Wharton UNIVERSITY of PENNSYLVANIA | William and Phyllis Mack Center for TECHNOLOGICAL INNOVATION | IGEL | Penn Lauder CIBER The Joseph H. Lauder Institute of Management & International Studies | Alliance for Research on Corporate Sustainability

ARCS Conference 2011 Paper Sessions

Abstracts, Papers & Slide Presentations (where author permission granted)

(In order of presentation; presenter is bold-faced)

Timothy Simcoe (Boston University) and Michael W. Toffel (Harvard Business School)
LEED Adopters: Public Procurement and Private Certification

Governments often use their considerable purchasing power to promote policy objectives. However, it remains unclear whether or when public procurement preferences can stimulate private markets for innovative products and services. We examine the impact of municipal government procurement policies that mandate the construction of "green" buildings on private building practices; specifically, the adoption of the U.S. Green Building Council's LEED standard. Using both matching methods and panel-data, we find that municipal green building policies not only stimulate the supply of professionals investing in the required expertise, but have spillover effects that spur private-sector demand for green buildings.

Simcoe et al Conference Slide Presentation

Kira R. Fabrizio (Fuqua School of Business)
Investments under Regulatory Uncertainty: Evidence from Renewable Energy Generation

How are firms' investment decisions influenced by potential instability in the regulatory environment? Firms that anticipate regulatory change may alter their response to current policies, potentially rendering those policies less effective. This paper explores the pattern of investments in renewable generation assets in the U.S. electricity industry following the implementation of Renewable Portfolio Standards (RPS) policies. Viewing these investments through the lens of transaction cost economics, the paper investigates whether the likelihood of future regulatory change in a state dampened (or spurred) firm responses to RPS policies in that state. We find that firms invested less in new assets in states that had previously passed and repealed legislation to restructure the electricity industry, indicating that perceived regulatory instability reduces new investment and undermines policy goals.

Fabrizio Conference Slide Presentation

Environmental Sustainability Session: Discussant **Andrew King** Slide Presentation

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Kristin Wilson and Stan Veuger (both **Harvard University**)
The Performance Effects of Regulatory Oversight

This paper explores the heterogeneity in firm performance that can arise from exogenously varying levels of oversight in regulated industries. We use data on the performance of all U.S. commercial banks between 2001 and 2009 to show that banks located closer to their examination field offices face lower supervision costs: a two-hour difference in examiner travel time corresponds to an increase in expense levels of 1 to 2 percent of capital that are not explained by leverage. In addition, supervisor distance is not associated with increased returns derived through higher interest margins, but is associated with deteriorating portfolio performance. This suggests that regulatory oversight is not purely a burden or a mechanism for bureaucratic rent extraction, but that closer ties with supervisors bring advantages to firms. We hypothesize that these advantages accrue due to co-located banks' lower costs of information exchange, particularly the exchange of soft information and supervisory expertise. In support of this conjecture, we find that small banks benefit disproportionately from proximity to their supervisor. The effect is not reduced over time, implying that relationships, rather than the cost of actual physical information transmission, drives the effect. Lastly, we find that the financial crisis triggered a more aggressive regulatory stance that eliminated the benefits from proximity completely, which is consistent with a view of supervisors as risk-averse agents.

Wilson et al Conference Slide Presentation

Olga Hawn, Aaron Chatterji, and Will Mitchell (all **Fuqua School of Business**)
Two Coins in One Purse? How Market Legitimacy Affects The Financial Impact Of Changes In Social Legitimacy: Addition and Deletion by the Dow Jones Sustainability Index

This study considers the interplay between two dimensions of organizational legitimacy: Market legitimacy arising from a firm's alignment with the norms and values of market actors and social legitimacy stemming from the firm's alignment with the norms and values of non-market actors. Using a large-scale financial event study of additions and deletions by Dow Jones Sustainability Index, we demonstrate that firms with higher market legitimacy benefit less from increased social legitimacy and lose less from decreased social legitimacy. We contribute to neo-institutional literature by highlighting that different sources of legitimacy may substitute for each other in affecting organizational outcomes.

Hawn et al Conference Slide Presentation

Aline Gatignon, Rolando M. Tomasini, and Luk N. Van Wassenhove **(**all **INSEAD)**
Jump-starting Social Networks: Using Lead Partnerships to Ignite Companies' CSR Programs

To gain a better understanding of how social networks form from scratch and develop over time, we study the evolution of partnership networks between private firms and non-governmental organizations (NGOs) for Corporate Social Responsibility (CSR) programs. This enables us to address two gaps in our current understanding of network evolution, revealed by the confrontation of structural and strategic approaches to this field of research. The first is to understand how strategic choices and path-dependent forces described by these research streams interact and influence networks' evolution from their inception and throughout their evolution. The second is to identify efficient strategies for

influencing networks' evolution from their beginnings, when partner distance is greatest. Our inductive analysis is based on case studies following the network of CSR partnerships established by global logistics provider TNT and the United Nations World Food Program from 2002 to 2008. In contrast to previous studies of network evolution, our focus on overall network evolution rather than single tie formation leads us to propose a two-phase model of efficient network formation from scratch, in which companies maximize network effectiveness by investing in a symbiotic partnership with one NGO before jointly developing convenor networks involving both sectors. Our analysis also brings us to identify two ways in which strategic choices and structural forces jointly affect network evolution over time, which we term the "shadow of the future" and the "shadow of the past".

Gatignon et al Conference Slide Presentation

Shon Hiatt (Harvard Business School) and Sangchan Park (National University of Singapore)
Lords of the Harvest: Reputation Concerns and Regulatory Approval of Genetically Modified Organisms

Little is known about what influences regulatory decision making. We posit that regulators' choices are not simply based on objective information about firms and products, but are also influenced by reputation concerns of the regulators. Focusing empirically on U.S. Department of Agriculture approval of genetically modified organisms, we find that reputation threats from critical stakeholders and regulatory reference actors improve regulatory approval and that the influence of regulatory reference actors increases with firm and product uncertainty. We suggest that these reputation concerns allow firms to influence regulatory decision making. Implications for institutional theory and nonmarket strategy are discussed.

Witold Henisz, Sinziana Dorobantu**,** and Lite Nartey (all **The Wharton School**)
Spinning Gold: The Financial Returns to External Stakeholder Engagement

We provide direct empirical evidence in support of instrumental stakeholder theory's argument that increasing cooperation and reducing conflict with stakeholders enhances the financial valuation of a firm holding constant the objective valuation of the physical assets under its control. We undertake this analysis using panel data on 26 gold mines owned by 19 publicly traded firms over the period 1993-2008. We code over 50,000 stakeholder events from media reports to develop an index of the degree of stakeholder cooperation or conflict for these mines. By incorporating this index in a market capitalization analysis, we reduce the discount placed by financial markets on the net present value of the gold controlled by these firms from 72 to 9 percent.

Henisz et al Conference Slide Presentation

Brian Richter (Richard Ivey School of Business)
"Good" and "Evil": The Relationship between Corporate Social Responsibility and Corporate Political Activity

To determine if corporate social responsibility (CSR) and corporate political activity are economic substitutes or economic complements, I assemble and analyze the largest dataset possible from existing data sources incorporating both types of non-market behavior. Examining the joint distribution of an

index of firms' CSR behavior and an indicator of whether or not firms lobby reveals that firms at both the positive and the negative extremes of social responsibility are more likely to have been politically active. Regressing the CSR index and a measure of lobbying intensity, individually, on Tobin's Q allows me to test whether CSR and corporate political activity separately enhance firms' value; regressing an interaction between the CSR index and the measure of lobbying intensity on Tobin's Q, allows me to test whether they play complementary roles in enhancing firms' value. Higher CSR ratings, more intensive lobbying, and the interaction between the CSR rating and lobbying intensity all appear to increase value when comparing firms; however, when each firm is studied over time, only the interaction between CSR rating and lobbying intensity appear to increase firm value. Taken together this suggests that firms' CSR positions work as an economic complement to its political activity rather than a substitute—jointly the two types of non-market behavior increase a firm's value, while independently each activity is more difficult to reconcile and perhaps may simply be symptomatic of some other inherently unobservable firm-fixed characteristic such as 'good management'. Illustrative cases round-out the large dataset analysis.

Daniel Matisoff (Georgia Tech)
Privatizing Climate Change Policy: Is There a Public Benefit?

The Chicago Climate Exchange (CCX) and the Carbon Disclosure Project (CDP) are two private voluntary initiatives aimed at reducing carbon emissions and improving carbon management by firms. I sample power plants from firms participating in each of these programs, and match these to plants belonging to non-participating firms, to control for differences between participating and non-participating plants. Using a difference-in-differences model to control for unobservable differences between participants and non-participants, and to control for the trajectory of emissions prior to program participation, I find that CCX participation is associated with a decrease in total carbon dioxide emissions for participating plants, but not carbon dioxide intensity. The CDP is associated with a decrease in carbon dioxide intensity, but not total carbon dioxide emissions.

Matisoff Conference Slide Presentation

Pete Tashman (George Washington University)
Corporate Climate Change Vulnerability, Resource Dependence and Corporate Environmental Performance: A Longitudinal Study in the U.S. Ski Resort Industry

Research on corporate climate change adaptation has succeeded in classifying adaptation types, identifying organizational characteristic that motivate adaptations, and describing processes of organizational learning that underpin them. This empirical study seeks to improve our understanding of the outcomes of climate change adaptation by examining relationships between the corporate climate change vulnerability and environmental performance. In doing so, it develops a logic of *natural* resource dependence, which recognizes that a firm's vulnerability to climate change and its propensity to adapt can be a function of the organization's resource dependence on its biophysical environment. Since climate change can disrupt the provisioning of critical ecosystem services by the natural environment to the firm, adaptation is sometimes required to manage the uncertainty created by the phenomenon. Using longitudinal data from 76 firms in the U.S. Ski Resort Industry from 2001 to 2009 (n=612), I find that vulnerability is

negatively related with environmental protection in firms' biophysical environments, but positively related to environmental protection of natural resources exchanged or embedded in firms' socioeconomic environments.

Tashman Conference Slide Presentation

Jeffrey G. York (University of Colorado-Boulder), Desiree Pacheco (Portland State University) and Timothy Hargrave (University of Washington-Bothell)
The Co-Evolution of Industries, Social Movements, and Institutions: The Case of Wind Power

We examine processes of emergence and change in the in the U.S. wind energy sector from a dialectical, co-evolutionary perspective. We first generate insights from a case study in Colorado, finding that social movements and entrepreneurs mutually influence each other. We then demonstrate such mutual influence through a longitudinal quantitative study of the U.S. wind energy sector which also finds that the formation of these specialist social movement organizations has important repercussions on the types of institutions that emerge and the visibility and subsequent growth that the industry experiences.

York et al Conference Slide Presentation

A. Wren Montgomery, Jacqueline Corbett and M. Tina Dacin **(**all **Queen's University)**
Of Markets and Men: How Movements Shape the Making of Markets

This paper examines the interaction of institutional entrepreneurs and social movements in the creation of new social-benefit markets. Using the recent development of markets for 'public goods', such as tradable sulphur and carbon emission credits in the U.S. and Europe, this study examines the relationships between competing social movements, government, institutional entrepreneurs, and 'market makers' in order to develop a model of social-benefit market creation. This study suggests that the relative strengths of competing social movements, as well as the status and capabilities of institutional entrepreneurs, influence the likelihood of government and market makers participating in market creation. Involvement of government and market makers is also found to be important for the stability and success of new markets. These findings extend our theoretical understanding of how new institutions are formed while also offering insight for practitioners involved in social-benefit market creation.

Montgomery et al Conference Slide Presentation

Jiao Luo (Columbia Business School)
Firm Participation in Controversial Markets: Institutional Dissonance, Environmental Performance and Entry into Carbon Offsetting, 2006-2009

The literature on organizations has long discussed how firms navigate sociocultural pressures to conform to established practice in their respective fields, as they strive to build legitimacy. The current paper focuses on organizational decision-making in the "uninstitutionalized," pre-convergence period, with the aim to understand (1) how organizations react when there is a high degree of uncertainty surrounding the legitimacy of a practice; (2) how organizations arrive at choices among alternative

means of "seemingly legitimate" practice; and (3) how extensive organizational choices made *ex ante* to defined norms, or made during periods of murky or undefined norms, impact upon the overall trajectory of practice diffusion. The research context is the carbon offsetting markets. Offsetting is devised as a market-oriented solution to combat global warming, and yet its legitimacy and effectiveness to achieve emission reduction goals are heavily scrutinized and contested. Using survey data on S&P 500 firms' emission reduction activities during 2006 to 2009, this paper focuses on exploring the interaction among institutional forces, firms' environmental performance, and firms' strategic participation in the carbon emission offset markets. Empirical results show that the more polarized the media opinion on carbon markets tends to be, the less likely that firms will participate. It suggests that firms delay their adoption decisions on a new practice when institutional expectation is divided on how an organization should act towards the practice. Results also show that firm's identity as an environmental laggard, measured both by low corporate social responsibility score and recent environmental violations such as fines and lawsuits, yields significantly positive effects on firms' propensities to purchase offset credits that are certified to meet visible and expensive standards.

Elizabeth Connors (Northeastern University) and Lucia S. Gao **(University of Massachusetts - Boston)**
Corporate Environmental Performance, Disclosure and Leverage: An Integrated Approach

Corporate capital financing decisions are an integral part of overall corporate strategy. This study analyses the effect of environmental performance and disclosure on the capital structure of U.S. firms in the electric utility industry. The hypothesized relationships account for endogeneity in the three factors of strategy and are estimated using a simultaneous equations model. Our results suggest that environmental performance is positively associated with both leverage and environmental disclosure and that leverage is negatively associated with disclosure.

Connors et al Conference Slide Presentation and Exhibit

Tom Lyon (University of Michigan), Yao Lu, Xinzheng Shi and Nan Wang (all of Tsinghua University)
How Do Shareholders Respond to Sustainability Awards? Evidence from China

In this paper, we conduct an event study to examine the impact of winning sustainability awards on companies' stock prices in the largest emerging market economy, China. The results are surprising: the announcement of winning such an award tends to result in negative abnormal returns. To investigate the possible reasons for these results, we put forward and test four potential explanations. Investors' expectations of loose environmental laws and regulations in an emerging economy seem to be the most convincing argument for the negative reaction.

Lyon et al Conference Slide Presentation

N. Craig Smith and Luk Van Wassenhove (both of **INSEAD Social Innovation Centre)**, and Leena Lankoski (University of Helsinki and INSEAD Social Innovation Centre)
Judgments of Stakeholder Value: An Application of Prospect Theory to Stakeholder Theory
(Paper available upon request.)

We apply prospect theory to stakeholder theory to produce a richer understanding of stakeholder value, showing how individual stakeholder evaluations of corporate responsibility are influenced by cognitive biases affecting human judgment. Research propositions are advanced that predict the effects on stakeholder judgment of reference dependence and alternative reference states, negative asymmetry of losses and gains, category-boundary effects, and adaptation. We conclude by identifying theoretical and management implications of the innate subjectivity of stakeholder value.

Andrea Prado (Stern School of Business)
Choosing Among Competing Environmental and Labor Standards: An Exploratory Analysis of Producer Adoption

There has been a proliferation of environmental and labor certifications, such as Fair Trade, Rainforest Alliance, and SA 8000. This phenomenon is observed in many industries, including coffee, tourism, apparel, aquaculture, and electronics. Although these programs can have important social and environmental impacts (especially in developing countries, where institutions are weak and governments often do not have enough resources to enforce regulation), the effects of having multiple certification programs competing in an industry are not yet understood.

Certification programs have been studied as a mechanism for producers to communicate unobservable organizational attributes to exchange parties. Such signals convey information about a producer’s environmental and labor practices, so that buyers/consumers factor them into their purchasing decisions. Previous research on self-regulation has focused on whether firms adopt a single certification. This paper explores what happens in industries in which multiple environmental and labor certifications are available to producers. I extend our understanding of self-regulation by analyzing how managers choose *among* various certification programs with different characteristics and deployed via different strategies.

The empirical context of this paper is the flower industry in Colombia and Ecuador, two of the most important flower growers in the world. I use a combination of fieldwork and quantitative analysis of a unique dataset on flower exporters in these two countries. This exploratory analysis suggests that signaling theory might not suffice to explain producers’ certification choice. Other characteristics such as the promotion strategies of the certifying organizations and firms’ social connections seem to be influencing producers’ decisions. Results suggest that industries with competing certification programs might face a “race to the bottom,” where certifying organizations decrease the stringency of their standard and focus their efforts on marketing in order to increase their adoption by firms. This unanticipated outcome is, in part, a result of consumers being unable to distinguish the quality of certifications.

Prado Conference Slide Presentation

Cary Coglianese and Jonathan Borck **(UPenn Law)**
Beyond Compliance: Explaining Business Participation in Voluntary Environmental Programs

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Anil Doshi (Harvard Business School), Glen Dowell (Johnson School of Management), and Michael Toffel (Harvard Business School)
How Firms Respond to Mandatory Information Disclosure

When new institutional pressures arise, which organizations are particularly likely to resist or acquiesce? When subjected to new information disclosure mandates, an increasingly popular form of market-based government regulation, which types of organizations are more likely to subsequently improve their performance in ways that meet policy makers' objectives? This study addresses these questions. We build on institutional theory to propose that several organizational characteristics moderate how organizations respond to institutional pressure, and provide among the first evidence characterizing organizations' heterogeneous responses to information disclosure regulations. We hypothesize that establishments more proximate to their headquarters will have greater access to their capabilities and be subjected to increased monitoring, both of which will cause these establishments to be more responsive to institutional pressures. We also hypothesize that establishment size and ownership structure increase the salience of institutional pressures, which increases organizations' responsiveness to institutional pressures. We test our hypotheses in the context of one of the most prominent disclosure programs, the U.S. Environmental Protection Agency's Toxic Release Inventory. We examine how thousands of establishments responded to the regulator's requiring them to publicly disclose emissions of hundreds of toxic chemicals, and take advantage of an exogenous shock that occurred when the agency expanded the number of chemicals required to be reported. We find that establishments that improved more rapidly were more proximate to their headquarters, smaller than average, and were owned by private firms. We also found that establishments near their headquarters and private firms more aggressively reduced particularly harmful emissions. Finally, we found that large firms reduced their overall emissions, do not significantly reduce particularly harmful emissions, relative to smaller firms. These results may provide evidence for the characteristics of "good citizen" or "green washing" firms. We highlight the important implications of our results both for the further development of institutional theory and for information disclosure policy makers as well as those who use such disclosed information.

Doshi et al Conference Slide Presentation

Nilanjana Dutt (Fuqua School of Business) and Andrew A. King (Tuck School of Business)
What the Cleaning Lady Knows

Scholars have theorized that the use of end-of-pipe waste treatment reduces operational performance by buffering errors, displacing the locus of problem solving, and reducing the propensity of firms to identify the root causes of problems. As a result, improvements which could benefit both the financial health of the firm and the natural environment are lost. However, evidence of this generally expected relationship is surprisingly sparse; and the connection to its inspiration, Lean Production Theory, has been incompletely specified. In this paper, we begin to resolve some of these problems by specifying and testing the effect of end-of-pipe waste treatment operations in US manufacturing establishments.

Dutt et al Conference Slide Presentation