, which also target best practices for introducing market incentives.¹²⁸

But to introduce incentives to measure and price climate change risks within accounting and insurance markets, the CDSB and ClimateWise standards are designed to facilitate best practices in mobilizing the expertise and resources necessary to implement cognitive governance. For this reason, the reflexive mechanism employed by these initiatives is designed to identify and resolve obstacles faced by accountants and insurers in generating a technical and political consensus that supports an expansion of public regulation governing climate change risks. By identifying weaknesses in complying with efforts to generate a technical and political consensus, this mechanism generates information that ENGOs can use to focus expertise and resources among the initiative's participants.

¹²⁷ See Utting, "The Struggle for Corporate Accountability," 963.

¹²⁸ The difference, however, between cognitive governance and NSMD governance is that these market incentives are initially created by reputational threats in the case of the latter, and material risks from exposure to climate change uncertainty or promoting services able to govern these risks in the case of the former. See Cashore, "Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority," 517.

This process incorporates reflexivity or the capacity to “ratchet-up” compliance in supporting the two-stage process involved in cognitive governance.

This analysis confirms that while co-regulation using cognitive governance does leverage the influence of financial “epistemic communities”, it is a more robust and formal approach to influencing international outcomes than through the spread of expert knowledge.¹²⁹ More specifically, cognitive governance attempts to “instrumentalize” knowledge by targeting specific policy outcomes and political advocacy through best-practice standards that are governed by an ENGO.

The first stage of cognitive governance involves generating a technical consensus on financial practices that reduce economic uncertainty into usable economic information which improves decision-making in response to this uncertainty. This “technical consensus building” stage involves the use of voluntary best practice standards that encourage firms to test financial knowledge for reducing uncertainty which can then be used to inform regulations that embed this knowledge throughout the global economy. ENGOs often provide the logistical support for the use of a reflexive mechanism by acting as a third party monitor or auditor that identifies weaknesses or challenges in complying with commitments to use financial knowledge in ways that reduce uncertainty and improve market efficiency. ENGOs can then coordinate financial actors to address these weaknesses through further experimentation, or encouragement to devote more resources towards a technical consensus. This reflexive mechanism represents what Cashore calls an “achievement strategy” that “actively seeks legitimation”.¹³⁰ In the case of the CDSB and ClimateWise, this reflexive mechanism incorporates accounting and insurance cognitive expectations for how climate change uncertainty can be governed as a risk into usable financial knowledge.

This process is designed to facilitate “cycles” of evaluation on emerging financial knowledge until a technical consensus is reached on the strategies necessary to reduce climate change uncertainty into usable financial information that improves efficiency. Despite the development of new practices that allow financial actors to take advantage of climate change uncertainty, the implementation of these new practices often requires the support of external constituencies participating in financial

¹²⁹ There are two distinctions between each concept. First, cognitive governance employs voluntary best practice standards to leverage existing epistemic communities within the accounting and insurance industry in the generation of new knowledge necessary to govern international problems, whereas an epistemic community does not employ such a formal mechanism to generate new regulations and practices. Second, cognitive governance involves a more instrumental attempt to generate political support for the initiative’s objectives, whereas an epistemic community relies on more indirect influence based on the legitimacy of embedded knowledge among the actors involved. See Haas, “Introduction,” 3.

¹³⁰ Cashore, “Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority,” 516.

markets. In the case of NSMD governance described by Cashore, these constituencies included various market players along the timber supply-chain.¹³¹ As coordination service firms, accountants and insurers require “legitimation” of new financial knowledge not just among end-users of their services, who could face additional costs, but also among government policymakers and regulators before that knowledge can be implemented to improve efficiency.

The second stage of cognitive governance is designed to generate this legitimacy through engaging with strategic constituencies to generate support for the behavioral change required to reduce uncertainty around climate change impacts. This “political consensus building” stage attempts to generate legitimacy for new financial practices by leveraging the technical consensus that these practices can yield material gains (e.g. climate change risk disclosure improves corporate reputation, improves investor decision-making, and expands accounting markets). Similar to the first stage, efforts to generate this political consensus are incorporated into the reflexive mechanism to identify and resolve weaknesses in complying with efforts to cultivate a constituency of support.

The CDSB and ClimateWise (in addition to the INCR) differ from previous examples of environmental co-regulation such as NSMD governance because this political consensus building must develop legitimacy among powerful public authorities in addition to market participants throughout the accounting and insurance supply-chain. As Chapter 3, 4 and 5 will discuss, the realization of accountants’ and insurers’ material interests in the efficient governance of risks, and any corresponding efficiency gains, are contingent on the implementation of new financial knowledge into public regulation and policy. For this reason, the CDSB and ClimateWise are designed to act as platforms that embed accounting and insurance knowledge that links climate change uncertainty to financial risk within public regulation. This component of cognitive governance is important because once these financial practices are incorporated into accounting and insurance markets vis-à-vis the support of public authorities, their influence will multiply throughout the global economy.

With the support of various public authorities, financial markets can impose conditions requiring that market players measure and price the economic value of a firm’s environmental performance (ie. exposure to climate change risks). At this point, the “knowledge structure” relating to what defines “market value” as governed by accountants and insurers will foster new market expectations that corporate environmental performance represents a source of market value. As these practices are adopted by more firms, however, their visibility as a form of influence supported by the

¹³¹ Ibid.

CDSB and ClimateWise will be diffused and they will be transformed into a normal inter-subjective business practice.

Once a firm is made aware of new accounting and insurance standards that require the measurement and pricing of climate change risks, this knowledge will spread throughout its international operations and become embedded in normal business practices. In this respect, the firm acts as a vehicle for spreading market expectations that have incorporated new financial knowledge capable of governing uncertainty. It is at this stage of cognitive governance where the notion that climate change uncertainty constitutes a measurable financial risk becomes “taken-for-granted” within existing market expectations for efficient business decision-making. Similar to any form of financial risk, market actors are incentivized to govern and reduce this risk to improve their economic efficiency, or “bottom-line.”

Co-regulation involving the use of cognitive governance to target the expansion of public regulation is thus quite different from more conventional “post-Westphalian” co-regulation that is designed to act as a form of “governance beyond the state”. Rather than generating reputational credibility, the use of voluntary standards in these cases constitutes a key element in facilitating a broad constituency of support in governing climate change risks through public regulation. Both CDSB and ClimateWise recognize that voluntary standards are necessary for cultivating constituencies to support the governance of climate change risks, but that public regulation is ultimately required for this governance to be fully effective. The extent to which the financial firms involved in these “unconventional” kinds of co-regulation are held accountable to facilitating each voluntary initiative’s ultimate objective is an issue discussed later in the thesis.

2.4 Conclusion

The goal of this chapter was to examine how existing literature describes co-regulation as a strategy to achieve influence, and differentiate the approach adopted by the CDSB and ClimateWise. IPE and GEP literature has mostly discussed co-regulation in “post-Westphalian” terms as strategy to generate “governance beyond the state”. Analysis of examples of environmental co-regulation within financial markets revealed that they have quite a different objective of using co-regulation to support the expansion of public regulation. The INCR, CDSB and ClimateWise, in particular, have targetted the expansion of public regulation explicitly within their mandate. They draw on a unique strategy that I have labeled “cognitive governance” which uses voluntary standards to embed financial knowledge

for the efficient governance of climate change risks within existing market expectations for efficient business decision-making. In so doing, they build upon the experience of the several other recent co-regulatory initiatives within financial markets between ENGOs and institutional investors, notably Ceres, the CDP and INCR.

In their strategic attempt to use cognitive governance in overcoming the challenges involved in transforming climate change uncertainty into a financial risk, the CDSB and ClimateWise embrace a two-stage process. The first stage engages in technical consensus building to develop financial knowledge and regulations required to govern climate change uncertainty as a risk. The second stage attempts to cultivate a political consensus around this new financial knowledge among rival industry actors, market participants, policymakers and regulators to implement public regulation that can assist in using this knowledge to govern climate change risks. Both of these stages are governed by a reflexive mechanism designed to identify weaknesses and improve the initiative's capacity to achieve these outcomes.

The use of cognitive governance in leveraging accounting and insurance knowledge to reduce economic uncertainty on climate change through the CDSB and ClimateWise provides a compelling example of how environmental co-regulation has evolved from more conventional approaches that target "governance beyond the state". What factors encouraged private actors to support this form of co-regulation? Chapter 3 turns to analyze existing literature on the emergence of private governance and environmental co-regulation in financial markets to help identify these factors.

Chapter 3

Explaining the Emergence of Environmental Co-Regulation in Financial Markets

3.1 Introduction

What explains the emergence of the distinctive form of co-regulation adopted by the CDSB and ClimateWise? The chapter reviews IPE and GEP literature relevant to answering this question. This analysis is used to hypothesize a framework that identifies factors conducive to the emergence of “unconventional” co-regulation in financial markets that can be applied to the objects of analyses in Chapter 4 and 5.¹ To generate this framework, the chapter is divided into two sections.

The first section surveys explanations of the emergence of “conventional” forms of environmental co-regulation that are designed to act as an alternative to official regulation. Some of these explanations focus on the influence of economic globalization and the rise of neoliberal ideology. Others point to the rising influence of transnational civil society actors who view co-regulation as “second-best” tool to regulate global capitalism in the absence of public regulation. Still others have interpreted co-regulation as a pro-active effort by TNCs to co-opt opposition and preempt a resurgence of public regulation by signaling to regulators and civil society that they are willing to self-regulate.

The second section notes that that these conventional explanations have limited use in identifying factors conducive to the form of co-regulation adopted by the CDSB and ClimateWise, and it hypothesizes an alternative framework. The framework draws on explanations of the emergence of co-regulation within financial markets, specifically collaboration between ENGOs and institutional investors through such initiatives as the CDP and INCR. This framework identifies three important factors that explain the unique form of environmental co-regulation emerging within

¹ While this “hypothesized” framework is designed to capture factors that may be relevant to explaining the emergence of the CDSB and ClimateWise, it is not intended to provide a generalized explanation for all unconventional co-regulation. Rather the purpose of this framework is to reveal the sources of the unique and fascinating examples of co-regulation within financial markets through inductive empirical analyses of several existing examples of this phenomenon.

financial markets. First, financial firms (and corporate emitters in the case of the CDSB) have realized that public regulation is required to advance their material interests in governing climate change uncertainty as a financial risk. Second, those same firms have recognized that collaboration in technical and political consensus building is necessary before public regulation can be expanded to govern climate change risks. Third, there are ENGOs that have interests in using their expertise and political capacity to help these firms build the consensus necessary to implement public regulation.

3.2 Explaining the Emergence of Conventional Environmental Co-regulation

What explanations are offered in IPE and GEP literature for the emergence of environmental co-regulation? Most of the literature focuses on explaining the rise of “conventional” co-regulation that is designed to act as an alternative to official regulation. Within this literature, various explanations are put forward to explain why TNCs and ENGOs to support co-regulation as a strategy to generate “governance beyond the state”. Despite their differences, these explanations are united by the view that the emergence of co-regulation is a “post-Westphalian” phenomenon linked to various transnational economic processes and actors that challenge state authority.

3.2.1 Economic Globalization and Neoliberal Ideology

A number of scholars have suggested that environmental co-regulation has emerged in response to a worldwide structural and ideological shift from the 1980s onwards towards the use of markets as “sites” of governance. This shift from “state authority to market authority” was driven partly by economic globalization which encouraged governments to relax regulations as a means of strengthening the competitiveness of domestic firms in the new global economy.² Also important was the growing dominance of neoliberal ideology, whose supporters backed reforms which encouraged self-regulation within the private sector as a more efficient and effective approach to regulating global capitalism.³ The combination of economic globalization and neoliberalism legitimized the use of private governance as an effective alternative to burdensome and costly official “command-and-control” regulations. As Robert Falkner puts it, the emergence of private governance is part of a

² Phillip Cerny, *The Changing Architecture of Politics* (London: SAGE, 1990), 228.

³ This argument embraces a specific definition of neoliberalism as a free-market ideology that counters the use of public regulation. See Jean-Christophe Graz and Andreas Nolke, “Introduction: Beyond the Fragmented Debate on Transnational Private Governance,” in *Transnational Private Governance and Its Limits*, ed. Jean-Christophe Graz and Andreas Nolke (London: Routledge, 2008), 1-27, 6.

“long-term shift away from state-centric models of governance to new forms of authority located in the global economy, with private actors emerging as the new sovereigns.”⁴

Within global environmental politics, the influence of this broad shift towards markets as sources of governance manifested in growing support for strategies for linking market growth and environmental protection. The idea that market growth and environmental protection could be made compatible was first championed by the 1987 Brundtland Report, authored by the World Commission on Environment and Development (WCED). At the 1992 United Nations Conference on Environment and Development, or “Rio Earth Summit”, the norm promoting the use of markets to protect the environment gained further support among participating governments through Agenda 21, which encouraged market instruments as tools for environmental regulation.⁵

In response, groups such as the World Business Council for Sustainable Development (WBCSD) started promoting the view that global business could help address environmental degradation rather than being viewed as a part of the problem.⁶ Within the business community more broadly, neoliberal ideology legitimized thinking that state intervention could be subordinated to support a “broader project of [environmental] governance by and through the market.”⁷ Steven Bernstein linked the onset of neoliberal ideology to the emergence of a “norm-complex” he calls “liberal environmentalism” within environmental politics. This norm-complex, he argued, legitimizes the emergence of private environmental governance. In Bernstein’s words:

Liberal environmentalism accepts the liberalization of trade and finance as consistent with, and even necessary for, international environmental protection. It also promotes market and other economic mechanisms (such as tradeable permit schemes or the privatization of the commons) over “command-and-control” methods (standards, bans, quotas, and so on) as the preferred method of environmental management.⁸

From Bernstein’s perspective, the “privatization of environmental governance” through such initiatives as ISO 14000 and the Forest Stewardship Council (FSC) demonstrates the institutionalization of liberal environmentalism within environmental politics.⁹ Newell and Paterson argue that neoliberalism has been conducive to the emergence of various “collaborative partnerships, involving networks of all sorts of actors” that promote market-based approaches to climate

⁴ Falkner, “Private Environmental Governance and International Relations,” 74.

⁵ Bernstein, *The Compromise of Liberal Environmentalism*, 106.

⁶ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 93.

⁷ *Ibid.*, 94.

⁸ Bernstein, *The Compromise of Liberal Environmentalism*, 7.

⁹ Bernstein, *The Compromise of Liberal Environmentalism*, 117; See Clapp, “Privatization of Global Environmental Governance.”

governance.¹⁰ At a more specific level, these structural and ideological changes in the global economy have also been linked by other scholars to the emergence of environmental co-regulation in the forestry industry through the FSC. According to Pattberg, the emergence of the FSC can in part be attributed to failed efforts at implementing international regulation through the United Nations Conference on Environment and Development (UNCED). These efforts were constrained by governments worried that such regulation would violate the free trade regime governed by the World Trade Organization.¹¹ Cashore makes a broader argument that the FSC emerged in response to “economic and political trends in the last ten years that have given market-oriented policy instruments increasing salience.”¹²

3.2.2 The Rising Influence of Non-State Actors

While explanations pointing to economic globalization and neoliberal ideology explain environmental co-regulation in a structural manner, others embrace a more agency-centred account that points to the growing influence of non-state actors in global governance as an important factor in co-regulation. Indeed, Strange concluded her 1996 analysis of the growing regulatory void at the international level arguing that non-state actors have an opportunity to take advantage of their agency in shaping the governance of the global economy.¹³

John Ruggie developed this argument further to suggest that the retreat of the state represents a fundamental shift at the global level towards what he called a “global public domain.” In his view, this shift is facilitating the emergence of a new global space where transnational civil society and global business could cooperate on the appropriate norms and practices for regulating global capitalism.¹⁴ Co-regulation represented one outcome of the politics within this global public domain.

More specifically, co-regulation represents an operational platform for non-state actors to advance norms or approaches to resolving tension between civil society and global business at the transnational level. Both ENGOs and TNCs have had reasons to support co-regulation to promote new norms in this “global public domain” given the regulatory void created by economic

¹⁰ Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 31.

¹¹ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 113.

¹² Quoted in Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 113; Cashore, “Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority,” 506.

¹³ Strange, *The Retreat of the State: The Diffusion of Power in the World Economy*, 198.

¹⁴ Ruggie, “Reconstituting the Global Public Domain: Issues, Actors and Practices,” 510.

globalization. For ENGOs and other civil-society actors, the structural shift towards markets led to a recognition that the strengthening of environmental governance depended on leveraging the resources of TNCs, who represent an increasingly powerful influence over the environment.

As the previous chapter noted, co-regulation initially emerged as an ENGO strategy to address “greenwash” by offering to monitor and govern the implementation of voluntary best practice standards that target the improvement of corporate environmental performance. ENGOs believed that this approach had potential to help enforce the implementation of these standards and addressing the “regulatory void” as states refrained from implementing command-and-control environmental policy.¹⁵

This collaborative approach was welcomed by TNCs who realized that co-regulation could help them respond to these ENGO concerns in addition to promoting several interests of their own.¹⁶ In addition to the recognition that allying with ENGOs could resolve reputational risks associated with increases in environmental advocacy, TNCs realized co-regulation could improve their brand’s competitiveness through its association with environmental norms. TNCs could also start developing their own regulations as a strategy for avoiding or “pre-empting” the costs associated with formal interstate regulation. In addition, co-regulation provided an opportunity for TNCs to develop strategies for increasing “eco-efficiency”.¹⁷

Both Pattberg and Cashore have analyzed the factors behind the emergence of the FSC to demonstrate how the agency of non-state actors represented an important explanation for this form of co-regulation.¹⁸ During the late 1980s, ENGOs targeted the forestry industry and retail suppliers of lumber by linking their reputation to the destruction of rare tropical timber forests. These protests imposed reputational costs on the forestry industry by forcing firms to identify sources of sustainable timber. A number of certification schemes emerged in response to these protests in which forestry firms agree to let ENGOs label timber as sustainable. ENGOs soon realized that the proliferation of these schemes lead to confusion about which firms were indeed supporting sustainable forestry practices.¹⁹

¹⁵ Utting, “Social and Environmental Liabilities of Transnational Corporations: New Directions, Opportunities and Constraints,” 965.

¹⁶ Haufler, *A Public Role for the Private Sector: Industry Self-Regulation in a Global Economy*, 239.

¹⁷ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 94; See also Levy and Newell, “Business Strategy and International Environmental Governance,” 92.

¹⁸ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*; Cashore, “Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority.”

¹⁹ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 106.

In 1990, representatives from the forestry industry and environmental and human-rights groups met in California to “discuss how to combine their interests in improving forest conservation and reducing deforestation.”²⁰ The FSC agreement emerged out of these negotiations as a compromise between ENGOs and the forestry industry on how regulate sustainable forestry practices given the lack of formal international regulation.²¹ For ENGOs, the development of a universal sustainable forestry certification program fulfilled their normative goals by increasing accountability over the industry’s practices. For TNCs, this strategy represented an effective approach for dealing with reputational attacks as well as for improving brand reputation and potentially increasing marketshare.²² The FSC demonstrates the important role of non-state actors in promoting co-regulation as an operational platform for advancing new sustainability norms that can resolve contestation between ENGOs and TNCs at the transnational level without depending on the authority of the state.²³

3.2.3 Radical Explanations

The emergence of co-regulation has also been interpreted from a more radical perspective that is more skeptical of the influence of a “bottom-up” mobilization of civil society interests. Rather than seeing co-regulation as an effective strategy to reign in the forces of global capitalism, neo-Gramscian scholars argue that co-regulation has been driven primarily by corporate interests attempting to thwart effective international environmental regulation. From this perspective, corporate interests have used co-regulation as a strategy for securing “hegemonic stability” necessary to preserve a capitalist “neoliberal historic bloc” against environmentalists who see markets as intrinsic sources of environmental damage.²⁴ As a consequence, initiatives described as co-regulation in this thesis are seen by some as a “strategy of accommodation, combining material and discursive efforts to preserve corporate legitimacy and autonomy in the face of growing public environmental concern; it is thus more about political and economic than environmental sustainability.”²⁵ These arguments are particularly pervasive among environmental groups who criticize private climate governance

²⁰ Ibid., 112.

²¹ Steven Bernstein and Benjamin Cashore, “Can Non-State Global Governance be Legitimate? An Analytical Framework,” *Regulation & Governance* 1 (2007): 347-371, 160.

²² Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 111.

²³ Cashore, “Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority,” 504.

²⁴ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 111.

²⁵ Ibid., 93.

strategies as a “weak response to climate change” influenced by the “domination of the world by neoliberal capitalism.”²⁶

Although neo-Gramscians are skeptical of the purpose of co-regulation, some acknowledge that the efforts of civil society actors, ENGOs or policy entrepreneurs to link a firm’s brand reputation to broader societal expectations for appropriate corporate behavior can “pose challenges to the legitimacy and reputation of individual firms.”²⁷ According to Peter Newell and David Levy, these efforts can take advantage of “crises” that expose corporate behavior to greater scrutiny among broader societal constituencies. By appealing to moral principles, or exploiting divisions between industry and states or between different sectors, civil-society actors can “compensate for their lack of resources” to generate improved corporate behavior.²⁸ Despite this optimism, the threshold they set for legitimately challenging the “neoliberal hegemonic bloc” is quite high and involves both an alliance between states, business, NGOs, and “an alignment of ideological forces that coordinate the members of the bloc.”²⁹

According to the radical explanation, co-regulation emerges in response to short-term market concerns about a firm’s reputation and potential regulatory risks associated with its environmental performance. In the context of environmental co-regulation in financial markets, this argument questions the “business case” for advancing material interests in governing long-term climate change risks through public regulation. Instead of using voluntary co-regulation to generate evidence of a business case, or cultivate constituencies willing to support public regulation, corporate actors are seen to join co-regulatory initiatives simply to generate reputational credibility.

Adam Harmes has interpreted investor interest in voluntary climate change risk disclosure initiatives such as CDP and INCR from this perspective. Rather than embracing the long term “business case” for “investor environmentalism”,³⁰ Harmes argues that investors are constrained by much more short-term constraints and that their material interests in supporting climate change risk disclosure are more superficial and related primarily to reputational concerns among their shareholders.³¹ Although voluntary approaches may generate reputational credibility, Harmes argues

²⁶ Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 31.

²⁷ Wright and Rwabizambuga, “Institutional Pressures, Corporate Reputation, and Voluntary Codes of Conduct,” 94.

²⁸ Levy and Newell, “Business Strategy and International Environmental Governance,” 96.

²⁹ *Ibid.*, 96.

³⁰ Harmes, “The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism,” 105.

³¹ *Ibid.*, 108.

that investors will only change their behavior in significant ways that reduce climate change risks if they are forced to do so through robust public regulation.³²

3.3 Conceptualizing the Emergence of Environmental Co-regulation in Financial Markets

These various explanations of environmental co-regulation are of limited use in accounting for the factors that explain the form of co-regulation adopted by the CDSB and ClimateWise. The structural approaches that invoke globalization and neoliberalism are focused on explaining why regulation is shifting away from the state towards private forms of regulation. The CSDB and ClimateWise, however, are forms of co-regulation that support an *expansion* of public regulation. In contrast to neoliberalism, these preferences reflect what Paterson and Newell call “climate Keynesianism” where “markets are not abandoned; merely better governed to direct them more closely towards the goal of decarbonisation”.³³ From this perspective, the CDSB and ClimateWise challenge those scholars who view neoliberalism as an “anti-regulatory” ideology legitimizing the use of private governance. Moreover, as we shall see, the creation of this distinct form of co-regulation in financial markets is heavily contingent on the actors involved and their preferences, rather than being determined so much by these kinds of macro-level structural conditions.

The emergence of CDSB and ClimateWise also demonstrates that ENGOs and other non-state actors have found success in pushing for more robust objectives than simply a “second best” alternative to state regulation. Rather than settling for a voluntary approach, the ENGOs involved in these initiatives have found ways of using their expertise and capacity to ally with corporate interests favouring an expansion of public regulation.

The support of these corporate interests is also difficult to reconcile with explanations that point to TNCs’ desire to preempt official regulation or to simply address reputational risks and branding concerns through voluntary initiatives. We need a better explanation for why the corporate interests involved in CDSB and ClimateWise support a strengthened role for the state, one that requires firms throughout the economy to measure or price climate change risks. As we shall see, these corporate interests believe that voluntary approaches are insufficient to facilitate improved environmental performance.

³² Ibid., 111.

³³ Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 173.

What, then, explains the emergence of the form of co-regulation embraced by CDSB and ClimateWise? Instead of drawing on factors from explanations of “conventional” co-regulation, it may be more useful to look at scholarship that has examined the rise of other examples of co-regulation in the financial industry that bear some similarities to CDSB and ClimateWise, notably Ceres, the CDP and especially the INCR. This next section builds upon that scholarship to hypothesize an explanatory framework that identifies factors conducive to the emergence of “unconventional” co-regulation, which is then applied to the CDSB and ClimateWise cases in Chapters 4 and 5.

3.3.1 Governing Climate Change Risks through Public Regulation

Existing accounts of the emergence of the Ceres, the CDP and INCR all point to the influence of financial firms with material interests in governing climate change uncertainty. In trying to distinguish these forms of co-regulation involving institutional investors from conventional examples of co-regulation, Michael MacLeod argues that despite potential environmental benefits, the actors involved in Ceres, the CDP and INCR “are engaged together primarily for material reasons.”³⁴ Rather than promoting improved environmental performance based on normative gains for the firm, Ceres, the CDP and INCR “operate according to a logic of consequences – that responsible investing is actually rational, responsible investing because it takes into account factors that will ultimately improve the corporate bottom line, and hence, represents a fiduciary duty.”³⁵ According to MacLeod, institutional investors support these initiatives as a strategy to advance their material interests in reducing exposure to financial risks linked to a firm’s environmental performance.

Material interests in adopting conventional forms of co-regulation are usually related to improvements in eco-efficiency where firms improve their environmental performance to save costs on energy use and waste management. Firms that are energy intensive or that emit a lot of pollution are often targeted by ENGOs for co-regulation by appealing to their material interests in governing the costs associated with these environmental externalities. Co-regulation offers a useful strategy for these firms because they can determine the most efficient way to reduce the costs associated with these externalities.

³⁴ Macleod and Park, “Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks,” 60.

³⁵ *Ibid.*, 6.

In the financial industry, these material interests are not directly related to eco-efficiency of financial firms. Indeed, the financial industry has a relatively small direct environmental footprint compared to other industries. For this reason, the use of co-regulation to govern exposure to these risks is not related with a financial firm's environmental performance and is more related to risks generated by other firms that use their financial services. Risks associated with a firm's financial performance and its potential impact on financial markets is therefore not a traditional CSR or reputational issue, but rather a risk-management issue.³⁶ This "business case" for supporting co-regulation as a strategy to improve risk-management in the financial industry is somewhat more robust than the case for using co-regulation to improve eco-efficiency.

For example, the Ceres Principles represented an optimal approach to addressing information asymmetries associated with a firm's environmental performance.³⁷ By collectively supporting the principles, institutional investors could ally with each other in coordinating efforts to improve the disclosure of the firms in which they invested. More specifically, investors could use disclosure as a condition for accessing further investment, or threaten to file shareholder resolutions if firms failed to provide disclosure.

In the last decade, ENGOs and institutional investors have turned their attention to the use of co-regulation through disclosure frameworks to identify the impact of climate change risks on an investor's portfolio. Institutional investors, specifically mutual and pension funds, are particularly exposed to climate change risks because their investments are largely made up of retirement funds that have a long-term time horizon. In addition, these funds are passively managed by buying shares from firms that are widely used in major stock market indexes.³⁸ As a consequence, these investors are often described as "universal owners" because they are "substantial owners of assets" across the economy.³⁹

This long-term, low-risk strategy is exposed to climate change economic uncertainty because the impacts of climate change are predicted to increase in the long-term and manifest throughout the economy. Because of this unique investment strategy, supporters of Ceres, CDP and INCR argue that

³⁶ Gray and Bebbington, *Accounting for the Environment*, 223.

³⁷ MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms," 55.

³⁸ Harmes, "The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism," 102.

³⁹ IIGCC, "A Climate for Change: A Trustee's Guide for Understanding and Addressing Climate Change Risk" (Institutional Investor Group on Climate Change, January 2005), http://www.iigcc.org/__data/assets/pdf_file/0010/262/A_climate_for_change.pdf, 8.

institutional investors must take into account longer-term risks associated with climate change uncertainty to maintain their fiduciary duty to their shareholders.⁴⁰ Whether they will do so, however, is questioned by some scholars. Harmes, for example, suggests that investors do not employ a long-term strategy because of concerns related to demands among their shareholders for improvements in short-term performance.⁴¹ While these short-term incentives could marginalize concerns about the long-term implications of climate change among some investors, others may be predisposed to taking a precautionary approach based on their risk-management expertise. Chapters 4 and 5 will demonstrate the accounting and insurance industry are in fact more dependent on this precautionary approach.

Climate change risks are most likely to materialize in areas of the economy that are GHG intensive and exposed to physical risks. Oil and gas, utilities, industrial goods and transportation are all examples of this kind of economic activity.⁴² Institutional investors are often highly exposed to these industries because they are capital intensive and dependent on raising capital through private financial markets. Because they also have stable long-term growth prospects, these industries often take up a disproportionate share of major stock market indexes.⁴³ Some investors have developed cognitive expectations that rational risk-management requires disclosure of these risks because of their long-term growth strategy but also their disproportionate exposure to industries likely to be impacted by climate change risks.

These expectations are mostly directed towards four categories of risk. The first is regulatory risk associated with the impact of government regulations that force firm's to pay for their GHG emissions through emissions trading or a tax. For investors with significant exposure to GHG intensive industry, such as oil and gas, utilities, and transportation, the impact of additional costs associated with these regulations could alter the returns on their investment.

Other industries, such as agriculture, insurance, tourism and real estate are exposed to physical risks from the changing environment. Climate change is predicted to increase the volatility of weather leading to physical damage, intensified drought and flooding, which could lead to business closure or interruptions if supply-chains are impacted.

⁴⁰ See Matthew Paterson, "Legitimation and Accumulation in Climate Change Governance," *New Political Economy* 15, no. 3 (2010): 345-366, 358.

⁴¹ Harmes, "The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism," 105.

⁴² Trucost, "Carbon Risks and Opportunities in the S&P 500," 11.

⁴³ *Ibid.*, 34.

The third and fourth categories are legal and reputational risks. Concerning the former, as society grows more aware of the link between climate change and industry, lawsuits against GHG intensive industry are predicted to increase leading to potential liability losses. Reputational risks relate to the risk that climate change could hurt the brand image of firms with a significant GHG footprint.⁴⁴

MacLeod and Park's analysis on the rise of "investor environmentalism" has described how the potential impact of climate change risks on investment performance has generated material interests among institutional investors in governing their exposure to these risks by supporting voluntary disclosure frameworks initiated by ENGOs. As the previous chapter discussed, UK policy entrepreneurs were able to take advantage of these material interests to establish the CDP Secretariat.⁴⁵ The Secretariat offered to help institutional investors address their material interests in facilitating climate change risk disclosure by implementing and organizing its annual CDP survey.⁴⁶

In a separate effort, Ceres was able to take advantage of similar material interests to establish the INCR in 2003. The INCR follows the CDP's strategy by promoting the link between climate change uncertainty and material risk through a disclosure framework called the "Global Framework for Climate Risk Disclosure." But the INCR also supports a more robust form of co-regulation by engaging in public policy advocacy involving the lobbying of the SEC to enforce mandatory disclosure of these risks and supporting US GHG emissions regulation.⁴⁷ These objectives are outlined in the INCR's Climate Risk Action Plan, which is discussed in section 3.3.3.

By explicitly identifying regulatory reform as a part of its mandate, the INCR is more robust in its efforts to target public regulators. More specifically, it demonstrates how environmental co-regulation within financial markets has evolved from a general focus on supporting the "public governance" of the environment to more a specific and direct effort to strengthen individual public regulations. This more robust effort to target public regulators represents an important distinguishing characteristic of "unconventional" environmental co-regulation. More specifically, institutional investors support public regulation as a strategy for advancing material interests in governing climate change uncertainty as a financial risk.

⁴⁴ Kolk, Levy, and Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure," 724.

⁴⁵ MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms," 52.

⁴⁶ *Ibid.*, 53.

⁴⁷ MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms," 55; INCR, "About INCR" (Ceres, 2008), <http://www.incr.com/Page.aspx?pid=261>.

What explains the emergence of this unique strategy of using co-regulation to promote the expansion of public regulation? Although MacLeod and Park's analysis provides a robust explanation of the material interests of institutional investors in governing climate change risks, they do not identify this strategy of the INCR as a distinguishing characteristic of efforts to advance these material interests.⁴⁸ The INCR's goal of expanding public regulation to govern climate change risk disclosure stems from a recognition of the limitations of trying to convince firms to disclose their risks through voluntary disclosure. In its 2009 SEC petition, the INCR argued that "the investor community has made it increasingly clear that information on climate risk is a necessary part of investment decisions. And yet publicly traded companies have not responded with the meaningful disclosure investors seek."⁴⁹ They also point out that weaknesses in voluntary disclosure are associated with a lack of "rigor to address the full range of information required in reports files pursuant to mandatory SEC rules certified by senior management."⁵⁰

Although investors can ask the firms they invest in to voluntarily disclose these risks, they do not have the political authority to force robust disclosure necessary to address material interests in governing climate change risks. As a consequence, institutional investors need to "lock-in" collective rules governing market uncertainty into public regulation. According to Walter Mattli and Ngaire Woods, this strategy is common among "corporations at risk" which require the support of public regulation to adequately govern risks within their markets.⁵¹ Indeed, some scholars who embrace a broader understanding of neoliberalism, rather than an explicit "anti-regulatory" ideology, argue that it can sometimes have contradictory outcomes. Bernstein argues that corporations who invoke the "precautionary principle" as a justification for the use of public regulation to govern market uncertainty demonstrate a "contradiction" within the influence of neoliberalism, where regulation is viewed as a key tool in promoting market efficiency.⁵² But this recognition that voluntary approaches

⁴⁸ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks," 54.

⁴⁹ INCR, "Supplemental Petition for Interpretive Guidance on Climate Risk Disclosure" (INCR, November 23, 2009), http://www.ceres.org/files/Supplemental_Climate_Risk_Petition_Nov_23_2009.pdf/at_download/file, 22.

⁵⁰ *Ibid.*, 30.

⁵¹ Ngaire Woods and Walter Mattli, "In Whose Benefit?," in *The Politics of Global Regulation*, ed. Walter Mattli and Ngaire Woods (Princeton: Princeton University Press, 2009), 1-43, 34.

⁵² Bernstein, *The Compromise of Liberal Environmentalism*, 237; David Levi-Faur makes a similar conclusion by suggesting that the influence of neoliberalism can lead to outcomes contingent on particular industries. He argues that some industries are willing to support "regulatory capitalism" where firms recognize the importance of public regulation in promoting market efficiency. See Levi-Faur, "The Global Diffusion of Regulatory Capitalism", 14.

are insufficient for advancing material interests among financial actors support climate governance strategies is perhaps most accurately captured by Newell and Paterson’s notion of “climate Keynesianism.” Although these authors describe “climate Keynesianism” in reference to a strengthening of public regulation in governing the environmental integrity of carbon markets, the same incentives are evident among the financial firms involved in the INCR, CDSB and ClimateWise which have realized “the limits of what they can achieve autonomously” without the support of public regulation.⁵³

Chapters 4 and 5 will develop a similar explanation of the CDSB’s and ClimateWise’s support for the use of public regulation in governing climate change risks. Although INCR, CDSB, and ClimateWise each support the use of public regulation based on the recognition that the firms involved do not have the political authority to effectively govern climate change risks, the actors involved in each of these three initiatives have different material interests in facilitating this regulation. In the case of the accounting and insurance industry, material interests in the use of public regulation as a strategy to govern climate change risks are arguably more robust than those among institutional investors.

Within the accounting industry, climate change risk must be governed through public regulation based on cognitive expectations that voluntary disclosure could create reputational and regulatory risks. But, more significantly, public regulation is required to stimulate demand for accounting services. For insurers, public regulation is necessary based on cognitive expectations that climate change risks are likely to threaten the insurability of many existing markets. Without the support of regulation, insurers will be exposed to reputational and regulatory risks as they raise rates or pull out of markets vulnerable to climate change impacts. In particular, international mitigation and adaptation policy is necessary to ensure the risk-profile of weather-related events does not increase beyond the point of insurability. If insurers are to expand their services in governing climate change risks, the magnitude and frequency of these risks must increase at an incremental rate to avoid a spread of costly “low-probability, high impact” events.

This analysis suggests that while reputational concerns related to environmental legitimacy driven by the business case to improve investor decision-making were factors in explaining the emergence of the INCR and CDP, these concerns are much more robust in the case of the CDSB and ClimateWise. But rather than targeting legitimacy among environmental opponents, the CDSB and

⁵³ Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 173.

ClimateWise must also generate support among end-users of their services who could oppose regulations that advance material interests among accountants and insurers at their expense.

The support of the INCR, CDSB and ClimateWise for the use of public regulation as a strategy for advancing firms' material interests in governing climate change risks demonstrates that "post-Westphalian" arguments are limited in explaining their approach to co-regulation. Material interests among financial firms in governing climate change uncertainty is linked to financial knowledge that this uncertainty must be measured and priced as a risk through public regulation as a precautionary measure. This financial knowledge is also conducive to the realization that effective governance of these risks could yield market opportunities if governed through public regulation. These interests reveal the influence of cognitive expectations that market efficiency necessitates the use of public regulation.

Given the incentives for the firms involved in these initiatives to support public regulation as a strategy for governing climate change economic uncertainty, however, it is somewhat puzzling that co-regulation represented the optimal strategy for achieving this objective rather than more direct efforts to lobby of securities regulators and legislators. This puzzle, however, can be explained if these actors face constraints in unilaterally pursuing public regulation, specifically the need to collaborate in generating a technical and political consensus that supports the implementation of this regulation.

3.3.2 Generating a Technical and Political Consensus

Because public regulation has yet to be implemented that is effective in governing climate change risks, financial firms are unsure of both the design of effective regulations, and whether there is enough political support to avoid potential opposition when implementing these regulations. According to Cutler, Haufler and Porter's analysis, firms often engage in inter-firm collaboration through the formation of a "private regime" to identify strategies for dealing with such market uncertainty. In particular, collaboration allows firms to reduce transaction costs related to researching new strategies, and to share costs associated with public policy advocacy if new "rules for the road" are necessary to govern this uncertainty.⁵⁴

From this perspective, an inter-firm collaboration through a private regime provides a platform to incrementally build a technical and political consensus that public regulation is justified

⁵⁴ Cutler, Haufler, and Porter, "Introduction," 8-9.

as a strategy for governing these risks. Both forms of consensus are critical if an industry is to influence environmental regulation.

On the technical side, it is crucial that a technical consensus be developed within the industry around a “business case” that market uncertainty justifies collective action in supporting an expansion of public regulation. A key aspect to this consensus is identifying regulations that can be effective in delivering material gains through the governance of climate change risks. If incumbent firms are uncertain whether there is a business case behind the use of regulation and its effectiveness in governing climate change risks, they are unlikely to devote resources to collective action in support of such regulation.

Without a technical consensus around a business case, financial firms face a significant challenge in generating political support for the implementation of regulation. First, any collective effort to expand public regulation must enjoy a wide and robust “intra-industry” consensus. Institutional investors, for example, are likely to oppose public regulation if it threatens their own investments or limits their access to growing markets. This argument has been used to explain reluctance among Canadian mutual and pension funds to support climate change risk disclosure. Because these funds hold a disproportionate amount of their assets in the oil and gas industry, climate change risk disclosure is likely to increase scrutiny over investments in this industry.⁵⁵ Shareholders could increase pressure on fund managers to pull out of investments that in the short-term remain profitable and leave market share for rival investment companies who disregard climate change uncertainty as a financial risk.

Robert Falkner’s analysis of business power in global environmental politics has confirmed that without a broad consensus within the industry on its policy objectives, political opponents can exploit divisions and compromise an industry’s ability to achieve these objectives.⁵⁶ In this case, one source of opposition may come from firms external to the industry that face an increased regulatory burden as consequence of new regulations. This opposition could be very significant: the advancement of material interests within the financial industry through public regulation is likely to come at the expense of other firms who must endure increased regulatory costs. For example, while public regulation governing the disclosure of climate change risks helps address material interests among institutional investors, publicly listed firms are forced to absorb the costs associated with implementing the new reporting obligation. These costs include training managers to measure and

⁵⁵ Anonymous A. Interview by Jason Thistlethwaite, May 3, 2010.

⁵⁶ See Robert Falkner, *Business Power and Conflict in International Environmental Politics* (New York: Palgrave, 2008).

evaluate how production processes and supply-chains create climate change risks, and hiring accountants to provide audits and assurance services to make sure the firm adequately fulfills the new reporting obligation. In addition, disclosure exposes publicly listed firms to a higher level of scrutiny among investors and other stakeholders on issues, such as climate change risks, that may not have been a priority.

At the same time, some forward-thinking firms may support an expansion of public regulation governing climate change risks because they stand to benefit comparatively to their rivals. Firms that have implemented strategies to reduce their exposure to climate change risks through GHG mitigation or increased spending on strengthening physical infrastructure stand to benefit from increased scrutiny over their exposure to climate change risks. To cultivate support for public regulation, financial firms must engage with these firms external to the industry that are likely to support such regulation.

In addition to support from corporate stakeholders within and external to the industry, finance-led initiatives such as the INCR and CDP must also generate support within the environmental community. Paterson points to the necessity of generating political legitimacy within the environmental community for financial actors to engage in climate governance strategies that promote capital accumulation.⁵⁷ He even suggests that initiatives such as the CDP and INCR, and “marketised climate governance” more broadly, are designed to generate political legitimacy for implementing strategies that promote capital accumulation. Although he does not go into detail on the nature of these strategies, he observes that these initiatives in part recognize that “allying accumulation and legitimation is a central aim”.⁵⁸ Legitimacy, from Paterson’s perspective, is necessary to demonstrate that financial actors who pursue climate governance strategies “informed primarily by the search for accumulation” support environmental integrity in order to avoid political

⁵⁷ Most of Paterson’s argument is based on evidence that intermediaries in voluntary carbon markets must generate reputational credibility in their capacity to verify and measure the commodification of carbon emissions into tradeable financial products. But this credibility is explicitly driven by a business case that while verification and measurement services improve the environmental integrity of the market, they also expand demand for services offered by these intermediaries. Paterson does link the CDP and INCR to this strategy. But his argument is even more relevant in the case of the CDSB and ClimateWise, where there is a business case to expand public regulations governing climate change risks to create new demand for their risk-management services. The difference is that the CDSB and ClimateWise must overcome more robust challenges than opposition within the environmental community to implement this regulation, whereas “private” climate governance strategies are often more narrowly exposed to opposition from within the environmental community. See Paterson, “Legitimation and Accumulation in Climate Change Governance,” 358-360.

⁵⁸ *Ibid.*, 360.

opposition among environmentalists who oppose the “commodification of the environment.”⁵⁹ Paterson’s analysis is important because he demonstrates that, while initiatives like the CDP and INCR are primarily climate governance strategies within financial markets, the process they use to facilitate their objectives involves political constituency building as a strategy for generating legitimacy. In particular, he recognizes that political support within the environmental community is an important precursor to the success of finance-led climate governance.

As Paterson suggests, environmental groups have challenged finance-led climate governance strategies, such as the implementation of emissions trading or voluntary emissions trading, but have yet to directly challenge the INCR and CDP.⁶⁰ There is, however, evidence to suggest that the INCR and CDP are in part designed to reflect concern within the environmental community that these initiatives will sacrifice environmental integrity for capital accumulation. To address these concerns, the strategy adopted must be able to demonstrate that it is conducive to effective mitigation and adaptation to avoid opposition among environmental groups. The decision to co-regulate where an ENGO governs compliance through a reflexive mechanism rather than pursue a unilateral “private regime” provides evidence that corporate actors are aware that their strategies must be conducive to legitimacy climate governance.

Table 3.1 Generating technical and political consensus in governing climate change risks

Technical Consensus	Political Consensus
Financial firms must generate a technical consensus that there is a business case for governing exposure to climate change risks, and that expanding public regulation is the optimal strategy for governing these risks.	Financial firms must generate an intra-industry political consensus that collective action potentially limiting access to certain markets is necessary to govern climate change risks. Financial firms must also generate political support outside of the industry among stakeholders likely to oppose expansion of public regulation or contest its environmental integrity.

An examination of the CDP and INCR demonstrates how collaboration can help to generate a technical and political consensus and facilitate a constituency of support behind the disclosure of climate change risks.⁶¹ To support the business case that institutional investors are exposed to climate

⁵⁹ Ibid., 356.

⁶⁰ Ibid., 359.

⁶¹ Although the CDP does not explicitly support public regulation as a strategy for governing disclosure, it does illustrate how co-regulation can be used to generate a technical consensus among institutional investors, and publicly listed firms necessary as a precursor for public regulation.

change risks, institutional investors must generate a technical consensus over how a regulation, or mandatory standard will measure the conversion of climate change uncertainty into a financial risk. Without this information that climate change uncertainty can be converted into a measurable financial risk, institutional investors face few incentives to support public regulation as a strategy to reduce exposure to these risks. Indeed, investors are unlikely to take additional action at all without evidence that their investment strategy can be improved by taking these risks into account.⁶²

The development of a method to measure climate change risks is known as “commensuration”, which is a technical process that involves measuring and disclosing a myriad of links between potential costs associated with climate change and the impacts of these costs on firm’s corporate accounts. The key challenge that investors, in addition to accountants and insurers, face in facilitating commensuration is that of generating a useful methodology for measuring exposure to future-oriented risks that can be used to inform present day decision-making. Ans Kolk, David Levy, and Jonathan Pinkse highlight two central challenges in generating a comparable measure of climate change risk that investors can use to inform their decision making: 1) investors need a comparable measure of a firm’s GHG emissions, and 2) investors need a comparable measure to evaluate a firm’s climate risk “profile”.⁶³

Because the conversion of GHG emissions into a commodity that can be priced is a political project, there is wide variation in how different jurisdictions approach this conversion. In addition to developing an “exchange rate” between different GHG emissions compared to CO₂, political authorities must establish “boundaries” around a firm’s production process to determine which emissions should be included on its corporate accounts. There must also be a measure for comparing the differences between each jurisdiction’s baseline from which emission reductions are counted against. The development of a measurement on how investment into new technologies is likely to reduce emissions also represents a significant difficulty.⁶⁴

The second central challenge involves translating uncertainty around the economic impacts of climate change into “assessments of risks and market opportunities with clear financial implications for firms and investors.”⁶⁵ As Kolk et al’s analysis confirms, the generation of a comparable measure of future exposure to financial risk through climate change involves a great deal of ambiguity across

⁶² Kolk, Levy, and Pinkse, “Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure,” 729.

⁶³ Ibid., 727-728.

⁶⁴ Ibid., 728.

⁶⁵ Ibid., 728.

different firms and industries. For example, certain firms are likely to face greater risks than others depending on their geographic location, exposure to regulatory risk, and the GHG intensity of their production process or supply-chain. The generation of a metric that investors can use to compare these variables in ways that lower exposure to climate change risks represents a significant challenge.⁶⁶

Even with a technical consensus on how to measure exposure to climate change risks, investors must be able to convince their rivals to support disclosure, and convince the firms they invest in to disclose information that has the potential to damage their financial reputation. A technical consensus on how to measure climate change risks is an important precursor to both of these political efforts. If investors can demonstrate that including climate change risks in investment decision-making improves the efficiency of these decisions, rivals will be incentivized to do the same.

The CDP and INCR both offer a platform for institutional investors to collaborate in generating a technical and political consensus by using voluntary best-practice standards to cultivate a constituency of institutional investors and publicly listed firms that support climate change risk disclosure. The CDP's disclosure survey provides a vital tool in facilitating commensuration and generating a technical consensus on how to measure climate change risks. The survey provides a common metric that uses standardized benchmarks to compare the risk profile of various corporate emitters participating in financial markets. This comparable benchmark provides a market signal that institutional investors can use to improve their investment decision-making by directing capital towards firms with a lower risk profile in a carbon-constrained economy.⁶⁷

The CDP's approach to generating a political consensus relies on its ability to "socialize" other investors and publicly listed firms into joining the effort. By demonstrating that it can facilitate disclosure among a wide range of publicly listed firms, more investors are incentivized to participate to gain access to the CDP's database on climate change risks. As more institutional investors have joined, the CDP has been able to "wield influence" over publicly listed firms by leveraging its network of institutional investors to facilitate increasing levels of disclosure through its survey.⁶⁸

⁶⁶ Ibid., 734.

⁶⁷ Ibid., 727.

⁶⁸ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks," 68.

Indeed, corporate boards have started to recognize that investor scrutiny over climate change risks could hurt the firm's reputation without efforts to track and reduce exposure to these risks.⁶⁹ Forward-thinking firms can join the survey as a strategy to identify exposure throughout the production process in order to channel resources to these areas to reduce risks. In addition, disclosure also allows managers to compare their firm's exposure to these risks relative to other firms in their sector.⁷⁰ As the next section will describe, the CDP's effort to expand a constituency supporting disclosure has proved quite effective. For example, the 2010 survey achieved a response rate of 82 percent for firms listed in the global 500, and 70 percent response rate for firms listed in the S&P 500.⁷¹

Whereas the CDP focuses more of its efforts towards generating a technical consensus through its annual disclosure survey, the INCR is a more advocacy-oriented example of co-regulation. Similar to the CDP, the INCR has adopted a set of voluntary best practice standards to facilitate the building of a constituency willing to govern climate change risk disclosure. Although the INCR "Action Plan" asks that members investigate how to measure financial risks associated with climate change, and convince the firms they invest in to disclose this information, its primary focus is on leveraging these investors to engage in political advocacy. The key distinction is that the INCR's "Action Plan" attempts to build a constituency around mandatory, instead of voluntary, climate change risk disclosure.⁷²

There are two key prongs to this strategy. First, the INCR directly engages with firms who refuse to provide information on their exposure to climate change risks by filing shareholder resolutions. As the next section will discuss, the INCR is responsible for a majority of climate change shareholder resolutions filed against US companies.⁷³ The second prong to this strategy involves leveraging the INCR constituency to lobby US security regulators in implement a mandatory climate change risk disclosure standard as a part of its annual financial reporting requirements.⁷⁴

⁶⁹ Kolk, Levy, and Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure," 727.

⁷⁰ *Ibid.*, 728.

⁷¹ CDP, "Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights."

⁷² INCR, "Investor Network on Climate Risk Action Plan: Capitalizing the New Energy Future: Minimizing Climate Risks, Seizing Opportunities."

⁷³ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks," 66.

⁷⁴ Ceres, "Investors Managing \$2.1 Trillion in Assets Praise SEC for Climate Disclosure Guidance," March 10, 2010, <http://www.incr.com/Page.aspx?pid=1214>.

Both the CDP and INCR demonstrate how inter-firm collaboration can be used to cultivate a constituency willing to support climate change risk disclosure as a strategy for advancing material interests among institutional investors. In particular, the INCR has recognized that *mandatory* disclosure enforced by public regulators represents the optimal approach for institutional investors to advance their material interests in governing climate change risks. Although accountants and insurers support the use of public regulation in governing climate change risks for different material interests than institutional investors, they too are unsure about the design of effective regulation and whether there is enough political support for implementation. This uncertainty is conducive to collaboration in generating a technical and political consensus that supports the implementation of these regulations. As Chapters 4 and 5 will describe, the CDSB and ClimateWise share a key similarity with the INCR; they use voluntary best practice standards to cultivate a constituency willing to support an expansion of public regulation to govern climate change risks.

For accountants, the CDSB provides a platform to generate a technical and political consensus necessary to support the implementation of an international accounting standards governing climate change risk disclosure. For insurers, collaboration through ClimateWise provides an opportunity to build a technical consensus around regulations that are effective in defending the industry from climate change risks, and political support within the industry and among firms paying for insurance services.

Although this analysis explains why financial firms support inter-firm collaboration, such as a *private regime*, as a strategy for generating a technical and political consensus supporting the implementation of public regulations in governing climate change risks, it does not explain why *co-regulation* with ENGOs is an optimal strategy for achieving this objective. Given the financial industry's material interests in governing these risks, a case can be made that an inter-firm regime that supports collective lobbying efforts might be sufficient for advancing these interests. The next section will argue that ENGOs have developed important expertise and political capacity that can help firms generate a technical and political consensus and cultivate constituencies willing to support the governance of climate change risks.

3.3.3 ENGO Expertise and Capacity in Governing Climate Change Risks

ENGOs have interests in providing technical expertise and political capacity in implementing co-regulation as a strategy for promoting their environmental agenda. Specifically, these actors

contribute expertise to the design of the standards, and capacity by governing the reflexive mechanism used to facilitate compliance in generating a technical and political consensus associated with governing climate change risks. This expertise and capacity plays an important role in generating legitimacy within key constituencies, such as rival firms, the end-users of financial services, and even the environmental community. An ENGO with explicit expertise in cultivating a constituency around the governance of an environmental issue provides important bargaining leverage in convincing firms to support co-regulation.

Interestingly, the use of co-regulation was initially developed by ENGOs as a strategy for promoting environmental norms within the global economy. The analysis in Chapter 2 (section 2.2.1) described the emergence of co-regulation as a strategy by ENGOs to increase a firm's accountability to commitments made in implementing a voluntary environmental program. By providing oversight to these commitments through third party monitoring or external audits, ENGOs could target "laggards" which failed to uphold their obligations to strengthening their environmental performance.⁷⁵

The adoption of more collaborative approaches among ENGOs towards encouraging TNCs to govern their environmental performance represents a distinct departure from the way that scholars initially described ENGO behavior. At a broad level, ENGO strategy in engaging with TNCs can be divided into "confrontational" and "collaborative" approaches. "Confrontational" ENGOs use adversarial campaigns to "shame" TNCs to adjust their behavior, or make a case for state intervention.⁷⁶ "Collaborative" ENGOs attempt to engage the market system by developing standards and practices that guide markets towards the provision of environmental goods.⁷⁷

According to Paul Wapner, who analyzed the growing influence of NGOs in global environmental politics, NGOs initially targeted corporations as a strategy to increase the accountability of these firms to civil society concerns.⁷⁸ These ENGOs mostly embraced a "confrontational" approach towards corporate behavior and initiated adversarial "name and shame" campaigns. As chapter 2 described, while adversarial campaigns have proven effective for many

⁷⁵ Utting, "The Struggle for Corporate Accountability," 965.

⁷⁶ Andrew Hoffman and Stephanie Bertels, "Who is Part of the Environmental Movement?," in *Good Cop Bad Cop: Environmental NGOs and their Strategies Towards Business*, ed. Thomas, P Lyon (Washington D.C.: RFF Press, 2010), 48-69, 62; See also who identifies dark green ENGOs as "social greens." Jennifer Clapp and Peter Dauvergne, *Paths to a Green World: The Political Economy of the Global Environment* (Cambridge, Massachusetts: MIT Press, 2005), 7.

⁷⁷ Hoffman and Bertels, "Who is Part of the Environmental Movement?," 62.

⁷⁸ Paul Wapner, "Governance in Global Civil Society," in *Global Governance: Drawing Insights from Environmental Experience*, ed. Oran Young (Cambridge, MA: MIT Press, 1997), 65-84, 40.

NGOs in convincing TNCs to improve their environmental performance, NGOs have also started to recognize the limitations of this approach.

In response, some NGOs started to experiment in their approach to engaging with TNCs by adopting a "collaborative" strategy.⁷⁹ John Elkington and Sebastian Beloe suggest that NGOs have been able to test out different strategies that attempt to regulate the environmental performance of TNCs "with each additional response growing in sophistication, building on the experiences of the previous one and working in parallel to drive business and market change."⁸⁰ The emergence of the CDP and INCR reflect a refined approach among NGOs to the "collaborative" strategy. Rather than targeting an individual firm for collaboration, NGOs use their expertise to encourage an entire industry to adopt voluntary standards that collectively improve environmental performance.

NGO expertise and capacity has been critical in helping institutional investors develop best practice standards that target the generation of a technical and political consensus necessary to advance their interests in governing climate change risks. To help institutional investors govern exposure to climate change risks, the CDP Secretariat provides both technical expertise and political capacity. The CDP Secretariat's (CDP) first step in promoting a technical consensus was to develop a strategy to convince both institutional investors and corporations that the disclosure of climate change risks could improve the efficiency of decision-making for both actors. Based on consultations with the investment community, the Secretariat decided to create a questionnaire with seven questions. In May 2002, the CDP wrote to the chair of the board of each of the 500 largest publicly listed companies and asked for answers to the questionnaire. After organizing these responses, the Secretariat made the report public by making presentations in London, New York and Hong Kong. This oversight by the Secretariat has continued for each of the consecutive surveys. In 2010, the CDP released its 9th survey.⁸¹

In addition to inventing the idea of using a survey, the most important output from this exercise has been the gradual refinement of the CDP's survey in generating a technical consensus on how to measure climate change risks. The CDP has developed a reflexive mechanism by engaging with investors and emitters on weaknesses in their ability to incorporate disclosure information into

⁷⁹ Pattberg, *Private Institutions and Global Governance: The New Politics of Environmental Stability*, 60; Utting, "The Struggle for Corporate Accountability," 961.

⁸⁰ John Elkington and Seb Beloe, "The Twenty-First Century NGO," in *Good Cop Bad Cop: Environmental NGOs and their Strategies Towards Business*, ed. Thomas, P Lyon (Washington D.C.: RFF Press, 2010), 17-47, 36.

⁸¹ CDP, "Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights."

investment decisions in the case of the former, or comply with disclosure requirements in the case of the latter.

This effort has narrowed down the survey to capture four key categories of information. These categories include: corporate strategy for reducing exposure to climate change risks, regulatory risks, physical risks, and a measure of a firm's GHG emissions.⁸² Because the CDP now has the support of over 211 investors worth \$31 trillion in assets, these categories are widely recognized as an almost universal benchmark for measuring climate change risks.⁸³

The CDP's expertise and capacity in designing and administering the survey demonstrates the organization's contribution to overcoming technical obstacles faced by institutional investors in governing climate change risks. According to Macleod and Park's analysis, the CDP is now recognized as an "information depot for one sector of the business community (investors) concerned with the actions of another sector (corporations) and the health of the overall economy."⁸⁴

In addition to expertise and capacity governing the disclosure survey, the CDP has also demonstrated important political capacity in encouraging a consensus supporting voluntary climate change risk disclosure. To facilitate this consensus, the CDP puts pressure on preparers through a CDP "Leadership Index". Each CDP report compares the leading ten percent of companies in terms of disclosure and their efforts to reduce risks to other firms which participate in the survey. This index helps institutional investors to target their shareholder petitions against firms that provide inadequate levels of disclosure.⁸⁵ The singling out of corporate emitters that provide inadequate disclosure can also create reputational risks among the institutional investors who support the CDP, and encourage strengthened efforts to improve disclosure. Before the development of the leadership index, the CDP even reported the names of non-responsive firms to its annual survey on a "wall of shame."⁸⁶ In addition to consensus building among the largest 500 publicly listed firms, or the FT500, the Secretariat has also targeted corporations in the US 500, Electric Utility 265, Canada 300, Germany

⁸² Kolk, Levy, and Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure," 734.

⁸³ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks," 62; CDSB, "Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework," 16.

⁸⁴ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks," 62.

⁸⁵ CDP, "Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights."

⁸⁶ Kolk, Levy, and Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure," 722.

200, Japan 150, Australia 100, New Zealand 50, France 120, FTSE 100, FTSE 250, and the Brazil 50.⁸⁷

As the last section described, the INCR has focused its efforts in generating a political consensus that supports mandatory climate change risk disclosure. This strategy is largely informed and organized by Ceres, the INCR's ENGO partner. As one of the original examples of an ENGO implementing disclosure frameworks through the Ceres Principles, Ceres has a great deal of expertise necessary for effective consensus building.

Ceres' work on climate change risk disclosure initially focused on research necessary to support a technical consensus, specifically a business case that climate change risks are material for financial markets. Based on Macleod's assessment, Ceres has produced over 26 reports since 2003 on the impacts of climate change risks for businesses and investors.⁸⁸ These reports typically examine securities and financial statements to track whether companies disclose their financial information on climate change risks. By measuring disclosure efforts and reporting this information publicly, Ceres acted as a "knowledge producer and knowledge broker" by developing research on the exposure of institutional investors to climate change risks.⁸⁹ Ceres expertise in using voluntary best practice standards to help institutional investors govern exposure to potential environment risks, and its research on climate change risks in particular, contributed to the design and substance of the INCR's Action Plan.

The INCR has also benefited from Ceres' political capacity in facilitating a constituency willing to support mandatory disclosure. Since the 2003 Summit, for example, Ceres initiated three more summits in 2005, 2008 and 2010. These meetings are critical for bringing together a constituency of institutional investors to support the use of public regulation in governing disclosure to climate change risks. These efforts have resulted in four notable successes. First, Ceres' political capacity has proved successful in expanding its membership to represent over 90 institutional investors with assets that exceed \$9 trillion.⁹⁰ Second, this constituency was able to convince the SEC to include guidance on how to disclose climate change risks in annual 10-k financial reports.⁹¹ Third,

⁸⁷ MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms," 54.

⁸⁸ Macleod and Park, "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks," 66.

⁸⁹ MacLeod, "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms," 55.

⁹⁰ INCR, "About INCR."

⁹¹ Ceres, "Regulators Require Insurers to Disclose Climate Change Risks and Strategies," March 17, 2009, <http://www.ceres.org/Page.aspx?pid=1062>.

INCR has helped organize a majority of the “record 101 climate-related shareholder resolutions” filed by investors in 2010.⁹² Fourth, these meetings resulted in the expansion of the INCR’s strategy to the international level, where, along with other institutional investors, it lobbied governments to implement an international regulation on GHG emissions.⁹³

The CDP and INCR demonstrate how access to ENGO expertise and capacity in developing disclosure frameworks and public policy advocacy can help institutional investors generate a technical and political consensus necessary to advance their interests in governing climate change risks, whether through voluntary or mandatory disclosure. The expertise and capacity of these “specialist” ENGOs helps to explain why these firms are willing to partner with ENGOs to advance their own material interests in governing climate change risks.

In addition to initiating the idea behind using co-regulation to overcome obstacles in governing climate change risks through financial markets, these ENGOs host and provide the logistical support for each co-regulatory initiative. They have expertise in implementing voluntary environmental programs by acting as a third-party monitor in an effort to incorporate reflexivity and continually improve compliance. In the case of the CDP and INCR, this expertise is critical in generating a technical consensus on how to measure climate change risks, specifically a business case that disclosure can improve investment decision-making. ENGOs have also developed political capacity in mobilizing intra-industry consensus and support among external stakeholders to legitimize efforts by financial actors to cultivate a constituency willing to support an expansion of public regulation governing climate change risks. ENGOs can also overtly “shame” poor compliance towards a co-regulative agreement, as the CDP demonstrates through its leadership survey. In addition to generating support among corporate constituents, the oversight provided by these ENGOs by governing the reflexive mechanism represents an important signal for legitimizing an effort by financial actors to engage in climate governance strategies that promote capital accumulation within the environmental community. Even through these initiatives have yet to face environmental scrutiny, the role of ENGOs in their strategy suggests implicitly that support within the environmental community is a key goal in political consensus building. Perhaps more importantly, however, ENGOs have developed important expertise in public policy advocacy. Ceres demonstrates this expertise through its efforts in coordinating lobbying on behalf of the INCR to implement SEC guidance on the disclosure of climate change risks.

⁹² Macleod and Park, “Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks,” 66.

⁹³ INCR, “Investor Summit on Climate Risk,” *INCR*, April 25, 2011, <http://www.incr.com/Page.aspx?pid=1186>.

Chapters 4 and 5 will describe how the ENGOs involved in the CDSB and ClimateWise also play a significant role in coordinating both financial firms and other corporate actors to support an expansion of public regulation to govern climate change risks. These ENGOs provide important logistical support in harnessing expertise among these actors to facilitate a technical consensus, and use their political capacity to leverage this consensus in cultivating a more robust constituency willing to support the governance of climate change risks throughout the economy.

3.3.4 Possible Post-Westphalian Critiques?

The analysis of both the form of co-regulation adopted by the CDSB and ClimateWise in chapter 2, and the conditions that explain this unique approach identified in this chapter, constitute an important critique of scholars who invoke a “post-Westphalian” perspective on private governance. Co-regulation using cognitive governance in the form adopted by the CDP, INCR, CDSB and ClimateWise to influence the expansion of public authority challenges the post-Westphalian assumption that private governance is designed to generate “governance beyond the state.” The latter three initiatives in particular (INCR, CDSB and ClimateWise) that formally identify the expansion of public regulation as a part of their mandate constitute an important challenge for these “post-Westphalian” assumptions. Rather than a strategy to facilitate “greenwash”, the use of voluntary standards in these cases is designed to cultivate constituencies that support public regulation. This analysis in this chapter of the factors that might explain the adoption of this unconventional approach also challenges post-Westphalian explanations for the emergence of private governance. Particularly important is the identification of the material interests among financial firms that support the use of public regulation, interests that are quite different than the kinds of short-term reputational concerns or efforts to preempt official regulation that post-Westphalian analyses point to when explaining business interest in co-regulation. The next two chapters provide further evidence of these distinct interests of financial firms in supporting CDSB and ClimateWise.

But before launching into the more detailed study of the CDSB and ClimateWise cases, it is necessary to explore very briefly some potential post-Westphalian counter-arguments. Because the CDSB and ClimateWise are voluntary, it is certainly possible to question whether the participants involved really do support each initiative’s “unconventional” objectives of strengthening public regulation. These robust objectives could be seen to represent simply a sophisticated strategy on the part of each initiative’s members to strengthen their reputation or preempt official regulation.

My research suggests, however, that the use of voluntary standards is more accurately seen as a strategic component of cognitive governance: that is, each initiative is designed to “ratchet-up” compliance to standards that target best practices in generating a technical and political consensus necessary to implement public regulation governing climate change risks. Even if the voluntary design is strategic, skeptics might still ask whether voluntary commitments are able to overcome short-term market interests that might work against supporting the governance of climate change risks. In other words, scholars embracing a more post-Westphalian perspective might question whether the corporate actors involved really do have legitimate material interests in using public regulation to govern climate change risks.

One way of evaluating these “post-Westphalian” critiques is to examine each initiative’s participation rates and enforcement strategy. Weak enforcement strategies and low rates of participation constitute important accountability deficits and evidence for “greenwash.” Effective enforcement strategy in co-regulation usually involves some form of third-party accountability or “reflexive” mechanism, such as an audit on compliance, or public disclosure, where stakeholders such as ENGOs or consumers have an opportunity to scrutinize compliance. The most robust example of an enforcement mechanism is a minimum requirement on compliance in supporting the initiative’s objectives. If participants fail to meet this standard, their membership is at risk of being revoked by the core participants running the initiative.

In the case of the CDSB and ClimateWise, low rates of participation within the accounting and insurance industry (in addition to institutional investors and corporate emitters in the case of the CDSB) could be used as evidence to demonstrate that existing members are involved for reputational reasons, rather than legitimate interests in governing climate change risks. If accountants and insurers are legitimately concerned about pursuing their interests in governing climate change risks, participation rates should be quite high given that they target reforms within these industries to strengthen global climate governance. Low rates of participation would also contest the argument that both industries share similar cognitive expectations that climate change uncertainty should be treated as a financial risk.

An analysis of participation rates and enforcement strategies in the CDSB and ClimateWise is provided at the end of the detailed analyses of these initiatives contained in Chapters 5 and 6. As we shall see, this analysis helps to buttress the argument that the use of co-regulation (ie. a voluntary approach) is strategic and designed to “ratchet-up” compliance to cognitive governance and the

cultivation of a constituency willing to support an expansion of public regulation in governing climate change risks.

3.4 Conclusion

This chapter's goal was to hypothesize a framework that might help to address the second central research question of this study which asks what explains the emergence of the co-regulation initiatives embodied in the CDSB and ClimateWise. To develop this framework, the chapter first reviewed the most common explanations for the emergence of environmental co-regulation which focus on: 1) a structural shift toward market-based governance linked to the influence of economic globalization and neoliberal ideology; 2) the role of transnational non-state actors in pushing for co-regulation as an alternative for official regulation; and 3) the use of co-regulation as a strategy for preempting public regulation or generating reputational credibility among corporate actors. Scholars who invoke these explanations embrace a "post-Westphalian" perspective that links co-regulation to preferences among TNCs and ENGOs to generate "governance beyond the state." But in the cases of the CDSB and ClimateWise, it is necessary to explain the use of co-regulation as a strategy to encourage the state to take on more authority in governing climate change risks.

The second section of this chapter attempted to develop such an explanation by taking a closer look at the factors behind the emergence of other better studied "unconventional" co-regulation in the financial industry. This analysis revealed that this form of co-regulation emerged in response to three such factors. First, financial firms had material interests in using public regulation to govern climate change risks. Second, those same firms recognized that collaboration in technical and political consensus building was necessary before public regulation can be expanded to these risks. Third, ENGOs existed that had interests in using their expertise and political capacity to help generate this consensus and build constituencies willing to support this regulation. Chapters 4 and 5 apply this framework to explain the emergence of the CDSB and ClimateWise's "unconventional" approach to co-regulation.

Chapter 4

Measuring Climate Change Risks: The Climate Disclosure Standards Board

4.1 Introduction

This chapter's goal is to explain the unique approach to co-regulation that the CDSB has adopted to achieve its objectives, and identify the factors that influenced the actors involved to support this approach. The CDSB represents the "strong" case for the use of co-regulation as a strategy for expanding public regulation because it is targeting the reform of financial regulation governing accounting markets. ClimateWise is similar, but uses cognitive governance to target an array of public policies and regulations that indirectly influence the insurance sector's capacity to govern climate change risks. Despite the difference, both the CDSB and ClimateWise use co-regulation to contest existing market expectations for the economic value of corporate environmental performance by linking this performance to financial risks that can improve the efficiency of market decision-making.

The first two sections of the chapter explain the emergence of the CDSB by using the framework hypothesized in chapter 3 to identify factors that influenced the actors involved to adopt its unconventional approach to co-regulation. This analysis identifies three factors that explain the emergence of the CDSB, including; 1) the existence of material interests in using public regulations to govern climate change risk disclosure among accountants, institutional investors and corporate emitters; 2) the need to collaborate in generating a technical and political consensus that supports public regulation; and, 3) the prominence of ENGOs that had interests in using their expertise and political capacity to implement strategies to help cultivate this consensus. The chapter then describes the CDSB's use of cognitive governance as a strategy for generating the technical and political consensus necessary to expand regulation governing the disclosure of climate change risks at the international level. Once this unique approach to co-regulation is outlined, the chapter will briefly evaluate the CDSB's capacity to hold its participants accountable to its robust objectives in order to evaluate potential criticisms that the initiative is merely a sophisticated version of "greenwash."

4.2 Harmonizing Voluntary Climate Change Risk Disclosure Standards

The formation of the CDSB is the first coordinated attempt to leverage the international accounting sector to strengthen global climate governance. It emerged out of a patchwork of existing voluntary climate change risk standards that created inefficiencies for the institutional investors and corporations using these standards to measure climate change risks. Richard Samans, the Managing Director of the World Economic Forum (WEF), founded the CDSB by allying the core players involved in these existing standards with the accounting industry in an effort to harmonize these standards through an international mandatory standard.¹

As described in Chapters 2 and 3 (section 2.2.1 and 3.3.3), ENGOs recognized throughout the 1990s that collaboration with corporate actors in the formation of disclosure frameworks represented an important strategy in strengthening corporate accountability to voluntary environmental programs. Co-regulation represented an important platform for advancing norms that corporate environmental performance had important financial implications. Ceres was the first ENGO to promote co-regulation supporting the disclosure of corporate environmental performance by framing its link to financial performance within the US investor community. But other ENGOs soon replicated this strategy.

The benefits of using co-regulation to support disclosure had been realized by a number of ENGOs who believed these frameworks could be used to strengthen efforts to frame uncertainty around the impacts of climate change as a financial risk. The result was an emergence of various disclosure standards designed to support this cognitive frame. Although the Global Reporting Initiative (GRI) is the most successful global sustainability reporting framework, the most popular framework reporting on climate change issues, specifically GHG emissions, is the GHG Protocol.² Established through a co-regulative agreement between the World Resources Institute (WRI) and World Business Council for Sustainable Development's (WBCSD) in 2001, the GHG Protocol has enjoyed a wide adoption among corporate emitters and constitutes a de facto global standard for GHG emissions measurement and disclosure.³

¹ Anonymous B. Interview by Jason Thistlethwaite, August 27, 2010.

² Halina Szejnwald Brown, Martin de Jong, and Teodorina Lessidrenska, "The Rise of the Global Reporting Initiative: A Case of Institutional Entrepreneurship," *Environmental Politics* 18, no. 2 (2009): 182-200, 182.

³ Jessica F. Green, "Private Standards in the Climate Regime: The Greenhouse Gas Protocol," *Business & Politics* 12, no. 3 (2010): 1-37, 4.

The GHG Protocol developed two innovative measuring methodologies for counting a firm's emissions.⁴ First, the Protocol established *organizational boundaries* by defining how a firm with full ownership over its production should count emissions, and how firms with an equity share in a different entity or operation should count emissions.⁵ Second, the Protocol established *operational boundaries* by creating three categories that capture emissions at different points of the production process. Scope 1 emissions count the direct combustion or release of GHGs from the "end of the pipe." Scope 2 emissions cover the GHGs emitted further upstream from the purchase of energy. Scope 3 emissions cover more abstract sources such as business travel, external logistics, transport, supply chain and product.⁶ These categories were designed to help managers understand how regulations implementing a price on GHG emissions impact all aspects of their business, and how their firms compare to others.

The GHG protocol's widespread use is a result of other emissions frameworks adopting its organizational and operational accounting methodology. The California Climate Action Registry was the first public organization to adopt the GHG Protocol's approach in 2001.⁷ The Climate Registry, a nonprofit organization created to harmonize different US voluntary and mandatory reporting frameworks, also adopted the GHG protocol.⁸ In 2006, the International Organization for Standardization (ISO) adopted the GHG Protocol as the accounting methodology in its ISO 14064 standard on the "Quantification and Reporting of Greenhouse Gas Emissions and Removals."⁹

Although the GHG protocol represents the most recognized and effective framework for emissions accounting, and has indeed generated an important technical and political consensus behind

⁴ GHG Protocol, "What is the GHG Protocol?," *About the GHG Protocol*, 2010, <http://www.ghgprotocol.org/about-ghgp>. WRI and WBCSD decided to develop the GHG protocol in the aftermath of the 1997 Kyoto Protocol when political momentum in many industrialized countries was growing in support of regulating a price on GHG emissions. For the WRI, this momentum represented an opportunity to pressure companies into measuring and disclosing their emissions levels as a way of learning how to manage the potential costs associated with regulation. In 1998, the WRI and WBCSD formed a steering committee with ENGOs, such as WWF and the Pew Centre on Global Climate change, and TNCs, such as Norsk Hydro, Tokyo Electric, and Shell.

⁵ WRI and WBCSD, "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" (World Resources Institute and World Business Council for Sustainable Development, 2001), <http://www.ghgprotocol.org/files/ghg-protocol-2001.pdf>, 15.

⁶ *Ibid.*, 21.

⁷ California Climate Action Registry, "California Climate Action Registry: General Reporting Protocol 3.1" (California Climate Action Registry, 2009), http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf, 13 and 21.

⁸ The Climate Registry, "Mission," May 2011, <http://www.theclimateregistry.org/about/mission/>.

⁹ Kevin Boehmer and Aleg Cherp, "ISO 14064: An Emerging Standard on Greenhouse Gas Accounting and Verification," *ISO 14064*, 2008, <http://web.ceu.hu/envsci/aleg/research/ISO-EnvFinance110503.pdf>.

voluntary GHG emissions disclosure, other disclosure frameworks have emerged that are designed to capture a wider range of material risks associated with climate change uncertainty. Chapters 2 and 3 (section 2.2.2 and 3.3.3) described several of these initiatives including Ceres, the INCR and CDP. Although these initiatives are described as examples of environmental co-regulation in financial markets, they are all technically classified as “non-profit” institutions or ENGOs. In both the US and UK, these organizations are classified as tax exempt non-profits, or charities.¹⁰ Although the definitional boundary between “co-regulative initiative” and “ENGO” is somewhat “fuzzy”, these initiatives will be referred as ENGOs or Board members when describing their role in the CDSB.

These ENGOs emerged in response to policy entrepreneurs who proposed co-regulation to institutional investors as a strategy for addressing their interests in reducing exposure to climate change risks in their portfolios. Policy entrepreneurs in the UK were able to take advantage of these interests to form the CDP. In the US, Ceres was able to establish the INCR. To address these interests, both initiatives have developed disclosure frameworks that can be used to measure exposure to climate change risk across their investments.¹¹ While innovative for their ability to measure material risks in addition to GHG emissions, they added a layer onto an existing patchwork of voluntary and mandatory standards.

Although the CDP and INCR were both designed to advance the material interests of institutional investors, corporations also have similar interests in supporting disclosure. Disclosure helps identify strategies that firms can use to increase their competitiveness as climate change impacts increase and the regulation of GHG emissions becomes more prevalent. The most significant benefit for disclosure, however, is protecting a firm’s reputation among institutional investors concerned about climate change risks. Withholding disclosure can lead to shareholder resolutions, and potentially even investment switching among investors concerned about climate change risks.¹²

Despite the success of these efforts to encourage the voluntary disclosure of climate change risks, the proliferation of these standards has led to a “patchwork” of different requirements for

¹⁰ See INCR, “About INCR”; CDP, “What We Do,” *Carbon Disclosure Project*, September 2010, <https://www.cdproject.net/en-US/WhatWeDo/Pages/overview.aspx>.

¹¹ CDP, “What We Do”; CDP, “Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights”; Ceres, “Global Framework for Climate Risk Disclosure: A Statement of Investor Expectations for Comprehensive Corporate Disclosure.”

¹² Kolk, Levy, and Pinkse, “Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure,” 727.

preparers and risk information available to end-users.¹³ This patchwork reveals that institutional investors and corporate emitters trying to govern climate change risks lack a technical and political consensus on an effective framework for facilitating disclosure. The messy nature of this patchwork was compounded by the emergence of a variety of emissions trading systems each embracing their own reporting framework, including the United Nations Clean Development Mechanism (CDM), the European Union Emissions Trading Scheme (EU ETS), the Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI) and the New Zealand Emissions Trading Scheme (NZ ETS).¹⁴ Although some of these frameworks are mandatory, they embrace different measurement approaches, and are usually focused towards emissions accounting, rather than decision-useful aspects of climate change risks.¹⁵

For the preparers and end-users of climate change risk information, the spread of this patchwork has generated inefficiencies associated with climate change risk disclosure.¹⁶ For large corporate emitters, it created transaction costs associated with filling out multiple external surveys and with learning new methodologies involved in each framework. For example, the CDP's efforts to improve the survey by changing or adding additional questions has hampered consistent year-on-year disclosure as firms try to understand how to incorporate the changes.¹⁷ Taking different approaches often "discourages disclosure because preparers are uncertain about what they should report and how to comply with user needs."¹⁸

For institutional investors, this patchwork created an "imperfect and incomplete picture both in what is said and in the rules dictating what should be said."¹⁹ Without comparable information on the impact of climate change risks between firms using different standards, institutional investors are unable to determine how to adjust their investment strategy to minimize climate change risks. This

¹³ PriceWaterHouseCoopers, "Building Trust in Emissions Reporting: Global Trends in Emissions Trading Schemes," 2007, http://www.pwc.com/en_KH/kh/publications/assets/building-trust-in-emissions-reporting-final.pdf.

¹⁴ Alexandre Kossoy and Phillippe Ambrosi, "States and Trends of the Carbon Market" (World Bank, May 2010), 10.

¹⁵ Jeffrey, A. Smith, Matthew Morreale, and Michael E. Mariani, "Climate Change Disclosure: Moving Towards a Brave New World," *Capital Markets Law Journal* 3, no. 4 (2008): 469-485, 2.

¹⁶ PriceWaterHouseCoopers, "Building Trust in Emissions Reporting: Global Trends in Emissions Trading Schemes," 7; Smith, Morreale, and Mariani, "Climate Change Disclosure: Moving Towards a Brave New World," 470.

¹⁷ Kolk, Levy, and Pinkse, "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure," 735.

¹⁸ CDSB, "Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework," 3.

¹⁹ Smith, Morreale, and Mariani, "Climate Change Disclosure: Moving Towards a Brave New World," 2.

frustration was shared by ENGOs, whose efforts to leverage institutional investors to improve climate change risk disclosure were undermined by the lack of a comparable market signal. For example, in their analysis of the CDP, Ans Kolk, David Levy and Jonathan Pinkse argued that while NGO efforts to encourage institutional investors to support disclosure have been effective, “there is no real evidence that the information is helpful and is being used by investors.”²⁰ To improve disclosure, the authors argued for “stricter carbon disclosure” that follows transparent guidelines capable of facilitating comparability and disclosure of relevant data as “an essential input for good decision making.”²¹ Jeffrey Smith, Matthew Morreale and Michael Mariani drew a similar conclusion arguing that “effective climate change disclosure will require both a universal language and a standardized set of rules, as well as the will to make these rules stick.”²² This analysis suggests that stakeholders participating in disclosure started to recognize the limits of a voluntary approach. As chapter 3 (section 3.3.1) described, initiatives such as the INCR even started to incorporate the demand for mandatory disclosure into its strategy by lobbying the SEC to implement interpretive guidance.

Concerns about inefficiency created by this patchwork emerged at the 2007 World Economic Forum (WEF) held in Davos, Switzerland. Richard Samans, the Managing Director of WEF, decided to hold a meeting between the core players involved in developing and supporting the existing patchwork. The first meeting included the CDP, Ceres, the Climate Registry, and the WRI and WBCSD (the founders of the GHG Protocol), in addition to a group of corporations and emitters concerned about exposure to climate change risks.²³ Other interested parties involved in climate change risk disclosure were also invited into further meetings, including The Climate Group, and the IETA. After agreeing that some form of harmonization was necessary to resolve problems with the existing patchwork, these actors announced the formation of the Climate Disclosure Standards Board on January 26th, 2007.

The first important decision by CDSB Board members was to find a secretariat with the logistical capacity to facilitate the harmonization of these standards. According to one interviewee, many Board members agreed that the CDP represented the logical institution to host the CDSB.²⁴ As

²⁰ Kolk, Levy, and Pinkse, “Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure,” 741.

²¹ *Ibid.*, 742.

²² Smith, Morreale, and Mariani, “Climate Change Disclosure: Moving Towards a Brave New World,” 485.

²³ These companies included Alcan, Alcoa, Anglo American, Cemex, Coca-Cola Company, Holcim, HP, Lafarge, Petrobras SA, RAO UESR, RWE, Santas, ScottishPower, Swiss Re Insurance, Vattenfall, and Vitro.

²⁴ Anonymous B.

Chapter 3 (section 3.3.3) discussed, the CDP Secretariat has important technical expertise and political capacity in facilitating climate change risk disclosure.

In terms of technical expertise, the CDP had important experience in using its survey to generate a comparable market signal on the exposure to climate change risks among publicly listed firms. Since 2002, the CDP Secretariat has collected information from both investors and corporate emitters and evaluated the effectiveness of its survey in providing a market signal that both actors can use to reduce their exposure to these risks. The CDP's most important contribution to developing a technical consensus was the development of four categories of financial information related to climate change risks that institutional investors now widely define as the "de facto" international climate change risk disclosure standard.²⁵

In terms of political capacity, the CDP Secretariat had successfully established a broad network of important support within the institutional investment community. This network presently includes over 551 institutional investors, and over 3000 companies. Because these actors already support climate change risk disclosure, the CDP governs a large constituency that is critical to broadening support throughout the economy in support of climate change risk disclosure. The CDP's technical expertise in facilitating disclosure and its wide network of support constituted valuable assets in facilitating the effort to harmonize existing climate change risk standards.²⁶

Despite the expertise and capacity of the CDP in facilitating its own standard, initial efforts to harmonize existing standards generated frustration among many of the key players. In particular, these players were concerned that the CDSB would take precedence over their own standards and institutional investors and corporate emitters worried that another standard would just add another layer onto the existing patchwork. In fact, several members voiced concerns that the new standard largely replicated the CDP's survey.²⁷

Samans addressed these concerns by proposing that the CDSB develop a standard that, while harmonizing existing approaches, could be incorporated into existing mandatory national and international accounting standards. This idea emerged after consultations with representatives from the accounting sector in early 2007, who agreed to join the CDSB through the formation of the Technical Working Group (TWG). According to Samans:

²⁵ CDSB, "Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework," 17.

²⁶ Anonymous B.

²⁷ Anonymous D. Interview by Jason Thistlethwaite, May 10, 2010.

[T]he development of a single set of universal standards on climate change related disclosure will bring some welcome order to the communication challenges that inevitably occur as the discipline of climate change reporting evolves. The active involvement of the accounting profession is essential to achieving this standardization.²⁸

The accounting profession represented an ideal target for collaboration for two reasons. First, as noted in the next section, the industry had material interests in expanding its markets through the implementation of a mandatory climate change risk disclosure standard. Second, the accounting industry had a great deal of experience and expertise in collaborating to harmonize different national accounting standards. In particular, the industry had expertise in facilitating inter-firm collaboration as a strategy to design and embed international accounting standards within mandatory national accounting standards.²⁹

Co-regulation provided an opportunity to combine this international standard setting expertise with that of the ENGOs, institutional investors, and corporate emitters who have considerable expertise and political capacity generating climate change risk disclosure frameworks. As the next section will describe, this expertise and capacity were welcomed by the accounting industry as important assets in generating the technical and political consensus necessary to implement an international accounting standard governing climate change risks.

4.3 Governing Climate Change Risks in Accounting Markets

Before describing the importance of a technical and political consensus in implementing international accounting standards, it is important to describe in more detail why the accounting industry represented an important ally for ENGOs, institutional investors and corporate emitters pushing for the mandatory disclosure of climate change risks. Particularly important were the material interests of the accounting sector in implementing an international accounting standard to expand its markets by developing services throughout the economy to govern climate change risks.

4.3.1 Material Interests in Challenging International Accounting Standards

The implementation of a mandatory climate change risk disclosure standard presents significant opportunities for accountants to expand their market boundaries as the demands for the valuation,

²⁸ Rachel Singh, “Cracks Appear in Carbon Emissions Accounting,” *Accountancy Age*, November 12, 2009, <http://www.accountancyage.com/aa/news/1750852/cracks-appear-carbon-emissions-accounting>.

²⁹ Anonymous B.

measurement, and auditing of climate change risks increase.³⁰ But as the analysis in this section will demonstrate, these opportunities are contingent on the expansion of public regulation, specifically the implementation of a mandatory international accounting standard. Examples of these opportunities include accounting services for the financial implications of transactions under regulated emissions trading schemes, developing new performance metrics, and providing robust disclosure on risks and performance to capital markets. Boards of Directors and managers will require new performance measures to identify strategies for reducing exposure to climate change risks and costs. Investors will also require a great deal more information on how physical, regulatory, reputational and legal risks are likely to impact their investment strategy as the impacts of climate change increase.³¹ The Big Four have recognized this potential new market and have all dedicated resources to exploring and developing opportunities in providing services necessary to reduce uncertainty around the impacts of climate change.³²

This market behavior is informed by cognitive expectations within the accounting industry that climate change economic uncertainty represents a financial risk that can be governed through accounting services. Within the accounting profession, market uncertainty associated with climate change must be treated as a risk in a firm's corporate accounts. The accounting industry's core business model is based on selling services that corporations and investors use to generate a neutral communication on a firm's financial value. Although the financial impacts of climate change remain uncertain, accountants are predisposed to treat this uncertainty as a risk as a precautionary measure to protect the legitimacy of their expertise.

The development of expertise on how to accurately measure value has been the core business model for accountants since limited liability laws were first introduced requiring the use of an auditor to protect the interests of investors. First created in Great Britain in 1862, limited liability laws

³⁰ Nathaniel Gronewold, "The Big Four of Accounting Will be Among the Big Winners if U.S. Adopts Climate Law," *New York Times*, July 7, 2009, <http://www.nytimes.com/cwire/2009/07/07/07climatewire-the-big-four-of-accounting-will-be-among-the-77758.html>.

³¹ Julie Desjardins and Alan Willis, "Low-Carbon Economy: The Business of Climate Change," *CA Magazine*, December 1, 2009.

³² PriceWaterHouseCoopers, "Global Sustainability," *PriceWaterHouseCoopers*, 2010, <http://www.pwc.com/gx/en/sustainability>; KPMG, "Climate Change and Sustainability Services," *KPMG*, 2010, <http://www.kpmg.com/Global/en/WhatWeDo/Advisory/Risk-Compliance/Internal-Audit/Climate-Change-Sustainability-Services/Pages/default.aspx>; Deloitte, "Climate Change and Carbon Markets," *Deloitte*, 2010, http://www.deloitte.com/view/en_GX/global/industries/energy-resources/climate-change-carbon-markets/; Ernst & Young, "Climate Change and Sustainability Services," *Ernst & Young*, 2010, <http://www.ey.com/GL/en/Services/Specialty-Services/Climate-Change-and-Sustainability-Services/Climate-Change-and-Sustainability-Services---Overview>.

legislated that public companies had to produce an annual balance sheet verified to be ‘fair’ by an accountant. To ensure bookkeeping provided maximum transparency, accountants developed standards that define how to communicate a fair disclosure on a firm’s economic value.³³ These standards are designed to represent a code that sets the minimum requirement for the quality of data incorporated into a financial statement to be considered “decision-useful” to investors.³⁴

Debates about whether a firm’s environmental performance fulfills the requirements to be included in a firm’s accounts first emerged during the 1970s through the efforts of Professor Anthony Hopwood, who founded the journal *Accounting, Organizations and Society* as a forum for research exploring the social and environmental impacts of accounting.³⁵ Among financial accountants, these debates have traditionally remained on the periphery because of a natural conservatism embedded within the sector towards reforming the way “decision-useful” information is defined.³⁶ Despite this conservatism, accountants have started to emerge who question this perspective.³⁷

According to Rob Gray and Jan Bebbington, accountants are driven to question why existing disclosure requirements discount a firm’s environmental performance based on their professional obligations. As neutral arbiters in communicating a firm’s financial information, accountants are beginning to realize that discounting a firm’s environmental performance means their “accounts” of an organization are flawed and misleading. As a consequence, management and investors are making decisions based on the financial information that does not reflect a “fair” valuation of a firm’s financial performance.³⁸ In the event that a firm or investor links a decision to this incomplete disclosure, the firm who provided the audit is exposed to reputational risk as their clients turn to their rivals.

Because the accounting profession depends on its credibility as a neutral arbiter of financial information, it often invokes the “precautionary principle” in response to conditions of economic

³³ Strange, *The Retreat of the State: The Diffusion of Power in the World Economy*, 136.

³⁴ For example, the mission of the IASB is “to develop, in the public interest, a single set of high quality, understandable and enforceable global accounting standards that require high quality, transparent and comparable information in financial statements and other financial reporting to help participants in the world’s capital markets and other users make decisions.” See IASB, “IASB Foundation Constitution” (IASB, 2000), <http://www.iasplus.com/resource/2007revisedconstitution.pdf>.

³⁵ Rob Gray, “Thirty Years of Social Accounting, Reporting and Auditing: What (if anything) Have We Learnt?,” *Business Ethics, A European Review* 10 (2001): 9-15.

³⁶ See Schmidheiny and Zorraquin, *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development*, 131.

³⁷ Gray and Bebbington, *Accounting for the Environment*, 221.

³⁸ *Ibid.*, 222.

uncertainty by trying to reduce this uncertainty into a measurable financial risk.³⁹ For the accounting profession, economic uncertainty constitutes an opportunity to develop metrics and valuation techniques that managers and investors can use to reduce uncertainty and improve their market decision-making. This analysis confirms the important influence of financial knowledge in shaping the accounting industry's material interests in using public regulation to govern the measurement and disclosure of climate change risks. Not only is this knowledge conducive to questioning whether environmental information should be measured in a firm's corporate accounts, but it is also generating market services that are able to make these calculations. Indeed, as Chapter 2 (section 2.3.2) described, accountants govern powerful "knowledge structures" that can be used to reduce uncertainty around the measurement of a firm's environmental performance, such as exposure to climate change risks.

For this reason, accountants are increasingly aware of demands among ENGOs, investors, and firms seeking disclosure about a firm's environmental performance. These demands have led to concerns that the accounting industry has failed in its core business strategy by neglecting the measurement and disclosure of a firm's environmental performance. According to Michael Izza, the Chief Executive of the ICAEW, the financial crisis was an important reminder of the accounting industry's professional obligation to expand disclosure beyond strict financial performance. In a speech to the Cardiff Business School in November 2010, Izza explained that "this crisis should have taught us, our long term-economic well-being and indeed our survival can no longer just rely on the performance of markets as measured in financial terms."⁴⁰ He concluded by arguing that measuring a firm's environmental performance represents one of these key factors in preserving "our long-term" well-being and that this belongs to "the domain of the accountant who can make a significant contribution to businesses becoming more sustainable and gaining the benefit as a result."⁴¹

The disclosure of climate change risks has become a significant target for accountants with material interests in expanding disclosure. As one member of the CDSB argued in an interview, the spread of these voluntary reporting and disclosure standards represents an important signal that the "relevance of the [accounting] industry" is under threat if it fails to act.⁴² These cognitive expectations for the use of accounting markets in measuring future oriented environmental risks reveal how

³⁹ Geoff Lamberton, "Sustainability Accounting: A Brief History," *Accounting Forum*, no. 29 (2005): 7-26, 20.

⁴⁰ Robert Llewellyn, "Time to Stop Living off the Earth's Capital - Before it's all Used Up," *Western Mail*, November 25, 2010, <http://www.walesonline.co.uk/business-in-wales/business-news/2010/11/25/accountants-chief-talks-in-cardiff-on-sustainability-91466-27711514/>.

⁴¹ Ibid.

⁴² Anonymous G. Interview by Jason Thistlethwaite, March 7, 2010.

accounting knowledge can influence the way actors perceive their material interests. But for the industry to capitalize on the opportunities created by demands for improved disclosure, it must engage in collective rule making through the IASB to implement a mandatory standard. Similar to the ENGOs (ie. CDP, INCR, GHG Protocol), institutional investors and corporate emitters involved in existing standards, the accounting industry sees voluntary disclosure as insufficient for governing these risks.

For an international market, the accounting sector must reform existing international accounting standards (the IFRS) implemented by the IASB. These standards establish the market for accountants to audit and advise the measurement and disclosure of financial information to ensure publicly listed firms comply with international accounting standards. The implementation of a mandatory international standard by the IASB would require all publicly listed firms in the IASB's 120 member states to measure and disclose their climate change risks.

Without a mandatory standard, the market for accounting services in auditing climate change risks would be marginal and insufficient to justify developing these services. As Gray and Bebbington explain, the reason why accounting markets have failed to generate services capable of measuring the market value of a firm's environmental performance is that "the majority of companies (and, indeed, the majority of accountants) will not willingly undertake *voluntary* disclosure."⁴³ In other words, accountants do not have the authority to force firms to provide disclosure and stimulate demand for accounting services. This analysis suggests that implementing a mandatory standard is really the only way the accounting industry can promote its material interests in governing climate change risk disclosure.

In addition to the supporting mandatory disclosure for material reasons, accountants support mandatory disclosure because promoting "voluntary disclosure" could expose the industry to reputational and regulatory risks. As a coordination service firm that produces closely substitutable "semi-public" goods (ie. auditing), a mistake by one firm can easily create reputational and regulatory risk for the entire industry. For example, an accounting firm's reputation as a neutral communicator of financial information is compromised if it is caught providing a voluntary audit that misleads investors about a firm's exposure to climate change risks. Because there are no standards establishing how to measure these risks, accounting for a firm's environmental performance is a "minefield" according to Gray and Bebbington.⁴⁴

⁴³ Gray and Bebbington, *Accounting for the Environment*, 231.

⁴⁴ *Ibid.*, 235.

While accountants have the knowledge and expertise to measure this performance based on “traditional” auditing practices, accountants rely on standards sanctioned by the industry and public regulators to ensure their reports reflect “economic reality”. Without these standards there is “no definition of an environmental report and therefore less clarity on what it is the auditor is trying to attest to.”⁴⁵ In the event that investors or the audited firm complains to regulators about an accountant’s conclusion of its exposure to climate change risks, the firm and potentially the entire industry could be exposed to regulatory risk if other firms are caught providing similar audits.

To prevent a situation where an accounting firm extends its services to provide audits that are misleading, the industry has developed accounting standards backed by public regulators. In addition to securing the support of regulators, the IASB’s standard setting process also exposes new standards to potential opposition among firms participating in the accounting supply-chain. This process ensures that the services accountants provide have legitimacy among both preparers and end-users. By standardizing the range of services each firm can provide to ensure compliance with these standards, the accounting industry can avoid reputational and regulatory risks and maintain its technical legitimacy or “abstract system of knowledge in order to claim professional stature.”⁴⁶ The combination of the need to defend the industry from potential reputational and regulatory risks associated with the expansion of its services, and the material benefits associated with mandatory disclosure, generate support for the implementation of a mandatory standard.

4.3.2 Technical and Political Consensus in Governing Climate Change Risks

The accounting industry represents an important ally for ENGOs because it views public regulation as useful for advancing its material interests. These material interests are informed by the accounting sector’s predisposition to cognitive expectations that climate change uncertainty constitutes a financial risk that must be measured within accounting markets. But why did the industry decide to pursue co-regulation with these ENGOs as an optimal strategy for expanding this regulation?

Because the IASB or national accounting standard setters have yet to initiate a standard setting process for climate change risks, accountants must generate evidence for a “business case” that climate change risks are “decision-useful” and justify disclosure, and determine an effective

⁴⁵ Ibid., 236.

⁴⁶ Sebastian Botzem, “Transnational Expert-Driven Standardisation: Accountancy Governance from a Professional Point of View,” in *Transnational Private Governance and Its Limits*, ed. Jean-Christophe Graz and Andreas Nolke (Routledge, 2008), 44-57, 46.

design for a disclosure standard. This requires that the accounting profession establish a technical consensus for a standard that captures “decision-useful” financial information related to the economic uncertainty created by climate change. The accounting industry then also needs to generate political consensus in support of a mandatory standard. As section 4.3 described, the CDSB Board members, specifically the CDP Secretariat, has important expertise that can help the accounting industry address these challenges.

4.3.2.1 Measuring “Decision-Useful” Risks

The accounting profession’s interests in supporting the implementation of a new disclosure standard are informed by cognitive expectations that financial information must meet to be considered “decision-useful” for investors by improving the efficiency of their decision-making.⁴⁷ These expectations are identified in IASB’s Conceptual Framework for Financial Reporting. The first expectation is that financial information supports “relevance”, which stipulates “information is relevant if it is capable of making a difference in the decisions made by users in their capacity as capital providers.”⁴⁸ The second expectation is “faithful representation”, which stipulates, “information must be as faithful representation of the economic phenomena that it purports to represent.”⁴⁹

While this guidance helps the accounting profession identify information that is decision-useful, there are also two “constraining” expectations that limit the information provided by financial reporting. The first is “materiality”, which sets a qualitative threshold for identifying “decision-useful” information by arguing that information must be disclosed if its “omission or misstatement could influence the decisions that users make on the basis of an entity’s financial information.”⁵⁰ The second is “cost”, which stipulates that “the benefits of financial reporting should justify those costs.”⁵¹ This latter “constraining” characteristic represents a critical condition for implementing a mandatory standard. If preparers and end-users are unable to justify that disclosure generates some form of

⁴⁷ See Porter, “Private authority, Technical Authority, and the Globalization of Accounting Standards.”

⁴⁸ IASB, “An Improved Conceptual Framework for Financial Reporting,” May 2008, http://www.iasb.org/NR/rdonlyres/464C50D6-00FD-4BE7-A6FF-1BEAD353CD97/0/conceptual_framework_exposure_draft.pdf, 35.

⁴⁹ Ibid., 35.

⁵⁰ Ibid., 41.

⁵¹ Ibid., 42.

material gain relative to the cost of measuring climate change risks, it is difficult to argue that governing these risks leads to a material gain in the first place.

Although these expectations provide thresholds or tests for determining whether financial information should be measured and disclosed, they are flexible and intended to challenge accountants to make the case that information does or does not satisfy these thresholds. For this reason, the accounting industry, as well as CDSB Board members, must generate a technical consensus that climate change risks are decision-useful for investors and financial markets more broadly to implement an international standard.⁵² As the previous analysis suggested in this section, many actors within the accounting industry support “progressive” cognitive expectations that accounting knowledge can be used generate a technical consensus on how to measure climate change risks in ways that are decision-useful. This “progressive” stance, however, must overcome opposition among accountants who support more “conservative” cognitive expectations towards the use of accounting knowledge in governing future-oriented risks. These accountants believe that a more pragmatic approach to dealing with the requests of ENGOs and institutional investors would be to wait for evidence that these risks are decision-useful before they are measured and counted on a firm’s balance sheet. When these risks become decision-useful, the rule-makers in the accounting sector, such as the IASB, will implement a standard addressing the demand for more disclosure.

This conservatism is based on the argument that climate change risks constitute a long-term issue that remains too uncertain to satisfy the profession’s cognitive expectations for decision-useful information.⁵³ Accountants have a difficult time measuring future-oriented risks in a financial statement because there is often no “present obligation” or measurable outflow of assets to be valued.⁵⁴ Without a quantitative measure that a risk has materialized into a cost, there is little evidence that accountants can point to that such a risk requires disclosure. The implementation of a standard that forces this disclosure could communicate information on a firm’s financial performance that is misleading to investors without this evidence. In the event that standards are proven to reveal flawed financial information, standard setters and the accounting firms that audit these standards are exposed to high levels of regulatory, reputational and legal risks.

⁵² See Lovell and MacKenzie, “Accounting for Carbon: The Role of Accounting Professional Organisations in Governing Climate Change,” 717.

⁵³ Anonymous E. Interview by Jason Thistlethwaite, May 10, 2010.

⁵⁴ IASB Staff, “IAS 37 Redeliberation: Distinguishing Between a Liability and a Business Risk (Agenda Paper 3b)” (IASB, 2009), <http://www.iasb.org/NR/rdonlyres/0D962775-6DFA-4D79-9438-3EABC67AD57C/0/Agendapaper3AIAS37redeliberationsCovernote.pdf>,

For example, the Enron crisis was the result of auditing using accounting standards that disclosed misleading information to investors about the location of liabilities in Enron's corporate accounts. Under the US Generally Accepted Accounting Principles (GAAP), firms could create Special Purpose Entities (SPEs) and then sell their debt to the SPE as a way of lowering liabilities in their account. Once the debt is sold to the SPE, it is no longer recorded on the seller's account as a liability. The only stipulation according to GAAP is that 3 percent of the SPE's equity is owned by a third party for it to be considered a separate firm. Enron could easily attract outside financiers to contribute 3 percent (even though they often just listed their own employees as 3 percent stakeholders in the SPE) and used this as a simple way to erase liabilities and improve its appeal among investors.⁵⁵ In this instance, US GAAP failed to capture significant liabilities on Enron's balance sheet that were highly material to their investors and financial markets.

Although these financial practices were technically allowed under US GAAP, Arthur Anderson – one of the Big Five accounting firms – was forced to declare bankruptcy as its clients fled worried about its poor reputation.⁵⁶ This popular backlash spread to the US Congress, which implemented the Sarbanes-Oxley Act in an attempt to address the loopholes that led to the Enron crisis. The Act significantly increased the operating cost for the remaining Big Four accounting firms by asking them to significantly change their due diligence approach.

The Enron crisis is one example showing how the accounting sector and its standards can be targeted for disclosing misleading information on a firm's financial value. These consequences fuel a constant debate within the accounting sector on how to improve the standards that govern accounting practices. It is in this context that debates emerge about whether a firm's environmental performance and risks are decision-useful. Whereas standard setters may argue that a standard on climate change risk disclosure could produce misleading information, investors and ENGOs would argue the opposite, that the omission of such a standards and adequate disclosure of climate change risks is misleading.⁵⁷

The CDSB represents a useful platform for the accounting industry to try and generate a consensus on how a standard should be designed. As the previous section discussed, CDSB Board members have been working hard to generate this consensus on their own and have developed

⁵⁵ Nicolas Véron, Matthieu Autret, and Alfred Galichon, *Smoke & Mirrors, Inc: Accounting For Capitalism* (Ithaca: Cornell University Press, 2006), 33.

⁵⁶ *Ibid.*, 39.

⁵⁷ Young, Suarez, and Gladman, "Climate Risk Disclosure in SEC Filings: An Analysis of 10-K Reporting by Oil and Gas, Insurance, Coal, Transportation and Electric Power Companies," iv.

established frameworks widely recognized for their technical capacity to reduce uncertainty around climate change risks. Because these frameworks are widely recognized as “decision-useful” in measuring climate change risks among institutional investors and corporate emitters, accountants have evidence that the measurement of climate change risks at least partially fulfills the industry’s cognitive expectations for decision-useful information. In other words, a technical consensus on how to measure climate change risks is already emerging, albeit in an ad hoc or piecemeal manner.

4.3.2.2 The Politics of a Mandatory Climate Risk Standard

Even if CDSB Board members, with the help of the accounting industry, are successful in generating a technical consensus, these actors must generate a political consensus that a mandatory regulation is necessary to govern these risks. It is particularly important to generate political support among stakeholders that could oppose the implementation of a mandatory standard, and even withdraw support for the IASB itself. Among the IASB’s major constituencies, investors are usually willing to side with accountants pushing for a higher level of disclosure to improve their decision-making when allocating capital. Many TNCs, however, tend to oppose rigorous disclosure, citing the costs of compliance, as well as concerns that excessive disclosure of information can damage their competitiveness by revealing market strategy to their competitors, and that investors could disinvest based on misleading information.⁵⁸

National securities regulators represent potentially the most important interest group in the IASB standard setting process. Because these regulators have the authority to implement international standards, their support is necessary for the IASB to be effective in its mandate. Any move by the IASB to implement a standard on climate change risks would likely face opposition from various national securities regulators who might refuse to implement the standard based on opposition within their domestic constituency. This opposition would likely take two forms. First, publicly listed firms who are required to comply with the IASB’s standards tend to oppose increased disclosure of environmental information. Most of these firms take this position because “disclosure could expose a firm and its officers to prosecution where there is evidence of non-compliance with regulations.”⁵⁹

⁵⁸ Richardson, *Environmental Regulation Through Financial Organisations*, 264; Kolk, Levy, and Pinkse, “Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure,” 725.

⁵⁹ Richardson, *Environmental Regulation Through Financial Organisations*, 264.

This opposition is particularly strong among small and medium sized enterprises (SME) which often cannot afford to allocate more resources to increased disclosure.⁶⁰

Second, popular opposition could also emerge against an extension of the IASB's authority into climate change politics. Although the politics of international accounting standard setting are arguably confined to a narrow group of technocrats, politicians and readers of the *Financial Times*, issues involving the "global governance" of climate change are heavily politicized in many countries, especially the US, which is one of the IASB's most important constituents. The US has a history of delaying its support for the international harmonization project led by the IASB. On numerous occasions, the US SEC has pushed back the date that it will adopt the IASB's standards.⁶¹ The IASB's focus on convincing regulators governing the world's largest capital market to adopt its standards is likely to make it hesitant to adopt projects such as climate change risk disclosure that could generate popular opposition among US regulators and domestic firms.

According to Richard Spencer of the ICAEW, a member of the CDSB, the IASB is also too overwhelmed with its efforts to respond to more immediate accounting priorities, and consequently, has yet to identify a strategy for winning global agreement for such a climate change standard.⁶² In the aftermath of the financial crisis, the decision-making formula used by the IASB was attacked by the G-20 leaders for its lack of accountability to the IASB's member-states. More specifically, the IASB has faced increased scrutiny from G-20 leaders over its decisions supporting the use of "fair-value" accounting, which critics argue contributed to the worsening of the 2007-2008 financial crisis.⁶³

In addition to this scrutiny, the IASB must also focus on its convergence project attempting to integrate the US Generally Accepted Accounting Principles (GAAP), with its International Financial Reporting Standards (IFRS).⁶⁴ Integrating the two most widely used accounting standards represents a tremendous political and technical task for the IASB. As a matter of priority, it must focus on more

⁶⁰ Anonymous F. Interview by Jason Thistlethwaite, May 20, 2010.

⁶¹ Tweedie, Sir David and Leslie Seidman, "Interview with Sir David Tweedie and Leslie Seidman regarding the timeline for completing the convergence programme," interview by Mark Byatt, April 14, 2011, <http://www.ifrs.org/News/Announcements+and+Speeches/IASB+FASB+interview.htm>.

⁶² Singh, "Cracks Appear in Carbon Emissions Accounting."

⁶³ Hall and Hughes, *Financial Times*, 20 September 2009. Outside of the accounting community, FVA has a much more controversial and notorious reputation since it is widely considered to have exacerbated the 2007-2008 global financial crisis. Because FVA priced US sub-prime backed securities based on rapidly declining market prices, banks were forced to sell off these securities to stabilize their cash reserves once the crisis began in order to preserve their capital adequacy or liquidity. These write-downs and subsequent sell-offs were pro-cyclical and, according to FVA critics, acted to intensify the global financial crisis.

⁶⁴ IASB, "Use Around the World."

“mainstream” accounting issues that its core constituents are looking to resolve before addressing concerns such as climate change risk. The IASB did, however, recently join the International Integrated Reporting Committee (IIRC), a separate green accounting initiative which focuses on effective disclosure of a wider range of sustainability issues. This move demonstrates that environmental concerns are gaining some traction within the IASB.⁶⁵

Although the accounting industry has extensive experience in implementing international accounting standards through the IASB, the initiation of a similar effort to govern climate change risks is likely to fail without support among key stakeholders impacted by such a standard, and the IASB itself. The CDSB provides an opportunity for the accounting industry to leverage the political capacity of the various Board members who have developed constituencies already supporting climate change risk disclosure.

For example, frameworks such as the GHG Protocol and CDP survey both enjoy support among a wide constituency of actors external to the accounting industry. In particular, many corporate and environmental actors believe that these frameworks will be effective in shifting the way market actors perceive the economic value of climate change risks. This constituency represents an important base for cultivating political support among external stakeholders including the environmental community necessary for the IASB or national accounting standard setters to implement a mandatory standard governing climate change risks.

In addition to generating a technical consensus within the accounting community that climate change risk disclosure is decision-useful, it is also necessary to ensure that the framework enjoys legitimacy within the environmental community.⁶⁶ In particular, it is necessary to demonstrate that the any disclosure framework developed by the CDSB is able to capture information that can stimulate further investment in economic behavior that supports mitigation and adaptation. As chapter 3 (section 3.3.2) suggested, ENGO oversight that involves the use of a reflexive mechanism is an important signal that environmental concerns are important for the CDSB along with the more material interests related to climate change risks.

This analysis reveals that the advancement of the accounting industry’s interests in expanding its markets to facilitate climate change risk is contingent on accounting knowledge that these risks must be governed through public regulation, rather than short-term concerns about reputation as

⁶⁵ Accounting for Sustainability, “Governance and Collaboration: Establishing an “International Integrated Reporting Committee”,” 2009, <http://www.accountingforsustainability.org/files/pdf/Governance%20&%20Collaboration.pdf>.

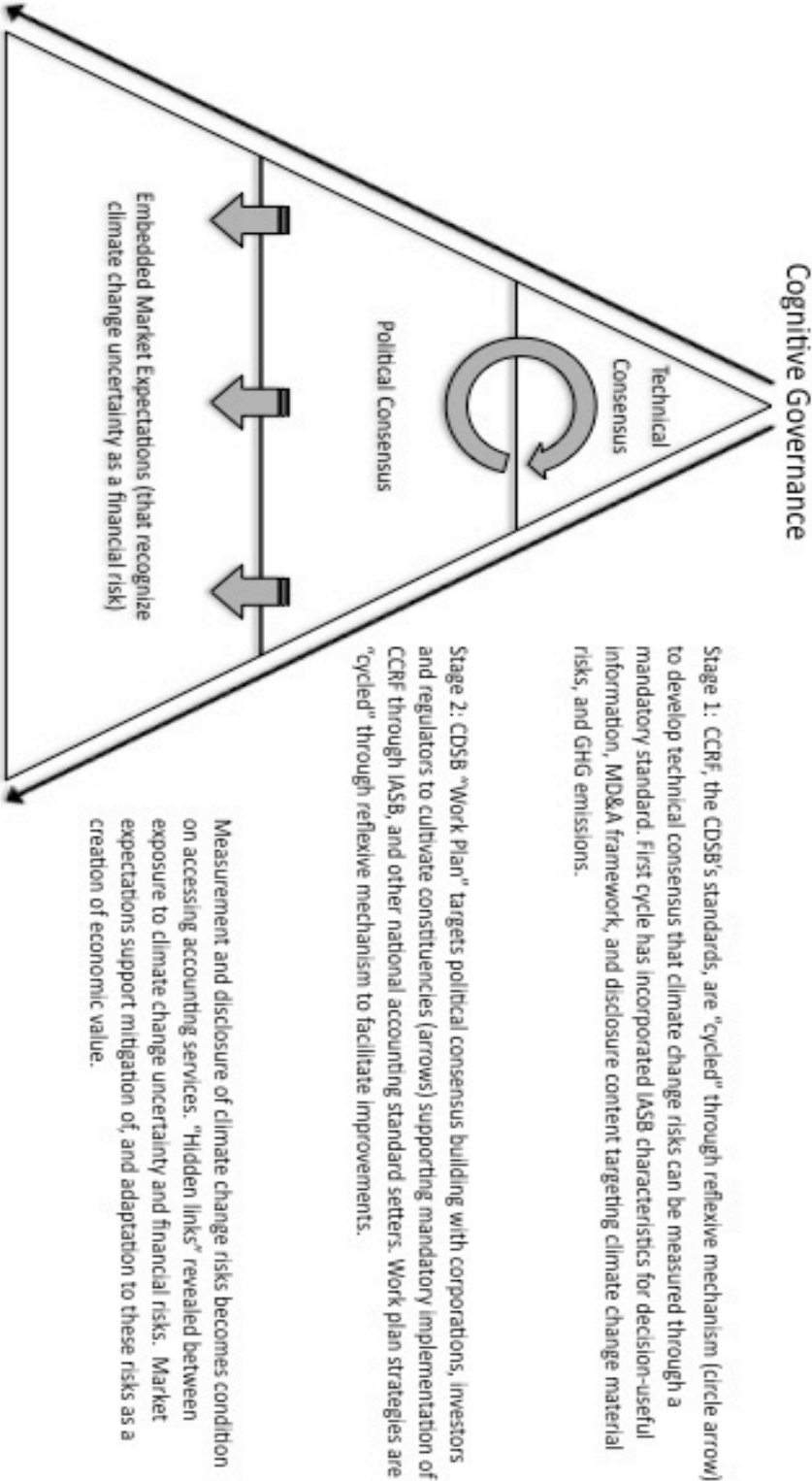
⁶⁶ Paterson, “Legitimation and Accumulation in Climate Change Governance,” 359.

suggested by post-Westphalian arguments. But to facilitate this regulation, the industry must collaborate to generate a technical and political consensus. Although accountants are beginning to support “progressive expectations” that accounting markets can govern climate change risks in ways that generate material gains, there is still hesitation among some within the industry in pushing for mandatory disclosure. The hesitation is based on technical uncertainty involved in attributing value to a future-oriented risk, the design of a standard that could be effective communicating this risk, and potential political opposition to engaging collective rule making through the IASB. ENGOs, specifically the “specialist” finance-oriented organizations that joined the CDSB Board have a “head start” in generating this technical and political consensus, and thus make valuable partners with the accounting industry.

4.4 Co-Regulation and Cognitive Governance in the CDSB

This section will outline how co-regulation established by the CDSB between the accounting industry, ENGOs, institutional investors, and corporate emitters harnesses the expertise and experience of these actors in generating the technical and political consensus necessary to facilitate mandatory climate change risk disclosure. By breaking down the CDSB’s approach to co-regulation, this analysis will demonstrate how its strategy for achieving influence involves two stages that demonstrate the two core characteristics involved in cognitive governance (see Figure 4.1). These characteristics include: 1) the use of voluntary best-practice standards to engage in technical and political consensus building to cultivate constiencies willing to support an expansion of public regulations to govern climate change risks; and, 2) the use of a reflexive mechanism to govern compliance to these standards.

Figure 4.1 The CDSB as cognitive governance



Before explaining the two-stage process, it is necessary to outline how the CDSB embraces a reflexive mechanism to facilitate cognitive governance. This analysis is also useful to provide a defense against potential criticism by demonstrating how voluntary standards governed by this mechanism can facilitate its objectives. The CDSB's use of voluntary standards is designed to encourage an expansion of its membership as a part of its technical and political constituency building process. The flexibility associated with voluntary standards is particularly important to encourage corporate emitters to join the initiative without concern that their obligation to provide disclosure will be too burdensome in terms of cost or potential external scrutiny. As the CDSB improves the CCRF's capacity to capture decision-useful information, emitters will be able to determine their own rate of compliance and over time build the expertise and capacity necessary to provide disclosure at a level that satisfies a mandatory standard.

The reflexive mechanism developed by the CDSB combines the expertise of the accounting sector in implementing international accounting standards, and the capacity of CDSB Board members, which also have experience in implementing climate change risk disclosure standards using external audits and third party monitoring. For example, the CDSB's approach represents a more formal and sophisticated strategy than the reflexive mechanism that the CDP uses to govern technical and political consensus building.

In addition to building on the CDP's existing expertise in governing a reflexive standard setting process, a reflexive mechanism governed by an ENGO is important evidence that the negotiators recognized the importance generating legitimacy within the environmental community. Although the CDSB has yet to face any opposition from within the environmental community, interviews confirmed that the decision for the CDP to host the initiative was in part made to ensure it had ENGO support. In fact, the WEF initially hosted the first meetings on the CDSB but "there was not a lot of enthusiasm about having [it] move into an operational role" based on concerns among participants that it reflected the interests of the corporate community.⁶⁷ Board members thought the CDP was an optimal host because it was a "neutral" body with the "largest footprint" in climate change risk disclosure.⁶⁸

The CDSB mirrors the standard-setting process designed by the IASB. This design gives autonomy to accounting experts in designing the standards through the TWG before getting feedback

⁶⁷ Anonymous B.

⁶⁸ Anonymous H. Interview by Jason Thistlethwaite, October 7, 2010.

from the Advisory Group, and then final consent from the Board.⁶⁹ Once a standard is approved, it is released as an ED where actors external to the CDSB can offer their input on its effectiveness in capturing “decision-useful” information on climate change risks. After gathering feedback on the ED, the TWG attempts to incorporate feedback in ways that balance accounting cognitive expectations for the effective disclosure of these risks with the concerns expressed by the Board, Advisory Committee and public feedback.

The most significant improvement to the reflexive mechanism employed by the CDSB compared to the CDP is the addition of an external group of accounting experts to moderate feedback from participants on the capacity of disclosure to produce “decision-useful” information. The CDP relies on external research reports and its own internal expertise and capacity for improving its survey. Although this process provides an important source of reflexivity in facilitating technical and political consensus building, it has also been accused of being ad hoc and at times disruptive to the disclosure of comparable information on climate change risk exposure among the CDP’s participants.⁷⁰ The CDSB has made a distinct effort to strengthen the reflexivity of its approach by leveraging the partnership between the Board and the TWG as a mutual source of expertise and capacity in facilitating technical and political consensus building. The reflexive mechanism is the first example of how the CDSB has benefited from the partnership between its key constituents. The contribution of this critical partnership to facilitating consensus building is examined in the following analysis.

4.4.1 Technical Consensus Building

The first step in cognitive governance involves the attempt to establish a technical consensus on how to accurately measure climate change risks using a mandatory disclosure standard that improves market-decision making. To generate this consensus, the CDSB embraces a process where efforts to measure and disclose climate change risks using a voluntary disclosure framework are “cycled” through a reflexive mechanism to capture weaknesses identified by preparers, end-users and auditors using the framework. These weaknesses are then addressed by consulting the expertise of the TWG, and other CDSB’s constituents. The goal for this process is the “continuous improvement” of the

⁶⁹ CDSB, “The Board,” *Climate Disclosure Standards Board*, 2010, <http://www.cdsb-global.org/index.php?page=the-board>.

⁷⁰ Kolk, Levy, and Pinkse, “Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure,” 735.

CDSB's framework by using accounting knowledge so that "disclosures about climate change may be made *more* decision-useful by adopting relevant principles from the financial reporting model." (emphasis added).⁷¹ As the design of standard improves, and it is able to capture information that improves market-decision making, so to does the business case behind supporting mandatory disclosure.

The CDSB has so far been through one cycle of the first stage of cognitive governance. The CDSB released an ED of its first disclosure framework in May 2009 and closed the comment period in December 2009.⁷² In May 2010, the CDSB released the Climate Change Reporting Framework (CCRF) Version 1.0. The CCRF provides instructions for how auditors, preparers and end-users can measure climate change risks associated with a firm's production process.⁷³ By breaking down the decision-making behind several of the more important provisions within the CCRF, it is possible to see how technical consensus building attempts to reduce uncertainty around the measurement and disclosure of climate change risks.

Although there are a variety of areas within the CCRF currently debated for their ability to measure and disclosure climate change risks, the following will focus on three of the more significant in terms of the CCRF's capacity to measure and disclose climate change risks. The first provision is the adoption of the IASB's characteristics for decision-useful information. The second provision is the design of the CCRF as a standard to be implemented in a financial statement's "management commentary" section. The third provision involves the decision to use two disclosure content requirements developed by the CDP and GHG Protocol. The following analysis will show how technical consensus building played an important role in the emergence of these key provisions, and how they remain contested aspects in facilitating effective disclosure of climate change risks.

The CCRF uses the IASB's "qualitative characteristics for decision-useful information," specifically, "relevance", "faithful representation", "materiality," and "cost" as a benchmark that preparers, end-users and auditors can use as a threshold for determining whether climate change risk information is decision-useful.⁷⁴ For example, in defining "relevance" the CCRF establishes the following: "Information is relevant if it is capable of making a difference in the decisions made by

⁷¹ CDSB, "Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework," 2.

⁷² Ibid.

⁷³ CDSB, "The Climate Disclosure Standards Board - Work Plan 2010" (CDSB, April 6, 2010), http://www.cdsb-global.org/uploads/tim_roots/Work%20Plan,%20April%202010.pdf.

⁷⁴ CDSB, "Climate Change Reporting Framework - Edition 1.0" (CDSB, September 2010), 14-16.

users in their capacity as capital providers.”⁷⁵ Faithful representation ensures that preparers disclose information from a position of neutrality with “no material errors”, whereas materiality ensures that this representation of information is not presented in a way that misleads for investors.⁷⁶ Cost stipulates that “the benefits of reporting information are likely to justify the costs incurred to provide and use that information.”⁷⁷

Incorporating the IASB’s qualitative characteristics for decision useful information is an important technical decision necessary if the CCRF is to be adopted by the IASB and various national securities regulators because they follow the same definitions.⁷⁸ Indeed, as analysis in section 4.3.2.1 described, these characteristics have been developed by the IASB based on consensus within the accounting profession for the minimum requirements for the implementation of an accounting standard to capture decision-useful information. The support for the adoption of this “financial reporting model” was evident in the feedback produced through the comment period.⁷⁹ The decision to adopt the IASB’s qualitative characteristics, however, has created some debate over whether climate change risk disclosure will be able to meet these characteristics

One of the most important of these contested characteristics is cost. In the 2009 ED, the CDSB excluded the IASB’s “cost” characteristic as a qualification for decision-useful information arguing that “the Board is confident that the benefits of disclosure outweigh any additional marginal costs associated with information collection and assessment for reporting under the framework.”⁸⁰ This assumption was an important source of debate in the comment papers received by the CDSB. Many respondents argued that including the “cost” characteristic was critical if a climate change risk standard is to become mandatory. For example, Deloitte argued that “a decision on whether these disclosures should be mandatory” cannot occur until a “cost-benefit analysis is performed.”⁸¹

In response, the CDSB included the IASB’s “cost” characteristic in the CCRF. Preparers and end-users must now determine how the information they disclose or interpret can be used to maximize material gains. But the CDSB also recognized that an even more aggressive effort is

⁷⁵ CDSB, “Climate Change Reporting Framework - Edition 1.0,” 14; IASB, “An Improved Conceptual Framework for Financial Reporting,” 35.

⁷⁶ CDSB, “Climate Change Reporting Framework - Edition 1.0” 15-16; IASB, “An Improved Conceptual Framework for Financial Reporting,” 41.

⁷⁷ CDSB, “Climate Change Reporting Framework - Edition 1.0,” 18.

⁷⁸ CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework,” 12.

⁷⁹ CDSB, “Report on Consultation About CDSB's Reporting Framework” (CDSB, April 6, 2010), 1.

⁸⁰ CDSB, “The Climate Disclosure Standards Board Reporting Framework,” May 2009, http://www.cdsb-global.org/uploads/pdf/CDSB_Reporting_Framework.pdf, 20.

⁸¹ CDSB, “Report on Consultation About CDSB's Reporting Framework,” 4.

required to fulfill this cost threshold. In their 2010 “Work Plan”, the CDSB suggests that it “takes seriously the recommendation from the public consultation that it should conduct a cost-benefit analysis in order to evidence the value/benefit of climate change related disclosures and assess the costs to various industries.”⁸² As a consequence, the Work Plan now incorporates a cost-benefit analysis on the benefits of climate related disclosures for both corporate emitters and institutional investors.⁸³ Although the CDSB can then use this evidence to demonstrate that disclosure improves the efficiency of market decision-making, the process to make this case remains an ongoing challenge in fulfilling its mandate.

The second problem identified in using the IASB’s characteristics for decision-useful information that remains unresolved even after the publication of the CCRF is ensuring the GHG emissions fulfill the “faithful representation” requirement.⁸⁴ Because the quantitative measurement of GHG emissions is an imprecise exercise, several comment papers argued that it would be impossible to meet the faithful representation criteria, which requires that disclosure is “free from material error.” Similar to concerns about the “cost” characteristic, the CDSB responded by including a subsection in the CCRF suggesting that “in the context of climate-change related disclosure, faithful representation does not imply total freedom from error.”⁸⁵

To compensate for the gap between GHG emissions disclosure and “faithful representation”, the CCRF requires that disclosure of GHG emissions includes a “description of the main effects of uncertainty”, including data gaps, assumptions, extrapolations.⁸⁶ By including this guidance, the CCRF attempts to generate evidence that GHG emissions can fulfill this characteristic to contest opposition. Despite this guidance, debates about whether measurements on GHG emissions fulfill the “faithful representation” criteria will continue as the CCRF goes through future cycles of the reflexive mechanism.

The second important provision that is currently being debated by the CDSB is the location for disclosure of climate change risks within the financial statement. Location is an important factor in disclosing any “business risk”, such as climate change risks, that are future-oriented because they do not qualify as “present obligations”, or transactions that are recorded on the balance sheet. Without

⁸² CDSB, “The Climate Disclosure Standards Board - Work Plan 2010,” 4.

⁸³ Ibid., 10.

⁸⁴ CDSB, “Report on Consultation About CDSB's Reporting Framework,” 3.

⁸⁵ CDSB, “Climate Change Reporting Framework - Edition 1.0,” 15.

⁸⁶ Ibid., 25.

a concrete measure on an “outflow of resources” from a firm, an accountant faces a great deal of ambiguity in determining an accurate communication of financial data.

For this reason, the 2009 ED argued that the “management commentary” section is the desired location for climate change risk disclosure.⁸⁷ The Basis for Conclusions document for the ED explains that this location is the most effective because it provides preparers, end-users and auditors with flexibility in disclosing or interpreting information that is often difficult to measure in the financial statement. Disclosure through the management commentary encourages preparers to provide a more qualitative discussion of climate change that can help “investors evaluate and assess the impact of climate change on a company’s current and future financial conditions, results of operations and cash flows.”⁸⁸

In addition to these technical benefits, management commentary also receives a high level of scrutiny by management within the firm and investors. The provision of a management commentary in addition to the financial statement is required for publicly listed firms participating in U.S. and E.U. capital markets – the two largest in the world.⁸⁹ As a consequence of these requirements, the CFO must approve the content of the commentary before it is publicly disclosed. Because of this scrutiny in addition to its inclusion with the financial statement, investors are much more likely to evaluate climate change risks if they are included in the management commentary. Disclosure through management commentary also provides a vital learning experience by “mimicking” the experience preparers will face if the CDSB is successful in its mandate.

The decision to use the management commentary approach reflected these regulatory requirements and the potential for a higher level of scrutiny among internal and external stakeholders.⁹⁰ Despite these justifications, only a third of the respondents supported the use of management commentary as the location for risk disclosure. In fact, respondents proposed two other locations. The first proposal was for disclosure through a separate “climate change report” as an attachment to the annual report, while the second proposal was for “limited” disclosure in the management commentary based on information compiled in a separate report.⁹¹ Because it is exposed to the highest level of external scrutiny, the ED’s requirement for disclosure through management

⁸⁷ CDSB, “The Climate Disclosure Standards Board Reporting Framework,” 17.

⁸⁸ CICA, “Background: CICA Climate Change Reporting” (CICA, May 2010), <http://www.cica.ca/climatechange/item39810.pdf>, 5.

⁸⁹ CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework,” 5.

⁹⁰ “Climate Change Advisor to the CICA,” interview by Jason Thistlethwaite, May 6, 2010.

⁹¹ CDSB, “Report on Consultation About CDSB’s Reporting Framework,” 4.

commentary is the most robust in terms of linking a firm's exposure to climate change risks and financial performance in a mandatory standard.

The CCRF reveals that the CDSB was forced to back down from its position favoring the use of management commentary. The language used to describe the position of information for the disclosure of climate change risks in the CCRF was more diffuse than in the 2009 ED. In the ED, the CDSB wrote that "companies that adopt the framework are required to disclose in the management commentary that accompanies their financial statements".⁹² In contrast, the CCRF suggests that "information shall be reported in a place and in such a way as to explain the links between the organization's strategy, operations and climate change impacts."⁹³ Similar to other important debates involved in technical consensus-building, the CDSB suggests that it will continue to follow regulatory developments on the management commentary in order to "refine its view over time" about the "placement of information and management of detail in mainstream disclosures."⁹⁴

Whereas the first two provisions reveal the accounting industry's contribution to technical consensus building, the provision outlining the "disclosure content" to be included in the management commentary demonstrates the important role of CDP and GHG protocol's expertise and capacity in designing disclosure frameworks. One of the most important challenges faced by the CDSB is to balance the interests of its Board members who have developed their own widely used disclosure frameworks with the process of harmonization into a mandatory standard. As previously discussed in section 4.2, there was hesitation among many of the stakeholders that the CDSB's effort might take precedence over their own frameworks.⁹⁵ To appease these concerns, the CDSB made sure to explain that its framework "does not supersede, duplicate, or change the work of missions of its individual Board members."⁹⁶ Rather, the CDSB's framework is designed to include existing frameworks as best practices that contributes "towards the model" that will inevitably be "prepared for inclusion in mainstream financial reports."⁹⁷

This effort to include expertise developed by stakeholders supporting existing frameworks is demonstrated by the CDSB's decision to adopt the CDP and GHG Protocol's framework as the benchmarks for disclosure content. Specifically, the CDSB included the GHG protocol, which is

⁹² CDSB, "The Climate Disclosure Standards Board Reporting Framework," 17.

⁹³ CDSB, "Climate Change Reporting Framework - Edition 1.0," 11.

⁹⁴ CDSB, "The Climate Disclosure Standards Board - Work Plan 2010," 6.

⁹⁵ Anonymous B.

⁹⁶ CDSB, "The Climate Disclosure Standards Board Reporting Framework," 17.

⁹⁷ Ibid., 17.

recognized as the “de-facto standard on GHG emissions monitoring and reporting.”⁹⁸ Under the GHG emissions category, the CCRF establishes the GHG Protocol as its standard by applying its concept of organizational boundaries, specifically its innovative “scope 1, 2, 3” for counting emissions.⁹⁹ The CDP investor survey was also included to contribute to disclosure content because it is the “de-facto template for disclosure content that is useful for investors.”¹⁰⁰ The CCRF incorporates the important work of the CDP in the CCRF as benchmark for disclosure content. Specifically, the CCRF requires that disclosure include a short-term and long-term statement on potential risks, and that these risks are categorized into regulatory, physical, reputational and legal risks.¹⁰¹

The CDSB’s decision to incorporate the CDP’s survey and GHG Protocol demonstrates how technical consensus-building benefits from the existing expertise of these initiatives. Because each of their frameworks is so widely used, the CDSB can take advantage of existing knowledge among preparers and end-users with experience in using these frameworks. The adoption of these two disclosure content requirements also demonstrates an important trade-off involved in technical consensus building. By agreeing to include these frameworks, “CDSB Board members, including the CDP, intend to adopt and endorse the CDSB reporting framework as representing best practice in climate change-related disclosure, and will increasingly aim to align their work programs to reflect the requirements of the CDSB Framework.”¹⁰²

The adoption of these three provisions demonstrates how technical consensus building benefits from the partnership between the CDSB and the TWG in producing a framework that reduces uncertainty associated climate change risk disclosure. But perhaps the most significant benefit to this partnership is the capacity to cycle the CCRF through the reflexive mechanism to continually contest the above mentioned provisions until a technical consensus can emerge. When the CCRF was announced, the CDSB was clear that “the CCRF is not intended to represent the final Framework, rather it is the latest iteration based upon the best available information as at the date of publication.”¹⁰³ The CDSB will now “undergo cycles of post implementation testing and revision as

⁹⁸ CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework,” 16.

⁹⁹ WRI and WBCSD, “The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard,” 20.

¹⁰⁰ CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework,” 16.

¹⁰¹ CDSB, “Climate Change Reporting Framework - Edition 1.0,” 20; CDP, “CDP: Assessing Risks and Opportunities.”

¹⁰² CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework,” 16.

¹⁰³ CDSB, “Climate Change Reporting Framework - Edition 1.0,” 2.

part of the continuous improvement process, whilst balancing this against the implications of tracking and implementing changes for users and preparers.”¹⁰⁴ This analysis demonstrates how the CDSB uses its reflexive mechanism to identify and address weaknesses so that in the long-term a technical consensus can emerge in support of a mandatory standard that improves market-decision making.

4.4.2 Political Consensus Building

The second stage involved in cognitive governance focuses on political consensus building to generate legitimacy for overcoming potential opposition to implementing a mandatory disclosure standard. By promoting a technical consensus developed by the first stage throughout market participants in accounting markets, the CDSB attempts to build support for the IASB to implement a standard setting process. This strategy is informed by the experience of CDSB Board members, who have engaged in political consensus building to spread their own frameworks and agendas to encourage climate change risk disclosure. By joining the CDSB, these members also share access to the preparers and end-users currently using existing standards, such as the CDP and GHG Protocol. The accounting industry also has experience in trying to develop relationships with financial regulators, such as the International Organization of Securities and Exchange Commissions (IOSCO) and the SEC, as a strategy for generating political legitimacy for the IASB.¹⁰⁵

This stage of cognitive governance is outlined in the CDSB’s “Work Plan.” Because the plan was implemented in 2010, it is difficult to evaluate the extent to which the CDSB’s efforts have been contested by outside actors. But as section 4.3.2.2 discussed, the CDSB’s mandate still faces significant political challenges, including resource and time constraints faced by the IASB, and potential popular opposition to implementing a mandatory climate change risk standard. The INCR and Ceres, for example, had to file over six petitions with the SEC before it agreed to offer “guidance” on climate change risk disclosure, which is a much less stringent requirement compared to a mandatory regulation.¹⁰⁶ The “Work Plan” does, however, demonstrate the type of consensus building the CDSB expects will be necessary to implement a mandatory standard.

¹⁰⁴ CDSB, “Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework,” 15.

¹⁰⁵ See Leonardo, “Strategic Experts and Improvising Regulators.”

¹⁰⁶ Ceres, “Regulators Require Insurers to Disclose Climate Change Risks and Strategies”; Ceres, “Investors Managing \$2.1 Trillion in Assets Praise SEC for Climate Disclosure Guidance”; Peyton Fleming, “Major Investors, State Officials, Environmental Groups Petition SEC to Require Full Corporate Climate Risk Disclosure,” September 18, 2007, <http://www.ceres.org/Page.aspx?pid=445>.

The CDSB's "Work Plan" describes three "engagement programs" designed to support political consensus building. These programs are designed to be reflexive and capture feedback that improves technical and political consensus building.¹⁰⁷ To build support outside of accounting markets, the first engagement program targets constituency building among corporations who would incur the costs associated with the implementation of a mandatory standard. The corporate program will contact a sample of publicly listed TNCs based in Europe, Asia and North America and interview members of each firm's personnel involved in financial and corporate disclosure. The goal of this outreach is to identify "opportunities for and barriers against disclosure" using a mandatory standard.¹⁰⁸

The second program follows a similar approach to the corporate program but targets the 500 largest global institutional investors in an effort to determine what types of climate change information are decision-useful for their portfolio allocation decisions. To gather this information, investor engagement attempts to identify preferred metrics for measuring these risks and generate approval for the implementation of these metrics into the CDSB's framework. Surveying investors about their preferred metrics demonstrates how stage two of political consensus building provides information that can be used to strengthen efforts at producing a technical consensus in stage one. The most important aspect of investor engagement for cognitive governance, however, is to collect evidence from investors of "demand for climate change-related disclosures to encourage adoption of the CDSB Reporting Framework by securities regulators and stock exchanges."¹⁰⁹

The third engagement program targets consensus building among national securities regulators and accounting standard setters. To facilitate this process, the Work Plan outlines a "regulatory review" that will create a "digest of regulatory developments" on GHG reporting and climate change risk disclosure frameworks that are already in place or emerging. By collecting this data, the CDSB hopes to identify "synergies and gaps," strengths and weaknesses, and the scope and scale of existing securities regulation and accounting standards that can be used to improve and support the implementation of the CCRF.¹¹⁰ In addition, the digest will be made public and include a forum where different regulatory constituencies can network with the CDSB's constituents. Once developed, the regulatory review will be used to develop arguments that the CDSB can employ to

¹⁰⁷ Unlike technical consensus building, which cycles the CCRF through a formal standard setting process, the work plan is governed by a more informal reflexive mechanism where the CDSB will gather feedback from strategic stakeholders to generate consensus in favor of a mandatory standard.

¹⁰⁸ CDSB, "The Climate Disclosure Standards Board - Work Plan 2010," 11.

¹⁰⁹ *Ibid.*, 13.

¹¹⁰ *Ibid.*, 14.

demonstrate how the CCRF “supplements and complements regulatory disclosures without duplicating them.”¹¹¹

This “work plan” outlines the “political consensus building” stage used by the CDSB to support cognitive governance. By engaging key constituencies to support an emerging technical consensus that climate change uncertainty can be governed as a risk, the CDSB attempts to expand its influence in ways that secure political legitimacy for mandatory implementation of a climate change risk disclosure standard. Once implemented as a mandatory standard, any firm wishing to list their shares publicly or more broadly access private capital will be asked by their auditors whether they have measured and accounted for their exposure to these risks.

The examination of the CDSB’s approach to cognitive governance reveals how it is designed to generate a technical consensus, and leverage this consensus to cultivate a constituency of market participants in accounting markets willing to implement a mandatory standard governing disclosure of these risks at the international and national level. By developing a technical consensus that exposure to climate change uncertainty constitutes a measurable financial risk, “hidden links” are revealed that demonstrate the market value of economic behavior supporting mitigation and adaptation governing these risks. Once embedded within financial knowledge through the expansion of public authority (ie. by implementing a mandatory standard), these “links” will incentivize market behavior throughout the global economy to reward the governance of these risks. At that point, environmental co-regulation using cognitive governance would have achieved its main objective.

4.4.3 The Limitations of the CDSB?

This analysis of the CDSB confirms the dissertation’s argument that the CDSB’s approach to co-regulation is “unconventional” as an example of private governance in its advocacy for stronger public regulation. The analysis suggests that the use of voluntary standards are an important strategic component in facilitating constituency building through the CDSB in support of a mandatory standard. The argument that the CDSB is voluntary for strategic reasons is, however, vulnerable to a potential “post-Westphalian” counter-argument. Without evidence that the CDSB has been successful in facilitating its objectives, scholars could argue that the corporate actors involved are not accountable to these objectives and support the initiative as a sophisticated reputational strategy, or “greenwash”. Ultimately, future research will be required to address this criticism by demonstrating

¹¹¹ Ibid., 14.

the CDSB's ability to implement mandatory disclosure that is effective in incentivizing investment in behavior supporting climate change mitigation and adaptation. In the meantime, it is possible to defend against this counter-argument by providing evidence that the CDSB recognizes that accountability is a weakness and has implemented an enforcement strategy. Analysis of participation rates also helps defend the CDSB's strategy by suggesting evidence that the corporate actors involved have legitimate material interests in supporting co-regulation to expand public regulation.

Although the enforcement strategy employed by the CDSB does not include a mandatory requirement for compliance, the initiative does recognize accountability is a weakness and it employs an enforcement strategy to improve compliance. The enforcement strategy used by the CDSB is a voluntary requirement that any corporate emitter using the disclosure framework “apply the same rigor and management responsibility as is appropriate to all statements and disclosures in the mainstream financial report.”¹¹² Under existing international accounting standards, an auditor is required to confirm that MD&A disclosure does not reveal any “material inconsistencies between it and the audited financial statements” and “to consider any observed material misstatements of fact in those disclosures.”¹¹³

Although this measure is voluntary, it is designed to encourage best practice by creating similar reporting conditions to mandatory disclosure. To ensure compliance improves, the CCRF requires that participants provide a “statement of conformance” explaining which disclosure requirements were met, and which were too burdensome.¹¹⁴ While this enforcement mechanism does not explicitly require a minimum level of disclosure, it is designed to gradually improve compliance. This “comply or explain” approach is designed to give feedback to the TWG on aspects of the CCRF that need to be improved to facilitate higher levels of compliance. This reflexivity demonstrates that the CDSB is aware that facilitating robust compliance must occur over time. More directly, CDSB explicitly recognizes the weakness associated with asking corporate emitters to voluntarily submit their reports to external audits. Indeed, this is why mandatory disclosure (when auditing is required) has been adopted by the CDSB as its core mandate.

In addition to questioning enforcement, skeptics could also question whether the accounting industry, institutional investors and corporate emitters have legitimate interests in devoting resources to expanding public regulation to govern climate change risk disclosure. Indeed, there is also no minimum requirement for the participation of the accounting or investor industry in the TWG. As a

¹¹² CDSB, “Climate Change Reporting Framework - Edition 1.0,” 6.

¹¹³ *Ibid.*, 6.

¹¹⁴ *Ibid.*, 31.

consequence, the CDSB is exposed to potential criticisms that the accounting industry, institutional investors, and corporate emitters support the initiative merely for reputational reasons. One way to evaluate this argument is to examine the participation rate of these industries within the CDSB.

The CDSB reveals an impressive rate of participation within the accounting industry, including the “Big Four”, Grant Thornton (the world’s fifth largest firm), and a plurality of national professional accounting bodies. All but one of the Big Four was established in the 19th century, and they currently audit the vast majority of public companies in major capital markets around the world.¹¹⁵

The CDSB also enjoys a high rate of support among existing stakeholders involved in climate change risk disclosure frameworks. These stakeholders are all “Board” members, and include the CDP, the world’s most widely used risk disclosure framework, and the GHG Protocol, the world’s most widely used emissions disclosure framework. The CDP’s role on the Board, in addition to its logistical support as the Secretariat, is perhaps most pivotal given the claim that over \$65 trillion of the world’s managed investment portfolios are members of the CDP, which roughly constitutes 75% of all managed funds in the global economy.¹¹⁶ The participation of these investors, albeit through the CDP, demonstrates that the CDSB enjoys a high rate of participation within the financial industry.

Despite an impressive rate of participation within the accounting industry and among institutional investors, the CDSB still needs to find corporate emitters, or reporting organizations to adopt its framework - the CCRF. It is still too early to evaluate participation rates among corporate emitters because the CCRF was only released in 2010. But the CDSB recognizes that participation among these emitters could be a weakness and, through political consensus building using its corporate “engagement program”, it is attempting to improve participation. As its 2010 Work Plan outlines, the CDSB will launch an “engagement program” to target “investors, corporations, regulators and other sustainability practitioners” and identify how “their interests and practices may be aligned” with the CDSB’s objectives.¹¹⁷ This outreach is a key plank in cognitive governance,

¹¹⁵ Alex Hawkes, “Big Four Auditors Face OFT Consultation,” *The Guardian*, May 17, 2011, <http://www.guardian.co.uk/business/2011/may/17/big-four-auditors-face-oft-consultation>; Sarah Johnson, “Audit Costs Not Affected by Big Four's Stronghold: GAO,” *CFO.com*, January 14, 2008, <http://www.cfo.com/article.cfm/10522661>.

¹¹⁶ Macleod and Park, “Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks,” 11; CDP, “Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights,” 1.

¹¹⁷ CDSB, “The Climate Disclosure Standards Board - Work Plan 2010,” 3.

necessary if the CDSB is going to cultivate constituencies willing to support mandatory implementation.

Because the CDSB has yet to demonstrate that it can facilitate the mandatory implementation of climate change risks, it remains exposed to post-Westphalian criticisms. The use of a reflexive mechanism as an enforcement strategy demonstrates, however, the CDSB is addressing accountability issues. In addition, high rates of participation suggest that the corporate actors involved have legitimate material interests in using the CDSB to implement a mandatory standard governing the disclosure of climate change risks. But future research will be required to provide a more robust assessment of the CDSB's capacity to hold its members accountable in cultivating constituencies willing to support the implementation of a mandatory climate change risk disclosure standard.

4.5 Conclusion

This chapter has discussed the form of co-regulation adopted by the CDSB and explained the factors that led to its creation. The analysis revealed that the CDSB adopts the two characteristics outlined in Chapter 2 (section 2.3.3) for cognitive governance, including the use of voluntary best practice standards to encourage technical and political consensus building and the adoption of a reflexive mechanism that governs compliance to these standards. This technical and political consensus building targets the cultivation of constituencies willing to support the implementation of a mandatory climate change risk disclosure standard through the IASB or national accounting standard setters. Once embedded in public regulation, this standard has the potential to create a market signal that links a firm's exposure to climate change risks to its financial value. In other words, the CDSB uses co-regulation to contest existing market expectations for the economic value of a firm's environmental performance by linking this performance to climate change risks that can improve the efficiency of market-decision making within financial markets.

This form of co-regulation emerged in response to the three factors hypothesized in a framework identified in chapter 3. The first factor was the support from business actors – in this case, the accounting industry, institutional investors and corporate emitters - for expanding public regulation as a strategy to advance their material interests in governing climate change risks. The accounting industry supports the implementation of a mandatory international standard to expand its markets in climate change risk services. Institutional investors and corporate emitters support a

mandatory international standard to harmonize the existing patchwork of standards that fail to generate a comparable market signal necessary to govern climate change risks.

The second factor was a need to generate a technical consensus on the design of an effective climate risk disclosure standard, and a political consensus that this standard should be mandatory. Technical consensus is necessary to determine how to measure “decision-useful” information on a firm’s exposure to climate change uncertainty. The political consensus is necessary within and outside of the accounting industry to support the implementation of a mandatory standard.

The third factor was the expertise and capacity of ENGOs involved in the existing patchwork of standards. Specifically, these ENGOs had accumulated important expertise and political capacity by working with institutional investors to implement disclosure standards that generate market incentives for publicly listed firms to reduce their exposure to climate change risks. For the accounting industry, this expertise and capacity was a vital resource in cultivating technical and political consensus to implement a mandatory standard within its markets.

Chapter 5

Pricing Climate Change Risks: The ClimateWise Principles

5.1 Introduction

This chapter's goal is to explain the unique form of co-regulation adopted by ClimateWise to achieve its objectives, and identify the factors that influenced the actors involved to support this approach. Compared to the CDSB, ClimateWise is a weaker example of co-regulation in terms of its efforts to expand public regulation over insurance markets. Rather than targeting the expansion of regulation over insurance markets, ClimateWise targets the expansion of other forms of regulation that are necessary to defend insurance markets from rising weather-related losses linked to climate change.

These regulations attempt to govern the risks that insurers could face as climate change impacts increase by regulating GHG emissions, implementing adaptation policy to encourage “loss-prevention”, and adopting national climate risk reduction plans. Although these policies do not directly “regulate” the insurance industry, they do defend the industry by strengthening global climate governance in ways that will offset growing and potential losses. More specifically, these regulations assist insurers by offsetting their risk exposure to weather-related losses. Without these regulations, increasing weather-related losses could lead to higher rates and market pullbacks, both of which can generate reputational and regulatory risk. At the same time, however, insurers are also using ClimateWise to develop expertise on how to price climate change risks in their own services, or implement a “climate premium” on economic behavior that contributes to increasing insurance losses.

In this respect, ClimateWise and the CDSB champion a similar objective in trying to contest existing market expectations that discount the economic value of a firm's environmental performance by linking this performance to financial risks vis-à-vis public regulation. The key difference, however, is that ClimateWise attempts to internalize these risks by strengthening global climate governance in addition to using their own markets, whereas the CDSB targets the internalization of these risks through accounting markets alone. From this perspective, although ClimateWise is a “weaker” example in terms of influencing regulation over insurance markets, it is a “stronger” example in terms of its overall regulatory objectives.

The chapter's first two sections describe the emergence of ClimateWise by using the framework hypothesized in chapter 3 to identify factors that explain its unconventional approach to

co-regulation. This analysis identifies three factors that explain the emergence of ClimateWise, including; 1) material interests within the insurance industry in using public regulation to govern climate change risks, 2) the need to collaborate in generating a technical and political consensus that supports public regulation; and, 3) the existence of ENGOs with interests in using their expertise and political capacity to help cultivate this consensus through co-regulation. The chapter then describes ClimateWise’s use of cognitive governance as a strategy for cultivating constituencies willing to support public regulation protecting the insurance industry from climate change risks. Once this strategy has been outlined, the chapter then provides a brief evaluation of ClimateWise’s ability to fulfill its objectives.

5.2 Leveraging Insurers in Governing Climate Change Risks

Although ClimateWise emerged in response to the Prince of Wales’ initiative, its approach to co-regulation reflects much of the existing expertise and capacity developed previously by ENGOs and policy entrepreneurs working on climate change issues in the insurance industry. As chapter 2 described, the first significant effort by these groups to leverage insurance markets as a means of strengthening global climate change governance came in 1993 when Jeremy Leggett, the head of Greenpeace’s international climate change campaign, spearheaded a campaign he called “solidarity among the risk community”.¹

Leggett’s objectives largely reflect those of ClimateWise, although it was established 15 years later. In particular, he tried to convince insurers to implement and use their premiums and deductibles to price behavior that contributed to climate change, or was exposed to climate change risks, and to encourage climate change risk assessment in their investment strategy. Such a premium would increase rates on large GHG emitters, which contribute to these risks, and on property in areas exposed to increasing weather-related losses, which are exposed to these risks. Similar to institutional investors involved in climate change risk disclosure, the implementation of climate change risk assessment within insurer investment decisions would increase the risk profile of economic activity contributing or exposed to climate change risks.²

¹ Jeremy Leggett, “Climate Change and the Insurance Industry: Solidarity Among the Risk Community” (Greenpeace, May 24, 1993).

² Insurers have sizable investment portfolios that they use to invest their premium reserves. Because these reserves are required to pay out claims, and regulated by capital adequacy standards, insurers face tough regulations and fiduciary duty that limits these investments to long-term, low yield assets, such as government

Insurers started to respond to concerns about their exposure to climate change risks by agreeing to form the United Nations Environmental Programme's (UNEP) Insurance Initiative at the first and second Conference of the Parties (COP) to the UNFCCC in Berlin 1995 and Geneva in 1996.³ UNEP-II was formed in 1995 after insurers - including General Accident, Gerling Global Re, National Provident, Storebrand, Sumitomo Marine & Fire, and Swiss Re - agreed to sign the "UNEP Statement of Environmental Commitment by the Insurance Industry".⁴ Although UNEP II was the first collaborative effort among insurers to take a stand on climate change, Leggett argues that the initiative was quite weak. In particular, he argues that their statement at both COP 1 and 2 failed to include a benchmark for GHG reductions. Instead, insurers put their support behind a vague statement that governments should reduce emissions from their business-as-usual level. Based on Leggett's account, the insurers "disappeared" after presenting the statement at COP2 in Geneva, leaving the fossil fuel lobby to spin "mischief for the full two weeks."⁵ By the end of the 1990s, Leggett admits that only a "small cadre of well-informed individuals" within the insurance sector recognized the value of his proposal for a self-regulatory strategy to govern climate change risks.⁶

Their inaction was informed by regulatory challenges associated with pricing these risks, and a widespread perception that insurers could innovate around increasing weather risks associated with climate change.⁷ Indeed, insurers had just established strategies for securitizing large or mega-catastrophe (mega-CAT) risks by selling risk-linked bonds called "insurance-linked securities" (ILS) or CAT bonds to capital markets. By using CAT models to predict the risk of significant weather-related losses, insurers were able to create bonds that they could sell to capital markets in which the purchaser of the bond absorbs the risk of a major weather related event. If a catastrophe occurred, the investor would lose their money. If no catastrophe occurred before the bond matured, insurers would pay the investor the principal with interest.⁸ Because the risk associated with these bonds is not correlated to normal market fluctuations in financial markets, they are attractive to investors seeking to diversify their portfolio. By selling these securities, insurers could access a much larger pool of capital to offset losses that their models failed to capture, such as several mega-CATs in one year.

backed bonds. Insurers are usually categorized as institutional investors based on this investment strategy. See UNEP FI, "The Global State of Sustainable Insurance," 22.

³ Jeremy K. Leggett, *The Carbon War* (London: Routledge, 2001), 294.

⁴ UNEP FI, "About UNEP FI: Background."

⁵ Leggett, *The Carbon War*, 322.

⁶ *Ibid.*, 322.

⁷ See Paterson, "Risky Business: Insurance Companies in Global Warming Politics," 34.

⁸ Jagers, Paterson, and Stripple, "Privatising Governance, Practising Triage: Securitization of Insurance Risks and the Politics of Global Warming," 259.

CAT bonds were first traded in the Chicago Board of Trade in 1992, but the market has grown and now bond issuances annually reach over \$5 billion.⁹

The development of ILS led to renewed confidence among insurers that they could continue to price weather risks, such as wind risk from hurricanes, likely to be impacted by climate change. Similar to accountants, many insurers embrace a conservative stance towards requests by policy entrepreneurs such as Leggett to use their premiums or investments to strengthen global climate governance. This perception is supported by cognitive expectations that insurance markets will remain robust because insurers will act rationally by raising their rates or securitize risk as weather related losses associated with climate change increase. If losses become too extreme, they believe insurers can always pull out of the market and find another market to compensate with a lower exposure to climate change risks.

According to Evan Mills, a scientist researching the relationship between climate change and insurance for the US Department of Energy's Lawrence Berkeley National Laboratory, this conservatism stems from the insurers' belief that they are not a polluting industry, and their preference for avoiding taking positions on political issues. Paterson observed a similar conservatism by identifying how divisions within the industry and its involvement in a "transnational capitalist class" limited the industry's willingness to collaborate with Leggett and the UNEP-II.¹⁰ This perception is driven by fears that, if insurers took vocal positions on climate change, the sector would become the target of increased scrutiny of their exposure to climate change. This scrutiny could convince regulators to increase their solvency requirements while forcing them to stay in markets exposed to uninsurable risks. For these reasons, many insurers maintained skepticism towards climate change regulation, specifically the efforts of UNEP II to publicly support this regulation at the first two COPs.¹¹

Despite Leggett's setback and cognitive expectations among insurers that their markets could price climate change risks as they occur, other policy entrepreneurs started to research how insurance markets could be leveraged in strengthening the governance of climate change risks. Instead of a defensive approach emphasizing the "price-risk-as-it-occurs" strategy, these entrepreneurs argued in favor of an offensive strategy where insurers build capacity by collaborating in debates about the future of the industry as climate change risks increase. More specifically, they argued that insurers

⁹ Newell and Paterson, *Climate Capitalism: Global Warming and the Transformation of the Global Economy*, 62.

¹⁰ Paterson, "Risky Business: Insurance Companies in Global Warming Politics," 32.

¹¹ Mills, Lecomte, and Pears, "U.S. Insurance Perspectives on Global Climate Change," 19.

needed to leverage the industry's capacity for collective rule making to expand their political influence in climate change debates, develop expertise and capacity to justify policy that would both defend their markets from climate change risks, and look for ways of extending these markets to cover new risks.¹²

In 2000, the Association of British Insurers (ABI), an insurer business association, began asking questions about the correlation between climate change and the historic flood losses that UK insurers experienced that year.¹³ ABI recognized that it was necessary to be pro-active in mobilizing government and public support for insurers facing climate change risks. This conclusion was informed by ABI's success in engaging the insurance industry's capacity for collective rule making by promoting the adoption of the Statement of Principles on the Provision of Flood Insurance. These Principles contained an ultimatum that UK insurers would withhold coverage for flood damage unless the UK Government intervened to minimize growing flooding risks.¹⁴ The UK Government responded by agreeing to continually improve flood defenses through further investment and improved land-use planning to limit development in areas highly exposed to flooding.¹⁵ The intervention of the government in managing flood risk represented an important blueprint for ClimateWise, specifically its principle two which seeks a similar outcome for using public authority to implement policy to govern climate change risks.¹⁶

In addition to the recognition that public regulation is required to defend insurance markets against structural risks such as flooding and climate change, ABI argued that insurers needed to improve their communication strategy on climate change risk. Specifically, insurers needed to inform constituencies likely to oppose insurer efforts to defend their markets from climate change risks. Without such an effort - specifically communicating the justification for rate increase - ABI argued insurers could be exposed to "reputational risk".¹⁷ In 2007, ABI released a communications strategy on climate change for insurers. The strategy made two important recommendations. First, insurers

¹² See Evan Mills, "From Risk to Opportunity: Insurer Responses to Climate Change" (Ceres, April 2009); ABI, "Influential Insurance: A Guide to Communicating Climate Change for Insurers," September 2007.

¹³ ABI, "Climate Change: Implications for Insurers," *Insurance Trends*, October 18, 2000.

¹⁴ HM Government and ABI, "ABI/Government Statement on Flooding and Insurance for England," *Department for Environment Food and Rural Affairs*, July 20, 2008, <http://www.defra.gov.uk/environment/flooding/policy/insurance/jointstatement.htm>.

¹⁵ In 2008, ABI agreed to suspend the Statement after reaching a formal agreement outlining a partnership where the Government will continue to improve flood defenses in order to preserve insurability of flood damage. In particular, the Government agreed to put in place a long-term investment strategy for flood defenses and limit development in vulnerable areas. See *Ibid*.

¹⁶ ClimateWise, "The ClimateWise Principles."

¹⁷ ABI, "Climate Change: Implications for Insurers."

need to help reduce uncertainty around climate change impacts by using their legitimacy as risk experts to support the scientific consensus that climate change will have significant impacts, and that humans are liable for these impacts.¹⁸ Second, insurers should educate their consumers on how rate decisions regarding weather risks are informed, and how consumers can take action to lower their own exposure to these risks in return for lower premiums.¹⁹

At the same time that ABI was establishing its policy strategy on climate change, two US policy entrepreneurs were developing their own approach to mobilizing the insurance sector in the governance of climate change risks. In 2001, Evan Mills authored a paper with Eugene Lecomte, a former CEO and President of the Insurance Institute for Property Loss Reduction, and Andrew Peara, a Fellow of the Society of Actuaries and a climatologist for the US Department of Energy, which outlined the case for pro-active engagement on climate change risks. Mills and his colleagues argued that the case for taking action on climate change was not clear for insurers because they faced technical and political uncertainty about their ability to effectively price climate change risks.²⁰

The report made two important observations that have been adopted into ClimateWise's strategy. First, insurers cannot act on climate change risks until they satisfy the "standards of insurability", and there is a business case that proves private insurance is viable.²¹ Although CAT models can be used to inform exposure to short-term risks on an annual basis, models that inform rates based on longer-term risks associated with climate change represent a significant technical challenge. Second, insurers face constraints in their "business and regulatory environment" and will not act without "climate change mitigation and sustainable development proposals such that they benefit insurers' core business model." For example, policies that "reduce the likelihood of claims" such as flexible rate setting, loss-prevention and mitigation appeal to this business model.²²

In the weeks before Hurricane Katrina hit the US Gulf Coast in 2005, Mills and Lecomte built on the strategy they outlined in their 2001 effort by working with Ceres to research the insurance sector's response to climate change.²³ Their report, titled the *Availability and Affordability of Insurance Under Climate Change: A Growing Challenge for the U.S.*, supported conclusions that climate change represented a significant threat to the availability and affordability of insurance. But

¹⁸ Andrew Dlugodecki, "A Changing Climate for Insurance: A Summary Report for Chief Executives and Policymakers" (Association of British Insurers, June 2004), 19.

¹⁹ ABI, "Influential Insurance: A Guide to Communicating Climate Change for Insurers," 5.

²⁰ Mills, Lecomte, and Peara, "U.S. Insurance Perspectives on Global Climate Change," 117.

²¹ *Ibid.*, 21.

²² *Ibid.*, 21.

²³ ClimateWise, "The ClimateWise Principles."

the report also outlined a pro-active strategy in which insurers collaborated in engaging regulators, governments, and consumers “to build the structure for policy implementation, as well as good actuarial analysis and catastrophe modeling.”²⁴

Ceres used this research to spearhead a campaign lobbying the National Association of Insurance Commissioners (NAIC) - the US regulatory body charged with oversight of state insurance markets - to implement a mandatory climate change risk disclosure framework for US insurers.²⁵ Although the NAIC agreed to support a mandatory survey, it has since backed down from this ambition and now supports a voluntary approach. Section 5.5 will explain in more detail why this decision was made, highlighting it as an example of the type of political obstacles insurers face in promoting global climate governance.

During this period, Ceres continued parallel efforts to promote research on strategies to build capacity and technical consensus within insurance markets on the importance of climate change risks. Mills and Lecomte released a second report in 2006 sponsored by Ceres that refined the approach outlined in their first report by suggesting that insurers adopt a “ten point strategy” based on forward-looking best practices.²⁶ This list of best practices represented what Mills and Lecomte described as the “Risk to Opportunity” strategy where insurers collectively worked with regulators and consumers to establish the practices necessary to defend the sector from climate change risks. In other words, Mills and Lecomte outlined how insurers could build technical and political consensus that supports the use of insurance markets in governing climate change risks.

These strategies included: 1) partnering with governments to protect the insurability of markets exposed to weather related losses; 2) improving modeling of climate change risks; 3) utilizing premiums to encourage risk mitigation among consumers and business by offering incentives; 4) developing new products to help businesses and consumers mitigate these risks; 5) exploring how insurer investments are exposed to climate change risks, and using these investments to encourage industries willing to participate in climate change solutions; 6) participating in carbon markets; 7) “leading by example” through the reduction of an insurer’s own carbon footprint; 8) educating consumers about climate change risks; 9) participating actively in public policy debates on

²⁴ Mills and Lecomte, “Availability and Affordability of Insurance Under Climate Change: A Growing Threat for the U.S.,” 26.

²⁵ Sean Carr, “Disaster Issues Dominate NAIC’s Fall Meeting,” *Best’s Review*, September 20, 2007.

²⁶ Mills and Lecomte, “From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change.”

climate change; and, 10) only adjusting premiums or pulling out of markets as a final option after exhausting all the previous strategies for climate change risk mitigation.²⁷

By developing a set of voluntary best-practice standards that insurers could adopt to govern climate change risks that targeted public authorities, Mills and Lecomte's work represented an important blueprint for ClimateWise. Many of the ClimateWise Principles incorporate aspects of the "Risk to Opportunity" best-practice standards, including: developing better risk modeling techniques (principle one); public policy advocacy (principle two); engaging customers and consumers on climate change risk awareness (principle three); recognizing climate change risks within investment portfolios (principle four); and, reducing the GHG footprint (principle five).²⁸

Although these policy entrepreneurs developed important ideas on how insurers could implement best practices for defending their markets from climate change risks, they did not outline a strategy for convincing insurers to adopt such an approach. Rather, it was the Prince of Wales, and Aled Jones, the Deputy Director of the CPSL, who first engaged insurers with an opportunity to use co-regulation as a strategy for harnessing the industry's collective rule making capacity to develop best practice standards for governing climate change risks.

The Prince of Wales and Jones knew that insurers represented a good target for collaboration given ABI's vocal campaign on the impacts of climate change on UK insurers. According to one interviewee, the Prince of Wales was undoubtedly much aware of these issues through his good friend, Lord Levine, the CEO of Lloyds of London.²⁹ The Prince of Wales made this sentiment clear in his speech announcing ClimateWise:

²⁷ Ibid., 33.

²⁸ According to one interview, the Risk to Opportunity best practices standards were often referenced as a benchmark in the negotiations to form ClimateWise. Anonymous I. Interview by Jason Thistlethwaite, March 10, 2010.

²⁹ Anonymous J. Interview by Jason Thistlethwaite, October 6, 2010.

[I] don't need to remind you that no-one takes a longer term or more carefully calculated view of the future than the insurance sector. And there can be few other sectors which are so directly affected, at the end of the day, by climate change. It was for both these reasons – and, of course, because I could not resist another spot of meddling! – that it occurred to me about a year ago to ask the Association of British Insurers and leading insurance companies if they might consider working together to find ways of tackling global warming. It felt that if insurance companies could take a strategic view across all aspects of what they do and look at the problem as a part of the whole business, it just might make a difference.³⁰

The idea to formally approach insurers first emerged based on the success of the Prince's Corporate Leaders Group on Climate Change (CLG). Although CPSL had been involved in supporting businesses to improve their environmental performance since 1994 when it established the Business for Sustainability Programme (BSP), the CLG was the CPSL's first attempt to use co-regulation to influence government policy.³¹

The distinct strategy was informed by the CPSL's recognition that voluntary approaches targeting improvement in a firm's environmental performance were insufficient in generating the change required to govern issues such as climate change. This realization emerged through the CPSL's seminars where UK business leaders would come to learn about the benefits of voluntarily adopting environmental programs.³² Many of these leaders would often return to take more seminars and update CPSL on their efforts. According to an official at CPSL, these business leaders would often argue that they understood how sustainable behavior could benefit their firm, but without a government policy they lacked direction and incentives to effectively incorporate these changes.³³

In 2004, CPSL initiated a study to update their approach for working with businesses. CPSL interviewed members of the CPSL's various business groups, UK government ministries (DEFRA, Foreign and Commonwealth Office, Office of Climate Change), NGOs (World Wildlife Fund (WWF), Oxfam), and a range of academic experts within the University of Cambridge community. The questions asked participants about the behavioral changes necessary for the private sector to improve its sustainability, to identify barriers to these changes, and how policy interventions could help remove barriers to these changes.³⁴

³⁰ The Prince of Wales, "A Speech by HRH The Prince of Wales to launch the Insurance Sector "ClimateWise Principles"" (London, UK, September 12, 2007).

³¹ BSP, "About the Programme," *The Prince of Wales Business and Sustainability Programme*, November 4, 2010.

³² Ibid.

³³ Anonymous J.

³⁴ Aled Jones, "Transformational Change Model: Achieving a Low Climate Risk Economy" (University of Cambridge Programme For Sustainability Leadership, 2009), http://www.cpsl.cam.ac.uk/pdf/CPSL_Trans_Change%20_summary.pdf, 3.

In 2009, Jones along with other CPSL members Irma Allen, Helen Rogers, and Mick Blowfield, published the results of this research in a report called the “Transformational Change Model: Achieving a Low Carbon Risk Economy.” In the introduction, Jones argued that the Transformation Change Model (TCM) represented “a first attempt to move beyond the politics into policy frameworks and to identify a structure for policy implementation that will give business the certainty it needs to start the transformation to a low climate risk economy.”³⁵

The report outlined that, while the private sector has responsibility for GHG reductions and supporting adaptation, it also has the capacity for developing technologies and practices to help the process. But the report also noted how businesses have failed to embrace their capacity as potential sources of global climate change governance and that businesses face few incentives to voluntarily devote resources to this cause. To address this excess capacity within the private sector, the report argued that governments must take on the role of a “task manager” who could design policies that cater to specific sectors and areas of the economy, in addition to implementing an international cap on emissions.³⁶ For example, governments could introduce regulations encouraging mitigation and adaptation, and buttress this effort by using insurance markets to implement a “climate premium” based on the industry’s expertise in using markets to spread and manage risk.

The CLG was the CPSL’s first experiment in this new approach to leveraging private industry in supporting environmental protection. The CLG represented a group of 18 business leaders from major UK and international companies “who believe there is an urgent need to develop new and longer term policies for tackling climate change.”³⁷ Since its creation, the CLG has been quite active in lobbying for the support of government leaders and policymakers in implementing policy necessary for businesses to implement their own measures to reduce GHG emissions and climate change risk exposure. For example, in addition to lobbying governments involved in the COP, the CLG has taken public positions supporting the UK Government’s Climate Change bill, which signaled the private sector’s support for such regulations.³⁸

³⁵ Ibid., 5.

³⁶ Ibid., 10.

³⁷ Ibid., 6.

³⁸ See UK Corporate Leaders Group, “UK CLG,” *University of Cambridge Programme for Sustainability Leadership*, May 30, 2011, <http://www.cpsl.cam.ac.uk/Leaders-Groups/The-Prince-of-Wales-Corporate-Leaders-Group-on-Climate-Change/UK-CLG.aspx>; EU Corporate Leaders Group, “EU CLG,” *University of Cambridge Programme for Sustainability Leadership*, May 30, 2011, <http://www.cpsl.cam.ac.uk/Leaders-Groups/The-Prince-of-Wales-Corporate-Leaders-Group-on-Climate-Change/EU-CLG.aspx>.

The success of the CLG in building a constituency of corporate interests supporting climate change policy convinced the Prince of Wales that the strategy could easily be extended to sectors particularly exposed to climate change, such as insurers. To implement this strategy within the insurance industry, the Prince of Wales approached ABI to coordinate a meeting between London-based insurance CEOs and Jones, who would represent the CPSL. At the first meeting, Jones, and the CEOs from Lloyds of London and Swiss Re decided to form a working group with other insurer CEOs to assess the state of the sector's response to climate change, and to determine the sector's current ability to govern climate change risks.

As these negotiations continued, the working group grew to include eight more insurers, including Allianz, Axa, Aviva, Lloyds, the Royal Bank of Scotland (RBS), and Friends Provident. During the next nine months, the working group engaged in issues that had never been addressed in a neutral or non-competitive environment, including how each insurer perceived climate change risks, and how policy could help them adjust to, or even take advantage of, climate change risks. Specifically, the working group identified the challenges that insurers faced in engaging the industry's capacity for collective rule making to deal with uncertainty around the impacts of climate change on insurers. To address these challenges, the working group developed the best-practice standards outlined in the ClimateWise Principles, and agreed that insurers should speak with "one voice" on climate change issues. The CPSL agreed to host the ClimateWise Secretariat and provide important logistical support for implementing the standards. In the summer of 2007, the working group finalized the six governing principles and in September the Prince of Wales announced his latest effort in leveraging the private sector as an ally in the fight against climate change.³⁹

This analysis of the origins of ClimateWise reveals the influence of ENGOs and policy entrepreneurs in developing important expertise and political capacity designed to leverage insurance markets in supporting mitigation and adaptation to climate change. Although the Prince of Wales successfully initiated the first co-regulative agreement with insurers, the strategy adopted by ClimateWise has also been influenced by the work of the ABI and Evan Mills and Eugene Lecomte, as section 5.5 will confirm. Both of these entrepreneurs emphasized that insurers needed to be proactive in developing knowledge and strategies, and in engaging public authorities to defend their sector from climate change. Mills and Lecomte deserve important recognition because they developed the set of best practice standards designed to generate a technical consensus over how to price climate

³⁹ This narrative was developed through interviews with several officials involved in the negotiations to form ClimateWise. Anonymous K. Interview by Jason Thistlethwaite, January 22, 2010; Anonymous I; Anonymous J.

change risks, and a political consensus on the regulations necessary to assist insurers in pricing these risks throughout the economy.

It was the CPSL, however, that mobilized insurers to support best practice standards capable of harnessing the industry's technical and political resources in developing strategies to leverage insurance markets in pricing climate change risks throughout the economy. The CPSL identified the insurance industry as an optimal target to expand its success with the CLG, but also to implement its "transformational change model" (TCM) by linking insurers with national and international policymakers with authority to implement regulations conducive to defending the industry from climate change.

While it is clear that CPSL, other ENGOs and policy entrepreneurs, have developed important expertise and capacity that has been incorporated into ClimateWise, it is also necessary to explain the insurance industry's support for this approach. The next section will describe how the industry has clear material interests in governing climate change risks, but that these material interests are contingent on the expansion of public regulation to protect the industry's markets from rising weather-related losses linked with climate change. To implement these policies, however, insurers need to generate technical consensus on effective regulations and strategies for pricing these risks and political support. These factors were conducive to generating support among insurers for co-regulation with the CPSL, which could offer its expertise and capacity in generating this needed consensus.

5.3 Governing Climate Change Risks in Insurance Markets

Insurers have material interests in governing climate change risks using public regulation for different reasons than accountants. Whereas accountants have an opportunity to expand their markets through the provision of auditing services, insurers are trying to defend their markets from rising weather-related losses associated with climate change. But these interests have emerged in response to similar cognitive expectations for what constitutes a "rational" market strategy in each industry in conditions of market uncertainty. Accountants and insurers perceive market uncertainty associated with climate change based on cognitive expectations that this uncertainty can be measured or priced as a risk to improve the efficiency of decision-making. For accountants, however, measuring climate change uncertainty as a risk represents a market opportunity. For insurers, pricing this risk is more of a defensive strategy that over time could materialize into opportunities.

Whereas accountants rely on cognitive expectations informed by the characteristics of a “decision-useful” risk, insurers draw on two important “standards of insurability” to determine whether market uncertainty constitutes a financial risk. The first standard “is the ability to identify and quantify, or estimate at least partially, the chances of the event occurring and the extent of the losses likely to be incurred.” The second standard “is the ability to set premiums for each potential customer or class of customers.”⁴⁰ Essentially, insurers will only enter a risk market if they can predict the probability and magnitude of the risk, if it can be priced at a level that consumers can afford, and if this price is sufficient to compensate the insured in the event of a claim. Both of these standards represent cognitive expectations based on professional expertise and experience in determining when a risk is insurable.

In the event that an insurer fails to model uncertainty into its price for risk or undercuts a competitor by offering lower prices, insurers can suffer losses because they are not pricing risk according to the standards of insurability, or the “market rate.” When insurers are unable to provide compensation for a claim because they did not follow the standards of insurability, the consumer is likely to turn to a rival leading to reputational risk, or even worse, to convince regulators to intervene creating regulatory risks. At the same time, withdrawal from certain markets because risks are at the margins of the standards of insurability creates opportunities for rivals to move in and take up market share.⁴¹ As a consequence, the standards of insurability are conducive to invoking the “precautionary principle” as a market strategy where insurers price uncertainty as a risk to ensure these standards are met. The problem for both insurers and accountants, however, is that must generate a technical and political consensus that supports efforts to measure and price this uncertainty.

Climate change threatens an insurer’s ability to price risk, specifically weather-related risks, based on the standards of insurability. As the next section will describe, insurers have started to develop cognitive expectations that insurance markets are exposed to climate change through rising weather-related losses. Insurers have tried to maintain the standards of insurability in response to significant increases in weather-related losses. Price increases, market pullbacks and new modeling

⁴⁰ Kunreuther and O. Michel-Kerjan, Erwann, *At War with the Weather: Managing Large-Scale Risks in a New Era of Catastrophes*, 12.

⁴¹ This consistency in the decision-making and information used for deciding on coverage generates few incentives for an insurer to undercut a competitor by offering coverage to a market that is inherently more risky. Economists argue that in these markets an equilibrium forms, where the incentives to undercut a competitor by lowering rates are diminished by increases in underwriting risk on the balance sheet. Similarly, incentives for raising rates to compensate for higher levels of underwriting risk are diminished through rate competition.⁴¹ Mattias K. Polcorn, “A Model of an Oligopoly in an Insurance Market,” *The Geneva Papers on Risk and Insurance* 23, no. 1 (2008): 41-48.

techniques have all been employed to maintain the standards. These efforts have fuelled concern within the industry that without a robust effort to price climate change risks through public regulation supporting mitigation and adaptation policy, insurers could face a crisis where most of their markets are no longer insurable, or do not satisfy the standards of insurability. In response, insurers have developed cognitive expectations that public regulation in governing climate change risks constitutes a “rational” strategy for securing market efficiency in weather risk markets.

5.3.1 Material Interests from Challenges to the Standards of Insurability

Concern within the insurance sector on the potential link between climate change and increased weather risks began to spread in the late 1980s as the sector tried to cope with losses from the first billion dollar catastrophes, or mega-catastrophes (mega-CATs). In 1987, a European windstorm generated \$2.5 billion in damage. In 1989, Hurricane Hugo generated \$5 billion in damage. And in a five-week period during 1990, eight severe storms generated millions in damage across central and Western Europe. Then, in 1992, Hurricane Andrew hit Florida causing over \$16.5 billion in insured losses.⁴² These losses caught many insurers off guard who had until this point maintained relatively low rates based on a historical record with few significant weather-related losses.⁴³

It was not long before major players in the reinsurance market started to correlate the emergence of mega-CATs with climate change. Lloyd’s of London admitted in 1993 that climatic changes “have already taken over as the main factors pushing losses upwards.”⁴⁴ In the same year, Frank Nutter, the President of the Reinsurance Association of American summarized the perspective of reinsurers by suggesting that the re-insurance business was the first to be affected by climate change, and that it could bankrupt the industry. Munich Re, the world’s largest re-insurer, called for government regulation on greenhouse gas (GHG) emissions in 1993. Swiss Re supported their rival’s conclusion in 1994 arguing that human activity could accelerate climate change and weather damages to a point where “society may no longer be able to adapt quickly enough.”⁴⁵

At the time, Leggett was able to cite these rising losses as evidence that insurers should support his “solidarity within the risk community.” As section 5.2 discussed, however, Leggett was unable to overcome cognitive expectations among insurers that their markets could remain robust as

⁴² Leggett, “Climate Change and the Insurance Industry: Solidarity Among the Risk Community,” 16.

⁴³ *Ibid.*, 18.

⁴⁴ Leggett, *The Carbon War*, 47.

⁴⁵ *Ibid.*, 47.

long as they could raise prices, pull out of exposed markets, or securitize these risks (or maintain the standards of insurability). Speaking to Leggett at Kyoto in 1997, Gerhard Herz, Munich Re's technical chief argued that any significant change among insurer perceptions towards climate change "will take two to three major disasters."⁴⁶ Herz's observation would prove highly prescient.

During the 2000s, the occurrence of "mega-CATS," reached historic highs for insurers around the world. In the UK, heavy rainfall doubled flooding losses to over 6 billion pounds between 1998 and 2003, reaching a "stunning" 7 billion pounds in 2007.⁴⁷ These losses prompted the ABI to make its first statement confirming a link between climate change and increases in insured losses.⁴⁸ In 2003, the European heatwave killed over 27,000 people generating significant increases in health insurance claims.⁴⁹ In 2005, weather-related losses from Hurricane Katrina, Wilma and Rita totaled \$80 billion – the highest payout in the sector's history.⁵⁰

Howard Kunreuther and Michael Kerwan-Erwann's analysis for the US National Bureau of Economic Research (NBER) confirms "catastrophes have had a more devastating impact on insurers over the past 15 years than in its entire history."⁵¹ Indeed, 80 percent of the 20 most significant loss-events in the last 35 years are related to weather-related events, such as hurricanes, storms and floods. Kunreuther and Kerwan-Erwann claim that this "new era" in weather-related losses is even more evident in data that shows 10 of the 20 most costly events have occurred in the last five years.⁵²

Skeptics who maintain conservative cognitive expectations about these increasing losses have questioned this data suggesting that most of these losses can be explained by economic development and population changes.⁵³ Essentially, these skeptics argue that more people and businesses have bought property that is exposed to weather-related events. Evan Mills and Eugene Lecomte were able to confirm, however, that these changes cannot account for the rise in losses, and that weather-related insured and total property losses in 2004 (\$45 billion and \$107 billion respectively), were "rising

⁴⁶ Ibid., 305.

⁴⁷ Dlugodecki, "A Changing Climate for Insurance: A Summary Report for Chief Executives and Policymakers"; Mills, "From Risk to Opportunity: Insurer Responses to Climate Change."

⁴⁸ ABI, "Climate Change: Implications for Insurers."

⁴⁹ Andrew Dlugodecki and Sascha Lafeld, "Climate Change and the Financial Sector: An Agenda for Action" (WWF and Allianz, June 2005).

⁵⁰ Mills and Lecomte, "From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change," 1.

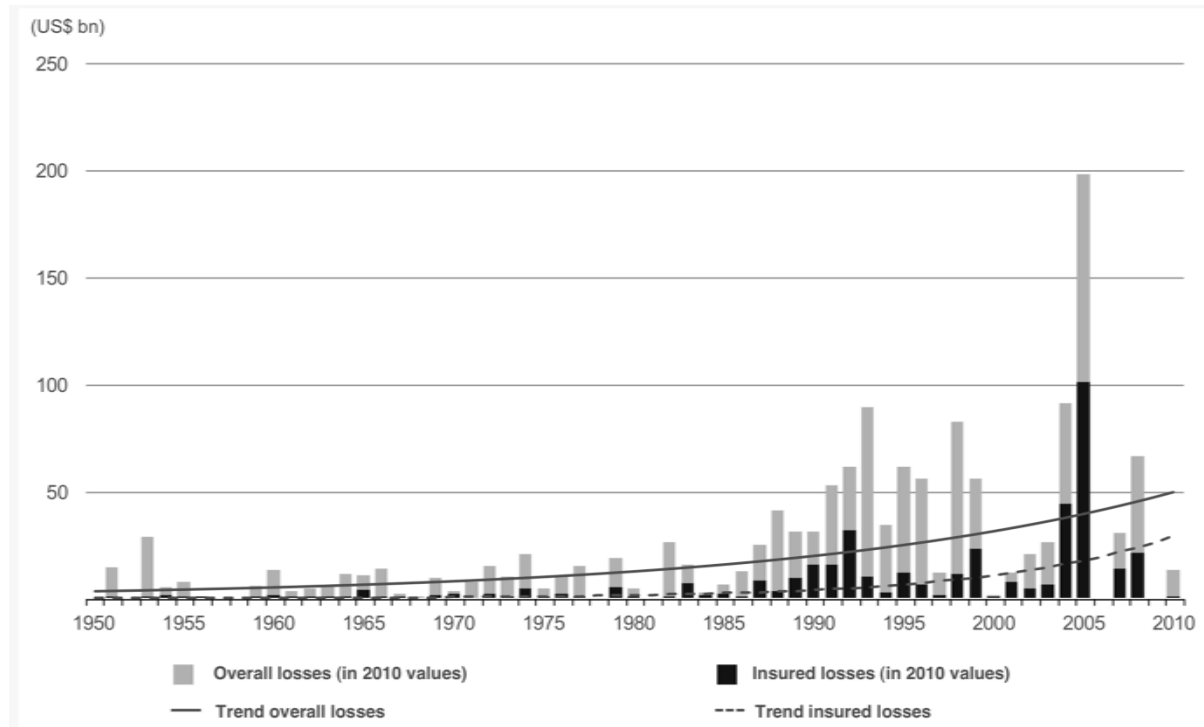
⁵¹ Howard C. Kunreuther and Michel Kerwan-Erwann, "Climate Change, Insurability of Large-Scale Disasters and The Emerging Liability Challenge" (National Bureau of Economic Research, January 2007), 7.

⁵² Ibid., 7.

⁵³ Robert Detlefsen, "Documents Related to Insurer Climate Risk Disclosure Survey," January 8, 2010, http://www.eenews.net/public/25/13791/features/documents/2010/01/13/document_cw_02.pdf, 3.

faster than premiums, population or economic growth both globally and in the U.S.”⁵⁴ Munich Re, the world’s largest reinsurer, provides up-to-date data on these weather-related losses and has confirmed its upward trend (see Figure 5.1).

Figure 5.1 Munich Re's data on insured and overall weather catastrophe losses 1950-2010



The impact of the historic “Katrina/Rita/Wilma” losses on global insurance markets has been described as a “stress-test of what might be expected under climate change”.⁵⁵ Indeed, analysis of these losses revealed how they spread throughout global insurance markets. First, these losses spread among the world’s largest primary and reinsurers insurers (see Table 5.2).

⁵⁴ Mills and Lecomte, “Availability and Affordability of Insurance Under Climate Change: A Growing Threat for the U.S.,” 2.

⁵⁵ Mills made this argument because the US is the world’s most lucrative P&C insurance market and most of the world’s largest insurers have exposure to weather-related risk in the US. Increasing weather related risks, compounded by potential regulatory and reputational risks, threatens to limit the availability and affordability of insurance in many US markets. In addition, market regulations are enforced at the national level, which means regulatory risk in the US impacts most of the industry. Mills, “From Risk to Opportunity - Insurer Responses to Climate Change,” 4.

Table 5.1 Katrina/Rita/Wilma primary and reinsurance losses⁵⁶

Insurer	Type	Country	Losses
Allstate	Primary	US	\$4 billion
Lloyd's of London	Reinsurance	UK	\$2.55 billion
Berkshire Hathaway	Reinsurance	US	\$2 billion
Munich Re	Reinsurer	Germany	\$1.5 billion
Swiss Re	Reinsurer	Switzerland	\$1.2 billion
XL Capital	Primary	Bermuda	\$1.16 billion
AIG	Primary	US	\$1.1 billion
Travelers	Primary	US	\$1 billion
Montpelier Re	Reinsurer	US	\$950 million
IPC Holdings	Primary	Bermuda	\$800 million
ACE	Primary	Bermuda	\$742 million
Everest Re	Reinsurer	Bermuda	\$700 million
Zurich	Primary	Switzerland	\$600 million
Partner Re	Reinsurer	Bermuda	\$600 million
Renaissance Re	Reinsurer	Bermuda	\$571 million
Allianz	Primary	France	\$500 million
Hannover Re	Reinsurer	Germany	\$494 million
Endurance	Primary	Bermuda	\$450 million
Chubb	Primary	US	\$415 million
FM Global	Primary	US	\$300 million

Second, these losses also led to credit ratings downgrades, which is often followed by a significant drop in share price as investors incorporate the higher cost of borrowing capital. For example, in response to Katrina, the insurer-rating agency AM Best downgraded thirteen insurers. Moody's and Standard & Poor's put several insurer giants under review, including Allstate, State Farm, ACE, Allmerica, Montpelier Re, and Swiss Re.⁵⁷ Third, a series of large class-action lawsuits were launched

⁵⁶ This table includes top 20 largest individual losses by insurer. See Towers Perrin, "2005 Catastrophe Losses Katrina/Rita/Wilma" (Towers Perrin Reinsurance Market Services, November 4, 2005), http://www.towersperrin.com/tp/getwebcachedoc?webc=REIN/USA/2005/200511/Hurricane_Report_11_04_05.pdf.

⁵⁷ AM Best, "AM Best's Annual Global Reinsurance Report: Counting the Cost of the Hurricanes," *Best's Insurance News*, August 14, 2006; Daniel Hays and Caroline McDonald, "Downgrades Loom as Katrina Loss Grows," *National Underwriter Property and Casualty*, September 19, 2005.

against primary insurers and their brokers in Gulf Coast markets. These lawsuits were a particular concern for reinsurers who were forced to pay for these losses under their coverage for primary insurers.⁵⁸ Fourth, these losses challenged the credibility of risk-modelers who were forced to question the rigor of their CAT models.⁵⁹ According to one interviewee, the failure of their models to capture the increased hurricane activity during the 2004-2005 season exposed to the industry to reputational risk.⁶⁰

Although there remains a great deal of uncertainty within the scientific community about the link between climate change and weather-related losses, the industry's risk-management expertise predisposes insurers to the precautionary principle. For these insurers, this mindset justified taking action to defend the industry from these losses rather than ignoring the link between climate change and weather-related losses. Evan Mills, whose research for Ceres has been tracking insurer strategies in response to climate change, confirms this analysis by linking losses suffered during the 2000s to a "tipping point" in the insurance industry's position towards climate change.⁶¹ In 2006, for example, John Coomber the former CEO of Swiss Re, stated that "climate change is the number one risk in the world ahead of terrorism, demographic change and other global risk scenarios".⁶² Several surveys asking insurers to identify the strategic risks to their industry have revealed similar conclusions. A 2007 survey by PriceWaterHouseCoopers of insurer executives and directors identified climate change as the fourth greatest risk facing the sector.⁶³ In 2008, a survey by Ernst & Young asked 70 insurance industry analysts to identify their top ten trends and uncertainties facing the sector in the next five years. Climate change emerged as the number one uncertainty beating out regulatory intervention, emerging markets and demographic shifts.⁶⁴ This analysis confirms that insurers have developed cognitive expectations that insurance markets are exposed to climate change through

⁵⁸ According to Peter Breistone, the Chief Executive of Aon Insurance Environmental Services, one successful lawsuit could create a precedent that insurers are ultimately liable for losses associated with climate change risks. These losses would be in the billions of dollars and "make asbestos look tiny" by comparison. Andrea Felsted, "Insurers Exposed," *The Financial Times*, December 1, 2008; Rick Cornejo, "Katrina Lawsuits Pose Serious Threat to Insurance Market, Experts Say," *Best's Insurance News*, July 10, 2006.

⁵⁹ R Ceniceros, "Catastrophe Model Changes Tighen Market for Storm Risks," *Business Insurance*, June 12, 2006.

⁶⁰ Anonymous L. Interview by Jason Thistlethwaite, March 23, 2010.

⁶¹ Mills and Lecomte, "From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change," 4.

⁶² Quoted from Kunreuther and Michel-Kerjan, "Working Paper 12821," 3.

⁶³ PriceWaterHouseCoopers, "Too much regulation' Tops Insurance Risks," May 2007, <http://www.ukmediacentre.pwc.com/Content/Detail.asp?ReleaseID=2350&NewsAreaID=2>.

⁶⁴ Ernst & Young, "Strategic Business Risk 2008: Insurance" (Ernst and Young, March 2008), http://insurancenewsnet.com/article.aspx?a=top_pc&id=92201.

increasing weather-related losses. These expectations inform material behavior that supports governing the industry's exposure to climate change risks in order to maintain the standards of insurability in many existing markets.

5.3.2 Technical and Political Consensus in Governing Climate Change Risks

Because insurers, their regulators and governments have yet to implement policies capable of defending the standards of insurability, insurers are unsure about the regulations that are necessary to effectively govern these risks and whether they have the political support necessary to take action. First, the insurance industry needed to generate a technical consensus on how climate change risk threatens the industry, and that these risks can be modeled and priced to demonstrate how climate change can lead to a crisis of availability and affordability. This consensus is an important to identify effective loss prevention or adaptation policies to defend specific markets from rising losses and justify implementation of international regulations governing GHG emissions. Second, a political consensus is needed among insurers and stakeholders throughout the industry that supports the use of public regulation to defend their markets.

5.3.2.1 Modeling Climate Change Risks

The increase in weather-related losses during the 1980s and early 1990s signaled to the insurance risk-modeling community that their models were not accurately capturing losses linked with low frequency, high impact natural hazards, such as hurricanes. In response to this technical uncertainty, actuaries and risk modelers put a greater focus on the use of catastrophe models (CAT models), which at the time remained untested as tools for predicting natural hazards.

Risk-modelers including AIR Worldwide, Risk Management Solutions (RMS) and Eqecat were able to capitalize on this growing demand for CAT models by developing the first computer software capable of efficiently producing CAT models for different risk markets. CAT models were able to combine measures of a location's vulnerability with measures of the likelihood of an event impacting that location based on historical weather records.⁶⁵ By creating a transferable product that insurers could use to price risks associated with large natural hazards, the actuarial community was able to respond to, and minimize uncertainty about, the impacts of these rising losses.

⁶⁵ Anonymous M. Interview by Jason Thistlethwaite, March 22, 2010.

As section 5.2 discussed, the emergence of CAT models coincided with the invention of CAT bonds as a strategy for hedging significant weather-related losses in capital markets. Although these markets are promising for insurers, according to several interviews indicated that they have proven too marginal to adequately cover the magnitude of the losses experienced throughout the 2000s. These contracts are largely geared to investor demands that for a payout a multiple of “triggers” need to be met, such as certain thresholds for insured losses, and even specific wind speeds or weather phenomenon.⁶⁶ For example, in 2005, insured losses totaled over \$80 billion, whereas total weather related CAT bond issues only reached approximately \$1 billion.⁶⁷ Research by Andrew Dlugodecki, an insurance and climate change expert, confirms that CAT bonds for weather related risks (ie excluding earthquakes, which are not affiliated with climate change) “could account for between 5% and 7% of the total values at risk in relation to a peak weather event.”⁶⁸ In addition to their small size, the other limitation of CAT bonds is that insurers must be able to accurately predict their exposure to mega-CATs in order to determine how much they should hedge risk for these events.

In the aftermath of the Katrina/Rita/Wilma losses, actuaries and risk-modelers started to question whether their models could adequately capture changes in mega-CAT magnitude and frequencies as climate change impacts increased. Many insurers began asking risk modelers to incorporate climate change into their models for markets in North American and Europe where data on these events is robust.⁶⁹

In 2006, all three of the world’s largest risk modelers, including AIR WorldWide, Risk Management Solutions (RMS), and Eqecat, introduced what is known as a “near-term” or “short-term” model that predicted the intensity and probability of windstorms (hurricanes, winterstorms, thunderstorms) based on climate conditions in the last 5 years, instead of the last 100.⁷⁰ These models attempted to compensate for recent changes in climate conditions, which become diluted when tracking events across a 100 year period.

For example, the model produced by RMS predicted that landfall for category 3, 4 and 5 hurricanes would increase by 30 percent, generating an increase in insured losses of around 40 percent.⁷¹ Consequently, insurance rates for areas exposed to these higher risks would increase.

⁶⁶ Anonymous N. Interview by Jason Thistlethwaite, February 12, 2010; Anonymous L.

⁶⁷ Andrew Dlugodecki, *Coping with Climate Change: Risks and Opportunities* (London: Chartered Insurance Institute, 2009).

⁶⁸ Ibid.

⁶⁹ Jakki May, “Climate Change - Green For Go,” *Post Magazine*, November 20, 2008.

⁷⁰ Karen Eeuwens, “Have Near Term CAT Risk Models Failed?,” *Reactions*, June 15, 2009.

⁷¹ Ibid.

Although an impressive attempt to incorporate climate change into modeling, these models are quite controversial because they only take into consideration the spread of events during a small “near-term” period of time, which means they are not as statistically robust as 100 year CAT models.

For most regulators, rate increases in weather risk markets must be justified on the historical record.⁷² The State of Florida, for example, has developed a formal review process for these models led by the Florida Commission on Hurricane Prediction Methodology. In 2007, this Commission rejected the use of near-term models in Florida markets. According to a senior official at Lloyd’s of London in their Emerging Risks division, the rejection of the model was a “sad day” for the actuarial and risk-modeling profession, which was trying to address the weaknesses in the models that led to the insurance sector’s losses during 2004 and 2005.⁷³

The innovations within actuarialism that led to the use of CAT models and the more recent turn to “near-term” models revealed how insurers were trying to generate a technical consensus on strategies to maintain the standards of insurability. Although near-term models are more effective at compensating insurers for mega-CATs, they still fail to incorporate the influence of climate change on weather risk.⁷⁴ According to Celine Herweijer, the Director of Climate Change Practice for the risk-modeler RMS, climate change will force modelers to shift from using purely historic data to “having to forecast for a different world.” She warned against those who believe risk can be priced as it happens, arguing that if insurers “close their eyes and wait until 2030, doing nothing to help adaptation, we could be in a situation where insurance becomes unaffordable and unavailable.”⁷⁵

According to Mills, “a major obstacle to insurers taking action on climate change has been that the models the industry uses to manage and price risk have been backward-looking and thus, by definition, unable to take climate change into account.”⁷⁶ Because their models are “blind” in determining whether climate change risks are increasing or decreasing, actuaries are uncertain on how to approach the governance of these risks. Once again, this uncertainty parallels the technical

⁷² Evan Mills, “A Global Review of Insurance Industry Responses to Climate Change,” *The Geneva Papers* 34 (2009): 323-359, 330.

⁷³ Anonymous I.

⁷⁴ Mills argues more specifically that an “insurer’s traditional modeling techniques are still ill-suited for understanding the implications of climate change and fine-grain loss data are incomplete and under-utilised in understanding the trends.” See Mills, “A Global Review of Insurance Industry Responses to Climate Change,” 338.

⁷⁵ May, “Climate Change - Green For Go.”

⁷⁶ Mills and Lecomte, “From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change,” 27.

obstacles faced by accountants in determining how to measure climate change risks through international accounting standards.

But as Chapter 2 (section 2.3.2) argued, insurers are predisposed to use their expertise to reduce uncertainty about climate change economic uncertainty by experimenting with models in order to generate a technical consensus on how to govern this uncertainty as a risk. Indeed, at one point, insurers were only able to price exposure to fire risk. Improvements in technology and actuarial science have expanded an insurer's ability to incorporate weather uncertainty into premiums. But these efforts are expensive, face regulatory and reputational risk, and require a willingness to devote resources to research that is designed to protect insurers in the long-term.

The allocation of resources towards modeling has tremendous potential in revealing a "hidden link" between a firm's environmental performance and financial risks, and satisfying the standards of insurability for pricing climate change risks. But even with this technical consensus, insurers must fulfill the second standard and be able to price this risk at a level that is both affordable to the consumer and compensates the insurer to cover for potential claims. If consumers and the regulators that represent their interests disagree with a new technical consensus that climate change risks can be priced, insurers must also generate a political consensus that supports their efforts to use the standards of insurability to govern climate change risks. Indeed, opposition to the use of RMS' "near-term" model demonstrates this point. The following analysis will examine how insurer efforts to maintain the standards of insurability through price increases and market pullbacks justify the need to generate a political consensus.

5.3.2.2 The Politics of Pricing Climate Change Risks

In addition to attempts at reforming the modeling process to accommodate climate change risks, insurers have also turned to more traditional strategies, such as raising their rates or pulling out of markets to maintain the standards of insurability. Insurers, however, increasingly see these strategies as ineffective in the long-term partly because they lose market share and their ability to spread risk through diversification.⁷⁷ But more significantly, these strategies create regulatory and reputational risks.⁷⁸ If regulators and consumers are unwilling to pay for increased exposure to climate change

⁷⁷ Anonymous N; See also Paterson, "Risky Business: Insurance Companies in Global Warming Politics."

⁷⁸ In the aftermath of Hurricane Katrina, the market pullback strategy spread from one state to another as insurers realized that policies covering property on coastlines exposed them to increasing losses. In Florida over half a million policies were cancelled or not renewed in 2006. Along the Gulf Coast, Allstate, one of the largest

risks - which they may not perceive to exist - insurers are unable to maintain the standards of insurability.

When insurers attempt to pull out of a market, insurance regulators can either impose moratoriums on nonrenewal of contracts, which forces the insurers to maintain their existing policies, or abandon private insurance and establish a government-operated insurance “pool.”⁷⁹ Often insurers are forced to cover the losses suffered by these pools as a condition on providing *any* form of coverage in the state.⁸⁰ Because these pools charge below the market price for risk, they continually lose money. For example, in 2004, Florida’s public insurance pool lost \$2.5 billion due to an increase in hurricanes.⁸¹ In Mississippi, insurers were forced to pay \$545 million in the aftermath of Hurricane Katrina to recover losses as part of their obligations to the pool.⁸²

From a global perspective, insurers cannot continue to shift the insurance burden to government backed insurance pools and consumers because this threatens the long-term growth potential of the sector. Most of the world’s developed economies are currently saturated markets for insurers, who are now looking for market opportunities in developing countries. These countries are asymmetrically exposed to climate change impacts, which – when combined with increasing market pullbacks in already established markets - represents a significant threat to the insurance sector’s future growth.⁸³

Similar to the market pullback strategy, raising premiums often leads to regulatory intervention as regulators acting on behalf of consumers artificially suppress insurance rates. Indeed, Florida’s intervention into the use of near-term models was widely considered a reaction to the corresponding increase rates forecast by the models.⁸⁴ In addition to creating political opposition to rate increases, this regulatory intervention illustrates the importance of a technical consensus on the

insurers in the US, suffered losses of \$3.68 billion, which convinced it to not renew over 140,000 policies. See R. J. Lehmann, “A Catastrophic Battle,” *Best’s Review*, October 10, 2006.

⁷⁹ Florida imposed a moratorium after Hurricane Katrina, and Louisiana and Mississippi imposed moratoriums after Hurricane Katrina. See Daniel Sutter, “Policy Uncertainty and the Market for Wind Insurance” (Mercatus Centre, George Washington University, June 2009), 14.

⁸⁰ Insurance pools currently exist in Alabama, Florida, Louisiana, Mississippi, North Carolina, South Carolina and Texas. See *Ibid.*

⁸¹ Mills and Lecomte, “From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change,” 10.

⁸² Mills and Lecomte, “From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change,” 13; Florida, Louisiana, Mississippi and Texas forced insurers operating in their state to recoup losses from state pools after the 2005 Hurricane season. See Sutter, “Policy Uncertainty and the Market for Wind Insurance,” 14.

⁸³ Mills, “From Risk to Opportunity - Insurer Responses to Climate Change,” 13.

⁸⁴ Brian Kern, “RMS Withdraws Five-Year Hurricane Model From Florida,” *Insurance Journal*, May 18, 2007.

use of new modeling techniques. Consumers and regulators can easily point to divisions in this consensus to justify intervention.

Insurers view this form of regulatory intervention as a significant impediment in protecting insurance markets from increases in weather-related damage associated with climate change.⁸⁵ According to Robert Detlefsen, the Vice President of the US National Association of Mutual Insurance Companies (NAMIC), rate suppression creates “perverse incentives that lead to increased population growth and wealth concentration in precisely those areas most vulnerable to climate change-induced weather events.”⁸⁶

In the aftermath of the 2004-2005 hurricane season, regulators in several US states intervened in their markets by suppressing prices. In 2006, Florida insurance regulators suppressed rate increases by 16 percent for Allstate, 17.5 percent for Nationwide, and 23.7 percent for USAA. Further attempts by insurers to increase their rates were met with resistance from consumer advocacy groups, who pushed regulators to introduce legislation to reject new rate changes and roll back previous rate changes.⁸⁷ For State Farm, the largest US P&C insurer, these regulatory risks forced the firm to abandon Florida homeowner insurance in 2009.⁸⁸ Texas regulators have also increased their supervision of rate increases. In 2006 and 2007, State Farm was refused a rate increase of 11 percent, Allstate was refused a 5.9 percent increase, and Farmer’s Insurance failed to receive approval for a 6.6 percent increase.⁸⁹

Within global markets, raising rates to accommodate increased physical risk will ultimately make insurance unaffordable even for most developed economies. ABI estimates that premiums would have to rise 67 percent in order to generate an additional \$76 billion to cover for climate change related losses in Europe, Japan and the United States.⁹⁰ Such a premium increase would diminish existing insurance markets by making private insurance unaffordable to both individuals and firms. The realization that market pullbacks and price increases create regulatory and reputational

⁸⁵ Anonymous L; Anonymous M; Anonymous N.

⁸⁶ Detlefsen describes Florida population growth as an example of this perverse incentive suggesting that Florida's population has grown 25% since Hurricane Andrew despite increases in the strength and frequency of Atlantic Hurricanes. See Climate and Insurance, “TakeFive Interview with Robert Detlefsen, Vice President, National Association of Mutual Insurance Companies,” *Climate and Insurance*, March 16, 2008, http://www.climateandinsurance.org/takefive/bio_detlefsen.html.

⁸⁷ Mills and Lecomte, “From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change,” 11-12.

⁸⁸ Kunreuther and O. Michel-Kerjan, Erwann, *At War with the Weather: Managing Large-Scale Risks in a New Era of Catastrophes*, 36.

⁸⁹ *Ibid.*, 37.

⁹⁰ Dlugodecki and Lafeld, “Climate Change and the Financial Sector: An Agenda for Action,” 10.

risks has been compounded by increasing evidence that weather-related losses associated with climate change are likely to exceed a \$1 trillion annually. As UNEP FI concludes in their survey on the insurance sector, such losses could easily “undermine the solvency of an insurance company and the long-term economic health of the insurance industry and its partners.”⁹¹

In response, insurers have started to develop cognitive expectations that recognize public regulation and modeling reform in governing climate change risks is necessary to maintain the standards of insurability. The only way to ensure that premiums do not reach unaffordable levels creating a crisis of availability is if both insurers and governments start to price the behavior contributing to these risks. Insurers must be able to determine which markets are highly exposed to risks and begin to adjust prices to build up their reserves.⁹² At the same time, insurers must inform government policy to ensure that insurance markets do not become insolvent. These conclusions have influenced the emergence of material interests within the insurance industry in governing climate change risks through an expansion of public regulation. Rather than short-term concerns about reputation or preempting public regulation identified by “post-Westphalian” explanations of environmental co-regulation, insurers are predisposed to interpreting climate change uncertainty as a financial risk that must be governed through public regulation.

But to advance these interests, insurers must collaborate in generating a technical and political consensus. First, the industry needs to foster a technical consensus that climate change uncertainty represents a significant risk for the industry, and that this risk can be modeled to inform premiums and demonstrate how these impacts could lead to a crisis of insurability in certain markets. This consensus can then be used to inform policy to help defend the industry. Second, insurers must use this technical consensus to overcome opposition to use of public regulation at the international and national level to implement climate change mitigation and adaptation policy.

Although the generation of a technical and political consensus within the insurance industry is a precursor to effectively pricing these risks, an argument can also be made that this consensus must enjoy the support of the environmental community as well. Insurers must be able to demonstrate that the use of their markets to price climate change risk into the economy will be conducive to robust mitigation and adaptation. Indeed, the partnership between the CPSL and insurers suggests that generating support from the environmental community was a factor in shaping its strategy. Without this consensus, divisions within the industry can be exploited by opponents and limit the industry’s

⁹¹ UNEP FI, “The Global State of Sustainable Insurance.”

⁹² Paul Davies, “Insurers Call to Action on Climate Change,” *Financial Times*, October 22, 2009.

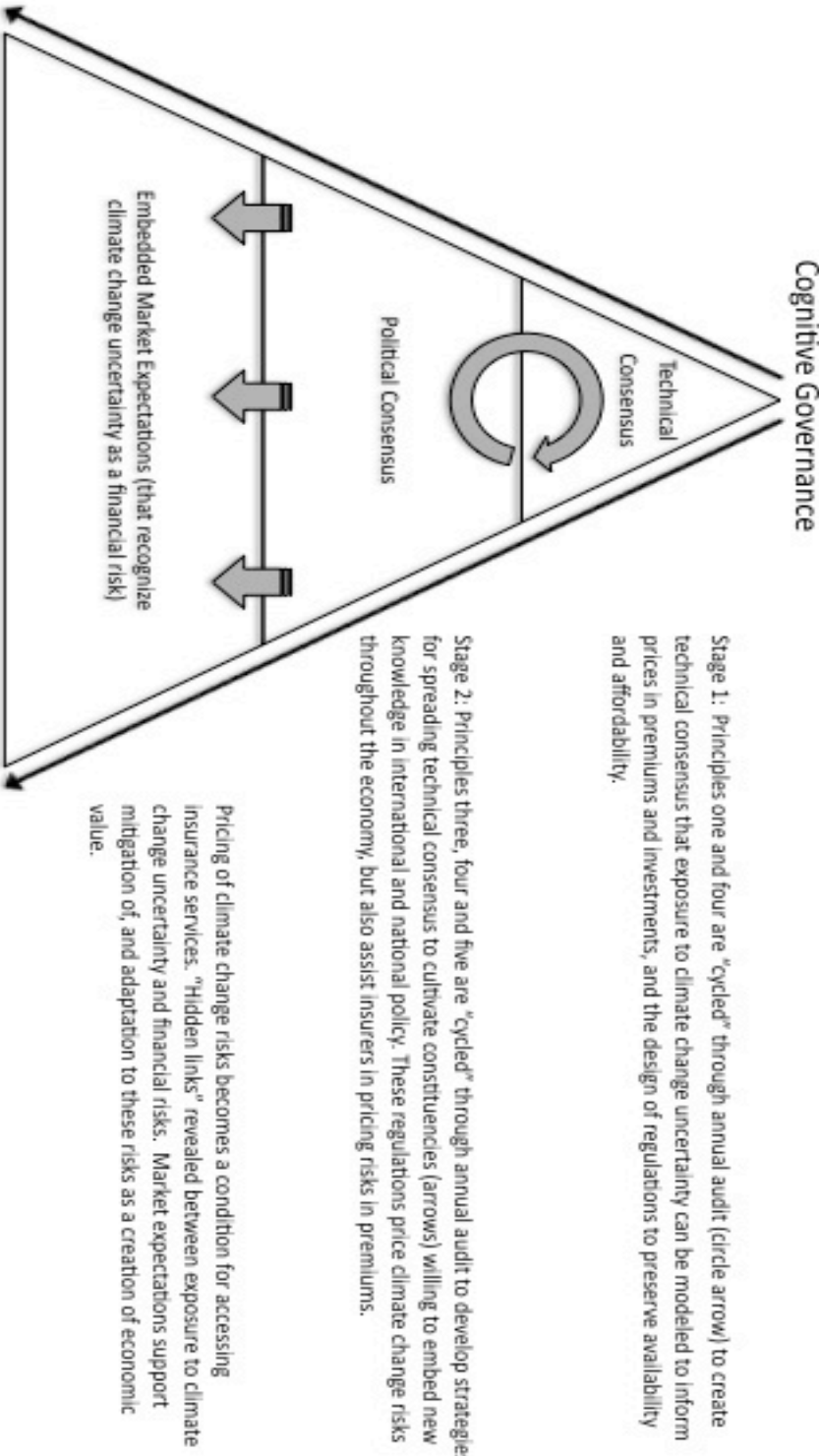
ability to govern these risks. As previous analysis has suggested, however, insurers are incentivized to reform their markets in ways that capture a robust price for these risks if they want to maximize the provision of their risk-management services. As more firms require coverage or expertise in reducing exposure to these risks, insurance markets will grow. These factors help explain why the Prince of Wales and the CPSL found a receptive audience among insurers to his proposal for co-regulation as a strategy to harness the collective rule making capacity of the insurance industry in governing climate change risks.

5.4 Co-Regulation and Cognitive Governance in ClimateWise

The form of co-regulation adopted by ClimateWise reflects the CPSL's expertise and political capacity in using voluntary best practice standards to harness the insurance industry's resources in generating a technical and political consensus necessary to defend the industry from climate change risks. ClimateWise has similar objectives as the CDSB, but instead of requiring the disclosure of climate change risks as a condition on accessing accounting services, ClimateWise attempts to price risks into global economic activity through international regulations and insurance markets. The objective of this strategy is to create a climate change risk market where the insured are willing to pay for exposure to these risks, and in turn, support measures to reduce insurance costs associated with these risks, such as mitigation and adaptation policy.

The following analysis breaks down ClimateWise's strategy for achieving these objectives. It reveals that ClimateWise adopts the two central characteristics of cognitive governance through its two-stage process for technical and political consensus building (See Figure 5.2). In particular, ClimateWise uses voluntary-best practice standards to engage in technical and political consensus building to cultivate constituencies willing to support the governance of climate change risks in insurance markets through an expansion of public regulation, and uses a reflexive mechanism to govern compliance to these standards.

Figure 5.2 ClimateWise as cognitive governance



CPSL played a key role in promoting the key characteristics involved in cognitive governance. In particular, the CPSL promoted the idea of a flexible approach to implementing cognitive governance by using voluntary best practice standards to “ratchet-up” compliance to these standards. The CPSL offered to host the initiative by forming the ClimateWise Secretariat, which administers the standards, lobbies on behalf of insurers among national and international policymakers, and governs the reflexive mechanism by organizing a third-party audit.⁹³

Although the CPSL, or more specifically the ClimateWise Secretariat governs the implementation of cognitive governance, other ENGOs and policy entrepreneurs indirectly contributed to this strategy. Based on the efforts of previous policy entrepreneurs, described in section 5.2, there are clear connections between Mills and Lecomte’s “Risk to Opportunity” strategy, ABI’s public policy advocacy, UNEP-II, and Leggett’s “solidarity” effort.

Before explaining the two-stage process that ClimateWise uses to engage technical and political consensus building, it is first necessary to outline its reflexive mechanism for evaluating compliance to these efforts. Principle six, which asks insurers to comply with a yearly audit to measure their progress towards the ClimateWise Principles, helps to coordinate the implementation of this reflexive mechanism. Compliance is measured by a third-party auditor who reviews written submissions by each of the members outlining their progress toward each standard.⁹⁴

This audit evaluates compliance based on a “comply or explain” model, where members must either provide evidence of their efforts in working towards the standard, or explain why they are not complying. These responses are then assessed, assigned a “score” based on these efforts, reported back to the participant, and disclosed anonymously in a public report (ie. scores are disclosed but member names are removed).⁹⁵ Similar to the CDSB, this auditing process is designed to “ratchet-up” each participant’s ability to comply in channeling resources towards a technical and political consensus by directing each member to address weaknesses in their voluntary efforts.

Although ClimateWise has yet to face any scrutiny from the environmental community, an interviewee confirmed that the reflexive mechanism is also designed as a signal for the environmental community that ClimateWise would have “teeth”. This decision was based on a review of several existing initiatives including the Equator Principles and Ceres’ “Risk to Opportunity” best practices.

⁹³ Anonymous J; Anonymous K.

⁹⁴ Forum for the Future, “ClimateWise: The 2009 Review,” November 26, 2009, <http://www.climatewise.org.uk/storage/climatewise-docs/Second%20Year%20Review%202009.pdf>, 44.

⁹⁵ PricewaterhouseCoopers, “ClimateWise Principles: Third Independent Review 2010” (ClimateWise, 2010), 37.

Participants in the negotiations agreed that delegating responsibility for the reflexive mechanism to the CPSL, represented an optimal strategy for ensuring that the initiative reflected the concerns of the environmental community.⁹⁶

Figure 5.3 ClimateWise compliance rates⁹⁷

Principle	2010 Compliance	2009 Compliance	2008 Compliance
Lead in Risk Analysis	91%	74%	80%
Inform public policy making	91%	89%	85%
Support climate awareness amongst our customers	89%	69%	59%
Incorporate climate change into our investment strategies	73%	61%	59%
Reduce the environmental impact of our business	94%	82%	67%
Report and be accountable	93%	82%	80%

5.4.1 Technical Consensus Building

The first step in cognitive governance is to generate a technical consensus that uncertainty around the impacts and liabilities associated with climate change can be governed as a risk, and identify strategies and regulations that can be effective in governing these risks. This consensus is important demonstrate how climate change challenges an insurer’s capacity to maintain the standards of insurability, and ultimately, preserve the efficiency of risk-transfer markets. Models can inform rates conducive to the reduction of climate change risks, but also help insurers identify markets where rate increases could make insurance unaffordable in order to inform and justify loss-prevention policy. Principle one and four target the facilitation of this technical consensus. Principle one commits members of ClimateWise to “lead in risk analysis” by: researching how climate change risks will impact future business, developing accurate climate change forecasts, generating models that inform premium levels and capital reserves, generating risk profiles for new green technologies, and most importantly, sharing research with stakeholders throughout insurance markets.⁹⁸

⁹⁶ Anonymous K.

⁹⁷ See PricewaterhouseCoopers, “ClimateWise Principles: Third Independent Review 2010.”

⁹⁸ ClimateWise, “The ClimateWise Principles.”

Principle four asks ClimateWise members to evaluate how climate change risks can be implemented into their investment strategies.⁹⁹ It is important that insurers understand how these returns may be impacted by climate change risks considering the important role that an insurer's investments have in compensating for losses and maintaining profitability. By determining how to effectively model and price climate change risks, ClimateWise attempts to integrate this pricing into premiums (principle one) and into investment strategy in the same way as being developed by institutional investors involved in the CDSB (principle four).

To accomplish this goal, principle one is designed to facilitate a partnership between the risk and climate modeling "epistemic communities" to improve how existing models incorporate climate change into their predictions for weather-related losses.¹⁰⁰ The 2010 audit confirms this priority: "If these risks cannot be adequately modeled and built into underwriting and investing activities then the sector puts at jeopardy its financial integrity."¹⁰¹ This effort to harness the expertise of the insurance industry in linking a firm's environmental exposure to climate change risks can then be used to inform effective loss-prevention policies in markets over-exposed to losses, and eventually incorporate risks into premiums.

Insurers face a great deal of technical uncertainty in using their expertise to incorporate climate change risks into the standards of insurability. The most significant obstacle is the resolution of a debate over how to model future oriented risks given that the industry uses historical models to inform its risk pricing. Resolving this debate is critical if insurers are to effectively inform loss-prevention policy, and in the long-term gain approval from regulators for incorporating future oriented risks into a "climate premium". As the discussion in section 5.3.2.1 revealed, regulators are hesitant to allow insurers to use models that price based on "near-term" assessments to climate conditions. At the same time, there is considerable debate in the industry whether these models can accurately inform risk exposure and premiums. RMS, for example, has faced criticism for arguing that rates must be increased based on its near-term models. According to a rival firm KC&C, the near-term model developed by RMS predicts higher losses because it incorporates "improvements in observational technology, leading to better detection of tropical storms and hurricanes."¹⁰²

⁹⁹ Ibid.

¹⁰⁰ Anonymous I.

¹⁰¹ PricewaterhouseCoopers, "ClimateWise Principles: Third Independent Review 2010," 10.

¹⁰² Canadian Underwriter, "RMS Fires Back At Report Criticizing Near-Term Hurricane Models," *Canadian Underwriter*, January 28, 2011, <http://www.canadianunderwriter.ca/issues/story.aspx?aid=1000400931>.

Consensus is also critical to convince consumers that rate adjustments are necessary to compensate for increasing climate change risks. If one firm implements higher rates based on improved modeling, other firms must embrace similar rates if a “climate premium” is to have any influence in promoting behavior conducive to mitigation or adaptation. Otherwise, consumers and businesses can avoid behavioral changes by turning to rivals who refuse require that climate change risks are priced into insurance coverage. The 2010 audit confirmed that most of ClimateWise’s participants have yet to link efforts to measure climate change risks with their models to premiums or investments.¹⁰³ Without a robust price signal that informs the insured about their exposure, insurers are unable to generate adequate reserves for large weather-related risks linked to climate change, or make the case that loss-prevention policies are necessary to avoid further price increases. This hesitation is the result of the several obstacles insurers face in trying to price climate change risks.

The first obstacle is associated with the costs and technical challenge involved in using climate models to inform CAT models. Whereas climate models track broad future changes in the climate, such as temperature and precipitation changes, CAT models forecast specific losses based on the historical record of damage caused by weather events in certain geographical areas. Because of this technical challenge, ClimateWise participants have tended to focus their efforts on “low-hanging fruit”, specifically modeling short-term weather changes impacting flood losses, which constitute the most material consequence of changing weather patterns for most insurers.¹⁰⁴

The second obstacle is that ClimateWise members have yet to link their research on climate change risks to premium increases. The audit argues that this hesitation is largely a consequence of competitive constraints. As the 2010 audit notes, “consumer decisions on policy selection are often driven by price alone, effectively punishing the insurance company that responsibly prices technically modeled climate risk into the premium charged.”¹⁰⁵

These obstacles demonstrate that, while insurers are researching how to price climate change risks, a technical consensus or business case that justifies devoting resources to modeling long-term risks, and implementing rate increases remains exposed to market pressures. Despite this challenge, members have demonstrated a high level of compliance to principle one (over 90%) in the last two audits. This level of compliance reveals that insurers are initiating efforts to generate a technical consensus that supports the modeling and pricing climate change risks.

¹⁰³ PricewaterhouseCoopers, “ClimateWise Principles: Third Independent Review 2010,” 17.

¹⁰⁴ Ibid.

¹⁰⁵ Ibid., 14.

At the same time, however, insurers are also struggling to integrate climate change risks into their investment strategies. Compliance to principle four is the lowest among the six at 73% in the 2009 audit. Insurers often outsource decision-making over their investment portfolios to external firms, which limit the ability for the insurance side of the business to communicate its research and expertise on modeling these risks to the investment side. ClimateWise audits have targeted this barrier as a critical weakness to implementing principle four.¹⁰⁶

This analysis demonstrates the important role that the ClimateWise Secretariat plays in generating a technical consensus by governing the reflexive mechanism. Based on analysis of the third party audit, the Secretariat can now confront members with information that they need to work hard at overcoming short-term concerns about devoting resources to long-term modeling projects. To make the case that insurers need to overcome these obstacles, the Secretariat often identifies strategies or best practices among its members as an example. In the 2010 audit, the Secretariat identified work by Lloyd's of London, RMS and ABI in researching how climate change is likely to impact local weather patterns as best practices that other insurers should emulate. To help stimulate this process, the ClimateWise Secretariat facilitates workshops and seminars to create a more open and less proprietary environment for insurers to share information.¹⁰⁷

By identifying best practices for modeling the impact of climate change on the insurance industry, ClimateWise can work at pricing these risks in insurance markets, but also identify effective regulations necessary to reduce exposure in markets likely to face a crisis of availability and affordability. To ensure that a technical consensus is leveraged to generate political support for ClimateWise's objectives, principle two includes an important standard that commits members to spread research among key constituencies, including businesses, NGOs, and governments.¹⁰⁸ Although these efforts to generate a technical consensus to inform effective regulation is still ongoing, analysis in the following section will show how ClimateWise has been able to identify several regulations that are supported by a technical consensus among its members.

5.4.2 Political Consensus Building

¹⁰⁶ Forum for the Future, "ClimateWise: The 2009 Review," 35; PricewaterhouseCoopers, "ClimateWise Principles: Third Independent Review 2010," 26.

¹⁰⁷ PricewaterhouseCoopers, "ClimateWise Principles: Third Independent Review 2010," 18.

¹⁰⁸ ClimateWise, "The ClimateWise Principles."

Once a consensus is reached on the risks facing the industry, ClimateWise can leverage this consensus to generate political support for the regulations necessary to govern these risks. According to an interviewee involved in the negotiations, the goal of this stage is to ensure that insurers “speak with one voice” on these issues.¹⁰⁹ The primary goal for political consensus building within ClimateWise is to leverage the insurance industry’s risk-management expertise to help legitimize the case that climate change risks are material to the industry and its customers. This effort is critical given the potential politicization that can occur when insurers try and promote climate governance. Indeed, US insurers have first hand experience in the consequences of such politicization based on the NAIC’s effort to implement a risk disclosure survey.

Although the NAIC’s effort was slightly more robust than ClimateWise because it supported a mandatory approach (whereas ClimateWise is voluntary), the survey was less prescriptive in its particular aims than ClimateWise’s six principles. Despite the difference, the NAIC effort demonstrates how an arcane initiative on the part of a relatively unknown financial regulator to address the issue of climate change can become politicized. In the lead up to the 2010 US elections, Republicans targeted US State Governors who had appointed an Insurance Commissioner that supported the climate risk disclosure survey.¹¹⁰ Legitimacy for this campaign came from a division in consensus within the insurance industry itself, specifically from the National Association of Mutual Insurance Companies (NAMIC).

NAMIC contested the NAIC’s survey based on skepticism about climate change science and the link between rising climate change and rising weather-related losses for insurers. NAMIC explained its position in a letter to the NAIC:

[T]here is simply too much uncertainty about the nature of climate change—e.g., the rate at which it is occurring, the extent to which it is caused by human activity, its relationship to natural catastrophes such as hurricanes and droughts, and the economic trade-offs that would be entailed by various actions that might be taken to prevent further warming—for regulators to assume that all insurers have a material exposure to “climate risk” sufficient to justify mandatory “disclosure” of this purported risk to regulators and the public.¹¹¹

To further buttress this position, the letter goes on to argue that the premise for implementing the survey is flawed based on the “Climategate” controversy, which allegedly confirmed that scientists

¹⁰⁹ Anonymous J.

¹¹⁰ Evan Lehmann, “Sudden Revolt by Insurance Regulators Scales Back Climate Rule on Industry,” *New York Times*, March 30, 2010, <http://www.nytimes.com/cwire/2010/03/30/30climatewire-sudden-revolt-by-insurance-regulators-scales-8154.html>.

¹¹¹ Detlefsen, “Documents Related to Insurer Climate Risk Disclosure Survey,” 3.

have colluded in subverting criticism to the global warming argument.¹¹² The ease through which the US insurance industry's effort to govern climate change risk became politicized demonstrates the importance of political consensus within the industry, but also the necessity of support among stakeholders outside of the industry.

ClimateWise has recognized the necessity of political consensus building in principles two, three, and five. The best practices outlined in these principles reflect the research that the CPSL has conducted to inform its "transformational change model," and its experience in working with the CLG. As analysis in section 5.2 discussed, the CPSL argues that governments must assume the role of a "task manager" by implementing policy that leverages individual sectors in supporting the governance of climate change risks. Before these policies can be implemented, governments and stakeholders within individual sector must develop consensus on the policy necessary for mobilizing its resources and expertise in the governance of climate change risks. After consensus is established, the government and sector needs to communicate with the public about the impacts of the reforms and limits to their actions. Using this approach will ensure that when the government and industry takes action on issues such as climate change risk, they have political legitimacy.¹¹³

Principle two asks insurers to collectively engage in public policy making by lobbying for regulations that mitigate climate change risks in the global economy. More directly, principle two is designed to inform policy at the international and national level to maintain the standards of insurability, or the efficiency of insurance markets. This principle was included in the political consensus building aspect of ClimateWise's approach to cognitive governance because it targets public policy advocacy, but it could also be discussed as a contribution to technical consensus building. As the last section suggests, a technical consensus on how to maintain the standards of insurability through new models and pricing is an important precursor to informing effective policy. This consensus can be leverage to help governments "set and achieve national and global emissions reduction targets" and implement loss-prevention regulations to improve the resiliency of existing infrastructure and communities.¹¹⁴

For example, ClimateWise champions policies such as a robust international emissions reduction treaty, an international adaptation treaty binding countries to build defenses to climate

¹¹² Detlefsen, "Documents Related to Insurer Climate Risk Disclosure Survey," 4; Lehmann, "Sudden Revolt by Insurance Regulators Scales Back Climate Rule on Industry."

¹¹³ Anonymous J; See Jones, "Transformational Change Model: Achieving a Low Climate Risk Economy," 34-36.

¹¹⁴ ClimateWise, "The ClimateWise Principles."

change risks, and the creation of international risk databases so insurers can attempt to model these risks.¹¹⁵ ClimateWise makes these policy recommendations to “advance regulatory responses that protect the interests of consumers and the financial sustainability of insurer markets.”¹¹⁶ Some of the initiative’s more prominent policy efforts include supporting a 40 percent GHG emissions reduction by 2020, which is 20 percent more than the EU’s current goals.¹¹⁷ According to an interviewee, this strong position surprised the ClimateWise Secretariat, which had anticipated a 20 percent reduction target in line with the EU’s. It emerged in response to technical consensus building over the reductions required to avoid significant losses and subsequent premium increases.¹¹⁸

ClimateWise has also made several other policy proposals based on technical consensus building. In the 2010 statement to UNFCCC negotiators, ClimateWise advocated for an global agreement on providing funds to developing countries to support adaptation.¹¹⁹ If these markets are to remain insurable, robust adaptation policies are required given the potential disproportionate impacts of climate change on these countries. The statement also argued for the implementation of “mandatory risk reduction” plans for every country participating in the UNFCCC.¹²⁰ These plans included implementing a national database on climate change risks, and implementing land-use and loss prevention policies (or adaptation policy) based on exposure to these risks. The former policies are necessary because insurers lack the data necessary to inform new modeling techniques, whereas the latter is needed if markets are to remain insurable as climate change impacts increase.¹²¹

The ClimateWise Secretariat has supported these efforts by identifying ABI’s engagement with the UK government, which involved threatening to pull coverage if the government does improve flood defenses, as an example of best practice. Outside of policy advocacy, principle two also encourages political consensus building within the insurance industry. The most robust effort includes a partnership with several other insurer environmental initiatives, including The Geneva

¹¹⁵ See Andrew Torrance, “Letter from the Chairman of ClimateWise to UNFCCC Negotiators in Cancun” (ClimateWise, December 2010); ClimateWise, “ClimateWise statement on the UNFCCC Copenhagen negotiations,” October 2009.

¹¹⁶ PrincewaterhouseCoopers, “ClimateWise Principles: Third Independent Review 2010,” 19.

¹¹⁷ This reduction target is also 20 percent more than the United States Climate Action Partnership’s position, which is one of the most prominent business group supporting climate change legislation. See. USCAP, “Issue Overview: Comparison of Emissions Targets” (United States Climate Action Partnership, March 2009), <http://www.us-cap.org/upload/file/FINAL%20USCAP%20Issue%20Brief%20Target%20Comparison.pdf>; Torrance, “Letter from the Chairman of ClimateWise to UNFCCC Negotiators in Cancun.”

¹¹⁸ Anonymous J.

¹¹⁹ Torrance, “Letter from the Chairman of ClimateWise to UNFCCC Negotiators in Cancun.”

¹²⁰ Ibid.

¹²¹ ClimateWise, “ClimateWise statement on the UNFCCC Copenhagen negotiations.”

Association, Munich Climate Insurance Initiative (MCII), and UNEP Finance Initiative in supporting the development of an insurance pool to encourage developing countries to implement adaptation policy. This pool would be financed by the developed world and act as an insurance policy by covering 30 percent of losses from climate change impacts in developing countries.¹²² Although these groups may not explicitly target climate change, or have as many members as ClimateWise, they support the use of insurance markets to govern climate change risks and demonstrate how the constituency behind such policy is growing.¹²³

ClimateWise's audit has identified that despite a high level of compliance to principle two at over 90%, insurers have experienced difficulty in converting their statements on greater use of public regulation in governing climate change risks into action. In response to the audit, the Secretariat argues that members need to ensure that their policy recommendations are harmonized to protect against redundancy and are informed based on risk-management expertise in carbon technologies and adaptation infrastructure. More broadly, these policy efforts should help identify "low carbon economic pathways and the required infrastructure needed to both mitigate and adapt to climate change, which would reduce risks for the sector and enable insurance cover to remain intact."¹²⁴ This diversity of opinion reveals that insurers have yet to generate a consensus on effective policy recommendations, which limits the ability of the industry to inform policy to help reduce climate change risks.

Principle three asks members to work within their customer and stakeholder base to "inform customers of climate risk" and market their products and expertise within both developed and developing markets.¹²⁵ This principle helps insurers build a constituency of support among their customers and stakeholders. According to Karl Russak, the senior Vice President of Environmental Risk at Ace, a "perception of risk on the part of the customer" is necessary before insurers can take

¹²² Koko Warner, Thomas Loster, and Michael Zissener, "Vulnerable Countries and People: How Disaster Risk Reduction and Insurance Can Help Manage the Risks of Climate Change" (United Nations University, 2009), http://www.climate-insurance.org/upload/pdf/MCII_Policy_Brief.pdf.

¹²³ In 2010, this group made their first combined statement to the COP 16 governments meeting at Cancun asking governments for the implementation of an adaptation regime necessary to defend insurer market boundaries in developing countries. ClimateWise et al., "Global Insurance Industry Statement on Adapting to Climate Change in Developing Countries," September 6, 2010, <http://www.climatewise.org.uk/storage/developing-world-adaptation/Global%20Insurance%20Industry%20Statement%20-%20Adapting%20to%20Climate%20Change%20in%20Developing%20Countries%20October%202010.pdf>.

¹²⁴ PricewaterhouseCoopers, "ClimateWise Principles: Third Independent Review 2010," 21.

¹²⁵ ClimateWise, "The ClimateWise Principles."

action to mitigate these risks.¹²⁶ To accomplish this goal, insurers need to communicate to their customers the justification behind rate changes based on climate change risks. This principle is a key plank in the CPSL’s TCM because it recognizes that rate decisions by insurers are effectively communicated among key stakeholders. Without effective communication, ABI contends insurers are exposed to reputational risks “since they may be seen as the bearers of unpopular messages and blamed for factors which they alone cannot control.”¹²⁷

In terms of best practice, the Secretariat has identified Zurich Insurance, which has launched a website to communicate how customers can identify exposure to extreme weather risks, and how to prepare before, during and after these events to reduce this exposure. Aviva has implemented policies supporting sustainable repairs where customers are provided with an option to pay a higher premium that will cover improvements to their property that protects against long-term climate change impacts.¹²⁸ At 89 percent compliance, insurers are demonstrating progress in complying with principle three. Although an important accomplishment, the audit identifies that insurers still struggle to implement effective communications strategies that can communicate climate change risks in ways that are acceptable to the “mainstream.” One innovative recommendation is to engage downstream insurance market participants, such as brokers and loss adjusters, in communicating to their clients how climate change could exacerbate existing risks.¹²⁹

Principle five asks ClimateWise members to reduce the overall environmental impact of their business by mitigating GHGs across their supply-chain, and by publicly disclosing their emissions.¹³⁰ By agreeing to work towards reducing their emissions, ClimateWise attempts to send a reputational signal to the sector’s stakeholders and the environmental community that climate change risks are issues of strategic importance for insurers, requiring both regulatory and societal adjustments in behavior to mitigate these risks.¹³¹ This principle also reflects the CPSL’s TCM, which recognizes that legitimacy is critical if an industry has to impose costs on external actors in order to strengthen its efforts in governing climate change risks. According to an official with ClimateWise, signing up to ClimateWise without a principle that demonstrates the signatories’ own efforts to mitigate GHGs

¹²⁶ May, “Climate Change - Green For Go.”

¹²⁷ Dlugodecki, “A Changing Climate for Insurance: A Summary Report for Chief Executives and Policymakers.”

¹²⁸ PricewaterhouseCoopers, “ClimateWise Principles: Third Independent Review 2010,” 24.

¹²⁹ *Ibid.*, 25.

¹³⁰ ClimateWise, “The ClimateWise Principles.”

¹³¹ This strategy provides evidence for Paterson’s claim that legitimacy is a necessary precursor for the implementation of climate governance strategies that pursue capital accumulation. See Paterson, “Legitimation and Accumulation in Climate Change Governance.”

would create a significant legitimacy problem when lobbying policymakers (principle two) or working to reduce climate change risks among customers and stakeholders (principle three).¹³² In this respect, policymakers and customers believe insurers are credible when they argue that climate change risks threaten the viability of their industry.

This examination of the six ClimateWise Principles demonstrates how ClimateWise is designed to employ cognitive governance in facilitating technical and political consensus building. The development of this consensus is critical as a strategy for maintaining the standards of insurability through the expansion of public regulation combined with the pricing of climate change risks within insurance markets. By developing a technical consensus that exposure to climate change uncertainty constitutes a financial risk that can be priced, “hidden links” are revealed that demonstrate the market value of behavior supporting mitigation and adaptation. For example, efforts to mitigate GHG emissions could lower insurance premium rates freeing up capital to invest in expanding new markets. Political consensus building attempts to embed these “links” using public regulation within insurance and financial knowledge so as to incentive market behavior that rewards the governance of climate change risks. It is at this point that cognitive governance achieves its key market objective.

5.4.3 Limitations of ClimateWise?

This analysis of ClimateWise confirms that its approach to co-regulation builds off of existing co-regulatory initiatives in financial markets and is “unconventional” in seeking to strengthen public regulation. More specifically, the analysis has suggested that the use of voluntary standards is a strategic component in facilitating cognitive governance through ClimateWise, rather than an attempt at “greenwash”. Still, skeptics could argue that until ClimateWise has facilitated its objectives, there is no evidence to suggest that the insurers involved are accountable to their robust commitments in supporting this outcome. As with the CDSB, this criticism can only be resolved through future research evaluating the effectiveness of ClimateWise in achieving its objectives. In the meantime, it is possible to evaluate this potential criticism by examining ClimateWise’s enforcement strategy and rates of participation.

The use of an enforcement strategy suggests that ClimateWise is aware that accountability is a potential weakness and has taken measures to strengthen the compliance of its members. ClimateWise does not adopt a minimum requirement for compliance, which parallels the approach

¹³² Anonymous J; Anonymous K.

adopted by the CDSB. Despite this weakness, ClimateWise enforces compliance through its reflexive mechanism, specifically, a third party audit. ClimateWise also adopts the “comply or explain” approach that the CDSB uses. Participants are asked to provide reports that identify how they are working towards the standard, or explain why the standard is not relevant to their firm.¹³³ Responses to the audit help the ClimateWise Secretariat identify obstacles insurers face in maintaining compliance. More specifically, these reports are used to “score” each firm based on its compliance and disclosure. These scores can then be used to identify weaknesses, and direct attention among the participants to address these weaknesses.

Unlike the CDSB, however, disclosure is not made public. Instead, the ClimateWise Secretariat works with the auditor to provide feedback on each firm’s weaknesses and strengths in supporting the initiative. Public disclosure is an important source of accountability to members because it invites external scrutiny from stakeholders likely to put more pressure on insurers to improve their performance. For the time being, however, membership expansion is a key priority for ClimateWise given the political obstacles it is trying to overcome.¹³⁴ Anonymity provides flexibility required to encourage participation among firms that have yet to engage with many of the objectives outlined in the ClimateWise Principles. Because of ClimateWise’s emphasis on political advocacy in generating robust GHG mitigation and adaptation regulations, the facilitation of a broad constituency is a core concern that continues to justify anonymous reporting.

These efforts to expand the ClimateWise constituency have resulted in a fairly robust participation rate among the world’s largest insurers. Of the top 10 global insurance firms based on market value, five – including Allianz 1), Axa 2), Zurich 3), Aviva 8), and Prudential 10) – are members of ClimateWise. In addition, the Lloyd’s of London insurance market is also a member of ClimateWise.¹³⁵ Although this rate falls short of the near universal participation of the accounting industry in the CDSB, and a high rate of participation among institutional investors, it demonstrates that insurers are legitimately concerned about climate change risks and support ClimateWise as a strategy to govern these risks. This support represents a significant accomplishment considering that insurers have previously resisted efforts by ENGOs and policy entrepreneurs to facilitate co-regulation. Indeed, these participation rates reveal evidence of a shift in the industry’s position

¹³³ Forum for the Future, “ClimateWise: The 2009 Review,” 44.

¹³⁴ Anonymous K.

¹³⁵ Forbes, “The Global 2000,” *Forbes*, April 21, 2010, http://www.forbes.com/lists/2010/18/global-2000-10_The-Global-2000_Rank.html.

towards climate change and awareness that pro-active measures must be implemented to reduce exposure to increasing losses.

Although ClimateWise has yet to meet its objectives, the initiative is still relatively new. The use of an enforcement strategy demonstrates that ClimateWise participants are aware accountability is a priority. The impressive rate of participation also suggests insurers have legitimate material interests in governing climate change risks through co-regulation targeting an expansion of public regulation. But ultimately, future research will be required to determine whether ClimateWise can be effective in using cognitive governance to generate a constituency willing to support an expansion of public regulation governing climate change risks.

5.5 Conclusion

This chapter identified the form of co-regulation adopted by ClimateWise as a distinctive strategy to achieve influence, and identified factors that explain the emergence of this approach. ClimateWise's form of co-regulation adopts the two characteristics of cognitive governance identified in Chapter 2. Specifically, ClimateWise implements a system of voluntary best-practice standards designed to harness expertise and resources in promoting technical and political consensus building. To govern these standards, ClimateWise also implements a reflexive mechanism governed by an ENGO as a third party monitor. The objective of this approach is to cultivate technical and political consensus that supports pricing climate change risks throughout insurance markets, and expand public regulation to assist insurers in these efforts through international regulations on GHG emissions and adaptation (ie. loss prevention). This strategy is ultimately designed to contest existing market expectations that discount the economic value of a firm's exposure to climate change risks.

Three factors identified in the framework developed in chapter 3 help explain the form of co-regulation adopted by ClimateWise. First, the insurance industry had material interests in using public regulation to govern climate change uncertainty as a financial risk. During the 2000s, insurers realized that without robust international regulations on mitigation and adaptation, weather-related losses could increase to a point where existing markets are no longer insurable. In particular, insurers realized that regulation would be required to avoid reputational and regulatory risks associated with rate increases and potential market pullbacks. Second, efforts by insurers to maintain the standards of insurability to reduce weather-related losses revealed a need for a technical and political consensus before an expansion of public regulation could occur. Technical consensus is needed to demonstrate

that climate change risks could be modeled and priced to inform policy and implement a “climate premium” in order to preserve the standards of insurability. A political consensus is also required to address potential opposition to implementing measures likely to increase the cost of insurance services. The third factor was the existence of ENGOs, particularly the CPSL, with interests in using their expertise and political capacity in governing the implementation of voluntary best practice standards designed to leverage insurers in generating the consensus and political support necessary to govern climate change risks.

Chapter 6

Conclusion: Cognitive Governance and “Greening” Private Finance

6.1 Introduction

This dissertation has addressed two core research questions. First, how are the CDSB and ClimateWise designed to achieve their objectives? Second, what explains their emergence? The first section of this chapter reviews core answers to these questions that have been developed. The second section identifies how the arguments of the dissertation contribute to the advancement of knowledge in IPE and GEP literature. The chapter concludes by highlighting some future agendas for research on cognitive governance in financial markets.

6.2 The CDSB, ClimateWise and Cognitive Governance

How are the CDSB and ClimateWise designed to achieve their objectives? This thesis has argued that the CDSB and ClimateWise adopt an unconventional approach to co-regulation that I call “cognitive governance”. Rather than a strategy targeted at generating “governance beyond the state”, each initiative attempts to leverage accounting and insurance knowledge to support an expansion of public regulation. Although similar to existing non-state initiatives in climate change governance that support a stronger role for the state in protecting the environment, these initiatives have explicitly identified the goal of changing public regulation within their mandate. In this respect, they reflect an important trend whereby co-regulation within financial markets requires official regulatory change in order to be successful in governing climate change risks. Cognitive governance is the strategy these initiatives have adopted to implement these regulatory changes. It is designed to embed financial knowledge that links a firm’s environmental performance to financial risks related to climate change throughout the global economy vis-à-vis an expansion of public regulation.

Cognitive governance has two main characteristics. First, voluntary best practice standards are used to facilitate a two-stage process that targets technical and political consensus building. The objective of this process is to leverage financial knowledge that links a firm’s environmental performance to financial risks to cultivate a constituency willing to support the use of public regulation to govern climate change risks within accounting and insurance markets. The second characteristic of cognitive governance involves the use of a reflexive mechanism. This mechanism is

used to identify weaknesses in compliance to the CDSB and ClimateWise's standards, and to direct participants to devote expertise and resources to address these weaknesses.

The detailed studies of each initiative demonstrate how they are designed to facilitate the objective of expanding public regulation through cognitive governance. The CDSB targeted the implementation of a mandatory international accounting standard governing climate change risk disclosure. ClimateWise targets the implementation of several different policies at the international and national level that price climate change risks throughout the economy, and assist insurers in using premiums to price their own exposure to these risks vis-à-vis a "climate premium." The CDSB and ClimateWise are designed to facilitate this strategy through a two-stage process.

The first stage involves generating a technical consensus on how to measure and price climate change uncertainty as a financial risk using accounting and insurance knowledge. This consensus is a critical first step in convincing accountants and insurers that incorporating climate change risks into market decision-making can improve the efficiency of these decisions. But it is also important for determining how regulations can be designed to effectively govern these risks in ways that advance material interests. In the case of the CDSB, this process involves experimenting with voluntary best practice standards that attempt to capture the "decision-useful" aspects of climate change risk information. If the CDSB is to achieve its objective of a mandatory standard, climate change risk disclosure must be decision-useful for investors. This threshold constitutes a key cognitive expectation within the accounting profession and its regulatory institutions that justifies the implementation of a mandatory standard.

In the case of ClimateWise, technical consensus must be established on how to model and price climate change risks. Without this expertise, insurers will be forced to increase premium prices or pull out of markets because they are unable to compensate their reserves to cover for increased losses. To facilitate this consensus, ClimateWise attempts to harness the expertise of insurers in researching new ways to map and link climate change risks to weather-related damage. In addition, this consensus is required to inform and justify government "loss-prevention" policy in areas exposed to high levels of risk.

The second stage of cognitive governance involves political consensus building. Even if a technical consensus exists that measuring and pricing climate change risks improves the efficiency of market decision-making, the CDSB and ClimateWise must generate political support for international regulations that must be implemented before accounting and insurance markets can measure and price these risks. Most importantly, this political consensus must involve the regulators that govern each

market, consumers and firms using services within these markets, government policymakers, and environmentalists. Without this support, both accountants and insurers will be unable to advance their material interests in governing climate change risks. The CDSB approaches political consensus building through its “engagement plan” that targets key stakeholders in accounting markets with knowledge that climate change risks can be measured to improve the efficiency of market decision-making. ClimateWise has a similar approach, including direct engagement with government policymakers and market participants.

These two stages are governed by a reflexive mechanism that attempts to identify weaknesses in generating compliance to the standards, specifically the challenges that participants face in working towards a technical and political consensus. The CDSB Secretariat (hosted by the CDP) and the ClimateWise Secretariat (hosted by the CPSL) govern this mechanism. Each year, these bodies review the compliance and performance of the participants’ vis-à-vis the goal of measuring and pricing climate change risks. Weaknesses in compliance are targeted as areas that require further expertise and resources from the financial firms involved. This process incorporates reflexivity where efforts are made to gradually resolve the obstacles to facilitating a technical and political consensus.

In the long-term, the CDSB and ClimateWise are designed to leverage this technical and political consensus to embed accounting and insurance cognitive expectations concerning climate change risks into the way market actors perceive their material interests. Because accounting and insurance services are key to accessing private capital, market actors using these services will be forced to measure and price climate change risks. The assistance of public regulation is critical to ensure that each industry is able to impose these conditions without suffering reputational or regulatory risks for their efforts. It is at this stage of cognitive governance that accounting and insurance knowledge which links climate change uncertainty to financial risks becomes “taken-for-granted.” More directly, market actors throughout the economy then share the same cognitive expectations as accountants and insurers towards these risks, and are driven to reduce exposure to climate change through investment in mitigation and adaptation.

What explains the emergence of the CDSB and ClimateWise? The answer to this second research question of the dissertation is that the CDSB and ClimateWise emerged in response to three factors. First, accountants (in addition to institutional investors and corporate emitters in the case of the CDSB) and insurers had material interests in using public regulation to govern climate change risks. Second, there was a need to collaborate in generating a technical and political consensus before public regulation governing climate change risks can be implemented. Third, ENGOs existed who

had interests in using their technical expertise and political capacity to help implement strategies for generating this consensus.

Chapter 4 analyzed how the CDSB emerged in response to material interests in using public regulation to enforce the mandatory disclosure of climate change risks. Institutional investors and corporate emitters involved in an existing patchwork of standards saw public regulation, specifically the implementation of a mandatory standard, as a way to resolve inefficiencies in using this patchwork. The accounting industry had material interests in using public regulation to govern climate change risks as a strategy to expand their markets and services. These interests were also informed by cognitive expectations that climate change uncertainty should be measured and disclosed as financial risk for accounting markets to remain efficient in communicating financial information.

But to implement a mandatory standard, the accounting industry had to generate a technical consensus within the industry that climate change risks were decision-useful, and standards could be designed to capture this financial information in ways that improve market efficiency. In addition, the accounting industry had to generate a political consensus among market participants within and outside the industry who were willing to support the implementation of a mandatory standard. The ENGOs involved in the existing patchwork of standards had expertise in generating this technical and political consensus. The CDP and GHG Protocol, for example, were already widely used by both investors and corporations concerned about their exposure to climate change risks. These ENGOs also had a great deal of political capacity in promoting the business case behind climate change risk disclosure among these key constituencies.

The partnership between the accounting industry and CDSB Board members helps explain its unconventional approach to co-regulation. The Board members provide important oversight in facilitating the reflexive mechanism designed to improve compliance among CDSB participants to forging a technical and political consensus. In terms of technical consensus building, the CDSB attempts to improve the capacity of the standards to capture “decision-useful” information and support a consensus on how to measure climate change risks. In terms of political consensus building, Board members partner with the TWG in cultivating political support through the CDSB’s “engagement plan.”

Chapter 5 described how ClimateWise emerged out of an initiative on the part of the Prince of Wales, and his ENGO, the CPSL. The CPSL has over seventeen years of experience in working with corporations to generate strategies for improving their environmental performance. In 2004, the CPSL initiated a strategic review that determined co-regulation targeting the expansion of public

regulation governing climate change represented a more optimal approach than existing voluntary efforts to improve corporate environmental performance. ClimateWise emerged based on the CPSL's effort to spread this strategy throughout the insurance industry. In addition, the CPSL was able to take advantage of existing expertise and capacity developed by other ENGOs and policy entrepreneurs in leveraging insurance markets to govern climate change risks.

This expertise was welcomed by the insurance industry, which throughout the 2000s had developed material interests in governing climate change risks through public regulation. These interests were informed by cognitive expectations that climate change uncertainty must be priced to protect the efficiency of their markets. But to advance these interests, insurers had to generate a technical consensus on the regulations necessary to govern these risks and political consensus among stakeholders who might be opposed to such measures. First, the industry had to generate a technical consensus on how to model and price climate change risks if it was to incorporate these risks into its own premiums, and to inform government regulators and policy makers that adaptation and mitigation was necessary to avoid significant losses within the industry. In addition to this technical consensus, insurers had to generate a political consensus that supported their efforts in pricing climate change risks through the assistance of international mitigation and adaptation.

The CPSL's experience in using co-regulation to implement strategies in governing climate change risks and influence public regulation provided an important opportunity for insurers to generate the needed consensus and helps explain ClimateWise's unique approach to co-regulation. In particular, the CPSL formed and staffed the ClimateWise Secretariat to govern the voluntary best practice standards and the reflexive mechanism. These standards target technical consensus building by harnessing insurance expertise in modeling and pricing climate change risks. These standards also target political consensus building by harnessing the insurance industry's political voice in national and international climate change regulatory debates.

6.3 Contributions to the Advancement of Knowledge

This analysis of the CDSB and ClimateWise's unconventional approach to co-regulation, and the conditions that explain the emergence of this unique strategy makes important contributions to three sets of literature in IPE and GEP research: analyses of the link between financial markets and the environment, scholarship focused on the causes and significance of environmental co-regulation, and constructivist debates on the influence of ideas in shaping market behavior.

First, the thesis contributes to IPE and GEP literature on the link between financial markets and environmental issues. Scholarship on this topic has so far ignored the creation of the CDSB and ClimateWise. This gap is unfortunate since both the CDSB and ClimateWise each represent important initiatives seeking to “green” financial markets in significant ways through innovative kinds of co-regulation. As Chapter 2 described, the most robust research on environmental co-regulation in financial markets has examined the strategy and emergence of co-regulation among institutional investors. The extension of co-regulation to the accounting and insurance sectors through the CDSB and ClimateWise is an important development that deserves more attention.

In some respects, the CDSB and ClimateWise are similar to the kind of “investor environmentalism” that is represented by co-regulatory initiatives such as the CDP and INCR. These initiatives all attempt to contest market expectations for the economic value of a firm’s environmental performance by linking this performance to financial risks, specifically climate change risks. In addition, both of these initiatives, like many others within non-state global climate governance, support stronger global climate change regulations. But the INCR is somewhat distinctive in this regard because it explicitly identifies specific regulatory change as necessary to achieve its mandate in governing global climate change risk disclosure. The CDSB and ClimateWise also explicitly identify specific regulations that must be implemented if the accounting and insurance industry are to successfully govern their exposure to climate change risk.

The CDSB and ClimateWise are, however, distinctive in two respects. First, both initiatives adopt a more robust form of cognitive governance.¹ Each use best practice standards to govern both technical and political consensus building with the goal of expanding public regulation to govern climate change risks. They also each govern this process through a reflexive mechanism. The CDP and INCR do not target both technical and political consensus building with the same consistency. Moreover, the CDP does not target the expansion of public authority, while the INCR does not use a reflexive mechanism.

Second, the leveraging of accounting and insurance knowledge by CDSB and ClimateWise is unique. As noted below, this strategy has an important influence in dictating the way financial information on the environment is communicated, and how market actors perceive and respond to risks. Although GEP scholars have analyzed the role of the insurance industry in climate change

¹ Chapter 2 (Section 2.2.3) outlines how the CDSB and ClimateWise have a more rigorous institutional design than the CDP and INCR. The CDP does not explicitly target an expansion of public regulation, and the INCR does not implement a reflexive mechanism. From this perspective, the CDSB and ClimateWise build from each of their predecessor’s approaches, but are more up-front and direct about the need for public regulation.

politics, they have largely discounted its potential in taking a political stance, or looking at ways to leverage its markets in pricing climate change risks. Based on the strategy adopted by ClimateWise, the insurance industry appears to have shifted its position on these issues. Both IPE and GEP scholars have also unjustly overlooked the potential role of the accounting industry in contributing to environmental governance. As this analysis of CDSB's strategy demonstrates, the industry has strong interests and capacity to make a contribution in this area.

The second set of scholarly contributions that this dissertation makes is to debates within IPE and GEP on the emergence of environmental co-regulation and the strategy these initiatives adopt more generally. Many scholars adopt a post-Westphalian lens towards co-regulation by arguing that it is designed to facilitate "governance beyond the state." This study of the CSDB and ClimateWise presents quite a different perspective. Instead of being designed as a replacement or subversion of public regulation, the CDSB and ClimateWise have the goal of strengthening public regulation. The argument presents a particular challenge to those scholars who suggest that co-regulation is designed to facilitate "greenwash" by simply improving a firm's reputational credibility to avoid external scrutiny from ENGOs and regulators. The CDSB and ClimateWise each recognize that voluntary approaches are insufficient without an expansion of state authority.

The identification of the factors that led to the emergence of the CDSB and ClimateWise also challenges conventional, "post-Westphalian" explanations invoked by some scholars for the emergence of environmental co-regulation. Some of these explanations see the rise of co-regulation as part of a broader structural shift towards markets that is driven by globalization and neoliberal ideology. But this account fails to explain why the CDSB and ClimateWise seek to bolster public authority and it overlooks how co-regulation can emerge in response to conditions contingent on the actors involved rather than as a consequence of a "structural shift." In fact, the CDSB and ClimateWise's strategy demonstrates a "contradiction" within the structural influence of neoliberal ideology.² The financial and corporate actors involved in these initiatives support an expansion of public regulation, which is generally opposed by neoliberal ideology, but with the goal of improving the efficiency of their markets, which is coherent with neoliberal ideology. Bernstein notes that invoking the "precautionary principle" to politicize decisions about "risk under uncertainty" has the

² From this perspective, the CDSB and ClimateWise challenge a specific interpretation of neoliberalism that opposes regulation and favors privatization. Bernstein, *The Compromise of Liberal Environmentalism*, 237.

potential to empower government regulation at the international level.³ This politicization is, indeed, the primary objective of the CDSB and ClimateWise.

Others explain co-regulation as the product of ENGO pressure for a “second best” alternative to public regulation. But the CDSB and ClimateWise reveal that these actors do not always have to “settle” for a suboptimal outcome. In these cases, ENGOs were able to take advantage of material interests among financial firms in pushing for a more stringent objective than “governance beyond the state.” This analysis supports arguments made by scholars who point to the increasing influence of civil-society actors as a significant development in global environmental governance.⁴ But where that research mainly recognizes this influence through the creation of co-regulation as “governance beyond the state”, the CDSB and ClimateWise demonstrate how civil society actors can pursue more robust environmental objectives through financial market reforms. Although this strategy is a distinctive example of environmental co-regulation, it supports arguments by scholars who recognized private governance as a legitimate third pillar in global governance research alongside intergovernmental regimes and transgovernmental networks.⁵

The emergence of the CDSB and ClimateWise also challenges “radical” scholars who argue that co-regulation emerges in response to short-term corporate incentives related to reputational credibility or pre-empting regulatory threats. Analysis of the incentives among the financial and corporate actors involved in the CDSB and ClimateWise suggests that the material interests of business actors in supporting co-regulation are not always driven by these kinds of short-term concerns. In these cases, the corporate actors involved welcomed the idea that co-regulation was designed to strengthen public regulation over the longer-term. This stance stemmed from their recognition that a voluntary approach was ultimately insufficient in advancing their material interests in governing climate change risks. Members of the CDSB recognized that they could not force mandatory disclosure through a voluntary framework, and insurers involved in ClimateWise recognized that they could not force firms to pay a climate premium to cover for rising climate change risks.

At a more specific level, support for the use of public regulation among the financial and corporate actors participating in the CDSB and ClimateWise challenge scholars who link the emergence of co-regulation to neoliberal opposition to public regulation. This pursuit of public

³ Ibid., 273.

⁴ See Wapner, “Governance in Global Civil Society”; Margaret E. Keck and Kathryn Sikkink, *Activists Beyond Borders: Advocacy Networks in International Politics* (Ithaca, NY: Cornell University Press, 1998).

⁵ See Dingwerth, “Private Transnational Governance and the Developing World.”

regulation as a strategy to advance material interests reveals that neoliberal opposition to such regulation is by no means coherent or absolute. The market interests of the accounting and insurance industry, in particular, are often linked to the influence of neoliberalism.⁶ But their support for public regulation to strengthen global climate governance within these industries reveals a potential divide within the “neoliberal hegemonic bloc” between financial markets and sectors within the “real” economy, such as oil and gas or mining, that often oppose climate change regulation.

These challenges to “post-Westphalian” interpretations of the purpose and sources of environmental co-regulation will not necessarily be convincing to all. Without evidence that the CDSB and ClimateWise can actually hold corporate actors accountable to their robust objectives, skeptics may argue that these initiatives represent simply more sophisticated versions of “greenwash”. But the analysis of the last two chapters highlights how each initiative has demonstrated an impressive commitment to develop enforcement mechanisms aimed at holding their members more accountable to the voluntary standards. Those chapters also presented evidence of high participation rates in these initiatives among the key corporate constituents in each sector. This evidence suggests that the corporate actors involved have legitimate material interests in supporting these co-regulatory efforts designed to strengthen public regulation. Because each initiative is still relatively new, however, it is not yet possible to evaluate their success.

The third set of scholarly contributions made by this thesis are to constructivist scholarship that focuses on the role of ideas in influencing market actors’ behavior. First, this analysis of the CSDB and ClimateWise contributes to an emerging strand of IPE constructivist literature researching the influence of “cognition” in shaping market behavior. “Cognitive constructivism” explores the influence of knowledge as a lens or schema that defines the way market actors perceive economic information. Although scholars have described the link between financial knowledge and market perception, they have yet to employ cognitive constructivism to differentiate how different financial knowledge can influence these perceptions. The influence of “cognitive expectations” for rational market behavior have particular relevance in explaining support, specifically material interests, among accountants and insurers for the use of public regulation to govern climate change risks. More specifically, accounting and insurance knowledge predisposes these industries to take a precautionary approach and measure or price risk under conditions of market uncertainty.

⁶ See Perry and Nolke, “The Political Economy of International Accounting Standards”; Paterson, “Risky Business: Insurance Companies in Global Warming Politics.”

A core argument within constructivism is that knowledge, and more broadly, ideas can influence a market actors' behavior.⁷ Support for the use of public regulation as a strategy to advance rational interests among accountants (in addition to institutional investors and corporate emitters) and insurers demonstrates how knowledge can influence their behavior in ways that diverge from short-term market concerns. Scholars often point to the influence of short-term market concerns as an explanation for co-regulation that supports “greenwash” and evidence that questions the legitimacy of a business case for improving environmental performance.⁸ The accounting and insurance industry's material interests in using public regulation to internalize climate change risks demonstrates the influence of the cognitive qualities of financial knowledge in shaping market expectations that depart from these more short-term concerns. Both accountants and insurers interpret market efficiency through a cognitive lens informed by knowledge that any form of market uncertainty constitutes a risk to the industry, specifically their reputation as neutral communicators of financial information or expert risk-managers. In the case of climate change risks, these industries require the assistance of public regulation to maintain this reputation. This analysis provides evidence for constructivist scholars - specifically those researching the influence of cognition - that ideas can in fact shape market actors' behavior.

The second contribution to constructivist literature is based on analysis that confirms the political use of financial knowledge to strengthen global climate governance. This thesis has highlighted how the “cognitive governance” strategies of CDSB and ClimateWise make use of specific cognitive qualities within accounting and insurance knowledge. Literature on the political use of financial knowledge has yet to connect the influence of this knowledge to the environment. This is a significant oversight considering the powerful influence of financial knowledge in communicating and pricing a firm's environmental performance within financial markets. The strategy adopted by the CDSB and ClimateWise is precisely designed to take advantage of this influence; that is to generate a technical and political consensus around the way accounting and insurance cognitive expectations treat climate change uncertainty. IPE scholarship on the political use of financial knowledge also generally assumes that this knowledge is designed to subvert state authority.⁹ In the cases of the

⁷ See Abdelal, Blyth, and Parsons, “Introduction: Constructing the International Economy.”

⁸ See Harmes, “The Limits of Carbon Disclosure: Theorizing the Business Case for Investor Environmentalism.”

⁹ See Eleni Tsingou, “The Role of Policy Communities in Global Financial Governance: A Critical Examination of the Group of Thirty,” in *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, ed. Torsten Strulik and Helmut Willke (Chicago: University of Chicago Press, 2007),

CDSB and ClimateWise, however, financial knowledge is being used to try to strengthen political support for state regulation.

6.4 Conclusion: Future Research Agendas

The analysis in this thesis also suggests several future research and policy agendas. First, scholars need to perform a comprehensive analysis of the influence of financial knowledge in shaping cognitive expectations towards the market value of corporate environmental performance. The thesis has identified how ENGOs were successful in allying with industries that are trained to question the divide between “market” and “non-market” (ie. environmental externalities) financial information. These industries are receptive to arguments that market uncertainty associated with the impacts of climate change can and should be governed as a financial risk. Identifying other financial industries that embrace the use of knowledge in similar ways to accountants and insurers is an important next step in advancing the efforts of policy entrepreneurs and ENGOs to spread environmental norms within financial markets.

For example, credit rating agencies may share a similar set of cognitive expectations towards market uncertainty as accountants and insurers. Credit raters depend on knowledge to reduce forms of market uncertainty into risks that are then used to rate a firm’s credit worthiness. In fact, Standard & Poor’s recently announced that it was going to introduce “climate risk” into its credit rating methodology.¹⁰ Research must also be focused on the banking industry in order to explain why a robust international effort similar to the CDSB and ClimateWise has yet to emerge in that industry. This outcome is somewhat puzzling given the exposure of banks to environmental risks. Indeed, one study of German banks by Olaf Weber et al. confirmed that about ten percent of all defaults on commercial lending are related to environmental risks.¹¹

After identifying industries that embrace financial knowledge conducive to supporting environmental norms, a second research agenda should demonstrate empirically how technical changes in the regulations governing accounting and insurance, and financial markets more broadly, can strengthen environmental governance. The CDSB and ClimateWise have emerged to challenge

212-235; Tsingou, “Transnational Governance Networks in the Regulation of Finance - The Making of Global Regulation and Supervision Standards in the Banking Industry.”

¹⁰ Mark Nicholls, “S&P To Integrate Climate Risk into Credit Ratings,” *Environmental Finance*, February 16, 2011, <http://www.environmental-finance.com/news/view/1550>.

¹¹ Olaf Weber, Scholz, Roland W., and Georg Michalik, “Incorporating Sustainability Criteria into Credit Risk Management,” *Business Strategy and the Environment* 10, no. 1002 (2008): 1-30.

the way accounting and insurance markets measure and price the market value of climate change uncertainty. These industries are governed by regulations that need to be scrutinized to identify potential reforms that can strengthen these efforts. IPE and GEP scholars need to work closely with accounting and insurance scholars to identify how regulatory changes do actually cause shifts in financial flows and practices in ways that incentive the internalization of environmental externalities in a firm's corporate accounts. This research should begin with a mapping exercise of existing financial regulations that identifies potential synergies between these regulations and environmental protection.

The identification of how regulations can be changed to enhance the market value associated with "good" corporate environment performance leads to a third research agenda targeting the political drivers and motivations of different stakeholders involved in the financial regulatory process. IPE research provides an important platform for this inquiry by identifying the important stakeholders involved in the regulatory process, such as national securities regulators, standard setters and financial firms. This research can identify important actors within this regulatory process who may be interested in allying with environmental interests in targeting areas of regulation that can strengthen the market value of corporate environmental performance.

These three research agendas are particularly important given the policy window for new ideas and regulations in the aftermath of the 2007-2008 financial crisis. Two interviewees in this research project suggested that more could be done by ENGOs in framing the crisis as an opportunity to revisit the way financial institutions interpret environmental and climate change risks.¹² Climate change has the potential to become an overlooked liability at the core of the global economic growth.¹³ It is for these reasons, among many others, that both environmentalists and the financial industry should recognize that their goals are mutually supportive, particularly in making markets that are more adaptive and resilient in the aftermath of the financial crisis.

This sentiment was echoed in a speech made by Ken Lewis, the former CEO of Bank of America, who argued that the financial industry finds itself in a situation "similar to the dawn of the fossil-fuel economy." Private financial institutions were cautious about investing in the carbon

¹² Anonymous A; Anonymous O.

¹³ See Rob Gross and Ian Bragg, "The Financial Crisis: An Environmental, Social and Governance Perspective" (CR Strategies, June 5, 2009), <http://crstrategies.ca/wp-content/uploads/2009/06/financialcrisis-anesgperspective-cr-strategies-june2009.pdf>; Michelle Chan, *Lessons Learned from the Financial Crisis: Designing Carbon Markets for Environmental Effectiveness and Financial Stability* (Washington D.C.: Friends of the Earth, 2009); Doug Cogan, "Sub-prime and Carbon: An Eerie Similarity," *Responsible Investor*, March 7, 2008, http://www.responsible-investor.com/home/article/sub_prime_carbon/.

economy due to concerns about market instability and corresponding financial risks. But “today, as then” Lewis argues, private finance must overcome these challenges through the development of “new models for assessing and managing risk” and “new formulas to calculate economic costs and benefits.” Only then, he argues, can private finance “help create a sustainable economy for future generations.”¹⁴

Indeed, an alliance between the financial industry and environmental community has the potential to unlock the most significant obstacle in facilitating a sustainable balance between economic growth and environmental protection. Financial knowledge has the potential to price ecosystem services, which could lead to the creation as vast markets where value generation is dependent on environmental protection. This development is in fact quite likely given the constant push for innovation and market making in the financial industry.¹⁵ Although this is good news for the environmental movement in the financial industry, ENGOs and policy entrepreneurs encouraging this movement must be involved in advising how such markets are constructed to ensure they support environment integrity. As Paterson suggests, the environmental community must engage with financial markets to provide a critical perspective and shape the emerging regime “in ways which are both ecologically viable and, as important for many such actors, socially just on a global basis.”¹⁶

The way market actors define economic value is deeply embedded within modern capitalism. This definition is rarely contested and often effectively taken for granted. This study demonstrated how an emerging environmental movement within financial markets is trying to challenge this definition of value. Stakeholders within financial markets and environmentalists more broadly should join this debate as an opportunity to construct a powerful constituency willing to advance the mutual agenda of greening private finance.

¹⁴ Ken Lewis, “Remarks to the North Carolina Emerging Issues Forum, “North Carolina’s Energy Futures: Realizing a State of Opportunity,” *Bank of America*, February 12, 2008, <http://mediaroom.bankofamerica.com/phoenix.zhtml?c=234503&p=irol-newsArticle&ID=1383078&highlight=>.

¹⁵ See UNEP-FI, “CEO Briefing: Demystifying Materiality: Hardwiring Biodiversity and Ecosystem Services into Finance” (UNEP-FI, October 2010), http://www.unepfi.org/fileadmin/documents/CEO_DemystifyingMateriality.pdf; “Payments for Ecosystem Services: A Primer” (Forest Trends, The Katoomba Group, UNEP, May 2008), <http://www.katoombagroup.org/documents/publications/GettingStarted.pdf>.

¹⁶ Paterson, “Legitimation and Accumulation in Climate Change Governance,” 364.

Appendix A

The ClimateWise Principles

Principles	Standards
1. Lead in risk analysis	<p>1.1 Support and undertake research on climate change to inform our business strategies and help to protect our customers’ and other stakeholders’ interests.</p> <p>1.2 Support more accurate national and regional forecasting of future weather and catastrophe patterns affected by changes in the earth’s climate.</p> <p>1.3 Use research and improve data quality to inform levels of pricing, capital and reserves to match changing risks.</p> <p>1.4 Evaluate the risks associated with new technologies for tackling climate change so that new insurance products can be considered in parallels with technological developments.</p> <p>1.5 Share our research with scientists, society, business, governments and NGOs through an appropriate forum.</p>
2. Inform public policy making	<p>2.1 Work with policy makers nationally and internationally to help them develop and maintain an economy that is resilient to climate risk.</p> <p>2.2 Promote and actively engage in public debate on climate change and the need for action.</p> <p>2.3 Support work to set and achieve national and global emissions reduction targets.</p> <p>2.4 Support government action, including regulation, that will enhance the resilience and reduce the environmental impact of infrastructure and communities.</p> <p>2.5 Work effectively with emergency services and others in the event of a major climate-related disaster.</p>
3. Support climate awareness amongst our customers	<p>3.1 Inform our customers of climate risk and provide support and tools so that they can assess their own levels of risk.</p> <p>3.2 Encourage our customers to adapt to climate change and reduce their GHG emissions through insurance products and services.</p> <p>3.3 Increase the proportion of repairs that are carried out in a sustainable way through dialogue with suppliers and developers and manage appropriately.</p> <p>3.4 Consider how we can use our expertise to assist the developing world to understand and respond to climate change.</p>
4. Incorporate climate change into our investment strategies	<p>4.1 Consider the implications of climate change for company performance and shareholder value, and incorporate this information into our investment decision-making process.</p> <p>4.2 Encourage appropriate disclosure on climate change from the companies in which we invest.</p> <p>4.3 Encourage improvements in the energy-efficiency and climate resilience of our investment property portfolio.</p> <p>4.4 Communicate our investment beliefs and strategy on climate change to our customers and shareholders.</p> <p>4.5 Share our assessment of the impacts of climate change with our pension fund trustees.</p>
5. Reduce the environmental impact of our business	<p>5.1 Encourage our suppliers to improve the sustainability of their products and services.</p> <p>5.2 Measure and seek to reduce the environmental impact of the internal operations and physical assets under our control.</p>

	<p>5.3 Disclose our direct emissions of GHG missions using a globally recognized standard.</p> <p>5.4 Engage our employees on our commitment to address climate change, helping them to play their role in meeting this commitment in the workplace and encouraging them to make climate-informed choices outside work.</p>
<p>6. Report and be accountable</p>	<p>6.1 Recognize at the Company Board level that risk has significant social and economic impacts and incorporate it into our business strategy and planning.</p> <p>6.2 Public a statement as part of our annual reporting detailing the actions that have taken place on these principles.</p>

BIBLIOGRAPHY

- Abdelal, Rawi, Mark Blyth, and Craig Parsons. "Introduction: Constructing the International Economy." In *Constructing the International Political Economy*, edited by Rawi Abdelal, Mark Blyth, and Craig Parsons, 1-19. Ithaca: Cornell University Press, 2010.
- ABI. "Climate Change: Implications for Insurers." *Insurance Trends*, October 18, 2000.
- . "Influential Insurance: A Guide to Communicating Climate Change for Insurers," September 2007.
- Accounting for Sustainability. "Governance and Collaboration: Establishing an "International Integrated Reporting Committee"," 2009.
<http://www.accountingforsustainability.org/files/pdf/Governance%20&%20Collaboration.pdf>
- AM Best. "AM Best's Annual Global Reinsurance Report: Counting the Cost of the Hurricanes." *Best's Insurance News*, August 14, 2006.
- Andonova, Liliana B., Michele M. Betsill, and Harriet Bulkeley. "Transnational Climate Governance." *Global Environmental Politics* 9, no. 2 (2009): 52-73.
- Arts, Bas. "Green Alliances of Business and and NGOs. New Styles of Self-Regulation or Dead-End Roads?." *Corporate Social Responsibility and Environmental Management* 9, no. 1 (2002): 26-36.
- Association of Chartered Accountants in the United States. "The CA Qualification." *Association of Chartered Accountants in the United States*, April 11, 2011.
http://www.acaus.org/content.aspx?page_id=22&club_id=825456&module_id=31760.
- BaFin. "Act on the Supervision of Insurance Undertakings (Insurance Supervision Act)." *Bundesanstalt fur Finanzdienstleistungsaufsicht*, November 1, 2010.
http://www.bafin.de/cln_179/nn_721176/SharedDocs/Aufsichtsrecht/EN/Gesetze/vag_ab_070326_en.html?__nnn=true.
- BankTrack. "Bold Steps Forward: Towards Equator Principles that Deliver to People and the Planet," 2010.
http://www.banktrack.org/download/bold_steps_forward_towards_equator_principles_that_deliver_to_people_and_the_planet/100114_civil_society_call_equator_principles.pdf.
- Barnett, Michael, and Andrew King. "Good Fences Make Good Neighbours: A Longitudinal Analysis of an Industry Self-Regulatory Institution." *Academy of Management Journal* 51, no. 6 (2008): 1150-1170.
- Barth, Mary, E, and Maureen McNichols. "Estimation and Market Valuation of Environmental Liabilities Relating to Superfund Sites." *Journal of Accounting Research* 32 (1994): 177-209.
- Bernstein, Steven, and Benjamin Cashore. "Can Non-State Global Governance be Legitimate? An Analytical Framework." *Regulation & Governance* 1 (2007): 347-371.
- Bernstein, Steven F. *The Compromise of Liberal Environmentalism*. Columbia University Press, 2001.
- Biersteker, Thomas, and Rodney Bruce Hall. "The Emergence of Private Authority in the International System." In *The Emergence of Private Authority in Global Governance*, edited by Thomas Biersteker and Rodney Bruce Hall. Cambridge University Press, 2002.
- Boehmer, Kevin, and Aleg Cherp. "ISO 14064: An Emerging Standard on Greenhouse Gas Accounting and Verification." *ISO 14064*, 2008. <http://web.ceu.hu/envsci/aleg/research/ISO-EnvFinance110503.pdf>.

- Botzem, Sebastian. "Transnational Expert-Driven Standardisation: Accountancy Governance from a Professional Point of View." In *Transnational Private Governance and Its Limits*, edited by Jean-Christophe Graz and Andreas Nolke, 44-57. Routledge, 2008.
- Brown, Halina Szejnwald, Martin de Jong, and Teodorina Lessidrenska. "The Rise of the Global Reporting Initiative: A Case of Institutional Entrepreneurship." *Environmental Politics* 18, no. 2 (2009): 182-200.
- BSP. "About the Programme." *The Prince of Wales Business and Sustainability Programme*, November 4, 2010.
- California Climate Action Registry. "California Climate Action Registry: General Reporting Protocol 3.1." California Climate Action Registry, 2009.
http://www.climateregistry.org/resources/docs/protocols/grp/GRP_3.1_January2009.pdf.
- Canadian Institute of Actuaries. "About Actuaries." *Canadian Institute of Actuaries*, April 11, 2011.
http://www.actuaries.ca/actuaries/career_e.cfm.
- Canadian Underwriter. "RMS Fires Back At Report Criticizing Near-Term Hurricane Models." *Canadian Underwriter*, January 28, 2011.
<http://www.canadianunderwriter.ca/issues/story.aspx?aid=1000400931>.
- Carpenter, Guy. "World Catastrophe Reinsurance Market 2009." Marsh, Mercer Kroll, Guy Carpenter, 2009.
- Carr, Sean. "Disaster Issues Dominate NAIC's Fall Meeting." *Best's Review*, September 20, 2007.
- Cashore, Benjamin. "Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority." *Governance: An International Journal of Policy, Administration, and Institutions* 15, no. 4 (October 2002): 503-539.
- CDP. "Carbon Disclosure Project 2010: Global 500 and S&P 500 Report Highlights." CDP, September 21, 2010. <https://www.cdproject.net/CDPResults/2010-G500-SP500-report-highlights.pdf>.
- . "CDP: Assessing Risks and Opportunities." CDP, 2010. <https://www.cdproject.net/en-US/Respond/Documents/2010%20webinars/Risks%20and%20Opportunities.pdf>.
- . "What We Do." *Carbon Disclosure Project*, September 2010. <https://www.cdproject.net/en-US/WhatWeDo/Pages/overview.aspx>.
- CDSB. "Advisory Committee." *Climate Disclosure Standards Board*, 2010. <http://www.cdsb-global.org/technical-working-group/>.
- . "Basis for Conclusions in Exposure Draft: The Climate Standards Disclosure Board Reporting Framework." CSDB, 2009.
- . "Climate Change Reporting Framework - Edition 1.0." CDSB, September 2010.
- . "Report on Consultation About CDSB's Reporting Framework." CDSB, April 6, 2010.
- . "Technical Working Group." *Climate Disclosure Standards Board*, 2010. <http://www.cdsb-global.org/technical-working-group/>.
- . "The Board." *Climate Disclosure Standards Board*, 2010. <http://www.cdsb-global.org/index.php?page=the-board>.
- . "The Climate Disclosure Standards Board - Work Plan 2010." CDSB, April 6, 2010. http://www.cdsb-global.org/uploads/tim_roots/Work%20Plan,%20April%202010.pdf.
- . "The Climate Disclosure Standards Board Reporting Framework," May 2009. http://www.cdsb-global.org/uploads/pdf/CDSB_Reporting_Framework.pdf.
- Ceniceros, R. "Catastrophe Model Changes Tighen Market for Storm Risks." *Business Insurance*, June 12, 2006.
- Ceres. "Global Framework for Climate Risk Disclosure: A Statement of Investor Expectations for Comprehensive Corporate Disclosure." Ceres, 2006.

- <http://www.ceres.org/Document.Doc?id=73>.
- . “Investors Managing \$2.1 Trillion in Assets Praise SEC for Climate Disclosure Guidance,” March 10, 2010. <http://www.incr.com/Page.aspx?pid=1214>.
- . “Regulators Require Insurers to Disclose Climate Change Risks and Strategies,” March 17, 2009. <http://www.ceres.org/Page.aspx?pid=1062>.
- Cerny, Phillip. *The Changing Architecture of Politics*. London: SAGE, 1990.
- Chan, Michelle. *Lessons Learned from the Financial Crisis: Designing Carbon Markets for Environmental Effectiveness and Financial Stability*. Washington D.C.: Friends of the Earth, 2009.
- Chapple, Alice. “Responding to the Challenge of Climate Change.” Forum for the Future, January 12, 2010. <http://www.forumforthefuture.org/files/2010-10-04-Climatewise-web%20%282%29.pdf>.
- Chartered Accountants of Canada. “How to Become a CA.” *Chartered Accountants of Canada*, April 12, 2011. <http://www.cica.ca/become-a-ca/how-to-become-a-ca/index.aspx>.
- CICA. “Background: CICA Climate Change Reporting.” CICA, May 2010. <http://www.cica.ca/climatechange/item39810.pdf>.
- Clapp, Jennifer. “Privatization of Global Environmental Governance: ISO 14000 and the Developing World.” *Global Governance* 4 (1998): 295-316.
- . “The Privatization of Global Environmental Governance: ISO 14000 and the Developing World.” In *The Business of Global Environmental Governance*, edited by David L. Levy and Peter J. Newell, 223-248. Cambridge, MA: MIT Press, 2005.
- Clapp, Jennifer, and Peter Dauvergne. *Paths to a Green World: The Political Economy of the Global Environment*. Cambridge, Massachusetts: MIT Press, 2005.
- Clapp, Jennifer, and Jason Thistlethwaite. “Private Voluntary Programs in Environmental Governance: Climate Change and the Financial Sector.” New Orleans, LA, 2009.
- Climate and Insurance. “TakeFive Interview with Robert Detlefsen, Vice President, National Association of Mutual Insurance Companies.” *Climate and Insurance*, March 16, 2008. http://www.climateandinsurance.org/takefive/bio_detlefsen.html.
- “Climate Change Advisor to the CICA.” Interview by Jason Thistlethwaite, May 6, 2010.
- ClimateWise. “ClimateWise statement on the UNFCCC Copenhagen negotiations,” October 2009.
- . “Member Signatories.” *ClimateWise*, November 5, 2010. <http://www.climatewise.org.uk/member-signatories/>.
- . “The ClimateWise Principles,” December 2009. <http://www.climatewise.org.uk/storage/climatewise-docs/ClimateWise%20Factsheet.pdf>.
- ClimateWise, The Geneva Association, MCII, and UNEP FI. “Global Insurance Industry Statement on Adapting to Climate Change in Developing Countries,” September 6, 2010. <http://www.climatewise.org.uk/storage/developing-world-adaptation/Global%20Insurance%20Industry%20Statement%20-%20Adapting%20to%20Climate%20Change%20in%20Developing%20Countries%20October%202010.pdf>.
- Cogan, Doug. “Sup-prime and Carbon: An Eerie Similarity.” *Responsible Investor*, March 7, 2008. http://www.responsible-investor.com/home/article/sub_prime_carbon/.
- Cormier, Denis, and Michael Magnan. “Investors' Assessment of Implicit Environmental Liabilities: An Empirical Investigation.” *Journal of Accounting and Public Policy* 16, no. 2 (1997): 205-244.
- Cornejo, Rick. “Katrina Lawsuits Pose Serious Threat to Insurance Market, Experts Say.” *Best's Insurance News*, July 10, 2006.
- Cox, Robert. *Production, Power and World Order*. New York: Columbia University Press, 1987.

- Cutler, A. Claire, Virginia Haufler, and Tony Porter. "Introduction." In *Private Authority and International Affairs*, edited by Claire, A. Cutler, Virginia Haufler, and Tony Porter, 333-370. Albany, NY: SUNY Press, 1999.
- . *Private Authority and International Affairs*. SUNY Press, 1999.
- Cutler, Claire, A. "Artifice, Ideology and Paradox: The Public/Private Distinction in International Law." *Review of International Political Economy* 4, no. 2 (1997): 261-285.
- Davies, Paul. "Insurers Call to Action on Climate Change." *Financial Times*, October 22, 2009.
- Delmas, Magali A., and Maria Montes-Sancho. "Voluntary Agreements to Improve Environmental Quality: Symbolic and Substantive Cooperation." *Strategic Management Journal* 31 (2010): 575-601.
- Deloitte. "Climate Change and Carbon Markets." *Deloitte*, 2010.
http://www.deloitte.com/view/en_GX/global/industries/energy-resources/climate-change-carbon-markets/.
- Desjardins, Julie, and Alan Willis. "Low-Carbon Economy: The Business of Climate Change." *CA Magazine*, December 1, 2009.
- Detlefsen, Robert. Letter. "Documents Related to Insurer Climate Risk Disclosure Survey," January 8, 2010.
http://www.eenews.net/public/25/13791/features/documents/2010/01/13/document_cw_02.pdf.
- Dingwerth, Klaus. "Private Transnational Governance and the Developing World: A Comparative Perspective." *International Studies Quarterly* 52, no. 3 (2008): 607-634.
- . *The New Transnationalism: Transnational Governance and Democratic Legitimacy*. New York: Palgrave MacMillan, 2007.
- Dlugodecki, Andrew. "A Changing Climate for Insurance: A Summary Report for Chief Executives and Policymakers." Association of British Insurers, June 2004.
- . *Coping with Climate Change: Risks and Opportunities*. London: Chartered Insurance Institute, 2009.
- Dlugodecki, Andrew, and Sascha Lafeld. "Climate Change and the Financial Sector: An Agenda for Action." WWF and Allianz, June 2005.
- Drezner, Daniel. *All Politics is Global: Explaining International Regulatory Regimes*. Princeton: Princeton University Press, 2007.
- Durbin, Andrea, and Carol Welch. "The Environmental Movement and Global Finance." In *Civil Society and Global Finance*, edited by Jan Aart Scholte and Albrecht Schnabel, 213-228. London: Routledge, 2002.
- Eeuwens, Karen. "Have Near Term CAT Risk Models Failed?." *Reactions*, June 15, 2009.
- Elkington, John, and Seb Beloe. "The Twenty-First Century NGO." In *Good Cop Bad Cop: Environmental NGOs and their Strategies Towards Business*, edited by Thomas, P Lyon, 17-47. Washington D.C.: RFF Press, 2010.
- Ericson, Richard V., Aaron Doyle, and Dean Barry. *Insurance as Governance*. Toronto: University of Toronto Press, 2003.
- Ernst & Young. "Climate Change and Sustainability Services." *Ernst & Young*, 2010.
<http://www.ey.com/GL/en/Services/Specialty-Services/Climate-Change-and-Sustainability-Services/Climate-Change-and-Sustainability-Services---Overview>.
- . "Strategic Business Risk 2008: Insurance." Ernst and Young, March 2008.
http://insurancenewsnet.com/article.aspx?a=top_pc&id=92201.
- EU Corporate Leaders Group. "EU CLG." *University of Cambridge Programme for Sustainability Leadership*, May 30, 2011. <http://www.cpsl.cam.ac.uk/Leaders-Groups/The-Prince-of-Wales-Corporate-Leaders-Group-on-Climate-Change/EU-CLG.aspx>.

- Falkner, Robert. *Business Power and Conflict in International Environmental Politics*. New York: Palgrave, 2008.
- . “Private Environmental Governance and International Relations: Exploring the Links.” *Global Environmental Politics* 3, no. 2 (2003): 72-87.
- Felsted, Andrea. “Insurers Exposed.” *The Financial Times*, December 1, 2008.
- Financial Times. “Thickening Fog Over Accounting Row.” *Financial Times*, October 14, 2004. <http://www.ft.com/cms/s/0/4b8e4b78-1d7e-11d9-abbf-00000e2511c8.html#axzz1KfzAGf6K>.
- Fleming, Peyton. “Major Investors, State Officials, Environmental Groups Petition SEC to Require Full Corporate Climate Risk Disclosure,” September 18, 2007. <http://www.ceres.org/Page.aspx?pid=445>.
- Forbes. “The Global 2000.” *Forbes*, April 21, 2010. http://www.forbes.com/lists/2010/18/global-2000-10_The-Global-2000_Rank.html.
- Forum for the Future. “ClimateWise: The 2009 Review,” November 26, 2009. <http://www.climatewise.org.uk/storage/climatewise-docs/Second%20Year%20Review%202009.pdf>.
- FSA. “FSA Regulation of Insurance Selling and Administration - do I need to be Authorised?.” *Financial Services Authority*, November 1, 2010. http://www.fsa.gov.uk/pubs/other/ins_reg.pdf.
- FSCO. “Insurance.” *Financial Services Commission of Ontario*, November 1, 2010. <http://www.fSCO.gov.on.ca/english/insurance/>.
- Ganzi, John, Frances Seymour, Sandy Buffett, and Navroz K. Dubash. “Leverage for the Environment: A Guide to the Private Financial Services Industry.” World Resources Institute, 1998. http://pdf.wri.org/leverage_for_the_environment.pdf.
- GHG Protocol. “What is the GHG Protocol?.” *About the GHG Protocol*, 2010. <http://www.ghgprotocol.org/about-ghgp>.
- Gilpin, Robert. *The Political Economy of International Relations*. Princeton: Princeton University Press, 1987.
- Goldstein, Judith, and Robert O. Keohane. *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change*. Reprint. Ithaca, NY: Cornell University Press, 1993.
- Gray, Rob. “Thirty Years of Social Accounting, Reporting and Auditing: What (if anything) Have We Learnt?.” *Business Ethics, A European Review* 10 (2001): 9-15.
- Gray, Rob, and Jan Bebbington. *Accounting for the Environment*. 2nd ed. London: Sage Publications, 2002.
- Graz, Jean-Christophe, and Andreas Nolke. “Introduction: Beyond the Fragmented Debate on Transnational Private Governance.” In *Transnational Private Governance and Its Limits*, edited by Jean-Christophe Graz and Andreas Nolke, 1-27. London: Routledge, 2008.
- Green, Jessica F. “Private Standards in the Climate Regime: The Greenhouse Gas Protocol.” *Business & Politics* 12, no. 3 (2010): 1-37.
- Gronewold, Nathaniel. “The Big Four of Accounting Will be Among the Big Winners if U.S. Adopts Climate Law.” *New York Times*, July 7, 2009. <http://www.nytimes.com/cwire/2009/07/07/07climatewire-the-big-four-of-accounting-will-be-among-the-77758.html>.
- Gross, Rob, and Ian Bragg. “The Financial Crisis: An Environmental, Social and Governance Perspective.” CR Strategies, June 5, 2009. <http://crstrategies.ca/wp-content/uploads/2009/06/financialcrisis-anesgperspective-cr-strategies-june2009.pdf>.
- Haas, Peter M. “Introduction: Epistemic Communities and International Policy Coordination.” *International Organization* 46, no. 1 (Winter 1992): 1-35.
- Harmes, Adam. “The Limits of Carbon Disclosure: Theorizing the Business Case for Investor

- Environmentalism.” *Global Environmental Politics* 11, no. 2 (2011): 96-119.
- . *Unseen Power: How Mutual Funds Threaten the Political and Economic Wealth of Nations*. Toronto: Stoddart, 2001.
- Haufler, Virginia. *A Public Role for the Private Sector: Industry Self-Regulation in a Global Economy*. Washington D.C.: Carnegie Endowment for International Peace, 2001.
- . *Dangerous Commerce: Insurance and the Management of International Risk*. Ithaca, NY: Cornell University Press, 1997.
- Hawkes, Alex. “Big Four Auditors Face OFT Consultation.” *The Guardian*, May 17, 2011. <http://www.guardian.co.uk/business/2011/may/17/big-four-auditors-face-oft-consultation>.
- Hays, Daniel, and Caroline McDonald. “Downgrades Loom as Katrina Loss Grows.” *National Underwriter Property and Casualty*, September 19, 2005.
- Hessling, Alexandra. “Cognitive Shifts in Regulation: The Role of Ignorance in the Regulatory Fields of Accounting.” In *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, edited by Torsten Strulik and Helmut Willke, 178-208. Chicago: University of Chicago Press, 2007.
- Hillman, Amy, and Michael Hitt. “Corporate Political Strategy Formulation: A Model of Approach, Participation, and Strategy.” *The Academy of Management Review* 24, no. 4 (October 1999): 825-842.
- HM Government, and ABI. “ABI/Government Statement on Flooding and Insurance for England.” *Department for Environment Food and Rural Affairs*, July 20, 2008. <http://www.defra.gov.uk/environment/flooding/policy/insurance/jointstatement.htm>.
- Hoffman, Andrew, and Stephanie Bertels. “Who is Part of the Environmental Movement?.” In *Good Cop Bad Cop: Environmental NGOs and their Strategies Towards Business*, edited by Thomas, P Lyon, 48-69. Washington D.C.: RFF Press, 2010.
- IAIS. “About the IAIS.” *International Association of Insurance Supervisors*, 2010. <http://www.iaisweb.org/index.cfm?pageID=28>.
- . “International Association of Insurance Supervisors.” *Improving Insurance Supervision*, 2011. <http://www.iaisweb.org/>.
- . “Principles on Capital Adequacy and Solvency.” International Association of Insurance Supervisors, January 2002. http://www.iaisweb.org/_temp/Principles_on_capital_adequacy_and_solvency.pdf.
- IASB. “About the IASB.” *International Accounting Standards Board*, 2010. <http://www.iasb.org/About+Us/About+the+IASB/IFRSs+around+the+world.htm>.
- . “An Improved Conceptual Framework for Financial Reporting,” May 2008. http://www.iasb.org/NR/rdonlyres/464C50D6-00FD-4BE7-A6FF-1BEAD353CD97/0/conceptual_framework_exposure_draft.pdf.
- . “Emissions Trading Schemes: Background and History.” IASB, June 2010. http://www.ifrs.org/NR/rdonlyres/A6F56527-957F-4614-B3DE-A7EE5F4D4A1C/0/Background_historyETS.pdf.
- . “IASB Foundation Constitution.” IASB, 2000. <http://www.iasplus.com/resource/2007revisedconstitution.pdf>.
- . “Monitoring Board.” *Governance and Accountability*, December 30, 2010. <http://www.ifrs.org/The+organisation/Governance+and+accountability/Monitoring+Board.htm>.
- . “Use Around the World.” International Accounting Standards Board, 2011. <http://www.ifrs.org/use+around+the+world/use+around+the+world.htm>.
- IASB Staff. “IAS 37 Redeliberation: Distinguishing Between a Liability and a Business Risk (Agenda Paper 3b).” IASB, 2009. <http://www.iasb.org/NR/rdonlyres/0D962775-6DFA->

- 4D79-9438-3EABC67AD57C/0/Agendapaper3AIAS37redeliberationsCovernote.pdf, IIGCC. "A Climate for Change: A Trustee's Guide for Understanding and Addressing Climate Change Risk." Institutional Investor Group on Climate Change, January 2005. http://www.iigcc.org/__data/assets/pdf_file/0010/262/A_climate_for_change.pdf.
- INCR. "About INCR." Ceres, 2008. <http://www.incr.com/Page.aspx?pid=261>.
- . "Investor Network on Climate Risk Action Plan: Capitalizing the New Energy Future: Minimizing Climate Risks, Seizing Opportunities." Ceres, 2005. <http://www.un.org/partnerships/Docs/Investor%20Network%20on%20Climate%20Risk%20Action%20Plan.pdf>.
- . "Investor Summit on Climate Risk." *INCR*, April 25, 2011. <http://www.incr.com/Page.aspx?pid=1186>.
- . "Supplemental Petition for Interpretive Guidance on Climate Risk Disclosure." INCR, November 23, 2009. http://www.ceres.org/files/Supplemental_Climate_Risk_Petition_Nov_23_2009.pdf/at_download/file.
- Jagers, Sverker, Matthew Paterson, and Johannes Stripple. "Privatising Governance, Practising Triage: Securitization of Insurance Risks and the Politics of Global Warming." In *Business in International Environmental Politics: A Political Economy Approach*, edited by David, L Levy, Peter Newell, and Matthew Paterson. Cambridge, MA: MIT Press, 2004.
- Jagers, Sverker, and Johannes Stripple. "Climate Governance Beyond the State." *Global Governance* 9, no. 3 (2003): 385–400.
- Johnson, Sarah. "Audit Costs Not Affected by Big Four's Stronghold: GAO." *CFO.com*, January 14, 2008. <http://www.cfo.com/article.cfm/10522661>.
- Jones, Aled. "Transformational Change Model: Achieving a Low Climate Risk Economy." University of Cambridge Programme For Sustainability Leadership, 2009. http://www.cpsl.cam.ac.uk/pdf/CPSL_Trans_Change%20_summary.pdf.
- Keck, Margaret E., and Kathryn Sikkink. *Activists Beyond Borders: Advocacy Networks in International Politics*. Ithaca, NY: Cornell University Press, 1998.
- Keohane, Robert, and Helen Milner. *Internationalization and Domestic Politics*. Cambridge, UK: Cambridge University Press, 1996.
- Kern, Brian. "RMS Withdraws Five-Year Hurricane Model From Florida." *Insurance Journal*, May 18, 2007.
- King, Andrew, Michael Lenox, and Michael Barnett. "Strategic Responses to the Reputation Commons Problem." In *Organizations, Policy and the Natural Environment: Institutional and Strategic Perspectives*, edited by Andrew Hoffman and M Ventresca, 393-406. Stanford, CA: Stanford University Press, 2002.
- Kolk, Ans, David Levy, and Jonathan Pinkse. "Corporate Responses in an Emerging Climate Regime: The Institutionalization and Commensuration of Carbon Disclosure." *European Accounting Review* 17, no. 4 (2008): 719-745.
- Kossey, Alexandre, and Phillippe Ambrosi. "States and Trends of the Carbon Market." World Bank, May 2010.
- KPMG. "Climate Change and Sustainability Services." *KPMG*, 2010. <http://www.kpmg.com/Global/en/WhatWeDo/Advisory/Risk-Compliance/Internal-Audit/Climate-Change-Sustainability-Services/Pages/default.aspx>.
- Kunreuther, Howard, and O. Michel-Kerjan, Erwann. *At War with the Weather: Managing Large-Scale Risks in a New Era of Catastrophes*. Cambridge: MIT Press, 2009.
- Kunreuther, Howard C., and Erwann Michel-Kerjan. "Climate Change, Insurability of Large-Scale Disasters and The Emerging Liability Challenge." National Bureau of Economic Research,

- January 2007.
- Lamberton, Geoff. "Sustainability Accounting: A Brief History." *Accounting Forum*, no. 29 (2005): 7-26.
- Leggett, Jeremy. "Climate Change and the Insurance Industry: Solidarity Among the Risk Community." Greenpeace, May 24, 1993.
- Leggett, Jeremy K. *The Carbon War*. London: Routledge, 2001.
- Lehmann, Evan. "Sudden Revolt by Insurance Regulators Scales Back Climate Rule on Industry." *New York Times*, March 30, 2010. <http://www.nytimes.com/cwire/2010/03/30/30climatewire-sudden-revolt-by-insurance-regulators-scales-8154.html>.
- Lehmann, R. J. "A Catastrophic Battle." *Best's Review*, October 10, 2006.
- Leonardo, Martinez-Diaz, "Strategic Experts and Improvising Regulators: Explaining the IASC's Rise to Global Influence, 1973-2001." *Business and Politics* 7, no. 3 (2005). <http://www.bepress.com/bap/vol7/iss3/art3>.
- Levi-Faur, David. "The Global Diffusion of Regulatory Capitalism." *The Annals of the American Academy of Political and Social Science* 598, no. 12 (2005): 12-32.
- Levy, David L., and Peter J. Newell. "Business Strategy and International Environmental Governance." *Global Environmental Politics* 2, no. 4 (2002): 84-100.
- Lewis, Ken. "Remarks to the North Carolina Emerging Issues Forum, "North Carolina's Energy Futures: Realizing a State of Opportunity." *Bank of America*, February 12, 2008. <http://mediaroom.bankofamerica.com/phoenix.zhtml?c=234503&p=irol-newsArticle&ID=1383078&highlight=>.
- Llewellyn, Robert. "Time to Stop Living off the Earth's Capital - Before it's all Used Up." *Western Mail*, November 25, 2010. <http://www.walesonline.co.uk/business-in-wales/business-news/2010/11/25/accountants-chief-talks-in-cardiff-on-sustainability-91466-27711514/>.
- Lovell, Heather, and Donald MacKenzie. "Accounting for Carbon: The Role of Accounting Professional Organisations in Governing Climate Change." *Antipode* 43, no. 3 (2011): 704-731.
- Macleod, Michael, and Jacob Park. "Financial Activism and Global Climate Change: The Rise of Investor-Driven Governance Networks." *Global Environmental Politics* 11, no. 2 (2011): 54-74.
- MacLeod, Michael. "Private Governance and Climate Change: Institutional Investors and Emerging Investor-Driven Governance Mechanisms." *St Antony's International Review* 5, no. 2 (2010): 46-65.
- May, Jakki. "Climate Change - Green For Go." *Post Magazine*, November 20, 2008.
- Miller, Peter, and Anthony Hopwood. "Accounting as a Social and Institutional Practice: An Introduction." In *Accounting as a Social and Institutional Practice*, 1-40. Cambridge, UK: Cambridge University Press, 1994.
- Miller, Peter, and Ted O'Leary. "Accounting and The Construction of the Governable Person." *Accounting, Organizations and Society* 12, no. 3 (1987): 235-265.
- Mills, Evan. "A Global Review of Insurance Industry Responses to Climate Change." *The Geneva Papers* 34 (2009): 323-359.
- . "From Risk to Opportunity - Insurer Responses to Climate Change." Ceres, November 2007.
- . "From Risk to Opportunity: Insurer Responses to Climate Change." Ceres, April 2009.
- Mills, Evan, and Eugene Lecomte. "Availability and Affordability of Insurance Under Climate Change: A Growing Threat for the U.S." Ceres, September 8, 2005.
- . "From Risk to Opportunity: How Insurers can Proactively and Profitably Manage Climate Change." Ceres, August 2006.
- Mills, Evan, Eugene Lecomte, and Andrew Pears. "U.S. Insurance Perspectives on Global Climate

- Change.” Lawrence Berkeley National Laboratory, U.S. Department of Energy, University of California, 2001. http://evanmills.lbl.gov/pubs/pdf/climate_report.pdf.
- NAIC. “About the NAIC.” *National Association of Insurance Commissioners*, November 1, 2010. http://www.naic.org/index_about.htm.
- Newell, Peter, and Matthew Paterson. *Climate Capitalism: Global Warming and the Transformation of the Global Economy*. Cambridge: Cambridge University Press, 2010.
- Nicholls, Mark. “S&P To Integrate Climate Risk into Credit Ratings.” *Environmental Finance*, February 16, 2011. <http://www.environmental-finance.com/news/view/1550>.
- Nolke, Andreas. “The Politics of Accounting Regulation: Responses to the Subprime Crisis.” In *Global Finance in Crisis: The Politics of International Regulatory Change*, edited by Eric Helleiner, Stefano Pagliari, and Hubert Zimmermann, 37-55. London: Routledge, 2009.
- Nolke, Andreas, and James Perry. “The Power of Transnational Private Governance: Financialization and the IASB.” *Business & Politics* 9, no. 3 (2007): 1-34.
- OSFI. “Property and Casualty Insurance Companies Section.” *Office of the Superintendent of Financial Institutions Canada*, November 1, 2010. http://www.osfi-bsif.gc.ca/osfi/index_e.aspx?ArticleID=178.
- Paterson, Matthew. “Legitimation and Accumulation in Climate Change Governance.” *New Political Economy* 15, no. 3 (2010): 345-366.
- . “Risky Business: Insurance Companies in Global Warming Politics.” *Global Environmental Politics* 1, no. 4 (2001): 18-41.
- Pattberg. *Private Institutions and Global Governance: The New Politics of Environmental Stability*. Cheltenham, UK: Edward Elgar, 2007.
- Pattberg, Phillip. “The Institutionalization of Private Governance: How Business and Nonprofit Organizations Agree on Transnational Rules.” *Governance: An International Journal of Policy, Administration, and Institutions* 18, no. 4 (2005): 589-610.
- “Payments for Ecosystem Services: A Primer.” Forest Trends, The Katoomba Group, UNEP, May 2008. <http://www.katoombagroup.org/documents/publications/GettingStarted.pdf>.
- Perry, James, and Andreas Nolke. “The Political Economy of International Accounting Standards.” *Review of International Political Economy* 13, no. 4 (2006): 559-586.
- Polcorn, Mattias K. “A Model of an Oligopoly in an Insurance Market.” *The Geneva Papers on Risk and Insurance* 23, no. 1 (2008): 41-48.
- Porter, Tony. “Private authority, Technical Authority, and the Globalization of Accounting Standards.” *Business and Politics* 7, no. 3 (2005): 1-32.
- PriceWaterHouseCoopers. “‘Too much regulation’ Tops Insurance Risks,” May 2007. <http://www.ukmediacentre.pwc.com/Content/Detail.asp?ReleaseID=2350&NewsAreaID=2>.
- . “Building Trust in Emissions Reporting: Global Trends in Emissions Trading Schemes,” 2007. http://www.pwc.com/en_KH/kh/publications/assets/building-trust-in-emissions-reporting-final.pdf.
- . “Global Sustainability.” *PriceWaterHouseCoopers*, 2010. <http://www.pwc.com/gx/en/sustainability>.
- PricewaterhouseCoopers. “ClimateWise Principles: Third Independent Review 2010.” ClimateWise, 2010.
- Rees, Joseph. *Hostages of Each Other: The Transformation of Nuclear Safety Since Three Mile Island*. Chicago: University of Chicago Press, 1994.
- Richardson, Benjamin J. *Environmental Regulation Through Financial Organisations*. London: Kluwer Law International, 2002.
- Rivera, Joseph, and Peter De Leon. “Is Greener Whiter? The Sustainable Slopes Program and Voluntary Environmental Performance of Western Ski Slopes.” *Policy Studies Journal* 34

- (2004): 195-221.
- Ronit, Karsten, and Volker Schneider. "Private Organizations and Their Contribution to Problem-Solving in the Global Arena." In *Private Organizations*, edited by Karsten Ronit and Volker Schneider. London: Routledge, 2000.
- Ronit, Karsten, and Schneider Volker. "Global Governance Through Private-Organizations.." *Governance: International Journal of Policy Administration and Institutions* 12, no. 3 (1999): 243-266.
- Rowlands, Ian H. *The Politics of Global Atmospheric Change*. Issues in Environmental Politics. Manchester: Manchester University Press, 1995.
- Ruggie, John. "Reconstituting the Global Public Domain: Issues, Actors and Practices." *European Journal of International Relations* 10, no. 4 (2004): 499-531.
- Schmidheiny, Stephan, and Federico Zorraquin. *Financing Change: The Financial Community, Eco-efficiency, and Sustainable Development*. Cambridge, MA: MIT Press, 1996.
- Simmons, Beth. "The International Politics of Harmonization: The Case of Capital Market Regulation." *International Organization* 55, no. 3 (2001): 589-620.
- Sinclair, Timothy. "An Institutional Approach to the Politics of Global Finance." In *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, edited by Torsten Strulik and Helmut Willke, 103-130. Chicago: University of Chicago Press, 2007.
- . *The New Masters of Capital: American Bond Rating Agencies and the Politics of Creditworthiness*. Ithaca, NY: Cornell University Press, 2005.
- Singh, Rachel. "Calls for Global Standard on Carbon Reporting Grow." *Accountancy Age*, December 7, 2009. <http://www.accountancyage.com/aa/news/1748283/calls-global-standard-carbon-reporting-grow>.
- . "Cracks Appear in Carbon Emissions Accounting." *Accountancy Age*, November 12, 2009. <http://www.accountancyage.com/aa/news/1750852/cracks-appear-carbon-emissions-accounting>.
- Smith, Jeffrey, A., Matthew Morreale, and Michael E. Mariani. "Climate Change Disclosure: Moving Towards a Brave New World." *Capital Markets Law Journal* 3, no. 4 (2008): 469-485.
- Strange, Susan. *States and Markets*. London: Pinter Publishers, 1988.
- . *The Retreat of the State: The Diffusion of Power in the World Economy*. Cambridge: Cambridge University Press, 1996.
- Strulik, Torsten. "Introduction." In *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, 9-35. Chicago: University of Chicago Press, 2007.
- Sutter, Daniel. "Policy Uncertainty and the Market for Wind Insurance." Mercatus Centre, George Washington University, June 2009.
- The Climate Group. "The Climate Principles: A Framework for the Finance Sector." The Climate Group, 2008.
- The Climate Registry. "Mission," May 2011. <http://www.theclimateregistry.org/about/mission/>.
- , The Prince of Wales. "A Speech by HRH The Prince of Wales to launch the Insurance Sector "ClimateWise Principles"," London, UK, September 12, 2007.
- Thistlethwaite, Jason. "Counting the Environment: The Environmental Implications of International Accounting Standards." *Global Environmental Politics* 11, no. 2 (2011): 75-97.
- . "Head of Sustainability and Energy Risk Management North America, Swiss Re," February 12, 2010.
- Torrance, Andrew. "Letter from the Chairman of ClimateWise to UNFCCC Negotiators in Cancun." ClimateWise, December 2010.
- Towers Perrin. "2005 Catastrophe Losses Katrina/Rita/Wilma." Towers Perrin Reinsurance Market

- Services, November 4, 2005.
http://www.towersperrin.com/tp/getwebcachedoc?webc=REIN/USA/2005/200511/Hurricane_Report_11_04_05.pdf.
- Trucost. "Carbon Risks and Opportunities in the S&P 500." Investor Responsibility Research Centre Institute for Corporate Responsibilities, June 2, 2009.
http://www.irrcinstitute.org/pdf/irrc_trucost_0906.pdf.
- Tsingou, Eleni. "The Role of Policy Communities in Global Financial Governance: A Critical Examination of the Group of Thirty." In *Towards a Cognitive Mode in Global Finance: The Governance of a Knowledge-Based Financial System*, edited by Torsten Strulik and Helmut Willke, 212-235. Chicago: University of Chicago Press, 2007.
- . "Transnational Governance Networks in the Regulation of Finance - The Making of Global Regulation and Supervision Standards in the Banking Industry." In *Theoretical Perspectives on Business and Global Governance: Bridging Theoretical Divides*, edited by Morten Ougaard and Anna Leander. London: Routledge, 2010.
- Tweedie, David, Sir, and Leslie Seidman. "Interview with Sir David Tweedie and Leslie Seidman regarding the timeline for completing the convergence programme." Interview by Mark Byatt, April 14, 2011.
<http://www.ifrs.org/News/Announcements+and+Speeches/IASB+FASB+interview.htm>.
- UK Corporate Leaders Group. "UK CLG." *University of Cambridge Programme for Sustainability Leadership*, May 30, 2011. <http://www.cpsl.cam.ac.uk/Leaders-Groups/The-Prince-of-Wales-Corporate-Leaders-Group-on-Climate-Change/UK-CLG.aspx>.
- UNEP FI. "About UNEP FI: Background," April 21, 2011.
<http://www.unepfi.org/about/background/index.html>.
- . "The Global State of Sustainable Insurance." Insurance Working Group United Nations Environment Programme Finance Initiative, October 2009.
- UNEP-FI. "CEO Briefing: Demystifying Materiality: Hardwiring Biodiversity and Ecosystem Services into Finance." UNEP-FI, October 2010.
http://www.unepfi.org/fileadmin/documents/CEO_DemystifyingMateriality.pdf.
- USCAP. "Issue Overview: Comparison of Emissions Targets." United States Climate Action Partnership, March 2009. <http://www.us-cap.org/upload/file/FINAL%20USCAP%20Issue%20Brief%20Target%20Comparison.pdf>.
- Utting, Peter. "Regulating Business via Multistakeholder Initiatives: A Preliminary Assessment." In *Voluntary Approaches to Corporate Social Responsibility: Readings and Resources Guide*, edited by R Jenkins, P Utting, and R.A. Pino, 61-130. Geneva: NGLS, 2002.
- . "Social and Environmental Liabilities of Transnational Corporations: New Directions, Opportunities and Constraints." In *Corporate Accountability and Sustainable Development*, 92-119. Oxford: Oxford University Press, 2008.
- . "The Struggle for Corporate Accountability." *Development and Change* 39, no. 6 (2008): 959 - 975.
- Véron, Nicolas, Matthieu Autret, and Alfred Galichon. *Smoke & Mirrors, Inc: Accounting For Capitalism*. Ithaca: Cornell University Press, 2006.
- Wapner, Paul. "Governance in Global Civil Society." In *Global Governance: Drawing Insights from Environmental Experience*, edited by Oran Young, 65-84. Cambridge, MA: MIT Press, 1997.
- Warner, Koko, Thomas Loster, and Michael Zissener. "Vulnerable Countries and People: How Disaster Risk Reduction and Insurance Can Help Manage the Risks of Climate Change." United Nations University, 2009. http://www.climate-insurance.org/upload/pdf/MCII_Policy_Brief.pdf.
- Weber, Max. *Economy and Society: An Outline of Interpretive Sociology*. Los Angeles: University of

- California Press, 1978.
- Weber, Olaf, Scholz, Roland W., and Georg Michalik. "Incorporating Sustainability Criteria into Credit Risk Management." *Business Strategy and the Environment* 10, no. 1002 (2008): 1-30.
- Wells, Michael. "International Financial Reporting Standards," January 2011.
<http://www.ifrs.org/NR/rdonlyres/272B5170-BF00-4B46-95EF-2BEE10024ECF/0/Typicalvisitingstudentspresentation.pdf>.
- Woods, Ngaire, and Walter Mattli. "In Whose Benefit?." In *The Politics of Global Regulation*, edited by Walter Mattli and Ngaire Woods, 1-43. Princeton: Princeton University Press, 2009.
- WRI and WBCSD. "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard." World Resources Institute and World Business Council for Sustainable Development, 2001. <http://www.ghgprotocol.org/files/ghg-protocol-2001.pdf>.
- Wright, Christopher, and Alexis Rwabizambaga. "Institutional Pressures, Corporate Reputation, and Voluntary Codes of Conduct: An Examination of the Equator Principles." *Business and Society Review* 111, no. 1 (January 1, 2006): 89-117.
- Young, Beth, Celine Suarez, and Kimberly Gladman. "Climate Risk Disclosure in SEC Filings: An Analysis of 10-K Reporting by Oil and Gas, Insurance, Coal, Transportation and Electric Power Companies." Ceres and Environmental Defense Fund, June 2009.