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UNHEARD VOICES IN INTERNATIONAL ENVIRONMENTAL AGREEMENTS: IMPLICATIONS OF STAKEHOLDER ABSENCE ON THE LEGITIMACY AND EFFICACY OF ISO 14001

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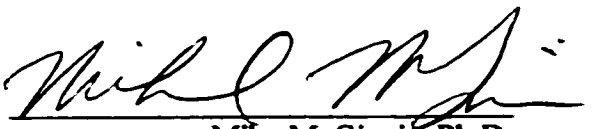

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Dedication

To the women who help me fulfill my potential: my mother who told me I could do anything, my daughter who inspires me to lead by example, and to Dr. Elinor Ostrom who held me to the highest standards of scholarship and who has paved the way for all who follow. Thanks also go to my other committee members: Dr. Jeffrey Hart, Dr. Michael McGinnis, and Dr. Ingrid Ritchie, whose comments greatly improved this dissertation.

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Abstract

UNHEARD VOICES IN INTERNATIONAL ENVIRONMENTAL AGREEMENTS: IMPLICATIONS OF STAKEHOLDER ABSENCE ON THE LEGITIMACY AND EFFICACY OF ISO 14001

What is the impact on legitimacy and efficacy when key stakeholders are absent during the creation of international agreements? Can these international institutions adequately address the needs of all countries when crafted in the absence of developing countries? While hegemonic powers often provide the leadership necessary to get international initiatives and institutions started, they also run the risk of alienating lesser powers whose cooperation is necessary for their implementation and success. This study examines the process through which one international environmental institution (ISO 14001) was created and analyzes its perceived legitimacy and efficacy among developing country stakeholders relative to developed country stakeholders. Data for this project come from interviews with 42 delegates to the ISO 14000 standards-drafting sessions and 133 surveys from businesses in 16 developed and developing countries. It finds that perceptions of regime legitimacy and efficacy are positively correlated to the level of participation in regime formation. Secondly, while the participation of developing country negotiators may have resulted in the formation of a stronger regime, there is no evidence to suggest that ISO 14001 certified firms in developing countries are receiving fewer benefits from certification than are their peers in wealthier countries. In fact, developing countries firms that are able to join into the ISO 14001 regime may be experiencing greater benefits, in terms of regulatory relief and economic savings from reduces resource use. In sum, it appears that the absence of developing country stakeholders has resulted in perceptions of reduced legitimacy and efficacy for the excluded negotiators, but these perceptions have not trickled down to the firm level.

Table of Contents

Chapter One
Introduction

Daniel Bell wrote, "The nation-state is becoming too small for the big problems of life, and too big for the small problems of life"(Waters 1995:96). Increasingly, governments are realizing that they cannot achieve their domestic environmental goals without the cooperation of their neighbors. At the same time, the trend toward smaller government and market-based incentives has changed the ways in which regulation occurs. In the United States the traditional command-and-control form of regulation has resulted in significant improvements in environmental health, but these improvements have come within a policy framework that is "inflexible, costly and its effectiveness appears to be affected by diminishing marginal returns"(Esty and Chertow 1997). In response to these problems, there is increased interest in greater industry self-regulation through market-based incentives. In combination, the trends toward increased international trade, smaller government, and even "green" consumerism have resulted in environmental improvements coming from unlikely places—even from industry itself. Not all industries and governments have participated equally in this process of change---but it will affect them all.

Public and private organizations are beginning to work together to create the international institutions necessary to facilitate complicated networks of interaction on issues such as trade and the environment. In the absence of a supra-national authority having the power to enforce laws at the international level, many of these international institutions take the form of voluntary agreements. While imperfect instruments, these

voluntary agreements are often the only feasible solution to common problems and conflicts that require coordination and cooperation between national-level actors.

However, not all nations or non-state actors come to the bargaining table with equal power and authority. In fact, some do not come to the table at all. This study examines some important questions about the impact of stakeholder absence on legitimacy and efficacy in international regimes, via a case study of one regime in particular—ISO 14001.

The mission of the International Organization for Standardization (ISO) is to harmonize (i.e. make similar and compatible) those systems necessary for international trade and contact. For example, through the ISO's efforts, automatic teller machines worldwide can dispense cash using standardized card sizes and specifications. This organization also created ISO 14001, a voluntary environmental management standard. This standard is designed to create common environmental management systems (EMSs) that will assist firms in their efforts to meet increasingly stringent environmental requirements, while reducing the costs of exporting goods and services through the evolution of uniform requirements.

Using ISO 14001 as a case study of these broader trends, the questions for this study include: What is the impact of stakeholder absence on the legitimacy and efficacy of these agreements? Can these international institutions adequately address the needs of all countries when crafted in the absence of some? Does the absence of certain stakeholders automatically mean that the resulting agreements and institutions will be unable to meet their needs? Will ISO 14001 become a short-term barrier to trade as large

trading entities (both companies and governments) either require certification or grant preferences to certified firms?

This study begins to answer these questions using both interviews and mailed survey data concerning ISO 14001. While the data come from an examination of an international non-governmental agreement, the process of standard creation is quite similar to that of many international governmental treaties. These similarities allow for interesting generalizations about the importance of stakeholder input in both governmental and non-governmental agreements at the international level. Before detailing the outline of this study, it is important to first describe the ISO organization itself as well as the ISO 14001 standard.

International Organizations

The terms institutions, regimes, and organizations are often used haphazardly in the social sciences. Yet, clear understandings of terminology and concepts provide an important base upon which theoretical and practical issues can be discussed. Therefore, the definitions of these terms deserve delineation.

Douglass North discussed the differences between institutions and organizations in his work, *Institutions, Institutional Change, and Economic Performance.* He states that institutions are the "rules of the game in society. They are humanly devised constraints that shape human interaction. They structure incentives in human exchange, whether political, social, or economic"(1990:3). Institutions reduce uncertainty by providing structure and they can affect the performance of economies.

The term "regime" is often used interchangeably with the term institution, as will be the case in this work. Stephen Krasner says that regimes are sets of implicit or explicit

principles, norms, rules, and procedures that give rise to expectations among actors and are used to sustain and regulate activities across national borders (1983). Regimes encompass both governmental and non-governmental actors and are forms of governance without a government (Rosenau and Czempiel 1992). Institutions and regimes contribute to cooperation by allowing actors to enter into mutually beneficial arrangements by reinforcing shared expectations over future behavior (Krasner 1983). In this dissertation, 'international regimes' are viewed are internationally agreed upon arrangements, usually executed with the help of an international organization, based on sets of explicit or implicit principles, rules, norms, or procedures, which allow for sustainable and regularized interaction between international actors.

Like institutions, organizations structure to human interaction. "When we examine the costs that arise as a consequence of the institutional framework we see that they [institutions] are the result not only of that framework but also of the organizations that have developed as a consequence of that framework" (North 1990:4-5). Rules are the institutions and the players of the game are often organizations. Organizations are generally clusters of people nested in an enterprise or in certain activities. They grow up within or because of institutions.

When and why do international organizations emerge? Realist and liberal theorists generally agree that international organizations emerge out of self-interest, but they disagree over many other points. Realists portray cooperation as occurring within overall patterns of conflict, as exemplified by alliance cooperation. Neorealists see international cooperation and the formation of international organizations as being "harder to achieve, more difficult to maintain, and more dependent on state power" than

do neoliberals (Grieco 1993). Many neorealists see cooperation as possible, and predict the emergence of new international regimes, when prompted by a hegemon (Gilpin 1987).

Gilpin states that international organizations will emerge when it is in the interest of the hegemon. This observation poses an interesting problem for this study. The need for hegemonic leadership may conflict with the need for buy-in from all players in order for international environmental and economic regimes to function properly. Keeping in mind the interdependent nature of nation-states when environmental issues are involved, hegemonic leadership, as traditionally defined, may not be adequate to encourage implementation of environmental agreements. In other words, while hegemons may have economic and military power, the leadership necessary to create and sustain a robust economic and/or environmental regime may require the power of persuasion as much or more than it requires more traditional measures of power. This study examines the tension between the need for hegemonic leadership and the need for international consensus, in order to understand whether these can indeed co-exist and encourage robust environmental and economic regimes.

The Rise of Voluntary Environmental Regimes

Increasingly, companies are looking for ways to improve their environmental performance and conserve scarce environmental resources while also improving the efficiency of their production processes. According to Dennis Rondinelli, "Many large corporations are adopting pollution prevention and eco-efficiency (P2/E2) practices that offer the potential for the private sector to move beyond regulatory requirements to reduce or eliminate pollution at the source rather than merely controlling emissions"

(2001). These changes can often (but not always) increase profit margins while also reducing liabilities and improving company image. For these reasons businesses are increasingly taking part in "voluntary" or "beyond compliance" regimes designed to improve environmental performance while increasing cost savings at the same time.

While most "beyond compliance" programs are voluntary, not all voluntary programs are beyond compliance. As the name implies, beyond compliance programs require participants to improve their environmental performance above and beyond the levels required by applicable laws and regulations. However, many beyond compliance regimes rely on self-monitoring so that it is sometimes difficult to discern with any certainty, that companies are keeping their commitments to environmental improvements. Voluntary regimes that are not also beyond compliance regimes, generally aim for improvements in environmental performance, but they do not require compliance as a minimum standard. ISO 14001 is a voluntary regime, but it does not require compliance with applicable regulations. Instead it asks for a commitment to the *goal* of compliance. Both of these types of regimes typically do not stipulate how companies must achieve these improvements, so individual businesses can choose the strategy or equipment that best suits them.

According to the National Center for Environmental Economics (NCEE 2001), in 1999 there were 54 environmental self-regulatory programs at the federal level in the U.S. This is an increase of more than 50% from 1996, when there were only 28 such programs. Esty and Chertow (1997) call these voluntary programs "the next generation environmental policy" because they go beyond the traditional adversarial approach that is common in the U.S., and instead rely on firms to be proactive and innovative.

In general there are a number of reasons why individual firms may decide to join a voluntary or beyond compliance regime. Lutz, Lyon, and Maxwell (2000) note that industry self-regulation often occurs when government regulators are considering the promulgation of new regulations. Industry groups may improve their practices (or appear to do so) in order to pre-empt new regulations. Without regulations, firms are often able to implement changes with more flexibility and at less cost than would be required under new regulations. Another set of motivations comes from consumer and market pressures. Consumers' access to information, such as the Toxic Release Inventory, and environmental reporting requirements for publicly held companies, often gives corporate decision makers incentive to improve the way environmental resources are managed. In addition to these regulatory and market-driven pressures for voluntary regimes, Prakash (1997) argues that some firms are persuaded to join these regimes through the efforts of environmental entrepreneurs within their organizations. These entrepreneurs often argue that improving environmental performance is simply the "right" thing to do and because it may help the company develop a reputation as an environmental leader.

In this era of shrinking government budgets (in the U.S. and many other countries), regimes that improve corporate environmental performance without increasing the burden for over-worked regulators are likely to be seen as "win-win". However, nagging questions about the efficacy of many of these regimes remain, resulting in skepticism among some regulators and environmental organizations. Investigations such as this may help to shed light on the efficacy and utility of voluntary regimes.

What is ISO?

History and Composition of the Organization

As international trade, travel, and transmission have increased so has the need for some coordination and harmonization of various standards internationally. The International Organization for Standardization (known by the Greek prefix 'ISO', meaning equal) is a non-governmental body that began in 1947 and exists in order to facilitate and improve international trade. While ISO is a non-governmental organization, it is comprised of 140 national-level standards bodies, many of which are governmental organizations. ISO has published more than 12,000 standards thus far. Standards cover such issues as the measurement of meteorological phenomena, telecommunications, health and safety, construction material and engineering, and many more. A common example of ISO's work can be seen on film canisters where the film speed is listed as "ISO 400" or "ISO 200", etc.

What are international standards? According to the ISO, "Standards are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics, to ensure that materials, products, processes and services are fit for their purpose. For example, the format of the credit cards, phone cards, and 'smart' cards that have become commonplace is derived from an ISO International Standard. Adhering to the standard, which defines such features as an optimal thickness (0,76 mm), means that the cards can be used worldwide" (http://www.iso.ch). Common standards make life easier by harmonizing (or making similar and compatible) certain procedures and products. They also reduce

technical barriers to trade posed by the existence of non-harmonized standards for similar technologies in different countries.

The goal of the ISO 14000 series of environmental standards is to provide a common framework for managing environmental issues. The standards are drafted by Technical Committee (TC) 207, within the larger ISO institution. The formal mandate of TC 207 is to, "develop and promote the worldwide acceptance and use of the ISO 14000 series of standards, provide an effective means to improve the environmental performance of organizations and their products, facilitate world trade, and ultimately contribute to sustainable development" (Morrison et al 2000:20).

The standards-creation process consists of three main phases. First, an industry sector recognizes the need for a standard and communicates this to their national member body. The member body proposes the new work item to the ISO organization as a whole. Once the ISO members agree that there is a need for a new standard, the scope of the proposed standard is defined through the work of technical experts who serve as members to their national delegations.[1] A number of different standards, within the ISO 14000 series of standards, are currently in the drafting process. The consensus phase occurs once participants agree on the scope of the standard. In this phase, country delegations negotiate the standard's detailed specific content. The third phase comprises the formal approval of the draft standard, which requires acceptance by two-thirds of the ISO members who have actively participated in its creation and 75% of all voting members. Once these hurdles are overcome the standard is published by ISO.

National standards bodies may join the ISO organization as a whole at one of three levels: member body level, correspondent member level, and subscriber member

[1] Information comes from the ISO website, www.iso.ch as of February 2, 2002.

level. Each country that has a fully developed national standards body may join at the highest level. Corresponding members generally come from countries that do not have fully developed national standards bodies. "Correspondent members do not take an active part in the technical and policy development work, but are entitled to be kept fully informed about the work of interest to them" (www.iso.ch/iso/en/aboutiso). Subscriber membership has been established for small and poor countries that cannot afford to pay full membership fees. At this level, members can keep appraised of ISO activity but cannot actively participate. A full list of the countries in each membership level is included as Appendix 1.

In addition to these three categories for the ISO organization as a whole, there are three levels of membership for Technical Committee 207, which drafts the standards in the ISO 14000 series. "Participating" members (known as "P members") are those that wish to vote, be active in the process of standards creation, and have access to all working papers and documents. As of June 2001, there were 65 "P" member countries. "O" members are those countries that wish to be informed about TC 207's activities and they may sometimes participate in TC 207 discussion and attend meetings, but these countries do not get to vote. As mentioned previously, most work is done by consensus and in practice, O members who attend meetings may voice their views as readily as P members. However, O members cannot hold leadership positions (e.g. Committee Secretary or Chairperson). Liaison members ("L" members) are organizations that do not represent individual countries. For example, environmental groups typically receive "L" member status. These groups can participate in discussions and receive draft documents, but they cannot formally vote. Once again, through consensus-based discussions these

members can impact the shape and content of the standards, but if a formal vote is called they cannot vote nor do they regularly hold leadership positions in committees unless they have been admitted as a member of a national delegation in addition to their "L" member status. Each country decides for themselves who shall and shall not be included in their delegations. Appendix 2 shows P members as well as O members and L members.

TC 207 is comprised of approximately 65 member bodies, with about 90% coming from middle and high-income countries (Morrison et al 2000:23). Only about 17% of the world's low-income countries are official members in TC 207, compared to 93% of the high-income countries and 56% of the middle-income countries (ibid). However, official membership does not always translate into actual participation at TC 207 meetings and standards-drafting work. According to the research conducted by Morrison, Cushing, Day and Speir, Zimbabwe (an English-speaking country) was the only low-income country represented at all three of the annual meetings from 1997, 1998, and 1999. This is important because it takes a while for delegates to become comfortable participating actively in the work of TC 207. It is akin to walking into a complicated conversation that is well underway. New delegates must gain an understanding about what work has already been done and build relationships with other committee members before they feel competent enough to contribute. As of 2000, low-income countries held no significant leadership positions within the ISO 14000 series development committees (ibid). This absence, and the under-representation of low-income countries in general, may have serious implications for the legitimacy and efficacy of the ISO 14001 standard,

since widespread buy-in is required for any standard or institution to be robust at the international level.

National Level Decision Making for ISO

Each country has a body charged with the creation and amendment of national standards. In some countries these are public, government-run organizations. In other countries these are operated as private organizations, while in others, they are hybrid organizations. In order to better understand decision making at the national level, this section will describe the consensus process through which the American TC 207 delegates build the U.S. position on ISO 14000 issues.

The American National Standards Institute (ANSI) is the official representative body to ISO and its technical committees. The U.S. delegation to TC 207 is called the Technical Advisory Group (TAG). This group develops U.S. positions on issues relating to the documents under development by TC 207 (Morrison et al 2000:27). The TAG is divided into sub-technical and sub-working groups, each one corresponding to TC 207 technical and working committees. These sub-groups meet one or more times per year, with drafts passed back and forth via email in between meetings. Final drafts of the American positions are submitted to the membership for a vote via email so that non-attending members may still vote.

As of July 1999, TAG was comprised 236 participating organizations from industry, government, trade associations, private consultants, academic institutions, and public interest groups (ibid). Any organization may become a TAG member, for an annual fee of $250. Public interest groups and academic organizations may join for free during their first year. Firms and consultants make up about 70% of the TAG

membership, with approximately 10% coming from government and environmental groups, and the rest coming from the media or other groups (Morrison et al 2000:28). Each organization must fund the participation of its own representatives in these groups. As meaningful participation is time consuming, and travel to meetings can be costly, there are few governmental, academic, or NGO interests who participate consistently.

The composition of the TAG is important, because the interests of firms and consultants often align, making it difficult for other interests to have a persuasive influence on the content of the American positions. For example, when discussion of the revisions to the ISO 14001 standard during the fall of 1998 and spring of 1999, there were several votes in which consultants and firms aligned to overpower the wishes of governmental and environmental groups, who were also aligned (ibid). The strength of industrial interests within TC 207, and within individual country delegations, has led to questions about the credibility of the standards and their ability to benefit the environment and the public (Morrison et al 2000:29).

For TC 207 as a whole, approximately 37% come from industry, 33% come from consultants (generally aligned with industry), 8% are government representatives, 3% come from environmental groups, and 19% are categorized as "other". Again, interests representing industry and consultants can overpower the representatives from government and non-profit groups. And, as mentioned earlier, non-profit groups lack voting rights within TC 207, but they can participate in the consensus-building discussions used to draft the standards.

The ISO 14001 Standard

As public and private concern for environmental health has grown rapidly during the past thirty years, governments have increased their regulation of industry. As a result, nearly all nation-states, especially those in the North[2], have developed highly articulated environmental regulations, supplemented by voluntary regimes, which impact the production, import and export of most kinds of goods and services. "In an era of increasing free trade and global production and marketing, this [multiplicity of regulatory and voluntary requirements] is becoming a firm's worst nightmare: the need to be certified in dozens of countries under drastically different green labeling systems and industry programs" (Roberts 1997:6). In response, the ISO has proposed a series of environmental standards dealing with everything from environmental management to eco-labeling and life cycle assessment. Within this series, ISO 14001 is the standard that provides the environmental management system guidelines that seek to harmonize and constantly improve environmental management by industry (Lamprecht 1997; Messler 1997; Murray 1997; Wilck 1997). ISO 14001 is the most widely known and widely adopted in the ISO 14000 series.

The composition of TC 207 has led to criticism on a number of fronts. As already mentioned, most of the members of TC 207 come from industry. According to interviews with TC 207 a delegate, participation by government and non-profit groups has continually declined so that they now make-up even less than they did when the 14001

[2] In the field of international relations, the terms "North" and "South" refer to the economically developed and less developed worlds, respectively. While this terminology is imperfect (e.g. Australia is in the Southern hemisphere, but is economically wealthy), it has come to replace the equally flawed terms "first world" and "third world". This study will also use the terminology "developed" and "developing" countries to refer to the "North" and the "South".

standard was first promulgated. Since the vast majority of negotiators come from industry, critics have argued that the 'fox is guarding the henhouse', so to speak.

A second area of criticism stems from the under-representation of developing countries in TC 207. While ISO now boasts 111 member states, only two states from the developing world were present at the initial stages of ISO 14001 formulation: Cuba and South Africa (Arriaza 1996). The high costs of attending the ISO committee meetings made it impossible for many representatives from developing countries to attend. While only South Africa and Cuba were included in the formulation of ISO14001, representatives from six developing countries were present for the vote to approve the standards (UNCTAD 1996: 21-38). While this is not likely the result of a conspiracy designed to keep poor countries poor, it makes sense that an international institution crafted with minimal input from developing countries *may* not fully reflect the needs and concerns of these countries.

Requirements of ISO 14001

While it is important to understand the history and composition of TC 207, it is also important to understand the purpose of environmental management systems (EMSs) generally, and the ISO 14001 EMS in particular. The environmental management system helps companies to track their environmental impacts and take steps to improve them. It provides the information necessary to make improvements and chart progress toward environmental goals. One criticism of ISO 14001 is that it *can* provide the tools necessary for environmental improvements at the firm level, but there is no guarantee that all firms will fully use the information provided by the EMS to improve their environmental performance.

The ISO 14001 EMS contains a number of basic elements:

- Firms must develop and declare an environmental policy committed to pollution prevention and continual improvement of the EMS;
- Firms must plan ways of meeting those goals by determining the firm's environmental impacts and ways to address them;
- Firms must develop and implement an environmental policy;
- Firms must monitor their own performance and take corrective actions when necessary;
- Employees and managers must be given the training and responsibility for ensuring compliance with the firm's own environmental policies.
- While compliance with governmental regulations is not required, firms must be "committed" to compliance with any governmental regulations to which the firm is accountable;
- Although full disclosure of information relating to environmental performance and compliance is not required, firms must "implement both internal and external communications relevant to all of the steps listed above".
  (Balikov 1997: 27).

Environmental management systems are designed with a focus on process rather than output, meaning that firms are supposed to continually monitor and improve their environmental impacts through a thorough examination of the entire production-distribution process. An EMS is not a performance standard nor is it a product standard. Product standards often conflict with World Trade Organization rules, making them unworkable.

With ISO 14001 firms are not required to reduce their pollution production below specified levels nor are they required to use specific pollution control technologies. The goal is for firms to use ISO 14001 as a tool to become aware of their environmental impacts and make concrete plans to improve them, while tracking their actual performance in meaningful ways.

The 14001 standard *does not* require continual improvements in environmental performance, but it *does* require continuous improvements in the EMS itself. This is so

confusing, that many consultants and auditors are under the false belief that companies must show continual environmental improvements in order to become certified and to renew certification. For those who wanted a more stringent standard, this misunderstanding is not necessarily bad because some auditors may actually be requiring companies to show continual environmental improvement, rather than simply showing improvements in their EMSs. However, it seems logical that if the EMS is getting better and better, there *should* be related improvements in environmental performance.

It is important to point out that firms do not have to be *in compliance* with applicable regulations, but they must declare a commitment to the *goal of compliance*. This means that auditors needs to be knowledgeable about the regulations to which a facility is accountable and conscientious auditors should not certify facilities that are making little or no progress towards coming into compliance with regulations. However, ISO 14001 audits are generally done by consulting firms that have a vested interest in developing their reputations and receiving word-of-mouth referrals. No published data exists concerning the percentage of firms that do not "pass" their audits.

While it would be premature and speculative to assert that a widespread problem exists concerning the authenticity and rigor of ISO 14001 audits, there is reason to be skeptical. For example, one anonymous source stated that many auditors use the "blush test", meaning that as long a company doesn't "cheat" bad enough to make the auditor blush, they pass the audit. Another auditor stated that he conducted an audit on a Chinese facility even though he had no knowledge of the regulations applicable to the facility, nor could he read any of the required ISO documents as they were all in Mandarin. In part, problems such as these have led many environmentalists to criticize ISO 14001 as

insufficient to protect the environment from corporate misbehavior, while others state that it is at least a small step in the right direction.

Currently, firms may either "self-declare" their compliance with ISO 14001 requirements, or they may opt for third-party certification through the use of professional auditors. Many potential trading partners require third-party certification.

ISO 14001 and Trade

ISO 14001 was explicitly designed to overcome environmental barriers to international trade while improving the environmental performance of firms. Yet, there is some concern that ISO 14001 will itself become a barrier to trade for small firms and firms from economically developing countries, while simultaneously doing little to improve the actual environmental performance of these firms.

There are a number of reasons why these concerns exist: First, it is possible that the costs of ISO 14001 may be higher for developing country firms than for developed country firms. For example, it is likely that a Zambian or Albanian company will have to pay a great deal to bring in an auditor from abroad, whereas numerous auditors exist within the U.S., Japan, and Western Europe. Secondly, it is possible that the benefits of ISO 14001 (for example, savings from reduced resource use or increased domestic green marketing potential) *may* be lower for developing country firms than for developed country firms. In many developing countries there is less consumer demand for "greenness" from firms and natural resources may be priced in a way that less adequately reflects their true economic value.

One might predict that ISO 14001 would be less advantageous for firms in developing countries, yet ISO 14001 is quickly becoming a de facto trade requirement.

For example, Ford, GM, Home Depot, Volvo and many other large companies have stated that they will require certification from their suppliers. The EU, Ireland, and others have stated a preference for ISO 14001 certified companies in government contracting. Since many factors influence world trade patterns, and since ISO 14001 is too new to have had a large and measurable impact on world trade at this point, in part, this dissertation seeks to investigate the impact that ISO 14001 will have on the ability of companies to trade internationally in the future, as perceived by firm managers, government policymakers, and TC 207 members.

Another reason to believe that developing countries may be at a disadvantage in terms of trade, is that their current rates of certification are significantly lower than for many wealthier countries. Table 2 in Appendix 2 shows the rates of certifications per millions of Gross Domestic Product (GDP). This method of measurement makes more sense than simply counting the number of certified firms within each country (as shown in Table 1 of Appendix 2), since a country's population and level of economic development greatly influences the number of domestic firms. As Table 2 in Appendix 2 shows, firms in economically wealthier countries are much more likely to become ISO 14001 certified than are firms in developing countries. There are some notable exceptions, such as the extremely low number of certified firms in the United States and the relatively high number of certified firms in Malaysia. In part, this study seeks to understand why firms in developing and developed countries exhibit different certification rates.

Significance of this Research/ Policy Relevance

This study undertakes to answer a number of questions of both theoretical and practical importance. At the theoretical level, theories of globalization, harmonization, and hegemony may be employed to explain the creation of ISO 14001 in its present form while also helping to predict how it will grow, change, and impact economically developed and developing countries. The term globalization represents a description of an ongoing process of interconnectedness that is having profound impacts on economies and environments worldwide.

As economies and societies become more highly interconnected, we are seeing trends toward harmonization of institutional forms. Harmonization refers to the tendency of institutional forms or practices in one society to spread to others, creating similar institutional forms and practices across countries. ISO 14001 can be seen as an example of this phenomenon. Yet, harmonization is not an equal meshing of institutional forms from the global North and South. In many cases, institutional forms created in the North are transmitted to the South (as with ISO 14001), due to the hegemony of Northern states in the realm of international trade and treaty making. Will these institutional forms benefit the South as they have in the North? Theories of globalization, harmonization, and hegemony are important because they help explain why we are seeing the rise of a single, dominant, environmental management system of Northern origin. With the data gathered in this study, it is possible to test the ability of these theories to explain and predict the rise and trajectory of ISO 14001 in countries of the North and South.

In addition to theories that predict and explain ISO 14001 at the international level, a number of theories may explain and predict the extent to which this regime is

viewed as legitimate by TC 207 delegates and by individual firms. This study investigates the question of legitimacy through the application and test of procedural and distributive justice theories, both of which will be discussed at length in the Chapters which follow. These theories help explain the importance of stakeholder participation in regime formation and the impact of stakeholder absence on regime legitimacy and efficacy.

At the practical level, this study's investigation of ISO 14001 and its perceived impact on South-North trade is important for both firms and governments struggling to make effective environmental and economic policies. Governments are responding to the spread of ISO14001 with various policy responses: some are subsidizing the certification efforts of domestic firms, some are harmonizing national environmental codes with the requirements of ISO 14001, some are offering regulatory relief for certified firms, while others are taking no action at all. In part, this study will examine these policy responses and assess their impacts on the competitiveness of firms in globalized markets.

If the costs of taking part in the ISO 14001 regime are prohibitively high, and/or if some governments are too slow to act, the result may be an increased de-linking of the economies of the North and South. As the acceptance of ISO 14001 spreads rapidly through Northern countries, Southern states may be left little choice, either join in or become further marginalized. On the other hand, ISO 14001 and other voluntary environmental regimes have many strengths as well and they may be the best remedy available to ensure a minimum of environmental awareness and protection on the part of firms worldwide within the constraints posed by existing trade laws.

Plan of the Dissertation

Chapter Two discusses the dissertation's theoretical puzzles and its design, data and methods. Next, Chapter Three examines the question of perceived regime legitimacy, using information from interviews with TC 207 representatives from both economically developed and developing countries. Chapter Four examines the question of regime legitimacy from the perspectives of individual firms.

Chapter Five examines perceptions of regime efficacy among TC 207 representatives. Interestingly, their views about ISO 14001 are not identical to those of firm managers and CEO's. Chapter Six presents information about ISO 14001's perceived efficacy, along with findings on firm motivations for certification, costs and benefits. Understanding the motivations of firms helps us understand why the benefits of ISO 14001 may be different for firms in developing and developed countries.

Chapter Seven examines the motivations for certification. If companies are becoming certified in order to appear 'green' without actually improving their environmental performance, then trading partners and public policymakers may be wary of this and other voluntary regimes.

Chapter Eight looks deeper at countries that can be viewed as "outliers"--- those countries that have either many more or many fewer certified firms than do their peers. As this Chapter shows, most ISO 14001 certified firms in the United States are reaping benefits as a result of the implementation of an ISO 14001 environmental management system, thereby adding to the confusion as to why more American firms are not

becoming ISO 14001 certified. An examination of the American (and other outlier cases) allows for an investigation of possible rival hypotheses and variables in addition to those of legitimacy and efficacy.

Chapter Nine examines the public policy response to ISO 14001 in many countries. Some countries are granting regulatory relief to certified firms while other countries are not. Crafting an appropriate policy response to these voluntary regimes is vital to the interests of private firms, government regulators, and to whole societies.

Chapter Ten draws conclusions about the overall impact of stakeholder absence on the ability of ISO 14001 to improve the environmental performance of firms worldwide while also reducing trade barriers. Further, Chapter Ten discusses the extent to which these findings may be generalized to other types of international agreements and cooperation.

Chapter Two
Theoretical Puzzles, Research Design, Data and Methods

Evolution of this Study

One puzzle formed the seed for all of the larger questions investigated in this study: What happens when international agreements are crafted with little or no input from developing countries? When applied to the ISO 14001 case, this idea led to more specific questions, such as: Why do we see so much variation in rates of ISO 14001 certification between countries? As shown in Appendix 3, some countries have few or no certified firms while others have thousands. Just "eye-balling" the chart could lead one to believe that firms in developing countries are less likely to opt into the ISO 14001 regime than are firms in wealthier countries, although some exceptions exist within each group. The possibility of a large gap in uptake between the developed and developing world poses a potentially serious problem, in that many large trading partners and even national-level governments are increasingly requiring their trading partners and contractors to have ISO 14001 certification. If ISO 14001 certification becomes a *de facto* requirement for international exports, then firms in developing countries may be at a serious disadvantage compared to their counterparts in wealthier countries.

These concerns launched my investigation into the possible reasons why firms in developing countries may be less likely to become certified. In essence, I hypothesized that the incentive structures that encourage or inhibit firms from becoming certified must vary between countries. After taking in the available literature on the matter, it became apparent that more work needed to be done. The number of variables of interest are enormous: the relative number of exporting firms in each country; relative costs and benefits of ISO 14001 implementation and certification; perceptions of economic

imperialism or other legitimacy issues; public policies that either encourage or discourage ISO 14001 implementation and certification; existing levels of consumer demand for "green" products in different countries; and the list goes on...

With these issues in mind, this investigation began. As little cross-national work has been accomplished on this subject matter, this investigation is unlikely to be "the" definitive work or the final word on these issues. It is instead, a preliminary attempt to determine which variables require further study and which may be safely eliminated as potential factors influencing firm-level decisions regarding ISO 14001.

In addition to providing insights into these specific questions, this study also serves as a case study for broader concerns. Specifically, this study investigates the impact of stakeholder absence on perceptions of regime legitimacy and efficacy. These findings may well provide insights for those concerned with issues of "buy-in" and implementation of international environmental regimes. Secondly, this study should be of use to those interested in globalization and the harmonization of institutions across borders. Findings from this study could be used to bolster arguments that the harmonization of environmental management (and other types of institutional forms) is generally context dependent, with some contexts more readily absorbing outside influences faster than others. The data gathered for this study can deepen our understanding about the factors that influence the rate and level to which institutional forms are spread across borders.

Theoretical Puzzles

Moving now from the abstract to the specific, this study seeks to investigate a number of theoretical puzzles of practical significance. Here is the first puzzle: What is

the impact of stakeholder absence on regime legitimacy and efficacy? I examine such questions as: How do excluded/absent stakeholders feel about the resulting regime; can a regime adequately meet the needs of those stakeholders who were absent during the regime-design phase; what are the costs and benefits of the regime for contributing stakeholders relative to absent stakeholders in terms of environmental and trade impacts; do all stakeholders suffer due to the absence of some stakeholders? These questions are examined through thematic analyses of interviews conducted with TC 207 delegates and from mailed survey questionnaires from firms in both developed and developing countries. As discussed in more detail in the Chapters that follow, a number of theories at both the international level and the individual level help explain and predict perceptions of legitimacy or illegitimacy on the part of TC 207 delegates and firm managers.

Second, to further address the question of efficacy, the motivations for certification are examined in depth. Critics have argued that voluntary environmental management by firms may be nothing more than "greenwashing"(Greer and Bruno 1997). If this is true, then "green marketing" should be the strongest motivating factor for firms seeking ISO 14001 certifications. If firms are pursuing ISO 14001 certification out of a desire to appear "greener" and cleaner than they actually are, then such certification may be contrary to the public good. It would also likely mean that few firms would be experiencing improvements in environmental performance, thereby providing evidence of ineffectiveness. By asking about firm motivations, and by comparing motivations and satisfaction with the regime for developed and developing countries, the question of efficacy may be further addressed.

Third, the policy puzzle: How can policy makers craft an appropriate response to the harmonization of environmental management and the growth of voluntary regimes, as evidenced by ISO 14001? I examine questions such as: Are governments granting regulatory relief; is regulatory relief called for based on existing evidence; are (and should) governments or international organizations offering incentives and/or subsidies for firms to pursue ISO 14001 as a way to improve environmental performance? These questions are vital as governments struggle with the desire to remain internationally competitive in world markets while also promoting greener management by firms.

Because the questions of interest draw on diverse literatures, each subsequent chapter will include a review of the literature relevant to the questions posed in that chapter. The literature reviewed in this chapter specifically relates to the research design and methods chosen for this study.

Research Design

At an empirical level, this study focuses on the case of ISO 14001 as an example of an international environmental regime created through a process of negotiation with incomplete stakeholder input. This case study allows for an in-depth examination of the impact of stakeholder absence on perceptions of regime legitimacy and efficacy. In addition to shedding light on questions about the impacts of stakeholder absence, the data gathered for this study should also useful to many firms and public policy makers. Many company managers, presidents, and Chief Executive Officers (CEOs) are currently in the process of deciding whether or not ISO 14001 can be of use to their organizations. Data about its perceived costs and benefits may help make these decisions easier. Concurrently, many regulatory agencies and policy makers are faced with the decision of

how to respond to firm action or inaction concerning ISO 14001. Data about its costs, benefits and limitations may assist them as they make these difficult decisions. Therefore, while the case of ISO 14001 provides useful information, in and of itself, this analysis can also deepen our understanding of the impact of stakeholder absence on international environmental policy making more generally.

When examining ISO 14001 it is clear that firms in some countries are opting in to the regime at rates that far surpass others. This study posits that the presence or absence of input into the regime formation process may be associated with the large differences observed in certification rates. However, many factors certainly influence variation in certification rates between countries. For example, some countries simply have more large firms than others. While there is no way to know how many firms each country has, Table 1 in Appendix 3 shows the absolute number of certified firms in each country, while Table 2 shows the number of certified firms while controlling for the Gross Domestic Product (GDP) of each country.

All other things being equal, countries with higher GDPs have more and larger firms, and should therefore have more ISO 14001 certified firms. As Table 2 in Appendix 3 shows, there are some countries with high GDP that have relatively few ISO 14001 certified firms (such as the U.S.), while other countries with relatively low GDPs have many more certified firms (such as Malaysia). Therefore, in addition to examining the role of stakeholder absence/presence on perceptions of regime legitimacy and efficacy this dissertation also investigates alternative explanations for the variations in certification rates between countries. For example, in some countries environmental regulators are reducing the frequency of inspections or offering other positive incentives

to encourage companies to implement and certify an ISO 14001 EMS. It is possible that public policies are encouraging firms in some countries to become certified at higher rates.

Hypotheses and Variables

This study tests two explicit hypotheses related to stakeholder participation in regime formation and perceptions of regime legitimacy and efficacy.

HI: There is a positive relationship between participation in regime formation, and perceptions of regime legitimacy.

Hypothetically, those individuals and groups that had a greater impact on the creation of the ISO 14001 standard will view it as more legitimate than those that did not have an equal influence. This should be especially true for the delegates to the ISO 14000 series meetings, but these perceptions about legitimacy may trickle down to the firm level. It is assumed that firm managers do not have detailed knowledge about how the regime was created.

This study seeks to test Hypothesis I and to see how far, if at all, the concerns about legitimacy seem to trickle down. To be even more explicit, the dependent variable is "perceptions of legitimacy" and the independent variable is the "level of participation in regime formation" by national delegations. Developing countries generally participated at lower levels (if at all) than did developed countries. Therefore, when appropriate, for purposes of analysis, country level responses will be grouped by "developed" and "developing" country status. Exceptions to this classification will be pointed out and examined where applicable.

HII: There is a positive relationship between participation during the regime formation process and perceptions of regime efficacy.

Hypothesis II suggests that the near absence of input from developing countries on the ISO 14001 standard will make the standard less able to meet the needs of firms in developing countries. Hypothetically, absent countries are not able to argue for the needs of firms in their countries. Those countries present may not wish to, or they not be able to, fully predict the needs of absent stakeholders. Therefore, one could predict that regimes will work to the benefit of those present for their creation. This study attempts to understand the extent to which they may or may not be true in the ISO 14001 case. In this hypothesis, the dependent variable is "perceptions of efficacy" and the independent variable is "level of participation".

Focusing on Countries of Particular Interest

It would be ideal to obtain a large number of certified firm surveys from every country. However, this is not practical for several reasons. Some countries have thousands of certified firms while other countries have none at all. Secondly, a more focused approach allows for the investigation of some important variables of interest to this study. Therefore, the research design included an emphasis on obtaining a higher number of surveys from those countries where variables of interest varied significantly from the norm.

South Africa: As one of only two developing countries present from the inception of ISO 14001, a closer examination of ISO 14001 in South Africa may provide clues about the importance of early participation on perceptions of regime legitimacy and efficacy. However, it is important to point out that South Africa is somewhat unlike many other developing countries. While sharing a history of colonialism with many other developing countries, people of European descent remain the primary holders of economic power in South Africa. In fact, it may be the close European ties that partially explain South Africa's early inclusion in the TC 207 talks. All of the South African delegates to TC 207 were Caucasian Africans, and language barriers were not problematic, as English was the primary language for most of these delegates. The South African delegation to TC 207 has maintained a strong presence and South Africa played host to the 2002 TC 207 Meetings.

While South Africa is unique amongst developing countries, focusing on South Africa allows for an examination of both hypotheses in ways that other developing countries cannot match.

Cuba: While Cuban delegates were also included at the original TC 207 talks, few (if any) certified firms exist in Cuba today. The Cuban case is interesting, but information has been unobtainable. Cuba has not maintained a significant presence at the TC 207 meetings. The single Cuban delegate to the TC 207 meetings in Malaysia did not speak English and had not personally attended previously. She was, therefore, not able to participate meaningfully in the meetings. She was given the opportunity to complete the interview protocol in Spanish, but did not choose to do so. Therefore, Cuba was not selected as a country of focus for this survey.

Malaysia: Unlike firms in most other developing countries, Malaysian firms are rapidly becoming ISO 14001 certified. While Malaysian delegates were not at the earliest TC 207 gatherings, they have now become very involved in the organization---including hosting the 2001 TC 207 meeting in Kuala Lumpur. Focusing on Malaysia allows for an investigation into why this country has become a leader amongst developing countries in terms of ISO 14001 certifications and TC 207 leadership roles. Like South Africa, as a former British colony many Malaysian elites speak English, making participation in ISO easier.

Mexico: While Mexican delegates were absent from the original TC 207 talks, Mexico now attends TC 207 gatherings with a relatively large delegation and Mexican delegates share leadership duties for the Developing Country Task Force within TC 207. Mexican firms are becoming certified at moderately high rates compared to other developing countries. Including Mexico allows for more variation in both the dependent and independent variables of interest.

The United Kingdom: Since ISO 14001 is based on an earlier British standard (BS7750), and since British delegates were involved in TC 207 since it inception, examining the perceptions of certified firms and of delegates from the U.K. is useful to further our understanding of the benefits of early involvement and influence.

Sweden: Swedish firms are more likely to become ISO 14001 certified than firms in any other country. Sweden's involvement in TC 207 has been relatively strong, with Sweden playing host to the 2000 TC 207 meeting in Stockholm. Focusing survey efforts on this country should increase our understanding as to why so many Swedish firms have opted in to the ISO 14001 regime.

The United States: In stark contrast to Sweden, very few American firms have decided to seek ISO 14001 certification even though the U.S. was involved early on in the TC 207 meetings. Focusing survey efforts on this country should increase our understanding as to why so few U.S. firms have opted in to the ISO 14001

regime, thereby possibly supplying alternative explanations to those primarily investigated by this study.

Canada: Certification rates for Canadian firms fall in the mid-range, with rates higher than that of the U.S., but lower than Sweden. TC 207 is headquartered in Canada, thereby resulting in slightly more Canadian participation in the organization than is true for Canada's peer countries. These two factors combine to make Canada an interesting case to study.

Methods

In order to answer the questions posed herein, this study utilizes multiple methods. Archival data provide background information about the purpose and history of the ISO organization in general, and about the ISO 14000 series of standards in particular. Interviews and observation provide a depth of knowledge that cannot be easily matched by mailed surveys. The interview and mailed-survey protocols use both open-ended and scaled questions in order to obtain data that is rich in context, yet may still be aggregated within countries (and sometimes within groups of similar countries), and comparable across countries.

In order to examine the impact of stakeholder absence on perceptions of legitimacy, the author obtained "observer" status on the United States delegation to the international TC 207 gathering held July 2001 in Kuala Lumpur, Malaysia. Observers may participate in committee and plenary discussions, but they may not vote. However, most decisions are reached through a consensus-building process, therefore making the delineation between "observers" and regular delegates very fuzzy at best. For example, non-profit groups may only have "observer" status as Liaison members, but the few non-profit delegates that attend the TC 207 meetings participate fully in committee discussions and certainly have an impact on the resulting standards.

As an observer it was possible to gain great insights into the standard-drafting process. While individual committees conduct some business via email between annual meetings, it is in these weeklong annual meetings where most of the standards creation and change takes place. At any one time, ten or more committees are meeting individually, with each committee generally meeting two or three times during the conference. Between the hours of 7:00 a.m. and 9:00 p.m. delegates can be seen rushing between committee meetings, discussing and arguing over their positions (politely)in the halls, or catching a quick coffee/cigarette break.

When delegations are large enough, they can ensure that a representative from their country sits on each committee. For smaller delegations, tough choices must be made about which committee meetings to attend and which to pass up. Most developing country delegations are comprised of 1 delegate (if they attend at all), while wealthier countries can afford many more delegates. For example, the Japanese delegation to the 2001 meetings had 30 delegates. The size of the U.S. delegation varies between 10 and 30 delegates, depending upon the meeting's geographic proximity to the U.S.

During the 2001 meeting, the author interviewed members of TC 207, with some coming from countries that were present from the beginning of the ISO 14001 negotiations (developed country delegates generally fall into this category) and delegates who are present now, but who were absent at the beginning of the negotiation process (developing country delegates generally fall into this category). It is important to note that many developing countries did not send any delegates at all. In order to gather information from these delegates, each of the non-attending delegations received the survey via email. Unfortunately, many of the poorest countries do not have email

addresses published on the official ISO 14001 website, while for others it may be slow and cumbersome. Those delegations without email addresses cannot take part in the process of standards formation that occurs between annual meetings because all of this work is conducted via email.

Measurement

There are a number of ways in which perceived legitimacy and efficacy could be measured. The measurement of perceived efficacy is more straightforward than that of perceived legitimacy. While it may be possible to get relatively objective measures of efficacy (e.g. effluent toxicity or the amount of reduced water use), legitimacy is subjective by its very nature. This chapter will examine the ways in which perceived legitimacy and efficacy will be measured herein.

Measuring Legitimacy

Before discussing ways in which legitimacy has been measured in this study, it is valuable to discuss ways in which it has been defined and measured by others. The majority of the literature on legitimacy deals with the political legitimacy of governments and governors, but this discussion can be applied reasonably well to ISO 14001, and the process that gave rise to it.

Weatherford (1992) points out that that political legitimacy has been measured from two vantage points. The macro level has examined formal system properties, emphasizing the accountability of rulers, the efficiency with which societal resources are used, procedural justice, and distributive justice. The macro perspective has downplayed the importance of public opinion, partly due to a lack of cross-national public opinion data about political legitimacy and partially out of a frustration with the seeming inability

of researchers to devise a measurement tool that could overcome the problem of methodological individualism. Basically, 'legitimacy' is a systemic property that may not easily be determined through the aggregation of individual sentiments.

At the macro level, John O'Neill observes that deliberative democratic institutions have often been assumed to be legitimate if members from all stakeholder groups are represented within the deliberative body. Based on information obtained through interviews and archival sources, this study argues that the vast majority of developing countries did not take part in the creation of ISO 14001, and the lack of representational legitimacy may have important implications for the regime's perceived efficacy. Additionally, the lack of representational legitimacy during the regime's formative stages is likely to result in less effective participation by those developing country delegates now present in the organization and may result in increased tension in the relationships between delegates from different groups in the ongoing negotiations.

Those arguing for the micro level perspective assert that the traditional (macro) approach is overly focused on formal structures and neglects the subjective aspects of political systems. They argue that survey research has the potential to "illuminate the nexus between institutional context and individual psychology" (Weatherford, 1992 p.2).

At the micro level, many researchers have measured legitimacy indirectly by looking at levels of political alienation--- with the assumption that *il*legitimacy can be inferred from high levels of alienation (Mason, House, and Martin 1985). Researchers investigating legitimacy have varied widely in the survey questions used, as each researcher has tended to criticize others for inadequately capturing the essence of legitimacy. Measurement models at the micro level have typically included the

components of "efficacy, trust, and political involvement, with these being treated as if they are statistically separable" (Weatherford 1992:153).

Ideally, the concept of legitimacy should include measurements at both the macro and micro levels, thus at least partially overcoming the challenge posed by methodological individualism, while still taking into account the importance of the subjective elements of the concept. Therefore, this study will discuss the representational legitimacy of the body that created ISO 14001 (a.k.a. TC 207), while also relying on subjective survey data obtained from both ISO delegates and firm managers. Survey questions dealing with legitimacy focus mainly on questions of procedural and distributive justice (to be reviewed in Chapter Three). Respondents were asked to respond to a number of questions concerning legitimacy, including: the "fairness" of the process of standard creation (procedural fairness); the current quality of stakeholder participation (procedural fairness); the impact that stakeholder absence has had on the efficacy of the regime (distributive fairness); and the fairness of the regime for developing countries relative to developed countries (distributive fairness).

While these measures of legitimacy are likely to be imperfect, the fields of sociology and political science remain deeply divided as to the best ways to measure legitimacy. These measures allow us to further our understanding about the impact of stakeholder absence on perceptions of legitimacy and efficacy in important ways.

Measuring Perceived Efficacy

The second hypothesis examines the perceptions of regime efficacy. Ideally, the objective efficacy of an environmental regime would be measured by its direct impacts on environmental performance. To get these measures, it would be necessary to obtain

data on environmental emissions and resource usage both pre- and post- ISO 14001 implementation, while controlling for other explanatory factors, such as the introduction of new technologies and changes in environmental regulations and/ or market prices that encourage or discourage resource conservation and efficiency.

Currently, Dennis Rondinelli at the University of North Carolina is working in conjunction with the U.S. Environmental Protection Agency (USEPA), to conduct exactly this type of study for U.S. firms only. This is a longitudinal study with data collection occurring over a period of three years. It took a number of years to create the data collection protocols (more than 300 pages), and to get firms to agree to participate. As the paperwork requirements for participation are very onerous, the EPA has been a key ally in securing cooperation from individual facilities.

This study cannot be easily replicated at the international level. These measures would need to be comparable across countries and industries. It is very difficult to gain access to this kind of detailed information. In many countries such information simply does not exist, as municipal regulations governing monitoring and reporting vary greatly by country and even within individual states or sub-national units. To get information about ISO 14001's impact on trade, one would need to gather uniformly reported, high-quality data about firm trade patterns pre-and post ISO 14001 certification, preferably over the course of 5 or more years, while controlling for other forces that would affect these measures (e.g. economic growth rates, changes in trade laws and barriers, etc). Clearly this kind of cross-national data is not easily obtainable, if it can be obtained at all.

Therefore, this study asks firm CEOs and managers to share their perceptions about the impact of ISO 14001 on their facility's environmental performance, on their

company's ability to trade, on profitability, and on relationships with regulators. By analyzing both quantitative and qualitative data, it is possible to examine the *perceived* efficacy of ISO 14001.

In some ways it is more difficult to interpret the findings when measuring perceptions of environmental efficacy, as opposed to more objective indicators of efficacy. When speaking about perceptions it is important to remember the role that cognitive biases play. For example, theories of cognitive bias predict that individuals will be more likely to believe information that is easily reconciled with their pre-existing beliefs. Individuals tend to filter out information (a.k.a. "denial") that would contrast with their core values or would cause psychological discomfort or trauma (Deutsch and Coleman 2000). For example, if firm managers and CEOs have sunk a lot of resources into the implementation of an ISO 14001 EMS, they may be loathe to believe that the investment did not result in significant environmental or other benefits.

The interviews and mailed-survey questionnaires used in this study cannot adequately control for the influence of cognitive biases. However, it is likely that cognitive biases are not present at equal levels or in the same direction for all of the study's participants. For example, I have spoken with managers who said they were happily surprised by the improvements resulting from ISO 14001. It is likely that some managers were originally skeptical about ISO 14001's merits, and if so, their perceptions of its efficacy would likely be biased in the direction of underreporting its benefits. On the whole, while it is hoped that cognitive biases will not lead to systemic under- or over-reporting of efficacy, it is impossible to definitively know what impact they have on the perceptions of respondents.

To measure perceived efficacy, TC 207 delegates and firm managers were asked to rate (on a scale of 1- 10) their overall satisfaction with ISO 14001. Additionally, they were asked to rate the benefits of ISO 14001 for firm trade, for the environment, and for firm profitability. Both groups were asked whether or not they felt ISO 14001 would result in increased/decreased/ or "no change" in trade between developed and developing countries. The questionnaire asked firm managers a series of questions about why they chose to become ISO 14001 certified, and the environmental and trade benefits (if any) that occurred because of their certification. In open-ended questions, the firms and delegates were asked to suggest any changes that would make ISO 14001 more fair or beneficial.

The responses to the scaled questions have been averaged (using either the mean or the median), where appropriate, and categorized by country type (developing versus developed country) for the sake of comparison. In order to compare the quantitative responses of different groups of respondents, including developed and developing countries and individual countries, statistical tests are applied where appropriate. These tests are described in subsequent Chapters, as they are applied to the data. Responses to open-ended questions have been analyzed for common themes (see subsequent Chapters for examples).

Statistical Tests

Both the open-ended and quantitative data from interviews with delegates will be presented throughout the dissertation. For the most part, this data provides a rich source of qualitative information, shedding light on the questions of interest in this study. The relatively small number of interviews with developed country delegates (12) makes

statistical analysis difficult and less likely to turn up significant findings. This is especially true since some delegates skipped occasional questions, thereby lowering the number available for statistical analyses on individual questions. However, when appropriate the small-n data will be statistically analyzed using a non-parametric statistical test known as a Wilcoxon-Mann-Whitney (WMW) test.

This is a test designed to look for differences between two independent samples. This is used, for example, to tell us if there appears to be a significant difference between the perceptions of delegates from developing countries versus those of delegates from developed countries. Instead of looking for differences in the mean, as does a t-test, this test looks for differences in the median. In this test the two samples are combined and the data are ranked overall. The original two samples are then separated out with each rank being aligned with the corresponding observation. The null hypothesis is that the samples are from identical populations, with the alternative hypothesis being that they are not from the same population. The sum of the ranks is used to test the evidence against the null hypothesis. Whenever this test is used, the sample size for each sample is given. In many cases, the sample size will simply be too small to lead to statistically significant findings. However, the qualitative data supply an important source of information on the study's pertinent questions, even when statistically significant findings are not possible.

The quantitative data supplied by firm respondents is generally analyzed using a t-test to test for statistically significant differences between mean responses from firms in economically developing and developed countries. As there are 75 responses from developed countries and 58 responses from developing countries, the sample sizes are large enough to justify this test. Occasionally t-tests are applied in order to compare

responses from one country to those of similar countries. This is only done in those cases where the sample sizes are at or approaching 30. For sample sizes that are not large enough to use t-tests, the WMW test are applied, as described above. Additionally, a great deal of information gained from the data is provided in the form of simple descriptive statistics. For example, Chapter Six relates the percentage of firm respondents reporting savings from energy conservation, reduced waste disposal fees, etc. using descriptive statistics.

Multivariate regression (OLS) is used to understand which factors influence a firm-level respondent's satisfaction with ISO 14001. For example, it becomes possible to understand the extent to a firm's location in a developed or developing country is associated with their overall satisfaction with ISO 14001.

Data

The Interviews

The process of standard development, which resulted in the creation of ISO 14001, was very similar to the processes through which international treaties are created. Each participating country must pay dues to the ISO organization annually. Each country has the opportunity to send delegates to annual meetings, though generally at their own expense. While votes count, they only occur after a long, often painstaking consensus building process. Delegates haggle for hours over the minutiae of linguistic nuances and implications. As is common with international agreements, many delegates feel that the standard is not stringent enough while others feel it is a bit too stringent. Compromises are necessary in order to achieve consensus on the final product. Delegates to the annual

TC 207 gathering are very passionate about ISO 14001 and interviews with these delegates provide a rich source of information for this study.

Each summer representatives from industry, government, and a few non-profit organizations gather from countries around the world to draft the ISO 14000 series of standards. Malaysia hosted the 2001 meeting. This is the first time that TC 207 held its annual gathering in a developing country. This likely reflects a response to criticism that the organization has received concerning the absence of many developing countries in the standards-drafting process. Over 500 delegates attended, with some delegations having 30 or more members (e.g. Japan), while most developing country delegations have only 1 delegate (e.g. Cuba, Columbia, Morocco, Zambia, Botswana, and many others). Many developing countries did not attend at all (e.g. Niger, Chad, Uzbekistan, Nicaragua, most Caribbean nations, etc).

In general, delegates to TC 207 gatherings can be classified into five groups: government, industry, NGOs, consultants, and academia. The level of influence held by each of these groups within national delegations varies greatly. At TC 207 meetings, industrial interests have more attendees than do all other interests combined. According to Morrison et al, "Industry representation comes primarily from large-scale, international, manufacturing oriented firms"(2000:25). Small and medium-sized enterprises are not well represented, although some participate indirectly through industry associations.

During the weeklong conference in Malaysia, 38 delegates consented to participate in the study, with interviews lasting between 30 and 60 minutes. Four ISO representatives emailed their surveys in, as they could not attend the conference. These

delegates were not randomly sampled from the approximately 500 attendees. During the conference, concurrent meetings were held with 30-minute breaks occurring every two or three hours. During these breaks, the author approached individual delegates and asked them to participate in the survey. Only two delegates declined to participate: 1 from Japan and 1 from Cuba. Neither of these delegates spoke English (the language of the conference) and it was not clear how effectively they were able to participate in the conference proceedings. The Cuban delegate was given a Spanish-language copy of the cover letter and a Spanish-language translation of the survey with an address to which it could be returned, but she has not returned the survey.

While the interviews were opportunistic, the goal was to interview individuals from both developed and developing countries, while focusing on the countries of primary interest for the study: Malaysia, South Africa, Cuba, Mexico, Sweden, the United Kingdom, Canada and the United States. Delegates at this conference are extremely busy and it was important that the interview did not interfere with their official duties. Therefore, the number of interviews is not ideal, but it is enough to make some preliminary conclusions.

[Place Table 2.1 About Here]

Thirty interviewees come from economically developing countries while twelve came from economically developed countries. Table 2.1 lists the countries represented for each type of country.[3] Of the twelve participants from developed countries, two came from non-governmental organizations (NGOs), one came from government, and nine came from industry. For the thirty developing country participants, one delegate

[3] 4 of these delegates were interviewed via email because they could not attend the conference in person. All of these came from developing countries that are not "P" members: Albania, Latvia, Lesotho, and Saint Lucia.

represented an NGO, six represented government and twenty-two represented industry. Approximately two-thirds of all interview participants were men, and the participants' ages ranged from the mid-twenties to the mid-sixties. Participants could opt to remain anonymous, but many chose not to remain anonymous.

Interview participants answered questions about: ISO 14001's predicted impacts on firms worldwide and on firms in their own individual countries; the input of developing countries on the standards; the impact (if any) of the absence of developing country negotiators at the beginning of the drafting process; suggested changes to the ISO 14000 series and ISO 14001 in particular; and their predictions about ISO 14001's impact on trade, the environment, and profitability for firms in their countries. The information obtained from these interviews takes the form of both open-ended responses, and responses to scaled questions.

The Surveys

In addition to the interviews, 133 ISO 14001 certified firms from 16 countries completed surveys, with 58 responses from developing countries and 75 responses from economically developed countries.[4] In the majority of cases, environmental managers completed the questionnaire, although other types of managers and CEOs completed approximately 33% of the questionnaires. These eight-page surveys included more than 50 questions and took anywhere from 30-60 minutes to complete. The survey included questions about the costs, benefits, and motivations for ISO 14001 implementation and certification; the impact of certification on relationships with regulators; the existence of

[4] For the purposes of this analysis, developing countries include: Argentina, Columbia, Czech Republic, Dominican Republic, Ecuador, India, Indonesia, Malaysia, Mexico, South Africa, and Uruguay. Economically developed countries include Canada, Spain, Sweden, the United Kingdom, and the United States.

subsidies or other incentives for certification, and demographic information about the firms themselves. Table 2.2 shows the number of responses and the response rates for each country and for the two countries grouped into the categories of developed and developing countries.

[Place Table 2.2 About Here]

Table 2.3 gives greater detail about the size of the participating firms, as measured by their number of employees. There is not a statistically significant difference between developed and developing country firms in terms of their mean number of employees.[5] However, there is a significant difference in the average annual sales between developed and developing countries.[6] Firms in developing countries generally have lower annual sales (all reported sales were converted to U.S. dollars for the purposes of comparison). Since firms in developing countries have lower annual sales, it is possible that the costs of ISO 14001 implementation and certification may be particularly difficult for them to bear, unless the cost of implementing and certifying an ISO 14001 EMS is also less expensive in these countries. This issue will be examined at greater length in Chapter Four. Table 2.5 lists the types of business conducted by the responding firms.

[Place Table 2.3 About Here]

[Place Table 2.4 About Here]

[Table 2.5 About Here]

Unfortunately, there is no central registry listing the names and contact information for ISO 14001 certified firms. Contact addresses for this survey came

[5] t=1.45, significance level =0.147
[6] t=-2.11, significance level = 0.041

primarily from a members-only website entitled "Globenet". From this website, firms were randomly selected (e.g. every third address was chosen). For the Swedish firms, the addresses came from a publicly available list of all certified firms. The quality of the contact information obtained appears to vary by country. When phone numbers were available (for many firms in the U.S., Canada, Sweden, and Mexico), the author and one Spanish-speaking assistant verified the contact information via telephone. Telephone numbers were not available for most of the firms in South America, South Africa, and Asia. However, phone calls revealed that most of the addresses were confirmed for firms in the U.S., Canada, and Sweden, but phone numbers for Mexican firms more likely to be incorrect, disconnected or otherwise inoperable.

These surveys come from ISO 14001 certified firms. Ideally, non-certified firms should also be surveyed in order to better understand why some firms decide not to seek certification. While this was originally part of this study's research design, it turned out to be impractical for a number of reasons. First, many non-certified firms have not heard of ISO 14001. Therefore, when they receive a survey questionnaire, they are likely to toss it out. Secondly, it would be necessary to obtain a phone book or other type of database for companies in each country surveyed in order to randomly select a sample of firms. These are not easy to obtain outside of the United States. In an attempt to gain some insight into the reasons why some firms opt to stay out of the ISO 14001 regime, eleven surveys were obtained from non-ISO 14001 certified firms. These were opportunistic, rather than randomly sampled and the low number makes it difficult to draw any confident conclusions.

In order to maximize the response rates, the survey was translated into Spanish and French, and distributed to potential respondents in the appropriate language with an accompanying cover letter. While many firm managers in Malaysia, Indonesia, and other developing countries *may* speak English, the fact that the survey was not in their first language likely reduced response rates for many countries. These many obstacles, combined with the varying quality of mail service, make international survey research difficult at best. While the response rates and breadth of participation is not ideal, it does allow us to reach tentative conclusions on a number of issues.

Links Between the Interviewees and Mailed-Survey Respondents

There are important similarities and important differences between the pool of TC 207 delegates and the pool of managers and CEOs completing the mailed surveys. While it is theoretically possible that an interviewed TC 207 delegate could also be a manager or CEO of a firm sampled for the mailed surveys, the chances of this happening are miniscule, due to the enormous number of certified firms and the relatively small number of TC 207 delegates available for sampling. However, many of the TC 207 delegates are indeed business owners and/or managers and their interests may be similar to those of the sampled firms.

The important difference between TC 207 delegates and the firm-level respondents, is that the latter have not taken part in the process of standards creation. Based on a limited number of conversations with some of the sampled managers and CEOs, they generally have no idea what TC 207 is, or the role that their country did or did not play in the creation of the ISO 14001 standard. Additionally, the TC 207

delegates include consultants, government representatives and NGO representatives---none of who are included in the mailed survey.

Interviewing TC 207 members allows for an investigation into questions of perceived legitimacy for those delegates whose countries were not present early on in the standards-drafting process and whose delegations remain small or participate inconsistently. It is also possible to look for linkages between perceived legitimacy and perceived efficacy among delegates (i.e. if delegates view the regime as illegitimate do they also doubt its ability to bring environmental improvements?). The mailed firm survey allows us to see whether or not concerns about legitimacy trickled down to the firm level and whether there are differences in perceptions of firm efficacy between firms in countries with robust TC 207 delegations versus the perceptions of those with little or no TC 207 presence.

Weaknesses of This Design

There are a number of weaknesses in this design. Some of these weaknesses have already been alluded to, but a fuller discussion remains warranted. One weakness of the survey is that it provides only self-reported gains in environmental performance. As mentioned previously, it is difficult to gather objective data about environmental performance at the cross-national level because the data gathering methods and quality vary by country (and even by state), and many firms prefer not to make this information public. However, most respondents chose to remain anonymous for this survey, which shows that they were not seeking to use the survey as a way to gain positive public relations coverage for their individual companies.

Second, this study does not adequately include the perceptions of managers and CEOs in non-ISO 14001 certified firms. During the pre-test of the survey instruments a small number of non-certified firms were sampled. Because phone books or other similar databases are difficult to come by for non-U.S. countries, it was very difficult to get a random sample of non-certified firms. Approximately 25 non-certified firms were sampled in the U.S. and Canada and the response rates were very low. Many firms may not have heard about ISO 14001, or they may have learned about ISO 14001 and made a decision not to become certified. In either of these instances, the saliency of a survey related to ISO 14001 would likely be very low, resulting in few responses. However, future researchers may wish to focus on learning more about why some firms decide not to become certified. Perhaps in-depth interviews, rather than a mass survey would be a more appropriate way to ensure adequate participation in such a study.

Third, the sample sizes for some countries is not large enough to permit great generalization. It is for this reason that developing and developed country responses are frequently pooled together. When analyzing interview and survey responses, information is presented about the sample size and its significance to the strength of the conclusions reached, if any. In some instances, the sample sizes are small enough that firm conclusions cannot be reached. However, even in those cases the data can help us in developing hypotheses for future study and/or can point us in interesting directions.

Fourth, as with all surveys using mailed questionnaires, it is possible that the person completing the survey is not the person to whom the survey is addressed. Due to the complex nature of some of the information asked for on the questionnaire, the person completing it must be fairly knowledgeable about ISO 14001 as it has been applied

within their particular company. I am confident that the vast majority of the returned surveys were completed by the intended recipient or other qualified managers within the targeted firms. A related concern involves the use of purposive samples. In choosing the countries of particular interest for this study, it is possible that I may be missing some interesting information that could be gained if different countries had been chosen. While the sample was thoughtfully selected, there are inherent benefits and risks to narrowing one's range of respondents and this study is not exempt from those risks. However, overall I feel the sample of firms and the sample of delegates interviewed generally reflect the views and experiences of their respective peer groups.

The next section uses this data to examine the study's first hypothesis, concerning the relationship between participation in regime formation and perceptions of legitimacy among TC 207 delegates and firm managers and CEOs.

Table 2.1 TC 207 Delegate Interview Participants

Developed Countries	Developing Countries
Canada, Denmark, Finland, France, Germany, Italy, Japan, United States.	Albania, Botswana, China, Columbia, Egypt, India, Indonesia, Jamaica, Latvia, Lesotho, Malaysia, Morocco, Mexico, Philippines, Russia[7], Saint Lucia, Slovenia, South Africa, Trinidad and Tobago. Zimbabwe.

Table 2.2 Responses and Response Rates for Mailed Surveys of Certified Firms

Country Name	No. of Responses	Response Rates
Argentina	5	19%
Columbia	3	50%

[7] While many people argue that formerly Soviet states should not be classified as "developing countries", their income levels generally put them in this group. Since the number of responses from formerly Soviet states is too small to justify a separate analysis, they have been included within the category of "developing countries", with the acknowledgement that this is not a perfect fit. However, the 2001 per capita income for Russian is half that of Mexico. Therefore, on economic grounds alone, Russia can be categorized as a developing country.

Czech Republic	1	50%
Dominican Republic	1	50%
Ecuador	2	66%
India	2	100%
Indonesia	1	6%
Malaysia	21	35%
Mexico	9	25%
South Africa	10	28%
Uruguay	3	16%
Developing Nations Combined	**58**	**40.4%**
Canada	19	33%
Spain	1	08%
Sweden	18	30%
U.K.	7	47%
U.S.A.	30	56%
Developed Nations Combined	**75**	**34.8%**

Table 2.3 Size of Participating Firms Measured by Number of Employees

	<20	20-49	50-99	100-299	300-999	>1000	Unknown/Didn't Answer
Developing Countries	0%	0%	10%	26%	28%	24%	12%
Developed Countries	1%	7%	8%	28%	35%	17%	4%

Table 2.4 Size of Participating Firms Measured by Annual Sales in Millions of U.S. Dollars

	<10	10-49	50-149	150-500	> 500	Unknown/Didn't Answer
Developing Countries	10%	28%	14%	9%	5%	34%
Developed Countries	1%	13%	12%	13%	15%	46%

Table 2.5 Types of Industry Represented in the Firm Survey

	Developing Countries	Developed[8] Countries
Automobile Parts and Manufacturing	7%	15%
Chemicals	12%	12%
Electronics	9%	11%
Textiles	2%	0%
Foodstuffs/Agriculture	5%	1%
Service Industry	7%	1%
Utilities	3%	3%
Pulp/Paper	14%	7%
Timber/Wood	2%	1%
Miscellaneous Light Manufacturing	3%	4%
Other	7%	4%
Didn't Answer/ Unknown	29%	40%

[8] Numbers do not add to 100 due to rounding.

Section 2
Perceived Legitimacy and Stakeholder Absence

The next two chapters deal with issues of regime legitimacy as perceived by TC 207 delegates, and to a lesser extent, as perceived by managers and CEOs from ISO 14001 certified firms. As discussed in Chapter Two, legitimacy has been defined and measured in many ways, all of which are fairly indirect composite measures of concepts such as political participation, trust, and governmental efficacy (Weatherford 1992:153). It is thought that without reasonably high levels of these values, no government is likely to be considered legitimate.

According to Scott (1998), "authority is legitimate power". Therefore, legitimacy is strongly linked to authority. This has important ramifications for the efficacy of political institutions and leaders, for without legitimacy, authority is undermined. Al-Najjar writes that a common feature in all notions of legitimacy is the presence of restrictions "on the scope of activity over which authority may be exercised" (2001:184). This has important ramifications for treaties and voluntary agreements that are supposed to be truly international in scope. If legitimacy is compromised, especially in voluntary agreements, it is possible that large numbers of states and/or individual-level actors may not opt-in, thus dooming efforts toward the harmonization of environmental management practices internationally.

Legitimacy may have enormous impacts on efficacy. Firms must implement and become certified to ISO 14001 in large numbers, or its utility as an 'international' standard will be minimal. As Altham and Guerin note, "Many NGOs have expressed reservations regarding the effectiveness of ISO 14001 and their fears have been largely

accepted as genuine"(1999:92). This study seeks to elucidate the links between participation in regime formation, legitimacy and efficacy.

Insights from Previous Work

Procedural Justice Theory

Both the distributive and procedural justice models emerged from research on the psychology of justice during the 1970s (Lind and Tyler 1988). As its name suggests, distributive justice theory argues that social behaviors are conditioned by the distribution of outcomes. Within distributive justice models, *equity theory* suggests that outcomes should be proportional to the contribution of individuals (Deutsch 1975). Alternatively, outcomes may be distributed based on an *equality rule*, where each individual receives an equal share. Both of these models emphasize fairness in outcomes, though each uses different criteria to determine *fairness*. Distributive justice models of legitimacy predict that individuals will be satisfied when they feel that the final distribution of wealth and/or power is fair. Borrowing from the realm of mediation, substantial research shows that participant satisfaction is highly influenced by concerns over distributive justice (Pruitt 1981). So too, with international treaties and agreements, outcome is important.

In contrast to distributive justice, theories of procedural justice argue that participant satisfaction is intricately related to perceptions of the fairness of the process through which distributive outcomes are determined (Deutsch 1975). A number of factors can influence the extent to which a process is viewed as fair: the neutrality of the process (Lind and Tyler 1988), the way in which participants are treated, opportunity to be heard (Bayles 1990), and the level of trust for the decision-making authority. As Nabatchi and Bingham wrote:

> The distributive and procedural justice models can be distinguished beyond methodological variables by examining their assumptions about disputant motivations. The distributive justice model is one of self-interest and is related to rational choice theory; individuals calculate and seek to maximize personal gains in the resolution of a dispute. While self-interest is a part of the procedural justice model, procedural justice recognizes that rational choice standing alone fails to capture many perceptions of justice. Maximization of self-interest sits in a penumbra of qualities, aspects, constructs and assessments of justice (Nabatchi and Bingham 2001).

As applied to cases of international decision-making, one can guess that both models of distributive and procedural justice play important roles in influencing the satisfaction of delegates to the ISO annual meetings. However, it can be very difficult to disaggregate the impacts of these two. In fact, one could convincingly argue that distributively fair outcomes are unlikely to result from *un*fair processes. In part, this assertion is tested by the data collected in this study.

In this same vein, Paul Harris notes, "International equity can be defined as the fair and just distribution of benefits, burdens and decision making authority among countries"(Harris 1996). Harris goes on to observe, "Countries are more likely to participate in international environmental institutions if associated arrangements are seen as fair and just". Oran Young echoes this sentiment:

> Those who believe that they have been treated fairly and that their core demands have been addressed will voluntarily endeavor to make regimes work. Those who lack any sense of ownership regarding the arrangements because they have been pressured into *pro forma* participation, on the other hand, can be counted on to drag their feet in fulfilling the requirements of governance systems. It follows that even great powers have a stake in the development of international institutions that meet reasonable standards of equity (Young 1994:134).

Clearly both distributional (outcomes) and procedural (input) justice concerns impact perceptions of fairness concerning international environmental institutions (IEIs).

Theories from International Politics

In addition to distributive and procedural justice theories, an examination of the political-economic relationships between developed and developing countries offers some interesting insights. "Recognizing stratification in wealth and power among and within states [heterogeneity of actors] can move us toward developing a dynamic understanding of who will be likely to develop and enforce global environmental and labor standards and who will probably refute and ignore them"(Roberts 1997).

According to Peter Haas, the "hegemonic stability school of neorealism suggests that cooperation is most likely to occur when it is imposed by a dominant state"(Haas 1990:40). The interesting conundrum is that hegemonic leadership may be required to get new IEIs started, but this same leadership may doom them to illegitimacy and/or inefficacy. While many scholars have hypothesized about the results of hegemony in IEIs, this study will examine whether or not European hegemony has resulted in perceptions of reduced legitimacy and efficacy for one IEI in particular--- ISO 14001.

Robert Keohane and Charles Kindleberger note that in some situations, international cooperation becomes a positive-sum game in which all states would benefit from cooperation, with some benefiting more than others. In these instances, the leadership of the hegemon(s) becomes vital in that they may force cooperation by states that would prefer to defect out of a belief that their relative gains will be negligible and/or out of a desire to be free-riders (Haas 1990:41-43). Edward English argues that "leadership by developed countries may be able to ensure participation" earlier than might otherwise occur (in Gupta 1997:323). Oran Young writes that international regimes reflect the distribution of power within the international system. "Specific arrangements come into existence when those possessing sufficient power take the necessary steps to

create them" (Young 1989:350). This view is consistent with ISO 14001, as it began as a European initiative with European sponsors, and is based on an earlier British standard.

Interestingly, leadership on the ISO 14000 series came from Europe and Japan, not from the U.S. In fact, American companies have been slower to adopt ISO 14001 certification than have firms in Sweden, Britain, and most other European countries. One could easily argue that the U.S. has *not* been a hegemon when it comes to most environmental issues. Often, it is the states of the European Union (EU) or Japan that have led the call for more stringent environmental agreements at the international level. This is clearly the case with issues of global warming.

For the most part, developing states had little input into the formation of the ISO 14001 regime, yet many firms find that opting-out of this regime is unrealistic. While it is a 'voluntary regime', many large trading partners such as Ford, GM, Home Depot and others are requiring certification from their subcontractors. It is possible that ISO 14001 may become a precondition for international trade--- thereby making market access even more difficult for small and medium-sized, firms for who can less easily afford to become certified.[9] Since developing countries have fewer multi-national corporations, and more small and mid-sized firms, they may feel the negative impacts more strongly than wealthier countries. These countries can hardly afford increased barriers to trade as they struggle to increase economic growth and create jobs for rapidly growing populations.

Developing nations have historically been suspicious of attempts by their wealthier neighbors to promote international environmental policies. They have often labeled these moves as 'eco-imperialism'. They argue that wealthy countries used their

[9] This information comes from surveys with delegates to the 2001 ISO gathering in Malaysia.

natural resources in the quest for development, but now wish to block poorer countries from doing the same. The Malaysian Minister of the Environment, Rafidah Aziz, stated that environmental issues are being used to block imports from developing countries which have "a better competitive edge and comparative advantage"(Murray 1997:611).

From the outset, their weaker bargaining position and their economic and political vulnerability may make firms, governments, and interest groups from developing countries hesitant to embrace attempts to globalize environmental practices. According to one scholar of globalization, "The main lessons to be learned from this experience is that since international policy has been designed almost entirely by countries that are the homes of the innovators, it is heavily biased toward their interests..."(Gupta 1997:325). This bodes poorly for the legitimacy of institutions such as ISO 14000/14001.

Chapters Three and Four examine perceptions of efficacy among TC 207 delegates and among managers and CEOs in ISO 14001 certified firms. This information allows us to make some tentative observations about the impact of stakeholder absence on legitimacy.

Chapter Three
Legitimacy Among Key Stakeholders: The Power of Presence

Using the data obtained from TC 207 delegates it is possible to examine the relative legitimacy of ISO 14001 for delegates from developed and developing countries, thereby adding weight to the evidence supporting the study's first hypothesis. As a reminder, this hypothesis states: There is a positive relationship between the level of participation in regime formation and perceptions of regime legitimacy.

Legitimacy as Perceived by TC 207 Delegates

The interview question that best gets at the issue of legitimacy asked delegates: "Overall, how fair do you feel ISO 14001 is to firms in developing countries?"(#14 on the Key Stakeholder survey). Responses ranged from 1 (i.e. not very fair) to 10 (i.e. very fair). The mean average response from developing country respondents was 5.85, which corresponds to "somewhat fair", while the mean average response from developed country respondents was 8.0, falling somewhere between "somewhat fair" and "very fair". On this question there were 20 responses from developing countries and seven from developed countries. The variation was greater for developing country respondents with their responses ranging from 4 to 10, while the responses from the wealthier respondents ranged only from 7-9.

Due to the relatively small sample size from developed country delegates we would not expect to see statistically significant differences in the median scores unless the difference was fairly pronounced. However, responses to this question suggest that delegates from poorer countries are significantly more likely to feel that ISO 14001 is less fair to firms in their countries than it is to firms in wealthier countries. Using the Wilcoxon-Mann-Whitney discussed in Chapter Two, developing country delegates are

significantly more likely to view the regime as less fair than are their counterparts from wealthier countries. In fact, the difference is 2.6 standard deviations away from the mean (significant at the .009 level). However, the WMW test cannot determine the reasons why these two groups feel differently about ISO 14001's fairness. It is possible that delegates from countries that did not participate early on may view the regime as somewhat less fair/legitimate, but it is also possible that the difference is caused by one or more other factors. While these results seem to support our first hypothesis, it is not possible to rule out alternative explanations.

Using an open-ended question, delegates were asked to discuss the impact of the absence of developing country delegates has had on the ISO 14001 standard, if any. Responses from developing countries ranged from outrage to near indifference. A sample of comments from both types of countries is included in Table 3.1.

It is interesting to note that the views of developing country participants seemed to vary with the extent to which they participated (early or late) in the negotiation process. One participant from Asia notes with outrage that his country should have been included early on, while a respondent from a country which participated early in the negotiations felt that ISO 14001 was not biased as a result of little input from developing countries. This shows great support for the idea that legitimacy varies with the level of participation.

Multiple delegates, from both types of countries, noted the importance of language and cultural barriers to effective negotiation. While this is an international gathering, English is the official conference language and the negotiation process relies on Western cultural norms governing interaction and format.

[Insert Table 3.1 About Here]

Negotiators from both types of country were likely to view language barriers as significant. Both types of negotiators also stated that the standard might have been more applicable to small and medium-sized enterprises if developing countries were better represented. These comments speak both to legitimacy, as reflected in concerns about distributed justice, and to efficacy. Overall, negotiators from wealthier countries were more likely to assert that the ISO 14001 standards applied equally well to firms in all types of countries and that the early absence of developing country delegates did no significant damage. Again, this lends support for the first hypothesis.

It should be noted that developing countries are welcome to attend all TC 207 meetings, but many countries simply cannot afford to participate. At the 2001 TC 207 gathering in Malaysia, approximately 25 developing country delegates attended with funding from the ISO organization. If they did not have this sponsorship, very few developing countries would be able to attend. However, many participants noted that a delegation of one cannot have a big impact on the 14000 series of standards since many different meetings occur concurrently and it is not possible to attend them all.

Additionally, the consensus was that it takes at least 2-3 meetings, with 1 meeting occurring each year, before delegates gain a deep enough understanding of the process and the history of the standards to actually participate in a formative way. It also takes that long to build relationships with negotiators from other countries that improve the quality of participation and allow one to take a leadership role as a session chair or secretary.

The next open-ended question asked respondents whether representatives from developing countries currently have an equal impact on the formation of the ISO 14000 standards and guidelines. This question addresses issues of procedural fairness. In many ways, the responses were similar to those mentioned already, especially in terms of the issue of language and cost barriers to full participation. On the whole, both groups of delegates believe that developing country delegates are less likely to be present and influential. However, delegates from wealthier countries are more likely to focus on the increasing presence of developing country negotiators and to put less emphasis on their smaller delegations. Table 3.2 lists a brief sample of these comments, corresponding to question number six.

[Insert Table 3.2 About Here]

In sum, the data suggests that developing country negotiators are less likely than developed country negotiators to view ISO 14001 as fair to firms in their countries and they are more likely to believe that their relative absence during the negotiating process has proved problematic. Therefore, at the delegate level the evidence supports the idea that the level of input into regime formation is positively related to perceptions of legitimacy. This confirms the predictions of procedural justice theory.

After listing the various obstacles to greater participation by developing countries (e.g. language barriers, costs of attending conferences, social networks among long-time participants, etc.), one developing country delegate noted that these do not arise out of a conspiracy against developing countries, but the result is the same.

Implications of Legitimacy at the Theoretical and Practical Levels

This section began with a discussion of procedural and distributive justice theories. The question of regime efficacy will be more fully examined in Chapters five and six, after which point it will make sense to draw conclusions as to the importance of distributive justice theory in explaining and predicting cross-national responses to ISO14001. However, the preceding discussion has provided adequate information to analyze the utility of procedural justice theory to the case of ISO 14001.

As procedural justice theory predicts, those delegates coming from countries unrepresented in the earliest negotiations (mostly developing country delegates) reported greater concern over the regime's fairness than did delegates from countries that participated early. Developing country delegates were also more likely to report that the absence of developing country input during the regime's formative stages was more problematic than were negotiators from developed countries.

The interesting exception to this finding adds further support to Hypothesis I and to procedural justice theory: South Africa was involved with the negotiations from the beginning, making it unsurprising to note that one South African delegate stated that the absence of developing countries had *not* resulted in a standard that is less able to meet the needs of firms in developing countries. However, it should be noted that all of the delegates from South Africa were of European descent. These ties to Europe, along with the benefit of fluency in English language and Western customs, might make the delegates less likely to view European leadership as hegemonic domination. More research would be needed to parse out the impacts of these factors on the perceptions of South African delegates.

Theories of hegemony predict that regimes will be biased toward the interests of their creators (Gupta 1997). Data from the interviews of delegates, especially concerns about the possibility of trade barriers, lends some support to this prediction, but it is necessary to withhold judgment on this measure until more data on efficacy is presented in the next section.

In sum, the interviews with delegates provide strong support for the predictions of procedural justice theory. More specifically, they support the hypothesis that there is a positive relationship between the level of participation in regime formation and perceptions of regime legitimacy. While conclusions about distributive justice should wait until the data on regime efficacy are evaluated in the next section, it should be noted that TC 207 negotiators are *not* trying to persuade the firms in their countries to abstain from becoming certified as a form of protest. In fact, these delegates stated concern that their initial absence would result in slower uptake by the firms in their countries. Their absence meant that their own awareness and understanding about ISO 14001 was late to bloom, thereby making it difficult for them to communicate the standards to the firms in their countries. As a result, they felt that their firms were already behind the curve, and thus at a trading disadvantage. These perceptions could be seen as support for the idea that unfair procedures (or inadequate opportunity for stakeholder input and presence), *do* result in perceptions of unfair distributive outcomes.

At the practical level the interview findings add weight to the argument that *all* relevant stakeholders need to be at the table in order to ensure that the resulting regime is perceived to be legitimate. Since the TC 207 delegates meet each year to make changes to the 14001 standard and to draft other standards in the series, strong, friendly, and

equitable working relationships should improve their ability to work together productively. While the general atmosphere at the gathering was very collegial, the issue of unequal input from developing countries remains a point of contention and intense concern for most developing country negotiators. In fact, the developing countries recently formed a working group to focus on issues of special concern to firms in developing countries.

Overall, developing country delegates are more likely to be absent, or to have smaller delegations, with fewer resources. This creates a 'participation gap' that has important ramifications for legitimacy, but it can also hamper the regime's efficacy. Implementation may be impaired when national delegates are absent from the regime formation process, leaving no one at the national level who has the insider knowledge required to completely explain the intricacies of the agreement and the steps necessary to implement it. As a result, for those unrepresented or underrepresented nations, implementation may be slower to occur, and it may be qualitatively different than for those with large, deeply involved delegations. This poses a significant concern for issue areas in which nations are truly interdependent, such as the environment and trade. Incomplete implementation of environmental or trade agreements may leave all parties worse off, rather than merely disadvantaging parties that were absent from the negotiation processes used to craft these agreements.

Next, Chapter four investigates whether these concerns about legitimacy trickle down to the level of ISO 14001 certified firms.

Table 3.1 Comments on the Impact of the Near Absence of Developing Country Negotiators[10]

Sample Developing Country Responses
"How could they ignore [my country]? It is a lion in Asia. It is a huge proportion of the world's people but we weren't at the original negotiations".
Five participants made comments similar to this one: "The absence of developing countries was very important. The clarity of the standard for small and medium-sized corporations is just now being clarified. If we were there at the beginning more attention would have been paid to this issue."
"ISO 14001 was based on the British Standard. When we adopt a British standard, we automatically start off 5 years behind Britain".
Three participants made comments similar to this one: "If we were there in the beginning the standard might be about the same, but our understanding of it would be better. Developing countries do not understand the standard as well. Their interpretations may not be right."
Three participants made comments similar to this one: "If you are not here you can make written comments, but they do not get any attention. It is the same for developed countries, but more of them are here."
Eight participants made comments similar to this one: "Language is a powerful tool. Developing country negotiators cannot always use that tool as effectively."
"My country was involved early on in the negotiations. Companies are the same worldwide, so the absence of developing countries was not significant."
"ISO is like a buddy network. If you are out of this network your impact is slight. Many developing countries aren't represented in this network and others are underrepresented. Language is also a barrier".
"In the global village, the concepts of ISO 14001 are universally applicable.
Sample Developed Country Responses
"Based on the way the standard came out I believe that it was a fair process for all countries, regardless of their participation. A standard should raise the bar, not make it easy for anyone to meet the requirement without changing. The lack of environmental expertise in developing countries is the issue. This is not, however, a reason to have a lower standard. ISO 14001 allows organizations to develop their own environmental programs based on available resources. How can this be unfair to anyone?"
"Developing countries will sometimes ask for more specificity in the standard until someone explains how that would impact them. When they understand, they stop asking for a more detailed standard."
Four participants remarked: "Their presence would have drawn more attention to the impact of ISO 14001 on small and medium-sized firms."

[10] Corresponding to question seven on the Key Stakeholder survey.

impact of ISO 14001 on small and medium-sized firms."
"If more developing countries were present there would probably have been more emphasis on readability and applicability."
Two participants made this type of statement: "It is a cultural thing. They are involved but their cultures of interaction are different. There are language barriers."

Table 3.2 Do Developing Country Representatives Currently Have an Equal Impact?[11]

Sample Developing Country Responses
"Most of us are new and intimidated. We are getting better and we will get there."
"Those from developing countries lack the exposure to become confident during discussions or articulating their position."
"We are missing a sense of 'belongingness'. We need ownership of the process. Without participating how can we educate our people? Developing countries are trying to take the views of the developed countries. We are not projecting our own ideas and needs."
"Some players came late to the game and it is hard to play catch-up. All leadership positions are already occupied by developed country delegates ".
Six delegates made this kind of comment: "Our delegations are so much smaller that it is hard to be effective."
Sample Developed Country Responses
"Many decisions are reached by consensus. Influence is based on knowledge, the ability to articulate positions that capture the essence of the issue, imagination, charisma, and language competence. If any country has or has not contributed it is because of a lack of one or another of these".
Two wrote comments like this one: "They have increased their contribution a lot. Their contribution is essential."
"No. Delegates on developing country delegations cover many meetings and can't become experts on any 1 document. Developing country negotiators seldom get on a drafting committee. They only make comments on those already written".

[11] Corresponding to Question six on the Key Stakeholders survey.

Chapter Four
Legitimacy and Firms: Unclear Impacts

Only two questions on the *firm* survey dealt directly with issues of legitimacy and equity between developed and developing country firms. Rather, the bulk of the questions for firms focused on issues of efficacy and motivations.

Using an open-ended format, question twenty-four asked: "Do you believe that ISO 14001 will benefit firms in developing countries as much as it will benefit firms in wealthier countries?". This question deals directly with efficacy and indirectly with legitimacy--- as it relates to distributive justice. This is a weak test of legitimacy, but the responses provided information of interest to this question.

Most firms chose not to answer this question, possibly indicating that they didn't really understand or have an interest in this issue. This is not surprising since most managers and CEOs would be unaware of the process that created ISO 14001. Overall, 11 firms stated they felt the standards benefit both groups equally, while 8 felt that the benefits were not equal. Of those who felt the standard had unequal benefit, half came from developed countries and half came from developing countries. Four developed country firms felt that the standard unfairly advantages developing countries where environmental regulations are perceived to be more lax. In contrast, the developing country respondents felt that firms in wealthier countries benefit unfairly due to a head start in environmental management and greater access to environmental technology and knowledge. Since most firm managers are likely to be unaware of the smaller role for developing countries in the process that created the ISO 14001 standard, these responses might simply be an example of the phenomenon known as "the grass is always greener

on the other side of the fence". More research would be necessary to better understand why these participants hold these beliefs.

When asked how the standards might be changed (if at all) in order to make them more beneficial for firms in developing countries, the most common reply involved the provision of governmental assistance to subsidize the costs of implementation and/or certification for firms in developing countries (n=10, question number twenty-five). Others stated that the standards need to be translated into non-English languages. One developing country respondent noted, "The benefits will be equal, but firms in developing countries will not have the wherewithal to implement it, thereby increasing the gap between developed and developing countries". Two other respondents from developing countries added that environmental management is very important, but it must be placed within the context of the other problems facing their countries.

Overall, since the majority of respondents skipped this question, it is fairly safe to presume that this is not an issue that they have developed passionate opinions or knowledge about. It appears that only a minority of firm respondents believe that ISO 14001 is biased, with firm managers exhibiting no unanimity of opinion in terms of how this bias is manifested (i.e. in favor of developed or developing countries) or what the implications of such bias may be. As a result, there is inadequate support to affirm that concerns about procedural justice (lack of input from developing countries) have led to any widespread legitimacy problems for ISO 14001 among developing country firms. In fact, the evidence suggests that the first hypothesis *may* be refuted at the firm level, but one cannot make a strong conclusion either way until non-ISO 14001 certified firms are also surveyed. It is possible that non-certified firms may view ISO 14001 as less

legitimate than certified firms. Therefore, more work remains to be done to refute or confirm Hypothesis I at the firm level.

Section 3
Perceived Regime Efficacy

There is some concern that the ISO 14001 regime will not be able to meet the needs of firms in developing countries due to their lower levels of representation at all phases of the regime creation process. However, one cannot assume that the absence of input from most developing countries has resulted in a regime that is less beneficial to firms in those countries. Since ISO 14001 is a "voluntary" regime, and because it is a process standard, rather than a product standard, it is possible that firms in developing countries may also experience substantial benefits. In other words, firms are not obligated to implement an ISO 14001 EMS, although pressure from trading partners may oblige them to do so. And since it is a process standard, firms have maximum flexibility to implement changes in their production and distribution processes so as to improve environmental performance. This is in contrast to many command-and-control regulations that require the use of specific pollution reduction technologies.

Insights from Previous Work

A great deal of previous research has attempted to explain why firms join voluntary regimes (Prakash 1997; Lutz, Lyon and Maxwell 2000). A review of this literature occurs in the next section, with the discussion of firm motivations.

Previous research has yielded mixed results concerning the benefits of voluntary regimes. Khanna and Damon (1999) examined the United States Environmental Protection Agency's 33/50 Program and found that both program participants and non-participants experienced environmental improvements, making it difficult to conclude that the 33/50 Program itself was the primary cause for pollution prevention

improvements. With the chemical industry's Responsible Care Program, the evidence seems to show that members are not reducing pollution any faster than are non-members. In their work, Lyon and Maxwell conclude that no single judgment can be passed on voluntary programs as a whole (1999). Each voluntary regime must be analyzed on its own merits to determine whether its benefits justify its costs.

Since the ISO 14000 series of standards have largely been created by and for industry, some observers have argued that they amount to nothing more than the 'fox guarding the henhouse' or mere "greenwashing" (Greer and Bruno 1997). Others have stated that it is too soon to know if these voluntary agreements are more than "hype"(Shoal 2000). As Shoal writes, "Certification depends not on an organization's actual environmental performance, but rather on evidence of its conformance with its own internally-developed environmental management system" (2000:291). Still others have argued that voluntary standards provide important tools through which businesses can increase their level of environmental awareness and become more proactive (Mazza 1996; Rondinelli and Berry 2000; Wellford 1996). Even the strongest critics often admit that while these are imperfect instruments, voluntary agreements are often the most feasible solution in light of current World Trade Organization rules which promote voluntary but not mandatory standards (Arriaza 1996), and since environmental legislation at the international level is rare and difficult to achieve.

As this discussion points out, experts are highly divided as to whether or not voluntary measures, such as ISO 14001, will actually improve the environmental performance of firms versus simply creating a false image of "greenness". Critics accuse firms of trying to manipulate the regime so that certification leads consumers and trading

partners to believe firms are "green", when in fact they may not have improved environmental performance at all. At a very practical level, perceptions of ISO 14001's efficacy are crucial to those managers and CEOs trying to decide whether certification is worth the time and expense of implementation and certification.

At a more theoretical level, investigating the efficacy of ISO 14001 for firms in various countries allows us to examine possible connections between input into regime creation and the relative utility of the resulting regime. The following chapters will help us to better understand whether or not ISO 14001 is truly biased in the interests of its creators. While it may not be possible to definitively answer this question, it is possible to undertake an analysis that sheds more light on these issues and connections. Chapter Five will investigate this hypothesis using the data from TC 207 delegates, Chapter Six will do so for the data gathered from firm managers and CEOs, and Chapter Seven examines the motivations for certification as reported by managers and CEOs.

Chapter Five
Perceptions of Efficacy Among Key Stakeholders: Unanswered Questions

The Efficacy of ISO 14001 as Perceived by TC 207 Delegates

The interview questionnaire asked delegates to use a 1-10 scale to rate their perceptions of ISO 14001's benefits to trade, the environment and profits (questions sixteen, seventeen, and eighteen). Chart 5.1 and Table 5.1 compare the results for developing and developed countries. The number of respondents from developed countries is small on these questions (ranging from 7-10). Table 5.1 presents the results of the Wilcoxon-Mann-Whitney tests for differences in the median responses for these groups. As the results show, the responses for developed and developing country delegates are not different at statistically significant levels.

[Insert Table 5.1 About Here]

However, Chart 5.1 visually summarizes the data from questions sixteen through eighteen, much of which was supported by the information that came through in open-ended questions. Many developing country delegates were concerned that ISO 14001 certification would become a barrier to trade, at least in the short term. Their reasons relate to the costs of implementation, which can be prohibitive for small and medium sized enterprises, further, supporting the second hypothesis. Eventually, once most companies become certified, barriers to trade may decline as companies and governments *may* decide to accept certification instead of creating their own individual requirements for their partners in trade. Therefore, while the sample size is too small to conclude statistically significant differences exist between these two groups, the open-ended questions do suggest that these differences may exist and are worthy of further study.

[Insert Chart 5.1 About Here]

Also on the issue of trade, when asked whether ISO 14001 would increase, decrease, or have no impact on trade between developed and developing countries, some interesting differences appeared between the two groups of delegates. In Chart 5.2 it *appears* that delegates from developed countries are much less likely to believe that ISO 14001 will be a barrier to trade. While 24% of developing country delegates stated they felt that ISO 14001 is likely to result in less trade between developed and developing countries, none of the respondents from developed countries agreed. Since one of the original goals of ISO 14001 was to reduce trade barriers, it is interesting that developing country delegates may be less likely to believe it will accomplish this goal. However, as Table 5.2 shows, these findings are not statistically significant. This may be due to the small sample sizes (8 for developed countries and 22 for developing countries).

[Insert Chart 5.2 About Here]

[Insert Table 5.2 About Here]

Another question asked delegates to state whether they felt the environmental benefits would be achieved in the long term, in the short term, or not at all. On this question, no big differences seem to exist between participants from the two groups. About half felt that the environmental benefits would occur in the long term (2+ years), about 15% felt the benefits would arrive immediately, about 25% felt that no environmental benefits would occur. From speaking with the delegates, it became clear that many of them had originally held very high aspirations for ISO 14001 and many were disappointed that the standard that resulted from the negotiations was not more stringent. Some delegates stated that the American delegation pushed for the 'self-certification' option, for weaker public disclosure provisions, and against the requirement

that firms be in compliance with all applicable national and municipal environmental regulations in order to become ISO 14001 certified. As is the case with most international environmental treaties, the necessity of reaching a compromise generally results in some parties feeling at least somewhat unhappy with the end product.

Open-ended responses revealed that most delegates from poorer countries really see the primary value of ISO 14001 in its ability to improve environmental performance, rather than as a way to boost profits. While firms may realize some economic benefits through their implementation of an ISO 14001 environmental management system, this is not the primary reason for its value, according to these participants.

The next scaled question of interest, asked participants to rate the importance of the early absence of developing country negotiators on the ability of ISO 14001 to meet the needs of firms in developing countries--- again using a 1 to 10 scale. On this question, developing country delegates' responses averaged a 5, corresponding to "somewhat damaging", while respondents from wealthier countries rated it a 2.33, corresponding to "not very damaging".

As Table 5.3 shows, these responses indicate that there is a statistically significant difference between the median scores of delegates from both groups of countries. Delegates from developing countries are significantly more likely to believe that the near absence of negotiators from their countries *did* have a deleterious impact on the ability of ISO 14001 to meet their needs. These results lend support for the hypothesis that perceptions of regime efficacy are positively related to perceptions of regime efficacy.

[Insert Table 5.3]

Qualitative interview data reveal that developing country delegates are more likely to believe that the obstacles to their participation are significant and that the ISO 14001 standard is, at least slightly, less able to meet the needs of their firms as a result of their absence. Three developing country delegates noted that their presence might not have changed the standard significantly, but their presence would have enabled them to gain a better understanding of the standard, which they could have then passed on to firms in their countries. Their absence has resulted in a need to play "catch up"--- trying to gain an understanding of the complex standard so that they can pass it on to firms in their countries. Other delegates noted that the regime might have better addressed the needs of small and medium sized enterprises if more developing country negotiators had been present. The applicability of ISO 14001 to SMEs is currently being debated within TC 207.

Because the outcome is mixed, with no clear indication that delegates view ISO 14001 as patently fair or unfair to their interests, it is hard to reach conclusions about the utility of distributive justice theory. On the whole, there appears to be more consensus among delegates that the procedure for creating ISO 14001 was not fair to their interests, but they seem to be withholding judgment about the outcome of the process. In general, developing country delegates seem to feel the regime will assist the environmental management for those few firms that can afford to implement an ISO 14001 EMS. Some delegates noted that the regime is new and it may take a few more years to assess its impact in their countries and on international trade.

Again, interview information reveals that developing country delegates are more likely to view ISO 14001 as a possible barrier to trade, but this conclusion cannot be

supported through statistical analyses at this time. Developing country delegates often stated that there is more environmental work to be done in their countries. For this reason they felt that ISO 14001 would supply an important tool by which firms can achieve environmental improvements. Based on this information, it is not possible to conclude that their reduced input into the regime resulted in widespread perceptions, among developing country delegates, that the regime would be less efficacious for firms in their countries. On the whole, this leads to a somewhat mixed finding--- lending to support for the study's second hypothesis in the areas of trade barriers and profitability, but not in the area of environmental benefits from the regime.

Table 5.1 Delegates Perceptions of ISO 14001 Benefits

	#16 Help Trade?	#17 Help Environment?	#18 Help profits?
Z	-.592	-.791	-.326
Asymp. Sig. (2-tailed)	.554	.429	.745

Chart 5.1

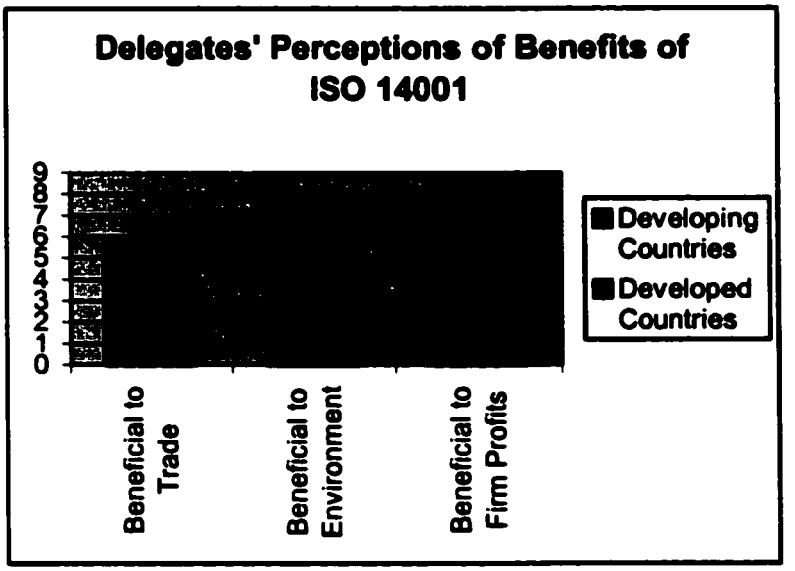
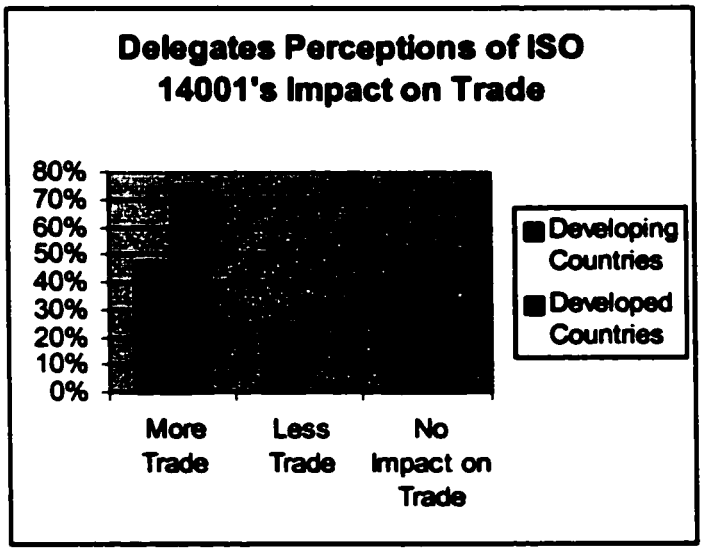


Chart 5.2[12]



[12] Corresponds to question number 13 on the Key Stakeholder protocol.

Table 5.2 Comparing Delegates' Perceptions about ISO 14001's Impact on Trade[13]

	#13 Impacts on trade?
Z	-1.250
Asymp. Sig. (2-tailed)	.211

Table 5.3 Comparing Delegates Perceptions about the Impact of Stakeholder Absence

	#15 Stakeholder Absence
Z	-2.307
Asymp. Sig. (2-tailed)	.021

[13] Corresponds to question number 13 on the Key Stakeholder protocol.

Chapter Six
Perceptions of Efficacy Among Firms: Serendipitous Environmental Efficacy in Light of Stakeholder Absence

The Efficacy of ISO 14001 as Perceived by ISO 14001 Certified Firms

The good news is that the vast majority of respondents claimed that their firms have made significant environmental improvements because of their implementation of an ISO 14001 EMS. Contrary to the predictions of this study's hypotheses, it appears that respondents from developing countries are reporting somewhat greater environmental benefits in some areas than are their counterparts in wealthier countries. This is an interesting finding that calls into doubt the hypothesis that the absence of input into the regime formation process has resulted in a regime unable to meet the needs of developing country firms. Of course, this study's findings do not include non-certified firms and this is an important point to remember. But for those firms that can and do implement and certify under the ISO 14001 standard, benefits are widely reported.

Respondents were asked the following questions: "If you believe that ISO 14001 will improve the environmental performance of your firm, when do you expect these benefits to materialize?". Respondents could indicate that they expected "positive results in the long term only", "positive results immediately", "positive results in the long and short term" or "I do not expect significant environmental improvements". Twenty respondents (or 15%), reported that they expected positive results in the long term only, twenty-seven (20%) stated that they expected results in the short term, and sixty-five (49%) reported that they expected positive results in the long and short term. Only four respondents (3%), all from economically developed countries, stated they anticipated no positive environmental impacts. Two of these indicated that they had strong

environmental management systems in place before switching to the ISO EMS. For the other two, it is unclear as to why the respondents expect no significant environmental improvements as a result of implementing ISO 14001.

Almost all of the respondents reported cost savings due to environmental improvements. Of the 133 survey response from individual firms, 56% reported reductions in energy usage, 56% reported cost savings from reduced waste disposal, 44% reported an overall reduction in their use of natural resources, 21% reported savings from reduced fines for non-compliance, and 20% reported reduced insurance premiums as a result of ISO 14001 implementation and certification. However, these results varied by country and by country type.

In an open-ended question, respondents were asked to quantify the environmental cost savings due to their implementation of ISO 14001. The results showed enormous variation. About 15% of the respondents stated their companies had thus far experienced no cost savings from ISO 14001, with about half of these respondents stating that their system was too new to allow for concrete data about cost savings. The other half stated that their company had a pre-existing environmental management system, and that ISO 14001 added only marginally to the benefits of their older system. About 25% of the respondents said that they could not quantify the benefits of ISO 14001 since the benefits included changes that were hard to quantify, such as "raised employee's environmental awareness" or "We will never know how many spills were avoided or how much the associated fines would have cost us. But we have had fewer spills".

Of those who did report annual cost savings, the total amounts ranged between 5,000 and 2,000,000 U.S. dollars. The average cost savings for firms in developing

countries was double that of firms in wealthier countries, averaging $105,400 compared to $52,967. However, the later figure does not include the responses of one Swedish respondent who claims to have saved more than $2,000,000 U.S. dollars in one year.

The other open-ended questions provide a wealth of interesting information about environmental and other improvements reported by individual firms. In addition to reducing their emissions of regulated pollutants, firms reported the following improvements: increased dust suppression, reduced noise, increased recycling and the use of recycled materials, preservation of green space, improved understanding of applicable regulations, changed corporate and employee culture, wildlife habitat restoration, improved product quality, resolution of a long-standing conflict with community members, improved relationships with government regulators, reduced water consumption, reduced incidence of accidental spills (with one responding noting a drop from 13 spills to only 1 spill after ISO implementation), rainwater harvesting, tree-planting, a carpooling program for employees, and two firms started soil replenishment projects.

Although there were no questions on the survey concerning ISO 14001's ability to increase the environmental awareness of employees, nineteen respondents (14%) spontaneously added comments about improved environmental awareness among employees, managers, and/ or the community as a result of ISO 14001 implementation. Some of these respondents noted that increased employee awareness had important spill-over effects in their communities, as some employees had undertaken environmental initiatives within their community.

It is important to note that the benefits of ISO 14001 appear to be highly idiosyncratic and dependent on the following factors: the type of goods or services produced, the level of pre-existing environmental management, and the sincerity with which the EMS is pursued within the corporation. Those companies seeking to quickly gain certification in response external pressure may sacrifice quality for ease of implementation. It is possible to create and certify a rather superficial EMS that does not effectively harness the creative abilities of employees and managers in the service of environmental improvements. In these cases, the gains made, if any, are likely to be less impressive than in those cases where managers and employees view ISO 14001 as an opportunity to make proactive improvements in the way the company operates.

As Chart 6.1 and Table 6.1 show, the firms from developing countries reported higher levels of satisfaction with ISO 14001 in all areas, at levels that are statistically significant. As expected, both types of firms were happiest with ISO 14001's impact on their environmental performance, but developing countries were significantly happier with the environmental benefits of ISO 14001 (significant at the .000 level). Developing country respondents reported relatively higher levels of satisfaction with the impact of ISO 14001 on firm profit margins, While firms reported moderate levels of satisfaction with the impact on their profit margins (significant at the .017 level) both groups place the highest value on the EMS's environmental benefits.

[Insert Chart 6.1 About Here]

[Insert Table 6.1 About Here]

Interestingly, certified firms in developing countries report slightly higher levels of satisfaction with ISO 14001's ability to improve their access to trading partners and

markets (significant at the .029 level). In contrast, many of the TC 207 delegates from developing countries noted fears that ISO 14001 would be a barrier to trade from developing countries. The population of firms in this survey has already overcome the obstacles of cost, access to technology, etc. and may now reap the benefits of certification. Future researchers should attempt to speak to non-certified firms in both developed and developing countries in order to find out if the obstacles to certification are equally distributed and if lack of certification is causing firms to be locked out of markets. The information displayed in Chart 6.1 refutes HII for ISO 14001 certified firms, while forcing us to reserve judgment about perceptions of efficacy among non-certified firms.

To follow-up on the important question of efficacy at the firm level, another question asked firms to report whether they had achieved cost savings in a number of areas. Chart 6.2 shows the percentage of firms reporting cost savings in the areas of energy use, natural resources use, insurance premiums, disposal costs and reduced fines for non-compliance. More than half of all respondents reported reduced energy usage, and reduced waste production. As Table 6.2 shows, there are significant differences in the two groups on some measures, with more firms in developing countries reporting environmental costs savings after ISO 14001 implementation due to reduced inputs (significant at the .042 level), reduced insurance premiums (significant at the .003 level), and savings from reduced fines (significant at the .001 level). No significant differences were found in the areas of energy use and waste disposal.

[Insert Chart 6.2 About Here]

[Insert Table 6.2 About Here]

These findings make sense for two reasons. First, since many developing countries tend to have weaker environmental regulations and a shorter of history of environmental activism, there is likely to be more "low hanging fruit", so to speak. Firms in these countries are able to make relatively inexpensive changes that can have profoundly positive environmental and financial impacts. Second, in developing countries the cost of waste disposal and energy tend to be much lower than in wealthier countries, thereby offsetting any comparative advantage that they might experience from increased conservation. For example, while the overall amount of waste reduction may be higher for developing country firms, the cost of disposing of that waste is relatively small, thereby resulting in overall cost savings that are proportionately similar to firms in developed countries where the costs of waste disposal are very high.

Overall, the data shown in Chart 6.2 refute the hypothesis that the near absence of developing country input into standard formation has resulted in a regime that is *perceived* to be ineffective for certifying firms in developing countries. For certified firms, managers and CEOs generally report higher levels of efficacy than do their counterparts in wealthier countries. However, developing countries as a whole are experiencing lower rates of certification than are developed countries. It is not clear if this is due to the presence of fewer companies involved in international trade, the cost of implementation and certification, and/or language and other barriers, etc. Therefore, we cannot refute HII for non-certified firms.

Discussion

This study predicted that the level of stakeholder input into regime formation would be positively related to perceptions of the regime's efficacy at both the delegate

and firm levels. In other words, we would predict that lower levels of input from developing country negotiators would be associated with perceptions of reduced efficacy among developing country delegates and firms. Interestingly, the findings are mixed.

Interview data reveal that developing country delegates are more likely to believe that the obstacles to their participation are significant and that the ISO 14001 standard is, at least slightly, less able to meet their needs as a result of their absence. Three developing country delegates noted that their presence might not have changed the standard significantly, but their presence would have enabled them to gain a better understanding of the standard, which they could have then passed on to firms in their countries. Their absence has resulted in a need to play "catch up"--- trying to gain an understanding of the complex standard so that they can pass it on to firms in their countries.

At the firm level, the results were fairly clear. Certified firms in developing countries reported positive perceptions overall about ISO 14001's ability to improve their environmental performance, increase their profits, and to increase their ability to trade. These firms reported more frequent cost savings as a result of their implementation of the ISO 14001 environmental management system than did firms in wealthier countries. As it concerns certified firms, these data refute the assumption that regimes created without the benefits of significant developing country input will *always* work to their detriment.

However, a flaw in this study is that it only surveyed certified firms. Due to the difficulty in obtaining a list of non-certified firms from which to take a random sample, the concerns of uncertified firms are not represented by this data. It is possible that many firms in developing countries simply cannot afford to become ISO 14001 certified. If

they become locked out of markets or if they lose trade opportunities as a result of their lack of certification, then we could assume that ISO 14001 would certainly be to their detriment. This is a fertile area for future research.

Conclusions

It would be dangerous if this study were interpreted to mean that input from all stakeholders is not required to create a legitimate and effective regime. The absence of stakeholder input appears to have weakened ISO 14001 in important ways. First, and most obviously, many delegates from developing countries feel resentful that the regime was crafted largely in the absence of their input. This weakens its legitimacy and makes future interactions between delegates more tense. Secondly, these same delegates are wary about the ability of the regime to meet the needs of firms in their countries. They fear that the level of awareness in their countries is low and that many of those firms that are aware of the regime will not be able to afford to implement it and to become certified. Delegates from both developed and developing countries raised the point that the regime might have addressed the needs of small and medium-sized enterprises earlier and better if developing countries had had a larger role in the negotiations. For all of these reasons, greater participation from developing country negotiators likely would have improved the regime's perceived legitimacy and efficacy.

While firms from developing countries generally report higher levels of satisfaction and more frequent cost savings with ISO 14001 than do firms in developed countries, developing country stakeholders remain concerned about possibility that ISO 14001 is itself becoming a barrier to trade. While the relative absence of developing country negotiators does not appear to have resulted in disproportionate benefits for

certified firms in developed countries, there are simply more firms becoming certified in the wealthier countries.

It is possible that the regime is equally effective for firms in both types of countries, or that it is slightly more effective for firms in developing countries where environmental management is a newer phenomenon and where there remains much "low hanging fruit". However, it is also possible that the regime has created a barrier to market entry for small and medium sized firms, a greater proportion of which are located in developing countries. Future research should focus on the reasons why certification levels seem to vary greatly by country in order to understand whether the barriers to certification are disproportionately high for firms in developing countries. Such research would provide a more definitive answer as to the impact of stakeholder absence on regime efficacy. The next chapter begins to examine this issue.

Chart 6.1

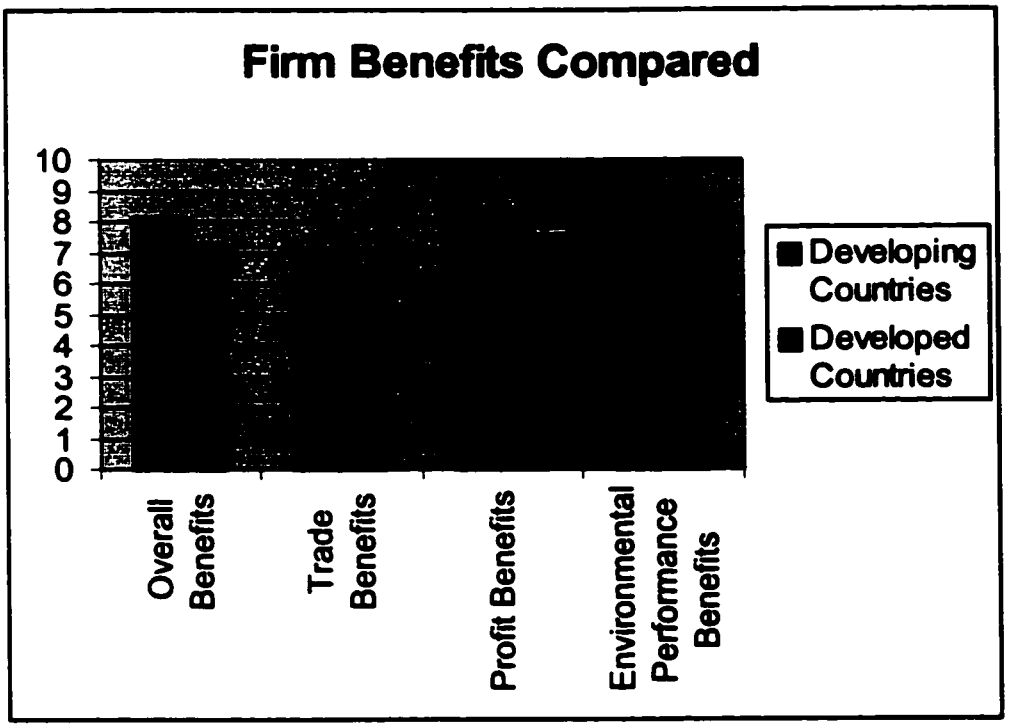


Table 6.1 Firm Benefits Compared for Developing and Developed Country Firms

Survey Response	T-test Score	Significance (2-tailed)	Mean Difference
Overall Benefits	3.91	.000	1.08
Trade Benefits	2.23	.029	.97
Profit Benefits	2.43	.017	.88
Environmental Benefits	4.92	.000	1.41

Chart 6.2

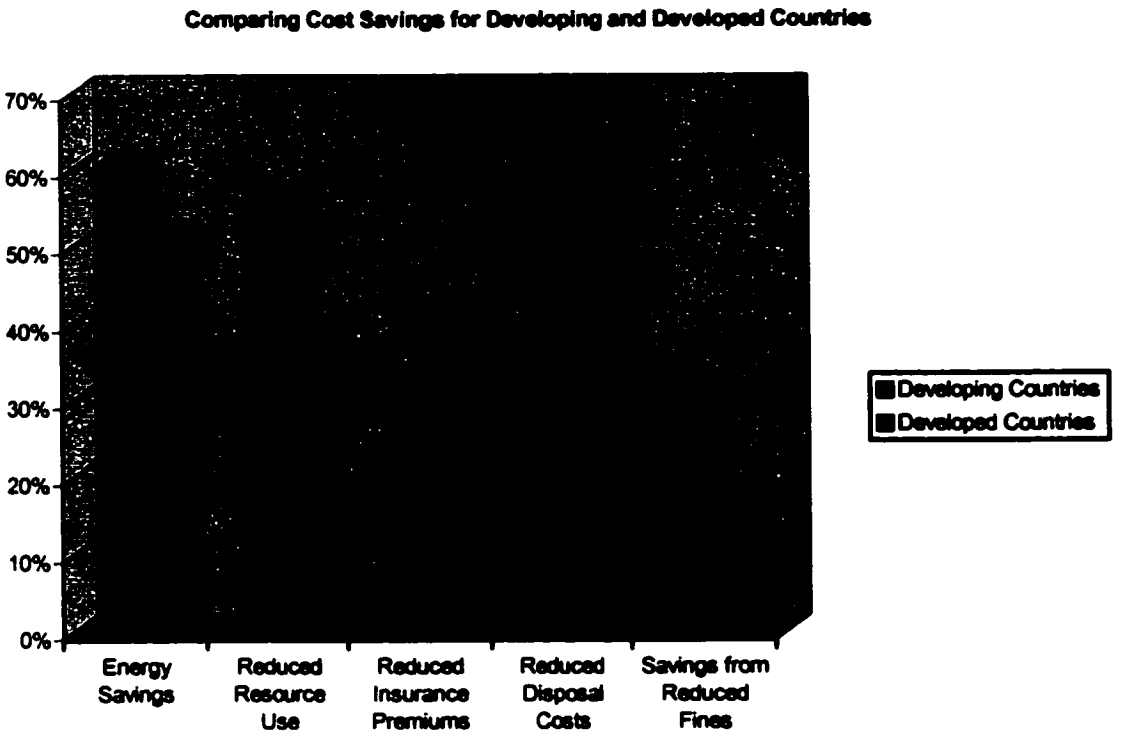


Table 6.2 Comparing Cost Savings for Developing and Developed Countries

Environmental Cost Savings	t-test score	Significance (2-tailed)	Mean Difference
Reduced Energy Use	1.32	.191	.11
Reduced Inputs	2.06	.042	.18
Reduced Insurance Premiums	3.08	.003	.18
Reduced Waste Disposal	-.592	.552	-.05
Reduced Fines	3.52	.001	.25

Chapter Seven
Motivations for Certification: Evidence on the Question of 'Hope versus Hype'

In order to look more deeply into the question of regime efficacy, this chapter will examine some of the motivations for ISO 14001 certification. Since the ISO 14000 series of standards have largely been created by and for industry, some observers have argued that they amount to nothing more than the 'fox guarding the henhouse' or mere "greenwashing" (Greer and Bruno 1997). Others have stated that it is too soon to know if these voluntary agreements are more than "hype"(Shoal 2000). As Shoal writes, "Certification depends not on an organization's actual environmental performance, but rather on evidence of its conformance with its own internally-developed environmental management system" (2000:291). Still others have argued that voluntary standards provide important tools through which businesses can increase their level of environmental awareness and become more proactive (Mazza 1996; Rondinelli and Berry 2000; Wellford 1996). Even the strongest critics often admit that while these are imperfect instruments, voluntary agreements are often the most feasible solution in light of current World Trade Organization rules which promote voluntary but not mandatory standards (Arriaza 1996), and since environmental legislation at the international level is rare and difficult to achieve.

As this discussion points out, experts are highly divided as to whether or not voluntary measures, such as ISO 14001, will actually improve the environmental performance of firms versus simply creating a false image of "greenness". Critics accuse firms of trying to manipulate the regime so that certification leads consumers and trading partners to believe firms are "green", when in fact they may not have improved environmental performance at all. At the heart of the debate about efficacy lies concern

about firm motivations. If firms are pursuing ISO 14001 so they can improve their environmental performance, then the critics should feel somewhat reassured. On the other hand, if firms are pursuing certification mainly out of a desire to conduct more extensive "green marketing", then there may be room for concern. Of course, it is possible that firms could pursue ISO 14001 in order to improve their green image, with the useful side effect being improved environmental performance. This information should be of interest to both individual firms as they consider ISO 14001 implementation and to public policy makers as they consider encouraging or discouraging ISO 14001 implementation and certification.

In order to investigate these questions, the survey presented respondents with a list of 10 predicted motivations for ISO 14001 implementation and certification, and asked them to rate each one on a scale of zero to five. Zero corresponds to "totally *un*important" and five corresponds to "highly important".[14] Before discussing the results, it is useful to examine previous work on this topic.

Insights from Previous Work

A growing body of work examines why some firms choose to adopt beyond-compliance, or other types of voluntary regimes. Prakash (1997) found that some companies have internal "environmental entrepreneurs" who successfully persuade key decision makers to undertake green initiatives. Prakash's work utilized two thorough case studies of firm response to beyond-compliance/voluntary regimes. This study builds on his work by asking managers in ISO 14001 certified firms to discuss the existence, roles, and arguments used by such entrepreneurs within their own firms.

[14] Thanks goes to Aseem Prakash for his input on the design of this question.

Other research in this area has often focused on the profit motives held by firms pursuing greener practices. Porter and Van der Linde (1995) argue that pollution prevention and cleaner production can improve competitiveness and profitability. Lutz, Lyon, and Maxwell (2000) find that firms may have incentives to self-regulate in order to forestall mandatory regulation. While these incentives make sense, it is not clear how they combine and which factors weigh the most heavily in determining the support for voluntary standards by particular firms or industries. This study examines the relative weights of these factors by asking firm managers to rank the importance of these motivations in their decisions to become ISO 14001 certified.

While these authors discuss the reasons why firms may wish to self-regulate, standard economic theory predicts that firms will avoid regulations as much as possible. The Standard Theory of Environmental Regulation assumes that firms seek to maximize profits and will become 'greener' when doing so increases their profits, or when they are forced to do so by regulators. Under normal economic conditions, firms will externalize the environmental costs of production if allowed to do so. To make matters worse, firms have incentives to lobby politicians and regulators to maintain relatively low levels of environmental regulations in order to reduce production costs and increase competitiveness relative to other states and countries.

These incentive structures have resulted in a perceived need for command-and-control regulatory mechanisms. According to Esty and Chertow (1997), "The American style of command-and-control has resulted in significant improvements in environmental health, but these improvements have come within a policy framework that is inflexible, costly, and its effectiveness appears to be affected by diminishing marginal returns". On

the other hand, Daniel Cole (2000) argues that critics have under-valued command-and-control measures. If firms were doing what they needed to do to clean up their pollution voluntarily, then command-and-control regulations would not be necessary at all. History is replete with examples of firms that polluted at will until regulators or the courts forced them to clean up their acts. In fact, Lutz, Lyon and Maxwell (2000) have argued that firms tend to self-regulate and become cleaner only when threatened with new regulations. Taking these works together, one could conclude that voluntary measures work best when in tandem with command-and-control regulations.

In addition to the push from regulators, many businesses are feeling pressure from consumers, shareholders, and trading partners (Hoffman 1997). A 1989 survey found that 77% of Americans say that a company's environmental reputation affects their purchasing decisions (Scott 1991). Some firms may choose to adopt voluntary environmental measures out of a desire for public recognition and free press (Khanna 1999).

Additionally, in light of disasters like that of the *Exxon Valdez*, companies are increasingly motivated to change their environmental practices out of a concern for reducing their liabilities. These concerns, combined with a desire to preempt new mandatory environmental regulations, have provided companies with incentives to pursue voluntary standards and beyond-compliance practices (Sergerson and Micelli 1998; Lutz, Lyon and Maxwell 2000). In her recent work, Khanna argues that regulatory pressures are important, but less important than market pressures in encouraging firms to adopt voluntary measures (Khanna 2001). From this discussion it seems clear that there are a number of factors that, at least theoretically, could provide motivation for firms to

participate in voluntary environmental regimes. This study also tests the relative importance of market pressures versus pressures from regulators in influencing firms to take up self-regulatory measures, such as ISO 14001.

This part of the study set out to specifically address the "greenwashing" question and the relative importance of market pressures versus pressures from regulators. Are companies becoming certified to ISO 14001 so that they can promote a greener image without having to become greener in reality? If so, then the standard is dangerously misleading to consumers and to regulators. On the other hand, if companies are implementing ISO 14001 and successfully using it as a tool to help track and improve environmental performance, then governmental bodies may wish to encourage its adoption by raising awareness of its possible benefits and/ or subsidizing training for environmental managers.

Findings

Existence of Environmental Entrepreneurs

When asked about the presence of environmental entrepreneurs, the responses from firms in developing countries were similar to those for firms in developed countries. Specifically, the question asked firm managers: "Did any individual or small group of managers play an instrumental role in persuading the company to implement ISO 14001?" Table 7.1 shows the various responses for firms in both developed and developing countries.

[Insert Table 7.1 About Here]

There is no reason to believe that the responses to this question should be different for firms in different types of countries. Therefore, it is not surprising that

respondents from both types of countries had statistically similar responses to the question: "If 'Yes', how instrumental was this person(s)'s efforts in persuading the company to adopt an ISO 14001 EMS?". Respondents could respond on a scale of 1-10 with a "1" corresponding to "slightly instrumental" and a "10" corresponding to "highly instrumental". The average for developing country respondents averaged 8.55 while the average for respondents from wealthier countries was an 8. For both groups, the presence of an internal advocate(s) for ISO 14001 seems to have been key to the company's decision to pursue implementation and certification.

When asked about the identity of these entrepreneurs, respondents could check one or more of the following categories: CEO, Environmental Officer, or Other. In the majority of cases, the CEO was the entrepreneur or headed up the team of entrepreneurs within the firms. This was even more likely for the firms in developing countries where many firms do not have environmental managers. A significant number reported that a group of managers worked together to bring others "on board". Table 7.2 shows the results for this question. A number of outcomes were possible (e.g. CEO, environmental manager, team, other, and combinations of each), and only about half of the respondents answered this question. Perhaps as a result of these two factors, the results do not show statistically significant differences.

[Insert Table 7.2 About Here]

In his previous work, Prakash (1997) found that entrepreneurs often argued that the long-term economic benefits and the benefits to the company's image, though non-quantifiable, justified the adoption of voluntary regimes. The interesting idea here is that many of the benefits to voluntary regimes are either non-quantifiable (e.g. displaying

environmental leadership, improving relationships with regulators), or their benefits materialize in the long term. Since many firm managers look to the short-term impact on profits, especially among American firms, Prakash argued that entrepreneurs must make convincing arguments that focus on the medium and long-term or on the indirect impacts on profitability that may result from voluntary environmental regimes.

To further investigate this question, the questionnaire asked respondents to describe the "actions/arguments/ evidence" used by the entrepreneur(s) to persuade decision makers to adopt ISO 14001. The responses mirrored the findings to be discussed shortly in the section on firm motivations. However, these open-ended responses can provide some added insight. For both groups of countries, the responses included the following types of arguments:

Arguments related directly or indirectly to profits (total =40):

- Improve company image: 9
- Improve profits: 3 (with 1 specifically mentioning long-term profits)
- Improve compliance with or knowledge of regulations: 9
- Current or future requirement for trade: 11
- Meet trade association requirements or requests: 4
- Marketing benefits: 2

Arguments non-related to profits (total comments=17):

- Environmental/Social Responsibility: 14
- "Be the first"/ Be a leader: 3

Arguments with unclear motivations (total comments= 17):

- CEO said "Do it!": 9
- Directive from headquarters: 8

As you can see, the arguments related either directly or indirectly to the firm profits outnumber other types of comments significantly. Prakash's work argues that environmental entrepreneurs often use arguments based on profitability, even though the entrepreneurs themselves may actually be motivated by a belief in the inherent value of environmental protection.

In sum, while the presence of environmental entrepreneurs seems important for most certified firms, their existence and the techniques they employ did not significantly differ between developed and developing countries. Therefore, the existence and instrumentality of environmental entrepreneurs does not explain the variation in certification rates by country.

The next question on the questionnaire asked respondents to rate their "greenness" compared to that of their company.[15] This information helps us to know if there are green revolutionaries, so to speak, working for change within the corporate world. Overall, this information helps us come closer to a full understanding of the motivations for joining voluntary regimes.

The questionnaire asked respondents to rate their philosophy toward the environment compared to that of their companies. Keep in mind that about two-thirds of the respondents were environmental managers, while the other third were CEOs, quality managers, or other types of managers.

> "Some people feel that the environment can be protected effectively only if societies fundamentally change the way their economies work. Other people feel that it is possible to protect the environment without fundamentally altering the economic system. Where would you place your philosophy and the philosophy of your company in this debate?"[16]

Respondents could mark any number on a scale of 1 through 10, where 1 corresponds to "Can protect the environment only if the economic system is fundamentally changed" and 10 corresponds to "Can protect the environment without changing the economic system". Table 7.3 shows the results of a t-test for statistically significant differences between the means of the two groups. These tests clearly show

[15] This comes from question number 10 on the Certified Firm Survey protocol.
[16] This question was borrowed from earlier work by Dr. Robert Rohrschneider.

that the respondents report themselves as being more in favor of environmental reforms than their companies, regardless of which type of country they come from. The data also indicate that no large gap exists between the views of respondents in developed and developing countries, nor is there a significant gap between the views of the companies in the two types of countries.

[Insert Table 7.3 About Here]

While many respondents hold views that are bit greener than those of their companies, the absence of a large gap suggests that entrepreneurs may be providing some environmental leadership within their companies. However, the companies are not lagging far behind. One could assume that a larger gap would mean that the environmental leaders faced an even larger task of dragging recalcitrant firms toward progressive environmental practices. Of course, this data does not allow us to show causality. It is possible that the work of environmental entrepreneurs has led their companies to a higher level of environmental awareness, or that environmentally aware firms tend to hire "green" managers. More work needs to be done before reaching conclusions on the direction of causality, but the data does show us that environmental entrepreneurs provide important leadership in those firms that chose to become ISO 14001 certified.

The Motivations

To uncover the motivations for ISO 14001 implementation and certification, respondents were given a list of 9 common motivations and asked to rank each one on a scale of zero to five, where zero corresponds to "completely unimportant" and 5 corresponds to "highly important". These included:

- Potential economic savings
- Requirements from parent company
- Desire to display environmental leadership/ be a good neighbor
- "Green" marketing benefits
- Incentives and/or pressure from government regulators
- Desire to receive regulatory relief
- Requirements of trading partners
- Desire to increase exports
- Desire to reduce liabilities/ reduce insurance premiums.

In addition to these categories, respondents were asked to include any factors that were not listed. Chart 7.1 compares the averaged responses on the question of motivations for firms in developed and developing countries.

[Insert Chart 7.1 About Here]

As Chart 7.1 shows, firms in both types of country report their strongest motivation as being a desire to exhibit "environmental leadership and to be a good neighbor". This findings should be somewhat reassuring to those skeptics who believe that companies are pursuing ISO 14001 certification purely for self-serving reasons. If companies pursued ISO 14001 solely in order to reap marketing or financial gains, but without true concern for the environment (although these are not mutually exclusive), then we would expect "economic savings" or "green marketing" to have the highest scores. While these two categories are ranked as fairly important, the respondents reported their strongest motivation came from a desire to provide environmental leadership and to be a good neighbor.

While the averaged scores show that green marketing is important, its score places it among a penumbra of other equally important (or even more important) motivations. The desire to be an environmental leader and a good neighbor is clearly the strongest motivation for firms in both types of countries. Even if some firms may pursue

an ISO EMS purely for publicity purposes, this should provide some level of reassurance to those who are concerned that ISO 14001 is little more than "greenwashing".

Interestingly, firms in developing countries related stronger motivations in a few important areas. Interestingly, Chart 7.1 suggests that firms in developing countries related stronger motivations overall on most scores. The existence of stronger motivations is interesting. Certification rates are lower for firms in developing countries (See Appendix 3), but it is possible that those companies that do become certified are strongly motivated to do so. Table 7.4 shows the areas of significant difference between the motivations of developing and developed countries.

[Insert Table 7.4 About Here]

As the table shows, there are statistically significant differences in the levels of motivation levels between the two groups for at least three factors. Developing country firms are significantly more motivated by a desire for increased exports and by a desire to improve their understanding of regulatory requirements (at significance levels of .001 and .002, respectively). This makes sense because environmental regulations are changing rapidly in many of developing countries and exports may be even more important where domestic markets are small. Surprisingly, certified firms in developing countries also expressed a greater desire to exhibit environmental leadership and to "be a good neighbor" than did their counterparts in wealthier countries (significant at the .017 level). This finding is difficult to explain, but it may be possible that those few firms becoming certified in developing countries truly are the environmental leaders within their countries.

The last area of marginal significance (at the .057 level) involves the existence of government incentives and pressures, in which developing countries report being more strongly motivated by government pressures and incentives than do firms in wealthier countries. This finding suggests that governments in developing countries are taking a more proactive role in promoting ISO 14001 in their countries than are the governments in wealthier countries. Responses to other survey questions support this finding, and will be discussed in Chapter Nine.

For almost all of the countries included in the survey, the desire to be an "environmental leader and a good neighbor" was the strongest motivating factor. For Mexico and Sweden the desire to display "environmental leadership and to be a good neighbor" nearly tied with "requirements of parent company" (for Mexico) and the desire for "green marketing" (for Sweden). This makes sense as Mexico has a large number of export-oriented manufacturing operations that are part of large multinational corporations. And Sweden's population has a high level of environmental consciousness, which makes green marketing more valuable. Considering the vastly different economic, environmental, and social conditions in these countries, it is somewhat surprising that their responses did not exhibit even greater variation.

In addition to the examples from Mexico and Sweden already discussed, another interesting finding supported by both the qualitative and quantitative results is that Malaysian firms are motivated by the desire to use the ISO 14001 EMS as a tool to keep track of the rapid changes occurring in their environmental laws. The ISO EMS requires that firms have a system in place that will enable them to keep abreast of changes in regulatory requirements and to evaluate their own compliance efforts. While firms do not

need to be in compliance, these requirements give them the tools necessary to know what it takes to become compliant and to move in that direction. Since the Malaysian leadership has recently promulgated numerous environmental laws, firms are looking for ways to keep up with rapid changes. This will be discussed more fully in the next chapter.

While the overall results are heartening, there is still room for concern, as individual companies and auditors may abuse the system by creating and/or certifying an EMS that exists only "on paper". Anecdotal accounts reveal that individuals have widely varying levels of faith in the consistent quality of the ISO EMSs. For example, when asked, "Could a company become certified, but then fail to really implement their system to make environmental improvements?", a Chinese environmental official stated that "If one has fancy red dancing shoes, one would not think of going dancing without them". On the other hand, a European member of TC 207 stated that in some places it is possible to buy an ISO 9002 certification (dealing with quality standards) in the bazaar. He stated that outright fraud among third-party auditors is rare, but that it does sometimes occur. He went on to state that fraud is a less serious concern than is the lack of consistency among auditors. Of course, a company that creates a weak EMS may be able to satisfy trading partners who require the certification, but they will miss out on many of the intrinsic benefits that a robust EMS can provide in terms of environmental cost savings, reduced liabilities, etc.

Before leaving the issue of firm motivations it is important to note that Chart 7.1 clearly shows support for the arguments raised earlier by Khanna (2001). Firms from both types of countries report they are motivated more strongly by market pressures than by governmental and regulatory pressures. The desire to reap economic benefits, to take

advantage of green marketing, to increase exports, and to respond to requirements from trading partners generally outweighed the motivations provided by pressures from government regulators. A partial exception is that firms in developing countries reported relatively strong motivations stemming from their desire to better understand changing regulatory requirements. In no country did "pressure/incentives from regulators" outweigh "desire to reap economic savings" or "green marketing".

Conclusions

This chapter sheds light on a number of important issues at both the theoretical and practical levels. First, building on the previous work of Aseem Prakash (1997), it appears that the existence of "environmental entrepreneurs", or advocates for ISO 14001 adoption, was an important factor in most firm decisions to implement and certify the ISO 14001 EMS. These individuals or small groups often "sold" corporate decision makers and managers on the benefits of ISO 14001 by arguing that certification would bring economic benefits to the company either in the long term, or indirectly through an improved corporate image and improved market access. While these entrepreneurs may have slightly "greener" worldviews than their companies, the gap is not great and very few of these entrepreneurs believe that radical economic restructuring is necessary in order to adequately protect the environment. These findings add weight to the argument that environmental leadership within firms is vital to the uptake and success of voluntary environmental management regimes.

The findings also bolster the argument that environmental entrepreneurs generally rely on economic, rather than philanthropic arguments, in order to persuade key players to support their initiatives. However, many of these environmental entrepreneurs

completed the surveys themselves, and noted that their strongest motivations involved the desire to be a good neighbor and display environmental leadership within their communities or their industries.

Secondly, the data presented in this study do *not* lend support for the idea that the majority of firms pursue certification as a form of "greenwashing". The majority of firms reported they became certified out of a desire to "be a good neighbor" and to establish themselves as environmental leaders within their industries. Economic and marketing incentives were still important, but they were generally less important than the desire to be an environmental leader and a good neighbor. Data presented in Chapter Six showed that the vast majority of respondents reported environmental improvements related to the implementation of an ISO 14001 EMS, regardless of their reasons for becoming certified. These findings combine to indicate that ISO 14001 certification appears to be more than mere greenwashing, in most cases. However, it remains possible that some firms may implement and certify an ISO 14001 EMS without making significant environmental improvements. The information presented in this chapter and in Chapter Six lends support for the idea that most certifying firms are making environmental improvements and are motivated by their desires to do so.

Finally, these findings shed light on the debate about the relative importance of market versus regulatory pressures as influences on firm-level environmental decisions (Khanna 2001). These findings add weight to the argument that market factors are more important in determining firm environmental behavior than are regulatory pressures—at least in the case of ISO 14001.

In sum, firm managers and CEOs worldwide report their strongest motivation for ISO 14001 certification is a desire to be good neighbors and display environmental leadership. While market forces are more important than pressures or incentives from regulators, they are ranked as less important than the desire to be a good neighbor and a leader. The presence of environmental entrepreneurs within firms seems to be an important factor in encouraging the implementation and certification of ISO 14001 for firms in both developed and developing countries.

Table 7.1 Presence of Environmental Entrepreneur(s)

Country	Question 6: Presence of Entrepreneur(s)?				
Type	Yes	No	Don't Know	t-score	Significance (2-tailed)
Developing	41(79%)	9(17%)	2(4%)	-.64	.521
Developed	52(74%)	14(20%)	4(6%)		

Table 7.2 Identity of Environmental Entrepreneur(s)

Country Type	Question 7: Type of Environmental Entrepreneur(s)					
	CEOs	Environmental Officers	Other	Combination	t-score	Sig.
Developing	70%	10%	5%	15%	.143	.887
Developed	52%	16%	5%	27%		

Table 7.3 Environmental Philosophies of Respondents and Companies

Country Type	Averaged Respondents' Philosophy	Averaged Company's Philosophy	t-Score	Significance (2-tailed)
Developing	5.88	6.60	-3.67	.000
Developed	6.63	7.15		
t-Test	-1.16 (.100 sig)	-1.42 (.160)		

Chart 7.1

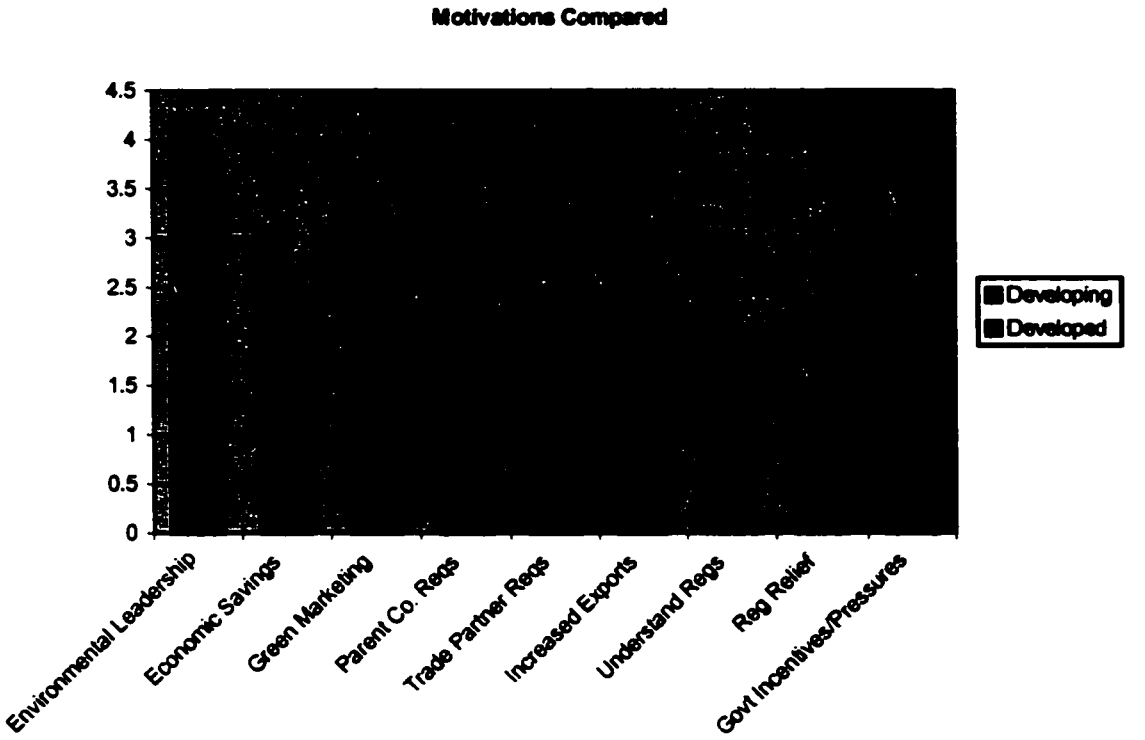


Table 7.4 Motivations For ISO 14001 Certification

Motivation	t-test score	Significance (2-tailed)	Mean Difference Between Developing and Developed Countries
Envtl. Leadership	2.40	.017	.51
Economic Savings	1.88	.063	.52
Green Marketing	1.02	.311	.29
Parent Co. Reqs.	-.778	.438	-.29
Trade Partner Reqs.	-.736	.463	-.28
Increased Exports	3.33	.001	.97
Understand Regs.	3.16	.002	.92
Regulatory Relief	1.69	.094	.49
Govt. Incentives	1.92	.057	.52

Section 4
Possible Alternative Explanations and Public Policy Responses

While this study examines two hypotheses related to perceptions of regime legitimacy and efficacy, there are likely to be many other issues that influence observed differences in ISO 14001 certification rates between countries. Each of these factors form potential rival hypotheses and are therefore worthy of deeper investigation.

Toward this end, Chapter Eight looks more closely at the U.S. case compared to that of others, in order to better understand why so few US firms have become ISO 14001 certified. The U.S. delegation participated early and consistently in the TC 207 process, and continues to do so. However, the U.S. has relatively fewer companies choosing to certify under an ISO EMS. An investigation of the U.S. case presents some additional factors that may help explain differences national rates of certification.

Chapter Nine examines the variety of public policy responses to the rise of this voluntary regime and suggests some strategies that public policymakers may wish to consider when crafting their response to ISO 14001. Variation in public policy responses to ISO 14001 may also help explain some of the observed variation in rates of certification.

Chapter Eight
Drivers and Draggers: The U.S. and other Interesting Cases

Firms around the world have been seeking ISO 14001 certification at varying rates. While firms in some countries are rushing to become certified, firms in other countries, like the U.S. are not doing so. This chapter searches for alternative rival hypotheses that might explain why firms in some countries are becoming ISO 14001 certified at rates that far surpass their peers. As Appendix 3 shows, many Swedish and Malaysian firms are becoming certified but very few American firms are becoming certified. Since Malaysian delegates were not involved in the initial TC 207 talks, and American delegates were involved, it is important to look for explanations that allow us to support or refute the hypothesis that early involvement in the negotiating process impacts regime legitimacy and efficacy. An in-depth examination of the American case, compared to others, allows us to do this.

Firms in the United States are significantly less likely to become certified than firms in 37 other countries, including India, Malaysia, Mexico, Sweden, Japan and most European countries. As earlier chapters have discussed, many firms in developing countries may be dissuaded from seeking ISO 14001 certification due to a number of factors, including: the lack of local auditors; low levels of awareness about ISO 14001 due to the absence of Southern negotiators at the original negotiations; obstacles surrounding access to technology and training; inability to afford the services of auditors and consultants; and the existence of a larger percentage of small and medium sized enterprises for whom the economies of scale make the costs of ISO 14001 prohibitive. However, these factors do not equally apply to firms in the United States, leaving

observers somewhat uncertain as to why American companies have not shown much enthusiasm for ISO 14001.

This chapter seeks to further investigate the reasons why American firms are not opting in to the ISO 14001 regime at rates similar to their economic peer countries (e.g. Sweden, United Kingdom, and Canada). This investigation will focus on 4 important factors: the widespread use of non ISO 14001 EMSs by American companies, the lack of supply chain demand for ISO 14001 certification, the existence of an adversarial culture between regulators and the regulated that may not reward or encourage firm efforts to improve environmental performance, and the costs and benefits of ISO 14001 for American companies.

Insights from Previous Work

Theoretically, there are many reasons why a firm might decide not to seek ISO 14001 certification. First, if a company has a pre-existing and efficient environmental management system in place, then switching to the ISO 14001 EMS may have few benefits. The United States-Asian Environmental Partnership (USAEP 1997) published a study entitled "Global Environmental Management: Candid View of Fortune 500 Companies". One of the findings in this report was that the majority of U.S. firms surveyed believed that ISO 14001 did not provide a better alternative to their pre-existing EMSs.

By way of example, the environmental managers from Eli Lilly, a large U.S. pharmaceutical company, believe that the EMS they currently have in place is more rigorous than the ISO 14001 EMS. Switching to the ISO 14001 EMS would entail significant costs in terms of personnel retraining, creating new protocols for dealing with

environmental issues, and obtaining third party audits of their numerous facilities.[17] The managers of Eli Lilly have decided to maintain their current EMS, and switch to the ISO EMS only if market pressures for the ISO 14001 certification increase. This may be an important factor in explaining the smaller percentage of ISO 14001 certified firms in the U.S., since the stringency of American environmental laws led many companies to implement environmental management systems years ago.

Secondly, until recently few large firms in the United States were requiring ISO 14001 certification from their suppliers. The USAEP report previously mentioned, indicated that ISO 14001 was not a supplier requirement for the vast majority of American firms as of 1997, however, this has changes to some extent in the last four years. As of 2001, Ford and GM have stated that they will require all of their suppliers to become ISO 14001 certified (e-Wire April 3rd, 2001). This decision will affect more than 11,000 companies worldwide. Ford's environmental officer, Tim O'Brien stated: "The bottom line is we have proven that business and the environment can live in harmony... Ford has demonstrated it can save millions of dollars and at the same time reduce our environmental impact" (ibid). In addition to these two auto manufacturers, Home Depot and many other large American corporations have decided to require certification from their suppliers. As the trend increases, American companies may have no choice but to switch to an ISO 14001 EMS. While it is clear that large U.S. companies have been slower to require certification from their suppliers, it is not completely clear why this is the case.

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[17] Information presented by an Eli Lilly employee at the *National Association of Environmental Law Societies Conference*, panel on "Globalization and Its Effects on Business Standards: ISO 14000", Indiana University, Bloomington Indiana, February 1999. Susan Raines, Moderator.

In some ways, this begs the question: American companies have not been signing on to ISO 14001 because American companies have not required it of their trading partners. Why not? Those companies becoming certified generally report environmental cost savings, so lack of expected benefits should not be the reason. This should be especially true for firms that did not have a well-developed EMS, as the passage below relates.

> In the 1960s the company (Alcoa) pioneered a closed-loop process for capturing and recycling more than 99.9 per cent pf the fluoride of collected fumes from its aluminum-smelting-process gases and dusts (which were found to be harmful to vegetation and to livestock), reusing them in aluminum production. Alcoa recognized that a company dependent on heavy use of natural resources, water, and energy in its worldwide operations could not afford to be seen as a 'dirty industry' (Rondinelli and Vastag 1998:425).

Another possible reason for lower certification rates of U.S. firms may be found in the American culture of adversarial legalism. In their examination of cross-national differences in public-private relations, Kagan and Axelrod (2000) found what others have long assumed to be true. The relationships between American regulators and regulated entities, exhibits more conflict and less cooperation than is the case in many European and Asian countries. The increased transaction costs associated with these conflicts add to the overall costs of doing business in the U.S. In their study, Kollman and Prakash (2001) explored the reasons behind cross-national differences in the rate at which firms join voluntary and beyond-compliance regimes. While they only examined the United States, the United Kingdom, and Germany, Kollman and Prakash found that countries where regulator-regulated relationships tend to be adversarial, businesses are less likely to adopt voluntary and beyond-compliance regimes. This chapter will examine the impact of adversarial legalism on the ISO 14001 certification rates for U.S. firms. Finally, this

chapter will examine the costs and benefits of ISO 14001 for American firms. If the costs outweigh the benefits, then it makes sense that American firms are not rushing to become certified.

Response Rates and Profiles of U.S. Firms

In order to gather the information necessary, questionnaires were sent to 53 randomly selected ISO 14001 certified companies within the United States. Of these, 30 were completed, for a response rate of 56%. The respondents came from both multi-national corporations (MNCs, 22) and non-MNCs (8). Seven of the respondents stated they did not export at all while another six reported that they export 50% or more of their production. The majority of respondents were very large companies, as measured by their number of employees (see Table 8.1) and their average annual sales (Table 8.2). Since most of the respondents preferred to remain anonymous, there is no reason to expect that the responses are systematically biased to improve the environmental reputations of individual companies.

[Insert Table 8.1 Here]

[Insert Table 8.2 About Here]

The exporting firms showed no real pattern in terms of the final destination of their exports: three exported more than 50% of their goods to countries of the European Union, two exported similar amounts to Japan, five firms exported to Latin America, and only one country specifically mentioned Canada as an export market.

Findings

Pre-existing EMSs

Respondents were asked whether their company had a pre-existing environmental management system. As mentioned earlier, some observers have argued that the stringency of American environmental law provided incentives for firms to implement their own environmental management systems that pre-date the creation of ISO 14001. Switching systems might not provide any real benefits. Table 8.3 shows the results for American, Canadian, Swedish and British firms, when asked about the presence of a pre-existing environmental management system. It must be noted that the sample sizes for the non-U.S. companies is not large enough (unless pooled) to ensure a representative sample. These smaller numbers also make statistical tests unlikely to show a significant relationship between the existence of a prior EMS and the country in which the firm is located. However, these results can highlight interesting avenues for further research.

[Insert Table 8.3 About Here]

The findings shown in Table 8.3 appear to indicate that American firms were somewhat more likely to have a pre-existing EMS than were firms in other countries. Larger samples from Non-U.S. countries would be needed to verify this finding more authoritatively. While these differences are likely to have an impact on the rate at which American firms implement and certify an ISO 14001 EMS, it is unlikely that the large gap in certification rates can be explained solely by this difference. Further research would be necessary to add weight to these findings.

Pressure from Trading Partners

Because the U.S. has such a large domestic market, American companies may be under somewhat less pressure to be able to export their products than is the case for countries with smaller populations and a closer geographic proximity to their competitors. If American companies are under less pressure to trade internationally, then they are less likely to encounter pressure for ISO certification from trading partners.

To investigate this possibility, the survey questionnaire asked respondents to rank the importance of various motivating factors on their decisions to become ISO 14001 certified. In order to test the hypothesis that the lower certification rates for American firms stem from an absence of pressure from trading partners, Table 8.4 compares the averaged responses from respondents concerning the motivation for certification provided by pressure from trading partners and parent companies. As the table shows, certified American companies do not appear to be experiencing any less pressure from trading partners and parent companies.[18] In order to conduct a strong test of this hypothesis, it would be necessary to survey non-certified firms in each country as well. It is possible that the certified firms are certified because they are feeling as much pressure as are firms in other countries, while the relatively large percentage of non-certifying firms have not yet felt pressure from trading partners and parent companies.

As was discussed in the previous chapter, American and other respondents were asked to reveal their motivations for certification. Chart 8.1 shows the average responses from the American respondents when asked about the motivations behind their decision to become ISO 14001 certified. As is consistent with the results from most other

[18] Compared to Canada, the t-scores have significance levels of .87 and .087, respectively. Compared to Sweden, the t-scores significance levels are .38 and .78, and the sample size from the U.K. is really too small for meaningful comparisons to be made (n=7).

countries, American respondents state their strongest motivation stems from a desire to provide environmental leadership and to be a good neighbor. However, the second and third strongest motivations (i.e. economic savings and green marketing) indicate that the bottom line remains an important motivating factor. Overall, these findings indicate that even ISO 14001 certified American firms are not feeling overwhelming pressure from trading partners to become ISO 14001 certified. As Table 8.4 indicates, certified American firms are reporting rates of pressure from trading partners and parent companies that are similar to those of firms in their peer countries. This information does not support the hypothesis that American firms are feeling less pressure to become ISO 14001 certified than are firms in peer countries. However, it is possible that non-certified firms would report significantly less pressure for certification than is the case for firms in other countries. This is a question for future research.

[Insert Chart 8.1 About Here]

American Adversarial Legalism

As mentioned earlier, the third possible explanation for lower rates of ISO 14001 certification by American companies involves the culture of adversarial legalism exhibited in the relationships between American companies and their environmental regulators at the local, state, and national levels. Interestingly, as Chart 8.1 shows, American firms are feeling relatively little pressure/incentives from regulators to become certified, nor do they delude themselves with the idea that certification will result in regulatory relief. Chart 8.2 compares the pressure from regulators, desires for regulatory relief, and the desire to reduce liabilities for certified firms in the U.S. and some of its peer countries.

[Insert Chart 8.2 About Here]

Table 8.5 shows the results for t-tests done to look for differences in the mean U.S. responses and the pooled responses of U.S.'s peer states of Sweden, Canada, and the United Kingdom, all of which have relatively more certified firms than does the U.S. As Chart 8.2 and Table 8.5 show, American firms report feeling less pressure/incentives for ISO 14001 certification than do all of their peer countries taking part in the survey. However, this is significant only at the .085 level, but is supported by the open-ended responses. Three out of 18 Swedish firms reported receiving benefits that reduced the costs of their certification process, including technical advice and cash subsidies. One Swedish respondent noted that technical advice given at the beginning of the implementation process is even more effective than cash subsidies in terms of saving the company's time and money. In a similar vein, one American respondent stated that his company had received some mentoring and technical advice. This was the only comment revealing the existence of positive governmental incentives within the U.S.

[Insert Table 8.5 About Here]

In contrast, one American respondent noted that the regulators in his state did not give special treatment to his company as a result of their ISO 14001 status: "We tried to do ISO 14001 instead of a state requirement for a pollution prevention plan but they would not accept it. So we have done both. We have an antagonistic relationship with regulators". While it would take a larger volume of data to be sure, it appears that American firms are receiving fewer positive incentives from government regulators concerning ISO 14001 implementation and certification. It is possible that this finding *partially* explains the lower certification rates for American firms.

While American firms are not receiving widespread governmental encouragement to pursue ISO 14001, the certified firms taking part in this survey revealed in open ended questions that they would like to see certification result in some form of regulatory relief. However, it should be noted that the desire for regulatory relief was not one of the stronger motivations for ISO 14001 certification (see Chart 8.1). This data indicates that American firms would like regulatory relief, but they do not generally expect that they will get it.

Interestingly, when it comes to regulatory issues and the possibility for reduced liabilities, the situations of U.S. and Canadian firms appear to be relatively similar, but stand in contrast to the firms in the sample of European countries. Table 8.6 shows these results. When we compare the North American companies (U.S. and Canada) to those of Europe (Sweden and the U.K.), we see some significant differences that may reflect differences in regulatory cultures between the two regions. As Table 8.6 shows, firms in North America are exhibiting a greater desire for regulatory relief than are those in the European sample. Open-ended response reveal very little faith that implementing an ISO 14001 EMS in the U.S. or Canada will result in significant regulatory relief, but it is a hope articulated by some. Although the Swedish respondents rated regulatory relief as very low on their list of motivations, one Swedish respondent stated, "We think that fees for environmental control will decrease because of the certification". While it is possible that isolated cases of regulatory relief are occurring within economically developed countries, there is no evidence that this is occurring very frequently based on the survey data.

These two groups also exhibited differences in the extent to which they hope ISO 14001 will result in reduced legal liabilities. *If* we assume that the U.S. and Canadian systems are more likely to exhibit cultures of adversarial legalism, these make sense. While the finding was weaker, it appears that the European firms samples may be experiencing stronger government pressures and incentives. This could partially explain why these firms are certifying at higher rates than North American firms.

Benefits for ISO 14001 Certified Firms in the U.S.

If American firms were unlikely to receive similar benefits as their peers, or to experience greater costs, then it would make sense for American companies to abstain from implementing an ISO 14001 EMS. However, American companies are reporting a plethora of benefits related to ISO 14001 implementation, including improvements in environmental performance and improved relationships with regulators.

Concerning benefits to environmental performance, the overwhelming majority of all participants, 96%, responded that ISO 14001 would be helpful in improving their firm's environmental performance. As discussed in earlier chapters, if the majority of companies were only interested in the "greenwashing" potential of adopting an ISO 14001 EMS, then they would create a weak EMS, set their objectives and targets low, and/or create an EMS on paper that they would not actually implement. If these problems were widespread among U.S. companies, then we would expect respondents to anticipate few improvements in environmental performance. The fact that such a large majority of survey participants did indeed perceive an environmental benefit from the adoption of the standard suggests that many firms are motivated to adopt ISO 14001 out of real environmental concerns. What's more interesting is that the relatively few companies that

pursue certification for non-environmental motives (e.g. green marketing, increase exports) remain likely to achieve some improvements in environmental performance.

Responses to other questions in the survey seem to corroborate this finding. Overall, respondents appear fairly well satisfied with ISO 14001's ability to improve their profits, ability to trade, and the environment. Interestingly, there are no real differences in these satisfaction levels between American firms and their peers.

As Chart 8.3 shows, participants in the survey were asked to rank the perceived benefits to profitability, to trade, to the environment, and the benefits of ISO 14001 overall on a scale of 1 to 10, with 10 indicating the highest level of benefits from ISO. This chart compares the U.S. responses to those from their peers (i.e. Great Britain, Sweden, and Canada). As Table 8.7 shows, none of these differences between the U.S. and its peers are statistically significant. Therefore, we cannot conclude that the American respondents perceived the benefits of ISO 14001 certification to be less than did the respondents from their peer countries.

[Insert Chart 8.3 About Here]

The question of trading potential adds an interesting dimension to the survey results. Few of the firms surveyed export more than 40% of their production. Of the five U.S. firms that export over 40%, environmental leadership was not the most highly motivating factor in the decision to implement the ISO 14001 EMS. Among these five firms, the most highly motivating factors leading to implementation were the requirements of their parent companies (3.4 out of 5), economic savings (3.2), and the potential for green marketing (3). Desire to display environmental leadership or to be a good neighbor was the fourth highest ranked motivator among these firms, at only 2.8.

Interestingly, on the earlier question concerning the environmental benefits of ISO 14001, this group's responses averaged 7.4 out of 10--- the same as the respondents with lower levels of exports. Additionally, four out of five of these respondents reported significant environmental improvements and cost savings because of their implementation of the ISO 14001 EMS. The lone dissenter stated that his company had a very high level of environmental protection and awareness before the implementation of ISO 14001. Therefore, he believed that few additional benefits were gained because of the implementation of an ISO EMS. This finding adds some limited support to the idea that the higher percentage of American firms with pre-existing EMSs may reduce the benefits they receive as a result of implementing ISO 14001.

While further research will be necessary to establish a firm link between trading potential and the desire to display environmental leadership qualities, these preliminary results suggest that the firms which are more dependent on exports may be less likely to adopt ISO 14001 out of a desire to be environmental leaders and good neighbors. This has interesting implications for firms in Europe and Asia, where companies tend to be more dependent upon the export of their products (Boyer and Drache 1996), and it may offer an important explanation as to why fewer American firms have opted in to the ISO 14001 system.

Previous research has shown that typical benefits from the implementation of an ISO 14001 EMS often include reduced energy usage, reduced waste disposal, increased recycling and reduced use of inputs in general (Marcus and Wilig 1997). As expected, respondents in our study reported all of these benefits and more. For example, 17 of the 30 firms reported reduced waste disposal, 14 reported reduced energy consumption, and

12 firms reported a reduction in the use of other resource inputs. Other reported benefits included increased recycling (and consequent revenues), productivity improvements, and streamlined permitting procedures. While it is clear that the major environmental benefits from certification remain in reduced waste disposal, energy consumption, and inputs, it appears that many firms are experiencing benefits in other areas.

The most common benefit listed in the open-ended question on benefits from ISO 14001 was that it had resulted in improved environmental awareness on the part of employees (23%). This is consistent with findings from similar case studies in China and Japan (Matouq 2000A and 2000B). One respondent in our study wrote: "Improved environmental management leads to greater awareness and this leads to many small benefits daily". In the second-most-common response to this question, 20% of respondents noted a decrease in the production of hazardous wastes.

In addition to these recurring comments, we received a number of unique and surprising comments about the types of benefits encountered. These comments show that a well-designed EMS can bring both tangible (e.g. cost savings, pollution reduction) and intangible benefits (e.g. less conflict) when properly implemented. Table 8.8 lists a few of the comments received. These comments show that environmental improvements often come from unregulated sources of pollution. These types of benefits might be less likely for companies that have not implemented a regime similar to ISO 14001, that asks employees and managers to brainstorm ways in which the company can reduce its negative environmental impacts.

[Insert Table 8.8 About Here]

Costs of Implementation and Certification for U.S. Firms

If the costs of implementation and certification outweigh the benefits, then it would make sense to see fewer American firms becoming certified. However, this does not appear to be the case for certified firms in the U.S. The costs of implementation and certification seem to be somewhat lower than expected. The average cost of certification per U.S. facility was only $8,280, while the implementation costs averaged about $60,000 per facility. Of course, the costs of ISO 14001 are highest during the implementation process. Thus, since the average cost savings was $88,844, it would seem that the economic savings of adopting an ISO 14001 certification outweighs the costs of certification and implementation for most U.S. firms. This is especially true when we consider that the environmental benefits of ISO 14001 will accrue indefinitely while the costs of implementation and certification decline after the initial outlay.

However, costs seemed to vary significantly when broken down by company size. For the U.S. respondents, the firms with the largest number of employees had significantly higher implementation and certification costs. While the smallest firms spent only $1,500-$3,500 per facility for certification, and $15,000-$25,000 for implementation, the largest firms (with over 1000 employees) spent an average of $28,000 per facility for certification, and an additional $84,708 in implementation. While the total cost to the largest firms appears to be greater, some of these firms also reported the greatest cost savings. According to the respondents, the average savings among firms with over 1000 employees was $152,000. Thus, it would appear that the adoption of ISO 14001 could be cost effective even for large firms.

Table 8.9 compares the costs of certification and implementation of an ISO 14001 EMS for responding U.S., Canadian, and Swedish firms. Only 3 firms from Great Britain responded, therefore their data was omitted. While the sample sizes are too small to reach firm conclusions, it does appear that the costs of implementation and certification vary significantly. However, this preliminary data does not clearly show that implementation costs are higher in the U.S. than in all of its peer states. Costs for certification in the U.S. were higher than for Canadian and Swedish firms. Again, this data can only be viewed as a preliminary investigation, since the sample sizes are too small to draw definitive conclusions.

Interestingly, some American respondents noted that they had difficulty in finding an auditor who was knowledgeable about the specific regulatory requirements to which their company was accountable. In the sample of American firms, two respondents stated that they had an extremely difficult time finding an auditor who was knowledgeable about the regulations to which the company was held accountable. Another four companies said this was moderately difficult for them. The good news is that the majority of respondents (77%), stated that they had no problems finding knowledgeable auditors.

While it is true that auditors do *not* need to ensure that the company is *in* compliance, auditors are required to verify that companies have a system in place by which they can track changes in applicable regulations. The goal of this system is to enable companies to always be aware of the changing compliance requirements and to know whether they are meeting the requirements. Additionally, many companies expressed an interest in ISO 14001's ability to improve their understanding of governmental regulations. In our sample of American firms, approximately 79% of the

respondents claimed that one of the factors that motivated them to seek certification was a desire to improve their understanding of governmental regulations. In fact, 38% conveyed a strong desire to improve their understanding of regulatory requirements (i.e. they rated this as a 3 or higher on a 5 point scale). Therefore, if an auditor is unfamiliar with the regulatory requirements of a particular state or for an individual industry, then the utility of the audit as a tool for improvement may be compromised.

Overall, the benefits of ISO 14001 implementation and certification outweigh the costs for most of the American firms surveyed. However, these are averages, so some firms may indeed find that the costs of ISO 14001 outweigh the benefits--- especially for smaller companies, companies that do not significantly export, and/or for those companies that already had a pre-existing environmental management system. The cost/benefit findings lead to a greater understanding about why fewer American firms are choosing to certify, since a smaller percentage of American firms depend on exports compared to European firms (Boyer and Drache 1997), and since many American companies already have EMSs. However, the vast majority of companies in the U.S. did report significant environmental improvements as a result of their implementation of ISO 14001, and this should encourage many companies to re-think their decisions to opt-out of the ISO 14001 regime.

Conclusions

This chapter investigated a number of reasons why American firms may be less likely to seek ISO 14001 certification than their peers. American firms appear to be more likely to have had an alternative EMS in place prior to becoming ISO 14001 certified. However, the gap between American firms and firms in other countries is not large

enough to completely explain why certification rates are so much lower for U.S. companies.

Secondly, ISO 14001 certified firms in the U.S. do not appear to be experiencing significantly less pressure from trading partners and/or parent companies than firms in peer countries (i.e. Canada, Sweden, and the United Kingdom). However, data from non-certified companies would be necessary before a firm conclusion on this matter can be reached. With the recent decisions by Ford and GM to require ISO 14001 certification from their partners, it is possible that the U.S. will rapidly catch up with its peer countries in terms of the amount of pressure for certification felt by firms. If this is the case, then we should see a large surge in the number of certified firms in the U.S. over the next two years.

Third, American firms are reporting less pressure and fewer incentives from the government that would encourage ISO 14001 certification. While "pressure/incentives from government" was not a strong motivating force for any of the Northern firms, American firms were even less likely than their peers to feel motivated by pressure from governments. Once again, this finding is not, in and of itself, strong enough to explain the large difference in certification rates between firms in American and other Northern countries. However, it does lend weight to the argument that the incentives for U.S. firms are simply not the same as for firms in peer countries. More research must be done to uncover other factors influencing this phenomenon.

Fourth and last, the majority of certified American companies are experiencing improvements in environmental performance and economic cost savings that generally offset the costs of implementation and certification. However, these benefits are less

significant for companies that had a pre-existing EMS and little foreign trade. These findings suggest that American firms, with their access to a large domestic market and less dependence on exports, would be less likely to pursue ISO 14001 certification.

Taken together, these four factors deepen our understanding about the reasons why U.S. companies are becoming ISO 14001 certified at a lower rate than is the case for firms in many developed and developing countries.

The next chapter will take a more in-depth and comparative look at the relationships between regulators and certified firms, and the related implications for public policy.

Table 8.1 Company Size Based on Number of Employees for U.S. Respondents

Fewer than 20	0
20-49	1
50-99	2
100-299	6
300-999	11
1000+	10

Table 8.2 Company Size by Annual Sales

Less than $100 Million	5
$100-500 Million	8
$501 Million - $1 Billion	0
$1.1 Billion to $5 Billion	4
Greater than $5 Billion	1

Table 8.3 Existence of Prior EMS

Country	Yes	No	Number Responding
United States	10(34%)	19(66%)	29
Canada	3 (19%)	13(81%)	16
United Kingdom	1(14%)	6 (86%)	7
Sweden	5(29%)	12(71%)	17
Pooled Non-U.S. results	9 (22%)	31(78%)	40

Table 8.4 Pressure from Trading Partners and Parent Companies

Country	Trading Partner	Parent Company
United States	2.38	2.76
Canada	2.47	3.78

Sweden	2.82	2.94
United Kingdom	1.71	2.29

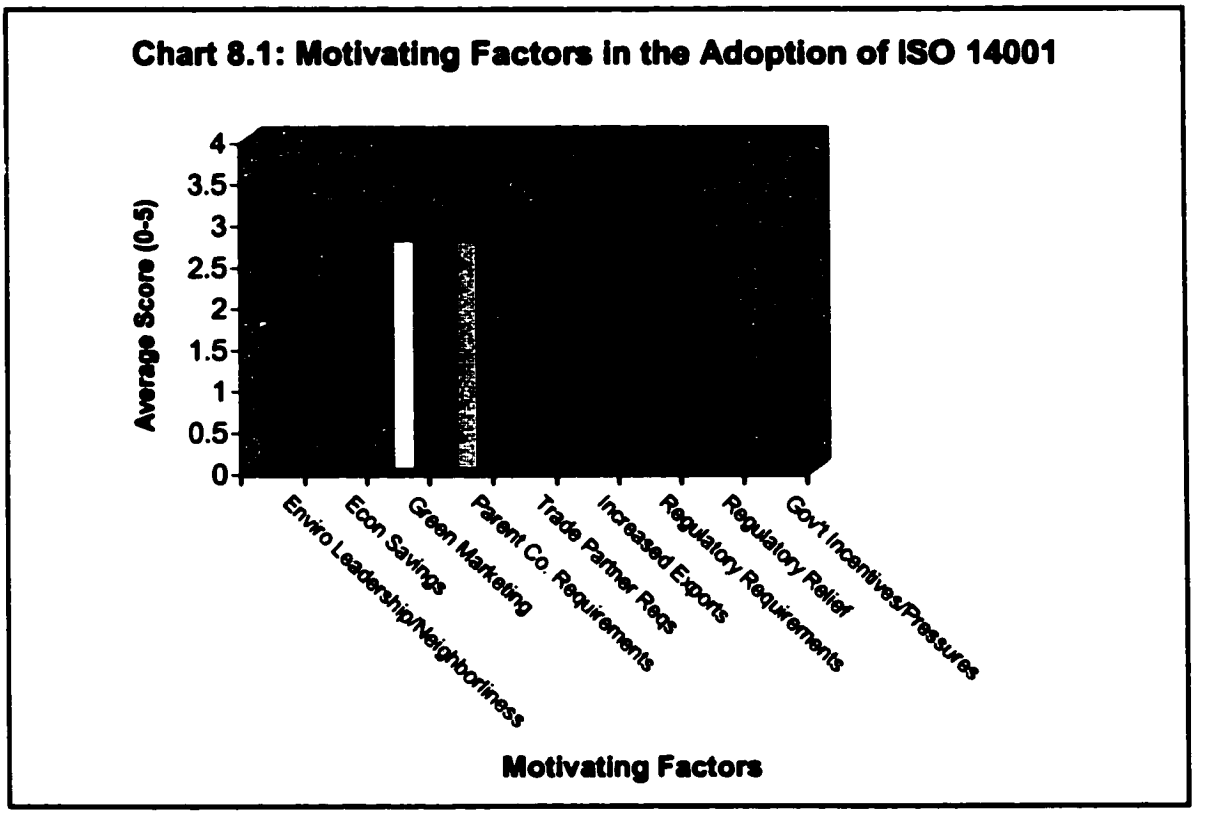

Chart 8.2 Influence of Regulatory Pressures and Legal Liabilities

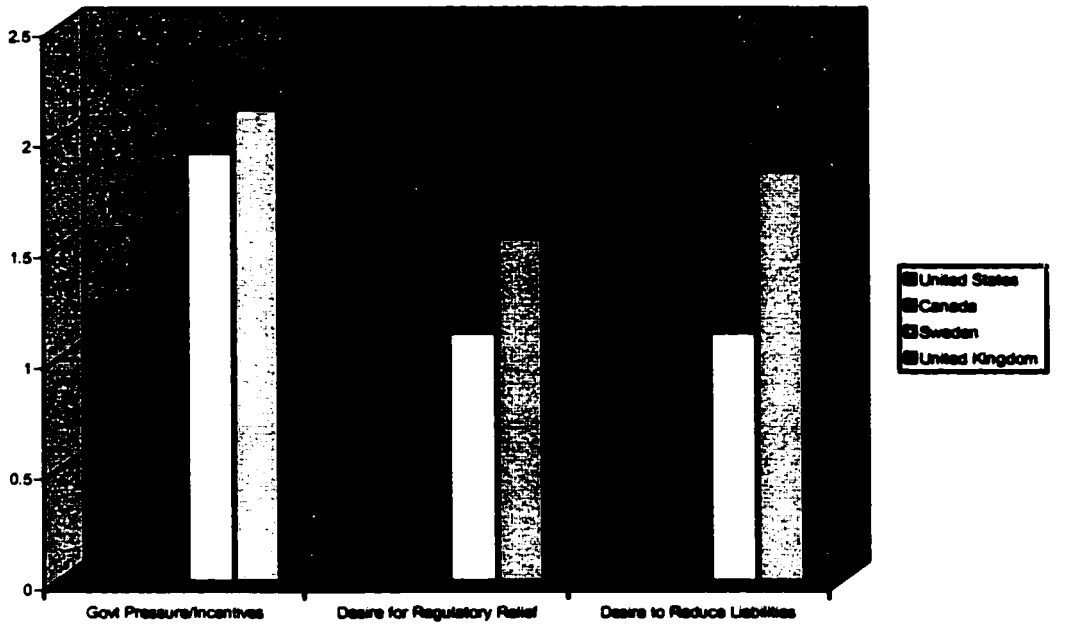

Table 8.5 Influence of Regulatory Pressures and Legal Liabilities for U.S. and Pooled Peers

Survey Question	t- Scores	Significance (2-tailed)	Mean Difference
Govt Pressure/Incentives	1.75	.085	.59
Desire for Regulatory Relief	1.24	.219	.46
Desire for Reduced Liabilities	-.702	.486	-28

Table 8.6 Regulatory Incentives for North American firms Compared to European Firms

Survey Question	t- Scores	Significance (2-tailed)	Mean Difference
Govt Pressure/Incentives	-1.73	.090	-.63
Desire for Regulatory Relief	2.39	.021	.90
Desire for Reduced Liabilities	-2.50	.016	-.90

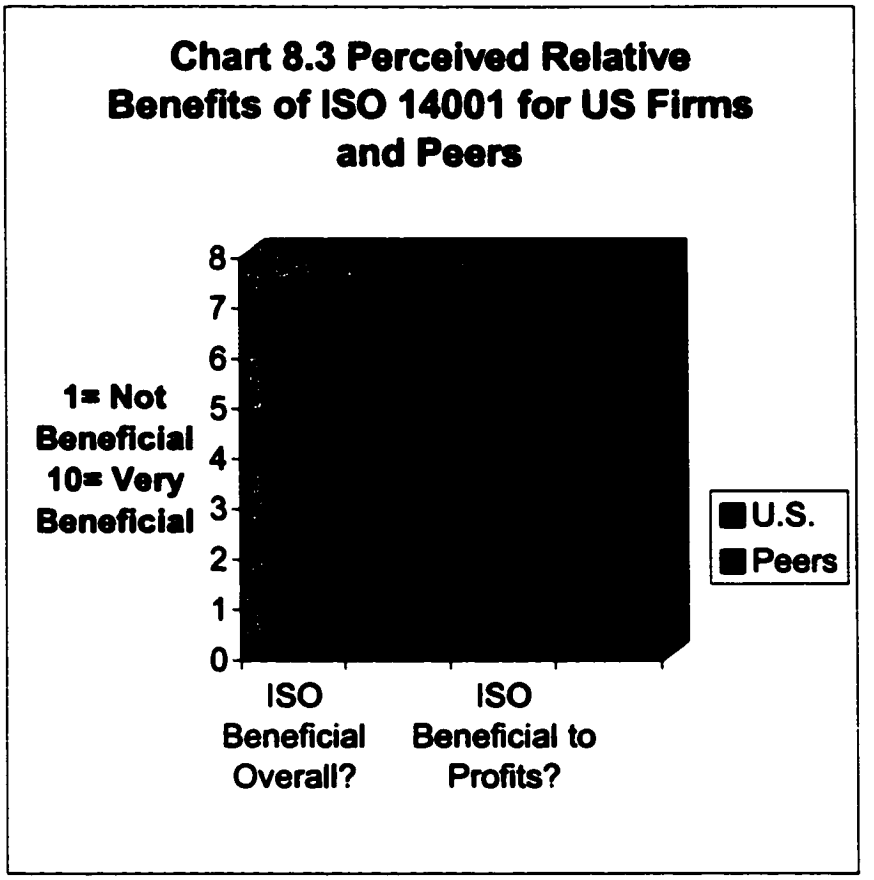

Table 8.7 Perceived Benefits of ISO 14001 for U.S. Firms and Their Peers

Benefit Type	Country	N	Mean	Std. Deviation	t	Significance (2-tailed)
Overall Benefits	U.S.	30	7.30	1.73	-.120	.905
	Peers	43	7.35	1.67		
Benefits to Firm's Trade	U.S.	27	7.00	2.65	1.53	.131
	Peers	40	6.05	2.23		
Benefits to Firm's Profits	U.S.	30	6.63	2.08	1.68	.098
	Peers	42	5.81	2.01		
Benefits to Environment	U.S.	30	7.47	1.91	-.287	.775
	Peers	42	7.60	1.82		

Table 8.8. Examples of Comments Received Pertaining to Environmental Benefits

"wildlife habitat restoration"
"switched to reusable packaging"
"car pooling"
"better employee training"
"We resolved a long standing conflict over dust suppression. Outdoor dust minimization is required by the EPA, but employees don't like the smell and sticky nature of dust suppressant. We paved a gravel parking lot and everyone is happy".

Table 8.9 Costs of ISO 14001 Implementation and Certification for U.S. and Peers

Country	N	Mean Costs of Implementation (USD)	Mean Costs of Certification (US)
U.S.	24	$78,333	$16,455
Canada	11	$129,818	$11,325
Sweden	13	$56,154	$6,378

Chapter Nine
Worldwide Public Policy Reactions and Dilemmas

As the number of ISO 14001 certified firms worldwide is constantly and rapidly increasing, national and sub-national level public policy makers and regulators must consider the implications for regulatory policy. Some governments are encouraging firms to implement ISO 14001 by offering positive incentives, such as free training for managers and subsidies for certification audits, or through promises of reduced inspections. Other governments are not responding to ISO 14001 at all. An examination of cross-national government responses will help us understand how governments in different countries are reacting to ISO 14001, why they are reacting in these ways, and what the implications are for the theory and practice of public policy and environmental management.

Insights from Previous Work

At the theoretical level, debates rage on as to the benefits of command-and-control versus market-based mechanisms for the prevention and clean up of industrial pollution (Andrews 1999; Freeman 1992). Market mechanisms are regulations that establish property rights for natural resources and emissions, and create a market where these property rights may be exchanged based on the laws of supply and demand. The benefit of market-based regulation is that natural resources become allocated based on their "highest market value end use", with the costs of pollution being felt directly by the polluter (Altham and Guerin 1999). One problem with market-based mechanisms is that they do not always take adequate account of the physical limits on natural resources, with the result being over-use. ISO 14001 is not really a market mechanism in the pure sense,

but TC 207 negotiators have created a certification structure that allows firms to pursue and purchase certification, which the market is increasingly demanding.

ISO 14001 is a form of industry self-regulation in response to market forces calling for harmonization in environmental management and as a result of consumer and trade-partner demands. Altham and Guerin state that self-regulatory mechanisms are, a means of showing social responsibility while reclaiming the agenda-setting of their industry from stakeholders. This Chapter will not examine whether the agenda has indeed been reclaimed by industry. Instead, it will examine the relationships between regulators and the regulated in order to understand if certified firms are receiving regulatory relief or other forms of public policy/regulatory benefits as a result of their certification. This information helps us to begin to understand how the trends toward smaller government (at least in the U.S.) and the trend toward voluntary environmental regimes are affecting one another.

As mentioned earlier, The Standard Theory of Environmental Regulation assumes that firms seek to maximize profits and will become 'greener' when doing so either increases their profits, or when they are forced to do so by regulators. Under normal economic conditions, firms will externalize the environmental costs of production if allowed to do so. To make matters worse, firms have incentives to lobby politicians and regulators to maintain relatively low levels of environmental regulations in order to reduce production costs and increase competitiveness relative to other states and countries.

On the other hand, if the regulation imposes costs that are subject to economies of scale (e.g. the average costs per unit decrease as the number of units produced

increases), then larger companies may have some incentives to promote regulation as a way to create barriers to market entry from small firms and from poorer firms, such as are likely to exist in many developing countries. Theories that view firms as economically rational actors could predict that larger firms might actually pursue regulations that could result in the exclusion of potential competitors from the marketplace. If this is occurring it could be bad for consumers, as it would likely result in reduced competition and higher prices. Public policy makers should have an interest in reaching a fuller understand of how the incentives may differ for large versus small firms.

However, many are critical of this theory and its predictions, since it is clear that some companies are taking proactive steps to improve their environmental performance without direct government pressure to do so. It is likely that direct and indirect pressure from consumers, trading partners, and shareholders may change the incentive structure predicted by this theory in ways that make it incomplete.

Widespread belief in the predictions of the Standard Theory of Environmental Regulation has resulted in a heavy reliance on command-and-control regulations within the U.S. and many other countries. Altham and Guerin argue that the "biggest drawback with traditional regulation is that, in general, it has resulted in 'end-of-pipe' solutions to environmental problems. End-of-pipe solutions are short-term regulatory driven solutions, which do not generally address the cause of the problem"(1999:88). As a 1997 report by Rondinelli and Berry shows, command-and-control regulations alone may not be sufficient in achieving the lower levels of pollution that are required for ecologically sustainable development. What is reasonably clear is that the current governmental regulations do not provide many incentives for companies to go beyond compliance with

existing regulations or to display environmental innovation and leadership. Yet many are doing so and this is an interesting phenomenon to study.

In this era of 'reinventing government' (Osbourne and Gaebler 1992), as elected officials try to find ways to lower the tax burden and streamline government, these questions are of vital interest to both private firms and government regulators. For example, the US. Environmental Protection Agency and the Department of Defense are also closely monitoring the progress of ISO 14000 and conducting feasibility studies in whether ISO 14001 certified firms should be given more leeway in meeting compliance targets. Altham and Guerin (1999:96) argue that, "The time has come when government should be rewarding companies for being proactive in the field of environmental management", and they specifically suggest the use of positive financial incentives for beyond compliance: the "anti-fine" so to speak .

A recent report written by Denis Rondinelli (2001) urges the Bush administration to look carefully at beyond-compliance regimes as a new way to approach environmental policy. He argues that many companies are pursuing pollution prevention and eco-efficiency (P2/E2) practices that offer the potential for the private sector to prevent pollution at the source rather than to merely control emission, as is usually the case with command-and-control techniques. He argues that federal and state governments can play an important role by identifying P2/E2 practices that work well in the private sector, and by encouraging adoption of these practices through the use of incentives and regulatory relief. Rondinelli, echoed by Esty and Chertow (1997), argues that command-and-control mechanisms have been important in the past, but that they are unlikely to result in significant improvements in environmental performance in the future. He argues that the

"low hanging fruit" has been picked and that future improvements will require new efforts to incorporate environmental concerns into the manufacturing process (see also Porter and van der Linde 1995). These changes are more idiosyncratic and difficult to impose industry-wide.

Arguing from another perspective, Daniel Cole (2000) has stated that command-and-control regulations have resulted in enormous environmental improvements that would not have come about strictly through voluntary corporate measures. He argues that companies could begin to clean up their acts at any time, yet they have historically waited until legislation and accompanying regulations have forced them to do so. In a similar vein, Lutz, Lyon, and Maxwell (2000) find that firms may have incentives to self-regulate in order to forestall mandatory regulation. In this scenario, command-and-control mechanisms, or at least the specter of such controls, are required to create incentives for self-regulation.

In some ways Rondinelli et al., and Cole agree. Rondinelli points out that the U.S. needs a "new generation of environmental policies that can protect the public health and natural resources through pollution prevention and eco-efficiency more effectively, less expensively, and more creatively than relying on a command-and-control regulatory system alone". It is likely that the choice between command-and-control versus market-based or self-regulatory regimes is a false dichotomy: the most efficient system may rely on mixed methods to improve corporate environmental performance. Richard Welford takes these ideas one step further and says, "The ultimate aim of corporate environmental management must be to reach a situation where companies are operating in a way which is consistent with the concept of sustainable development" (1996:3).

In developing countries these questions about reduced inspections and regulatory relief in general may be even more vital, as governments stretch to find the means to ensure environmental protection in the face of pressing societal shortages of basic necessities and services. Clearly, both private and public leaders are interested in assuring improved environmental performance at the least cost, and with the least oversight and red-tape possible.

The extent to which individual governments are willing to grant regulatory relief and/or encourage ISO 14001 certification varies greatly. The findings discussed in this Chapter shed light on the link between self-regulation and command-and-control mechanisms.

At the practical level, in contrast to the paucity of information about environmental impacts internationally, in March of 2000, the Pacific Institute published a comprehensive look at the public policy implications of ISO 14001. This study examined the level of participation in TC 207 by various countries and groups; examined the application of ISO 14001 in the United States, and discussed policy implications.

In this study, Morrison et al. conclude that ISO 14001, and EMSs in general, provide an important tool to help organizations "plan for and achieve improved environmental performance" (2000:91). However, the authors strongly caution policy makers against relying on ISO 14001 as a substitute for regulation and regulatory oversight, since the implementation of an EMS alone is no guarantee of improved performance. An efficient EMS provides the information necessary for firms to make environmental improvements, but it is no guarantee that they will use the information to do so.

This study adds to the information presented by the Pacific Institute, in that it provides data at the firm level as to the impact of ISO 14001 on the relationship between individual companies and their regulating entities. This information will begin to provide insights as to whether public policy makers around the world are heeding the warnings issued by the Pacific Institute's report.

Findings

Incentives for Certification

As mentioned above, it is possible that larger firms might be better able to bear the costs of ICO 14001 implementation and certification. If so, they might actually lobby policymakers to encourage certification. As Table 9.1 shows, there is a significant correlation between firm size and perception of overall benefits. For this analysis, firm size was measured by the number of employees at the certified facility and the respondents were asked to rate their perceptions of ISO 14001's overall benefits on a scale of 1 to 10. This finding explains approximately 18% of the variance in perceived overall benefits and is statistically significant at the .042 level.

Table 9.1 also indicates that there is a correlation between the size of a firm and the costs of implementing ISO 14001. This indicates that ISO 14001 implementation is effected by economies of scale. Interviewees also indicated that some larger firms are training teams of internal ISO 14001 experts who can travel to individual facilities to aid in their efforts to implement an ISO 14001 EMS. When companies do not need to hire outside consultants and when they are able to replicate some features of an EMS in multiple facilities, their costs are likely to go down.

[Insert Table 9.1 About Here]

While these findings indicate that larger firms generally perceive that the benefits of ISO 14001 are greater and the costs are relatively lower, it is not possible to automatically infer that larger firms are then motivated to give political support to ISO 14001 among policy makers as a way to exclude smaller competitors. To get at this issue it would be necessary to conduct interviews with decision makers from some of the larger certified firms. While the information presented in Table 9.1 cannot conclusively show that firms are using ISO 14001 as a barrier to market entry, the data indicates that they have some incentive to do so.

Earlier Chapters discusses the motivations for firms in various countries to become ISO 14001 certified, and concluded that few firms felt *strongly* motivated by their desire to obtain regulatory relief. However, this finding does not address the extent to which regulators are offering other forms of positive incentives to encourage certification. Therefore, the survey contained the following question: "Did your firm receive any assistance from your government that aided in your efforts to implement an ISO 14001 EMS?". Table 9.2 shows the results for this survey question. The findings reveal that the vast majority of firms in both developed and developing countries *did not* receive direct benefits designed to encourage their implementation of an ISO 14001 EMS, with no significant differences between developed and developing country groups as a whole.

[Insert Table 9.2 About Here]

When broken down further, these results become more interesting. Those firms receiving governmental assistance to encourage ISO 14001 implementation are concentrated in only a few countries. Five out of twenty-one Malaysian firms (24%)

report receiving governmental assistance during the implementation and certification process. Of these respondents, two received technical assistance/advice, two received free training, and one received a cash subsidy to lower the costs of certification. When asked to comment on any other public policies related to their firm's decision to implement ISO 14001, specific responses included: "received free training", "cash subsidies to upgrade equipment", "cash subsidies to reduce the costs of certification", and "lower the tax rate". Two Malaysian firms stated that the governmental assistance was "very important" to their decision to implement ISO 14001, while two stated it was "somewhat important" and one stated that it was "somewhat unimportant".

While Malaysian companies would like even more governmental support, it is clear that most of the other governments in this survey are not supporting their firms' pursuit of ISO 14001 at similar levels. This may go a large way toward explaining why Malaysian firms are becoming certified at rates far surpassing almost all other economically developing countries (See Appendix 3).

Three of the Swedish respondents (17%) also reported receiving governmental assistance to assist in the implementation/certification process. Two of these respondents reported receiving cash subsidies for certification, while the third reported receiving technical assistance. This respondent remarked that, "Technical assistance at the beginning of the project is often more effective than cash subsidies". One of these respondents stated that the assistance was "somewhat important", while two others stated it was "somewhat unimportant" to their decision to implement ISO 14001. Like Malaysian firms, Swedish firms are becoming certified at a higher rate than their peer

countries. Perhaps this higher level of governmental assistance partially explains these findings.

Surprisingly, three (10%) American firms also stated they have received government assistance. This rate is much lower than for Swedish and Malaysian firms, and may reflect the cultural differences between these countries' regulatory styles (as discussed in Chapter Six). Of these three American firms, two stated they had received technical assistance and/or advice, while the third firm did not specify what type of assistance was received. The same two firms reported that this assistance was "somewhat important" in their decision to implement ISO 14001.[19]

On the whole, developing country governments are providing assistance and incentives significantly more often than are governments in wealthier countries. These differences are statistically significant at the .000 level (t = -4.61). While a larger sample from the non-U.S. countries would be necessary before firm conclusions can be reached, it appears that governments are encouraging ISO 14001 implementation and certification at different rates and these differences are at least partially reflected in the certification rates of individual countries. While it is possible that there is a "chicken-and-egg" effect, with a demand from firms driving governmental provision of assistance, it is also possible that some governments are actively encouraging companies to opt in to the ISO regime because they see value in it. More research is necessary before causality can be determined, but these findings add weight to the idea that public policies are partially responsible for cross-national differences in certification rates.

Regulatory Relief and Impact of ISO 14001 on Relationships with Regulators

[19] Canada and Indonesia were the other two countries with respondents stating they had received governmental assistance (1 each).

When asked whether their facility had experienced a change in its relationship with regulators since the implementation of ISO 14001, 63 out of 118 (or 53%) stated that their relationships with regulators had changed.[20] However, these responses were not equally distributed between countries, further indicating that the regulators in some countries may be more encouraging of ISO adoption than in others. Table 9.3 displays the percentage of firms reporting improved relationships for all of the countries with three or more responses. Keep in mind that the sample size for some countries is too small to make solid conclusions, but this information can point to potential differences between countries.

The information in Table 9.3 shows the U.S. and Canada (both of which had relatively large samples) appear to be less likely to report improved relationships with regulators as a result of implementing and ISO EMS. While there is insufficient information to pinpoint the causes of lower certification rates in the U.S., compared to companies in Sweden, Japan, and many European countries, it is possible that the payoffs of certification are lower, in terms of less enthusiasm and support on the part of regulators. As Kagan and Axelrod have noted, the United States has a long history of adversarial legalism, which may make it more difficult to transform antagonistic relationships between the regulators and the regulated, into cooperative ones.

[Insert Table 9.3 About Here]

Building on the question just discussed, the survey then asked respondents to describe the type of change that occurred between themselves and their regulators. Respondents could check, "reduced inspections by government officials" and/or "more cooperation in general". They could also add any additional information they wished.

Thirty-four respondents believed their relationship with regulators had become more cooperative since they certified their ISO EMS. This makes sense, since certification *should* mean that a company is taking proactive steps to improve its environmental performance and to improve their compliance records. However, firms

[20] 13 respondents skipped this question.

become certified for many reasons, as already discussed, and certification may not always indicate substantive environmental improvements.

Sixteen respondents stated they felt their facility had experienced fewer inspections since implementing ISO 14001: Columbia (2/3), Malaysia (5/21), Mexico (3/9), South Africa (2/10), Sweden (1/18), United Kingdom (1/7), and the United States (2/30). Since the number of respondents from many of the countries is relatively small, it may be more helpful to again group the responses into the categories of "developed" and "developing" country firms. Using this grouping we find that 12/58 (21%) of respondents from developing countries claimed to have received fewer inspections as a result of ISO 14001 certification, whereas only 4 out of 75 (5%) of the firms in economically developed countries are making the same claim.

This finding can be interpreted in at least two ways. First, it could be taken as further evidence that firms in developing countries are reaping some benefits from ISO 14001 that are less often experienced by firms in wealthier countries. This adds weight to the argument that ISO 14001 does not unfairly advantage certified firms in developed countries compared to certified firms in developing countries. Alternatively, it could be interpreted to mean that regulators in developing countries are putting more faith into ISO 14001 certifications than are their counterparts in wealthier countries. This may be related to the perceived need to preserve scarce governmental resources for other needs. Regardless of the motivations and the data presented in previous Chapters concerning firm level improvements in environmental performance, some have argued that regulatory relief is not justified for certified firms.

Discussion

The Pacific Institute (2000) and many others (Altham and Guerin, 1999; Clapp, 1998) have argued that ISO 14001 certification alone does not guarantee environmental improvements, and regulatory relief, therefore, would be premature.

> "Self-regulation implies (to a large extent) no legal requirement to comply. Therefore some other type of incentive for organisations to adopt such mechanisms is required. The market provides the initial incentive for organizations to adopt self-regulation, including ISO 14000...Self-regulation does not mean that the market will supply all the incentive for industry to alter its behaviour" (Altham and Guerin, 1999, p.90).

Altham and Guerin argue for the creation of a "seamless web" of compulsory and voluntary regulations in order to create a system in which firms are held to minimally acceptable standards for environmental performance, while being encouraged to constantly innovate and improve their performance. While the consensus is that ISO 14001 certification does not justify regulatory relief en masse, more research needs to be done before one can assert whether or not regulatory relief is called for in individual instances.

While these findings will be disconcerting for some observers, others believe that the growing links between firms in multiple countries bodes well for the harmonization of environmental management in ways that spread the more stringent standards common in wealthy countries to developing countries. The differences in the rates at which regulatory relief is being offered to certified firms leads to the conclusion that governments in both types of countries may wish to re-examine their policies in order to create protocols or rules for determining when regulatory relief is, and isn't called for.

Although it is not possible to give a blanket endorsement for regulatory relief, it is possible to assert, based on the data presented herein, that the vast majority of ISO 14001

certified firms appear to be significantly improving their environmental performance. Based on this information, environmental regulatory agencies worldwide may wish to consider the provision of positive incentives to encourage ISO 14001 implementation and certification. These incentives could include free seminars or trainings to raise awareness about the costs and benefits of ISO 14001, the provision of technical advice during the implementation stage (when appropriate and allowed by law); and/or the subsidization of third-party auditors. These positive incentives may be most important for firms in developing countries and/or small and medium-sized enterprises worldwide.

Conclusions

While the majority of firms in both developed and developing countries have not received positive governmental incentives to encourage the implementation and certification of and ISO 14001 EMS, the majority of those that have received such assistance reported that the assistance was fairly important in their decision to become ISO 14001 certified. Assistance was generally offered in the form of technical advice and/or subsidies for certification. Firms in Malaysia and Sweden were the most likely to report receiving governmental assistance, with firms in the U.S., Canada, and Indonesia also reporting receiving some assistance. This finding is important since it may help explain why firms in Sweden and Malaysia are more likely to become ISO 14001 certified than most of their peers.

Few firms reported receiving regulatory relief in the form of reduced inspections, with 21% of developing country respondents reported receiving fewer inspections while only 5% of developed country respondents made the same claim. This finding will be

alarming for those who believe that ISO 14001 is a compliment to, but should not replace, mandatory regulations (Morrison et al. 2000; Altham and Guerin 1999). "Traditional, direct environmental regulation will always be required to motivate laggards who are the slowest to adopt the most appropriate course of action. Proactive companies (innovators and leaders) on the other hand, will respond to the opportunities and incentives that self regulation offers to improve environmental performance" (Altham and Guerin 1999, pps.91-92).

Lastly, since the data presented herein indicates that ISO 14001 may bring with it significant environmental improvements, these findings indicate that governmental regulators may wish to consider the provision of positive incentives, other than regulatory relief, to encourage firms to implement and certify an ISO 14001 EMS. Doing so may be a step in the direction of creating the "seamless web" of compulsory and voluntary regulations necessary to provide for environmental protection while encouraging cost-effective innovation beyond minimum regulatory requirements. However, public policy makers need to be aware that the regime's costs and benefits may not be equal for large and small firms (as measured by perceptions). In order to make sure that ISO 14001 does not become a barrier to market entry for small and poorer firms, policy makers may wish to provide additional incentives for certification for this population.

Table 9.1 Statistical Correlation Between Firm Size and Perceptions of Overall Benefits

Size of Firm, by Number of Employees	Pearson Correlation	Significance (2-tailed)	N
How Beneficial is ISO 14001 Overall?	.186	.042	123
Costs of ISO 14001 Implementation	.216	.042	89

Table 9.2 Existence of Positive Incentives from Regulators

Country Type	Yes	No	Don't Know	t-Score	Significance Level (2-tailed)
Developing	6 (12.5%)	42 (87.5%)	0	-.56	.58
Developed	7 (10.4%)	59 (88.0%)	1 (1.4%)		

Table 9.3 Improved Relationships with Regulators

Country	% With changed relationships
Argentina	40%
Canada	21%
Columbia	66%
Malaysia	77%
Mexico	78%
South Africa	67%
Sweden	61%
United Kingdom	43%
United States	20%

Chapter Ten
Conclusions

This study examined the influence that stakeholder absence and under-representation has had on perceptions of legitimacy and efficacy for one particular international voluntary regime—ISO 14001. As chapter two details, this study employed data from 42 in-depth interviews with TC 207 members, and 133 completed surveys from firms in 16 countries around the world in order to better understand the impact that the absence of developing country input has had on ISO 14001 certified firms in both developed and developing countries. This concluding chapter will summarize the main findings of this study, discuss the study's limitations, and outline areas for future research.

Major Findings

Perceived Legitimacy

Overall, developing country delegates are more likely to be absent, or to have smaller delegations, with fewer resources. This creates a 'participation gap' that has important ramifications for legitimacy. Implementation may be hampered when national delegates are absent from the regime formation process, leaving no one at the national level who has the insider knowledge required to completely explain the intricacies of the agreement and the steps necessary for implementation. As a result, those nations absent for the regime formation process may have an incomplete awareness or understanding of the regime's requirements.

This poses a significant concern for issue areas in which nations are truly interdependent, such as the environment and trade. Incomplete implementation of global

environmental or trade agreements may leave all stakeholders worse off, as many global environmental and trade problems may not be easily remedied by the actions of a relatively small number of national level actors.

However, in this study concerns about legitimacy remained present among TC 207 delegates, but they did not trickle down to certified firms. It appears that the actual implement*ers* of ISO 14001, meaning individual facility managers themselves, are generally not aware of the genesis of the regime and the smaller role that developing countries played in its creation. Future researchers may wish to focus attention on non-certified firms in order to better understand the role that perceptions of legitimacy has on decisions not to become ISO 14001 certified.

Perceived Efficacy

At the delegate level, many TC 207 members were concerned that ISO 14001 would form a barrier to trade for firms from developing countries. As Appendix 3 shows, most developing countries are exhibiting low rates of certification. As Chapter Nine indicates, the reported costs of implementation vary with firm size, as do perceptions of overall benefits. This does not bode well for small and medium sized enterprises, many of which are located in developing countries. On the other hand, for those firms that can afford to become certified, environmental performance benefits are widely reported.

One surprising finding of this study is that the reported environmental benefits of ISO 14001 are at least equally beneficial for firms in developing countries, with some measures showing that developing countries are actually reaping greater environmental improvements than are their peers in wealthier countries. As earlier chapters indicated, comprehensive environmental management initiatives may be newer to these countries.

As a result it is possible to make quick and relatively low-cost improvements to reap significant environmental benefits. In many wealthier countries, environmental regulation has a longer history and many of these simpler changes have already been implemented, making further increases in environmental performance somewhat more costly.

While firms from developing countries generally report higher levels of satisfaction and more frequent cost savings with ISO 14001 than do firms in developed countries, developing country stakeholders remain concerned about possibility that ISO 14001 is itself becoming a barrier to trade from developing countries. The relative absence of developing country negotiators does not appear to have resulted in disproportionate benefits for certified firms in developed countries, yet there are simply more firms becoming certified in the wealthier countries and this remains a concern for many observers.

The reported benefits of ISO 14001 include savings in energy, reduced resource use, reduced hazardous and non-hazardous waste production, and many other measurable environmental benefits. In addition to these benefits, many respondents noted that the implementation of ISO 14001 improved their employees' environmental awareness, improved relationships with regulators, and had a positive ripple-effect on the surrounding community as employees used their heightened awareness both inside and outside of their place of business.

Chapter Seven examined the motivations for ISO 14001 certification in order to address the question of "greenwashing" (i.e. trying to appear environmentally conscious without actually making any real improvements). If the primary reason for certification comes out of a desire to *appear* environmentally friendly and capitalize on green

marketing benefits, then there is reason to remain very skeptical of the regime. Therefore, this chapter focused on firm-level motivations for certification.

The majority of managers and CEOs reported they sought certification out of a desire to "be a good neighbor" and to establish reputations as environmental leaders within their industries. Economic and marketing incentives were still important, but they were generally less important than the desire to be an environmental leader and a good neighbor. While there were some interesting, minor variations between countries, the consistency of this finding is interesting. However, ISO 14001 is a relatively new regime. It will be interesting to see if these motivations remain relatively consistent as the regime becomes institutionalized and the leaders begin pressuring their supply-chain partners to also seek certification.

These findings combine to indicate that ISO 14001 certification appears to be more than mere greenwashing, in most cases. However, it remains possible that individual firms may decide to certify an ISO 14001 EMS and then implement it incompletely and/or make few actual improvements in environmental performance. However, 96% of respondents reported significant environmental improvements as a result of ISO 14001, indicating that the majority of respondents believe it has been an effective tool for achieving improved performance.

Possible Alternative Explanations

In addition to those issues covered in the sections on legitimacy and efficacy, there may be other reasons why some countries have a relatively large percentages of ISO 14001 certified firms while others do not. To investigate these issues, Chapter Eight examined the particular motivations, costs and benefits of ISO 14001 for American firms

compared to others. As Appendix 3 shows, relatively few US firms have decided to become ISO 14001 certified even though the American delegation was present early and in large numbers during the TC 207 negotiating process that created the regime. Therefore, an examination of the American case can add depth to our understanding about those factors influencing firm-level certification decisions.

The investigation yielded mixed results. First, the data lend support for the idea that more American companies had pre-existing environmental management systems in place than did firms in the other countries sampled. Since switching to an ISO 14001 EMS might not yield significant benefits, it is possible that American companies see less value in ISO 14001 than do companies in other countries. However, most but not all, of those American companies with pre-existing EMSs still reported some environmental and economic benefits as a result of their implementation of the ISO 14001 EMS.

According to the respondents, American firms are receiving fewer positive incentives from government regulators concerning ISO 14001 implementation and certification. It is possible that this finding *partially* explains the lower certification rates for American firms. In addition to an absence of widespread governmental incentives that encourage ISO 14001 certification in U.S. firms, these firms stated that they desired regulatory relief, but their decisions to seek certification had little to do with this desire. Respondents stated they had no false hopes that certification would result in reduced inspections or other forms of regulatory relief.

As previous research has shown, American regulatory culture often exhibits attributes associated with "adversarial legalism". Relationships between regulators and regulated entities have often been characterized as antagonistic, lacking cooperative

problem-solving dynamics. It is possible that firms in some countries are seeking certification in order to receive regulatory relief and/or they have received incentives (positive or negative) from their governments to do so.

While "pressure/incentives from government" was not a strong motivating force for any of the Northern firms, American firms were even less likely than their peers to feel motivated by pressure from governments. Once again, this finding is not, in and of itself, strong enough to explain the large difference in certification rates between firms in American and other Northern countries. However, it does lend weight to the argument that the incentives for U.S. firms are simply not the same as for firms in peer countries, due in part to the adversarial nature of regulator-regulatee relations,.

Fourth and last, the majority of certified American companies are experiencing improvements in environmental performance and economic cost savings that generally offset the costs of implementation and certification. However, these benefits are less significant for companies that had a pre-existing EMS and little foreign trade. These findings suggest that American firms, with their access to a large domestic market and less dependence on exports, would be less likely to pursue ISO 14001 certification.

Taken together, these four factors deepen our understanding about the reasons why U.S. companies are becoming ISO 14001 certified at a lower rate than is the case for firms in many developed and developing countries. Overall, it appears there are many important factors that influence certification rate differences between countries. While there are patterns that seem to be explained by HI and HII (such as the gap between rates of certification for developed and developing countries as a whole), there are also

anomalies, such as the U.S. case, that may be better explained through the examination of different variables.

Public Policy Responses to ISO 14001

In addition to the variation in certification rates that exist between countries, variation also exists when we examine the public policy responses to the harmonization of environmental management systems. Some governments are actively encouraging ISO 14001 through the provision of free training, the promise of fewer inspections, or through other forms of positive and negative pressure.

As detailed in Chapter Nine, the majority of firms are not reporting significant incentives for certification, but the likelihood of receiving this form of regulatory relief does seem to vary by country and by country type. Firms in Malaysia and Sweden were the most likely to report receiving governmental assistance, with firms in the U.S., Canada, and Indonesia also reporting receiving some assistance. This is interesting, since Sweden and Malaysia are far ahead of their peers in terms of the percentage of their firms choosing to become ISO 14001 certified.

Overall, few firms reported receiving regulatory relief in the form of reduced inspections, with 21% of developing country respondents reported receiving fewer inspections while only 5% of developed country respondents made the same claim. This finding will be alarming for those who believe that ISO 14001 is a compliment to, but should not replace, mandatory regulations (Morrison et al. 2000; Altham and Guerin 1999).

Because it remains possible for individual firms to become certified without necessarily improving their environmental impacts, it is recommended that ISO 14001

certification be seen as a positive addition to, rather than a substitute for governmental regulation and inspection. However, since the vast majority of respondents report environmental improvements as a result of ISO 14001 implementation, policymakers and regulators may wish to find ways to encourage companies to opt in to the ISO 14001 regime.

Implications for Other International Environmental Institutions

There are a number of findings from this study that would likely hold true for many other international environmental institutions as well. The data and arguments presented here indicate that the absence of key groups of stakeholders may harm the quality of the resulting agreement in unexpected ways. In the case of ISO 14001, the absence of developing country stakeholders likely resulted in an agreement that paid insufficient attention to the needs of small and medium-sized enterprises (SMEs). Now, SMEs in wealthier countries, and their representatives, have begun to call for changes to the ISO standards in order to ensure they receive equal benefits from certification. As mentioned in Chapter Five, even some developed country delegates have stated a belief that the standard would have been stronger if developed by a broader group of stakeholders. Other international regimes are also likely to exhibit this phenomenon in cases where stakeholder input is limited or absent.

A second finding of this study is that those stakeholders who were absent early on are more likely to feel that their absence was deleterious than are stakeholders who were present from the beginning. This should not be a shock. However, it remains an important point to note, especially for those instances in which ongoing negotiations or collaboration may be affected through strained relationships or lingering hard feelings. In

addition to these relationship effects, it is also likely that early absence results in a diminished role for those stakeholders who join the negotiation processes late in the game. As is the case with ISO 14001, most of the leadership positions are held by developed country stakeholders who were present from the beginning of the negotiations process. Their early absence and their diminished leadership roles are likely to leave these delegates with greater concerns about the regime's legitimacy than for those who participated early and consistently. It is foreseeable that these findings will apply to many other international institutions as well.

Additionally, their entry late in the negotiation game left many stakeholders with the belief that their understanding o the standard was not as complete as it would have been had their participated earlier. As a result, these delegates stated that it took longer to develop the comprehensive understanding of the standard that is necessary before they could go back to their domestic firms and spread raise awareness of the standard at home. Therefore, delegates from many developing countries perceived that the firms in their countries are likely to learn about ISO 14001 later than were those of their competitors, thus placing them at a competitive disadvantage.

Another finding of possible import to other IEIs is that national level public policies have significant influences on the implementation of international regimes at the level of the firm. Again, this is not surprising, but it is interesting to note the variety of public policy responses to ISO 14001 and their varied impacts. In the US, few incentives for certification are coming from regulators. As mentioned in Chapter Eight, Malaysia and Sweden are the two countries with the greatest proportions of certified firms

compared to their peers. These are also the two countries where "carrots" are most likely to be offered by regulators to encourage ISO 14001 implementation and certification.

Interestingly, this study reveals that firms are likely to receive positive incentives (i.e. "carrots") to certify rather than receiving negative incentives against remaining uncertified (i.e. "sticks"). Because ISO 14001 is a voluntary regime, penalizing firms for remaining uncertified goes against the very nature of the regime itself. Yet only a minority of governments are actively encouraging certification by offering assistance during the certification process, reduced inspections, or other forms of positive incentives. It is likely that positive governmental incentives for "voluntary" membership into environmental regimes could strengthen and improve the relationships between private enterprises and regulators in ways that strengthen them both and improve environmental outcomes.

Strengths and Limitations of this Study

As mentioned in Chapter Two, there are a number of limitations to this study. First and foremost, rather than objectively measuring and comparing improvements in environmental performance for firms across national boundaries, this study instead asks firm managers and CEOs to self-report the costs, benefits, motivations, and public policy responses to their ISO 14001 certification. Clearly, this is not optimal, but it is likely the best we can do for an international survey such as this.

Secondly, as previously mentioned, to fully answer some of the questions posed herein it would be necessary to gain insights from a sample of non-certified firms around the world. The views of these firms would certainly help shed light into the impact of legitimacy and efficacy concerns for ISO 14001. Information obtained from this group

could also shed light on question of ISO 14001's potential to become a barrier to trade. In the future, interviews may be a useful way to gain this information, since mailed surveys of this group are likely to experience very low response rates.

Third, the sample sizes were too small to adequately answer some questions with statistically significant results. Therefore, multiple sources of information were obtained whenever possible--- combining interview, survey, and archival data. However, some of the study's most interesting questions are difficult to answer and the findings may be tentative at best. For example, it is difficult to know the extent to which ISO 14001 will be a trade barrier. It is very likely that there will be individual instances in which non-certified firms lose business to certified firms, but it is not clear how widespread this phenomenon will be. While it is clear that developing countries generally have fewer certified firms, there are many reasons why this is the case. Isolating the impact of ISO 14001 on trade issues would be a daunting task indeed.

While this study is imperfect, it has shed light on the impacts of stakeholder absence and perceptions of legitimacy and efficacy. Additionally, it has provided a wealth of information related to the case of ISO 14001 itself. This information is of interest to firm managers, CEOs, government regulators, and academics who study the rise of voluntary environmental regimes.

Suggestions for Future Research

As mentioned above, future researchers may wish to focus their efforts toward understanding why uncertified firms decide to remain uncertified. Perhaps some of them have not heard of ISO 14001, others may not see the need to become certified if they do little exporting or have trading partners who are not pressuring them to become certified,

while still others may wish to become certified but lack the financial or human resources to do so. Learning more about this group of firms will improve our understanding about the potential trade barrier posed by ISO 14001.

Secondly, future researchers may wish to revisit the questions asked in this study, in order to track changes over time. It is possible that policymakers in many countries are still in the process of crafting their official response to ISO 14001 and to other voluntary regimes. It is also likely that the motivations for certification may change as certification becomes more commonplace. For example, once the regime's newness has worn off it is likely that more firms will become certified due to pressure from trading partners rather than out of a desire to be an environmental leader.

Finally, future researchers may wish to examine other international voluntary and non-voluntary regimes in order to better understand how participation in regime formation may or may not be related to perceptions of legitimacy and efficacy. It is possible that concerns of legitimacy would be stronger for agreements that are not voluntary in nature. Future researchers may wish to compare these findings to those for other types of regimes.

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Appendix One

ISO Members[21]

Members:

Algeria, Argentina, Armenia, Australia, Austria, Bangladesh, Barbados, Belarus, Belgium, Bosnia and Herzegovina, Botswana, Brazil, Bulgaria, Canada, Chile, Columbia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, Ethiopia, Finland, France, Germany, Ghana, Greece, Hungary, Iceland, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Korea (Democratic People's Republic of), Korea (Republic of), Kuwait, Libya, Luxembourg, Malaysia, Malta, Mauritius, Mexico, Mongolia, Morocco, Netherlands, New Zealand, Nigeria, Norway, Pakistan, Panama, Philippines, Poland, Portugal, Romania, Russian Federation, Saudi Arabia, Singapore, Slovakia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Syria, Tanzania, Thailand, The former Yugoslav Republic of Macedonia, Trinidad and Tobago, Tunisia, Turkey, USA, Ukraine, United Arab Emirates, United Kingdom, Uruguay, Uzbekistan, Venezuela, Viet Nam, Yugoslavia, Zimbabwe.

Correspondent Members:

Albania, Azerbaijan, Bahrain, Bolivia, Brunei, Cameroon, Congo, Cote-d'Ivoire, El Salvador, Estonia, Guatemala, Hong Kong, Kyrgyzstan, Latvia, Lebanon, Lithuania, Macau, Madagascar, Malawi, Moldova, Mozambique, Namibia, Nepal, Nicaragua, Oman, Papua New Guinea, Paraguay, Peru, Qatar, Rwanda, Saint Lucia, Seychelles, Sudan, Swaziland, Turkmenistan, Uganda.

Subscriber Members:

Antigua and Barbuda, Benin, Burkina Faso, Cambodia, Comoros, Dominica, Dominican Republic, Fiji, Grenada, Guyana, Honduras, Lesotho, Mali, Palestine.

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[21] Taken from ISO website on January 31st, 2002.
http://www.iso.ch/iso/en/aboutiso/isomembers/MemberList.MemberSummary?MEMBERCODE=10

Appendix Two
Membership Status in TC 207[22]

"P" members

"P" members represent countries who wish to vote, participate actively in discussions and have access to all relevant documentation. The following is a listing of TC 207 "P" members (June 2001):

Algeria (IANOR)	Argentina (IRAM)
Australia (SAI)	Austria (ON)
Bangladesh (BSTI)	Barbados (BNSI)
Belgium (IBN)	Brazil (ABNT)
Bulgaria (BDS)	Canada (SCC)
Chile (INN)	China (CSBTS)
Colombia (ICONTEC)	Costa Rica (INTECO)
Cuba (NC)	Czech Republic (CSNI)
Denmark (DS)	Ecuador (INEN)
Egypt (EOS)	Finland (SFS)
France (AFNOR)	Germany (DIN)
Ghana (GSB)	Greece (ELOT)
Hungary (MSZT)	India (BIS)
Indonesia (BSN)	Iran (ISIRI)
Ireland (NSAI)	Israel (SII)
Italy (UNI)	Jamaica (JBS)
Japan (JISC)	Malaysia (DSM)
Kenya (KEBS)	Korea (Republic of) (KATS)
Korea (Democratic People's Republic of) (CSK)	Mauritius (MSB)
Mexico (DGN)	Morocco/Maroc (SNIMA)
Mongolia (MNCSM)	Netherlands (NNI)
New Zealand (SNZ)	Norway (NSF)
Philippines (BPS)	Poland (PKN)

[22] Taken from TC 207 website on February 6th, 2002. http://www.tc207.org/aboutTC207/index.html

Portugal (IPQ)	Romania (ASRO)
Russian Federation (GOSTR)	Singapore (PSB)
South Africa (SABS)	Spain (AENOR)
Sri Lanka (SLSI)	Sweden (SIS)
Switzerland (SNV)	Tanzania (TBS)
Thailand (TISI)	Trinidad/Tobago (TTBS)
Turkey (TSE)	United Kingdom (BSI)
Uruguay (UNIT)	USA (ANSI)
Yugoslavia (SZS)	Venezuela (FONDONORMA)
Viet Nam (TCVN)	Zimbabwe (SAZ)

"O" members

"O" members represent countries not wishing to vote, but rather only to participate in discussions and receive all relevant information. The following is a listing of TC 207 "O" members
(June 2001):

Armenia (SARM)	Botswana (BOBS)
Croatia (DZNM)	Estonia (EKS)
Ethiopia (QSAE)	Hong Kong (ITCHSAR)
Kuwait	Iceland (STRI)
Libyan Arab Jamahiriya (LNCSM)	Lithuania (LST)
Moldova (Republic of) (MOLDST)	Slovakia (SUTN)
Slovenia (SMIS)	Ukraine (DSTU)

"L" organizations

Representatives from "L" organizations (international or broadly based regional organizations) are invited to take part in discussions and are permitted to receive all information from the TC but are not granted voting status. The following is a listing of TC 207 "L" organizations (June 2001):

"A" Group
CEFIC (European Chemical Industry Council)
CI (Consumers International)

EC (European Commission)
EEB (European Environmental Bureau)
ECOLOGIA (Ecologists Linked for Organizing Grassroots Initiatives and Action)
FIDIC (International Federation of Consulting Engineers
GEN (Global Ecolabelling Network)
IAF (International Accreditaton Forum)
IAQ (International Academy for Quality)
ICC (International Chamber of Commerce)
IISI (International Iron & Steel Institute)
ILAC (International Laboratory Accreditation Cooperation)
INEM (International Network for Environmental Management)
IPAI (International Primary Aluminium Institute)
IQNet (The International Certification Network)
NWF (National Wildlife Federation)
OECD (Organisation for Economic Cooperation and Development)
Sierra Club
UNCTAD (United Nations Conference on Trade and Development)
UNEP (United Nations Environment Programme)
WFSGI (World Federation of the Sporting Goods Industry)
World Stewardship Institute
"B" Group
APO (Asian Productivity Organization)
CEPI (Confederation of European Paper Industries)
EUMEPS (European Manufacturers of Expanded Polystyrene)
EURATEX (European Apparel and Textile Association)
FoEI (Friends of the Earth)
FSC (Forest Stewardship Council)

IAIA (International Association for Impact Assessment)
IFOAM (International Federation of Organic Agriculture Movement)
IISD (International Institute for Sustainable Development)
IMA (Industrial Minerals Association - Europe)
WHO (World Health Organization)
WTO-OMC (World Trade Organization)
ISO/TC 61, Plastics
ISO/TC 91, Surface Active Agents
ISO/TC 146, Air Quality
ISO/TC 146/SC1, Stationary Source Emissions
ISO/TC 190/SC7, Soil Quality
ISO/TC 176, Quality Management & Quality Assurance
ISO/TC 197, Hydrogen Energy Technology
ISO/TC 203, Technical Energy Systems

Appendix Three
Rates of ISO 14001 Certification by Country[23]

Table 1 Ranked from Most to Least Certifications

Country	Total Certifications
Japan	5338
Germany	2400
United Kingdom	1400
United States	1340
Australia	1053
Taiwan	881
France	802
The Netherlands	800
Italy	724
Canada	648
Switzerland	616
Spain	592
Denmark	580
China/Hong Kong	570
Finland	526
S. Korea	463
India	325
Thailand	325
Brazil	270
Malaysia	241
Norway	227
Austria	223
Singapore	212
Hungary	195

[23] All information comes from the "ISO 14001 Speedometer Website" maintained by the International Network for Environmental Management, a federation of National Associations for Environmental Management. Some countries, such as Columbia, have a small number of certified firms, but they do not participate in this organization and are therefore not included in this data. Data for countries not listed is extremely difficult to obtain. Data was obtained from the website on January 2001. http://www.inem.org/htdocs/iso/speedometer

Mexico	184
Ireland	150
Belgium	130
South Africa	121
Czech Republic	116
Argentina	114
Indonesia	77
Egypt	70
Turkey	65
New Zealand	60
Greece	57
Poland	55
The Philippines	53
Israel	36
Slovak Republic	36
United Arab Emirates	36

Table 2 Ranked by Millions of GDP per ISO 14001 Certificate (USD)

Country	GDP/Certificate
Sweden	128
Finland	198
Denmark	214
Switzerland	312
Australia	374
Hungary	385
Taiwan	411
Singapore	434
The Netherlands	436
Ireland	544
Norway	480
Japan	544

Germany	755
Austria	825
Malaysia	892
United Kingdom	894
Czech Republic	1000
New Zealand	1017
Canada	1062
Spain	1091
Thailand	1135
United Arab Emirates	1139
Slovak Republic	1250
South Korea	1363
Italy	1630
France	1646
Belgium	1815
South Africa	2405
Greece	2614
Egypt	2686
Israel	2917
Argentina	3281
Brazil	3815
Mexico	4418
Poland	4782
The Philippines	5094
India	5197
USA	6351
Turkey	6538
Indonesia	7818
China/Hong Kong	8049

Study # 00-3804

Appendix Four

Indiana University - Bloomington, Study Information Sheet
Government and Firm-Level Responses to the Globalization of Environmental Management: The Case of ISO 14001
Key Stakeholders Survey

Dear Sir/Madame:

Like you, I am interested in understanding the impact that ISO 14001 will have on trade and the environment in developing countries. That is why I would like to invite you to participate in this research study. By asking questions about the costs and benefits of ISO 14001, government policies related to ISO 14001, and the process through which ISO 14001 was created, I hope to find out how well ISO 14001 is working for firms in developed and developing countries. I am also investigating the institution-formation process and the ways in which participation shapes the outcomes.

Please take just a few minutes and answer the questions enclosed. I know you are very busy, so please just skip over any questions that seem too time consuming. The questionnaire should not take more than 15-20 minutes to complete. You may remain anonymous—nowhere in my report will I indicate specific names or other identifying information, unless you specifically indicate that you do NOT wish to remain anonymous. Please check either "Yes" or "No" on the first question on the survey which asks you to specify whether or not you would like to remain anonymous. If you do not complete this question, your responses will automatically remain anonymous. Participation in this study is completely voluntary. If, at a later date, you decide you wish to withdraw your comments, just contact me at the address listed below and your survey will be destroyed.

If you feel you have not been treated according to the description of this form, or your rights as a participant in research have not been honored during the course of this project, you may contact the office for the Human Subjects Committee, Bryan Hall 110, Indiana University, Bloomington, IN 47405, 812-855-3067, or by email at iub_hsc@indiana.edu.

To thank you for your participation, I would be happy to send you a free copy of the findings of this study. Just check "Yes" on the last question, and the findings will be sent once the study is complete. Please feel free to contact me at the address below, if you have any questions or comments. Thank you again for your time and assistance.

Best Wishes,

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TC207 and Key Stakeholder Interview Protocol

Thank you for taking the time to complete this survey. I just wanted to let you know that participation in this study is completely voluntary and that all of your responses can remain anonymous, if you would like.

Would you like to remain anonymous?

___ Yes

___ No

If no, Name:_____

Organization:_____

Date_____

What country or region to you represent/come from?_____

(If you are concerned about revealing your identity, just list the region. For example: Latin America)

What is your official title/position? _____

1. When did you get involved with TC 207 and/or ISO 14000?
   Please describe your role.

2. To your knowledge, is it difficult for firms in developing countries to obtain the services of an auditor who can read/write/speak the local language(s) and who is familiar with the municipal regulations by which the firms must abide? Please describe.

3. Do you feel the costs of ISO 14001 are about the same for firms in developed and developing countries? (Please explain)

4. Do you feel the benefits of ISO 14001 (or the 14000 series) are the same for firms in developed and developing countries? (Please Explain)

5. Are you aware of any government policies that encourage or discourage the implementation and/or certification of an ISO 14001 EMS? (Discuss/Describe)

6. Do representatives from developing countries have an equal impact on the formation of the ISO 14000 requirements and guidelines? Please describe.

7. Did the near absence of LDC negotiators during the formative stages of ISO 14001 have any significant impact on ISO 14001's ability to meet the needs of firms in developing countries? Please explain your answer

8. Do you feel that ISO 14000 will have a significant and positive impact on the environmental performance of firms in developing countries? Please explain.

____Yes, in the long term.
____Yes, we will see/have seen immediate results.
____ No
____ Don't know

9. Explain/Describe/Predict the environmental benefits of ISO 14000/14001.

10. What changes, if any, could you suggest that would make ISO 14000 more beneficial to firms in developing countries?

11. How would you like to see the ISO 14000 series change, if at all? Why?

12. Do you have any concerns about possible corruption in the auditing and certification process? Have safeguards been put into place to assure that all certified firms are making continuous improvements in their environmental impacts?

13 Do you believe the overall impact of ISO 14001 on trade between developed countries and developing countries will be:

_____ positive (i.e. increased trade)
_____ negative (i.e. decreased trade)
_____ no impact at all.
_____ Don't know/ no opinion

14. Overall, how fair do you feel ISO 14001 is to firms in developing countries?

1	2	3	4	5	6	7	8	9	10	Don't know

Not fair at all Somewhat Fair Very Fair

Explain if desired:

15. To what extent has the relative absence of developing country influence during the early phases of negotiation been damaging to ISO 14001's ability to meet the needs of firms in developing countries?

1	2	3	4	5	6	7	8	9	10	Don't know

Not damaging at all Somewhat damaging Very Damaging

Explain if desired:

16. Overall, how beneficial will ISO 14001 be *to trade*?
(Circle the appropriate number)

1	2	3	4	5	6	7	8	9	10	Don't know

Not beneficial at all Somewhat Beneficial Very Beneficial

Explain if desired:

17. Overall, how beneficial do you feel that ISO 14000 will be *to the environment*?

1	2	3	4	5	6	7	8	9	10	Don't know

Not beneficial at all Somewhat Beneficial Very Beneficial
Explain if desired:

18. Overall, how beneficial will ISO 14001 be in firms' efforts *to be more profitable*? (Circle the appropriate number)

1	2	3	4	5	6	7	8	9	10	Don't know

Not beneficial at all Somewhat Beneficial Very Beneficial

Explain if desired:

19. Please add any additional comments you feel would help others to understand the impact that ISO 14001 will have on international trade or the environment.

Thank You!!!

Study # 00-3804

Appendix Five

Indiana University - Bloomington, Study Information Sheet
Government and Firm-Level Responses to the Globalization of Environmental Management: The Case of ISO 14001

Dear Sir/Madame:

Like you, I am interested in understanding the impact that ISO 14001 will have on trade and the environment in developing countries. That is why I would like to invite you to participate in this research study. By asking questions about the costs and benefits of ISO 14001 and government policies related to ISO 14001, I hope to find out how well ISO 14001 is working and how improvements can be made so that the benefits of ISO 14001 are felt by *both* wealthy and developing countries.

Please take just a few minutes and answer the questions enclosed. I know you are very busy, so please just skip over any questions that seem too time consuming. The questionnaire should not take more than 15-20 minutes to complete. You may remain anonymous—nowhere in my report will I indicate specific names or other identifying information, unless you specifically indicate that you do NOT wish to remain anonymous. Please check either "Yes" or "No" on the first question on the survey which asks you to specify whether or not you would like to remain anonymous. If you do not complete this question, your responses will automatically remain anonymous. Participation in this study is completely voluntary. If, at a later date, you decide you wish to withdraw your comments, just contact me at the address listed below and your survey will be destroyed.

If you feel you have not been treated according to the description of this form, or your rights as a participant in research have not been honored during the course of this project, you may contact the office for the Human Subjects Committee, Bryan Hall 110, Indiana University, Bloomington, IN 47405, 812-855-3067, or by email at iub_hsc@indiana.edu.

To thank you for your participation, I would be happy to send you a free copy of the findings of this study. Just check "Yes" on the last question, and the findings will be sent once the study is complete. Please feel free to contact me at the address below, if you have any questions or comments. Thank you again for your time and assistance.

Best Wishes,

Susan S. Raines
School of Public and Environmental Affairs
Indiana University
Bloomington, IN 47405
USA
sraines@indiana.edu
Tel 812.335.1817

ISO 14001 Certified Firms Worldwide

Please complete this survey if your firm has implemented an ISO 14001 EMS.

Would you like your answers to remain anonymous? ___ YES ____ NO

What is your position/job title? (Circle One)
A. CEO B. Environmental Manager C. Other _____

Is your facility third-party certified? _____ Yes ____No ____ Self-Certified

1. Overall, how beneficial do you feel that ISO 14001 will be *to your firm*?
(Circle the appropriate number)

1	2	3	4	5	6	7	8	9	10	Don't know

Not Beneficial Somewhat Beneficial Very Beneficial

Explain if desired:

2. Overall, how beneficial will ISO 14001 be *to your firm's efforts to trade internationally*?
(Circle the appropriate number)

1	2	3	4	5	6	7	8	9	10	Don't know

Not beneficial at all Somewhat Beneficial Very Beneficial

Explain if desired:

3. Overall, how beneficial will ISO 14001 be in your firm's efforts *to be more profitable*?
(Circle the appropriate number)

1	2	3	4	5	6	7	8	9	10	Don't know

Not beneficial at all Somewhat Beneficial Very Beneficial

Explain if desired:

4. Overall, how beneficial do you feel that ISO 14000 will be *to the environment*?

1	2	3	4	5	6	7	8	9	10	Don't know

Not beneficial somewhat beneficial Very Beneficial

Explain if desired:

Section 1: Costs and Benefits of ISO 14001

5. Please rate the importance of each of the following issues, as the motivating factors which influenced your firm's decision to implement an ISO 14001 EMS? Rate each on a scale from 0 (totally *un*important) to 5 (highly important).

_____ Potential economic savings.

_____ Requirements from our parent company.

_____ Desire to display environmental leadership, be a good neighbor.

_____ "Green" Marketing benefits

_____ Incentives and/or pressure from national government/regulators.

_____ Desire to receive regulatory relief

_____ Requirements of trade partners

_____ Desire to increase exports

_____ Desire to improve understanding of regulatory requirements

_____ Desire to reduce liabilities/ reduce insurance premiums.

_____ Other (please explain) _____

_____ Other (please explain) _____

_____ Don't know

6. Did any individual or small group of managers play an instrumental role in persuading the company to implement an ISO 14000 EMS?

____Yes ____No ____Don't know

7. If "Yes", what is this person's job title?
____ CEO ___ Environmental Officer ___ Other

8. If yes, how instrumental was this person(s)'s efforts in persuading the company to adopt an ISO 14001 EMS? (Circle the appropriate number)

1	2	3	4	5	6	7	8	9	10	Don't know

Slightly Instrumental Moderately Instrumental Highly Instrumental

9. Specifically, what actions/arguments/ or evidence did this person(s) use to persuade decision makers to adopt an ISO 14001 EMS?

10. Some people feel that the environment can be protected effectively only if societies fundamentally change the way their economies work. Other people feel that it is possible to protect the environment without fundamentally altering the economic system. Where would you place your philosophy and the philosophy of your company in this debate? (*Mark the box closest to you position and your company's position*).

a. Your philosophy:

1	2	3	4	5	6	7	8	9	10	Don't know

Can protect environment only if economic system is fundamentally changed.

Can protect environment without changing economic system.

b. Your Company's philosophy:

1	2	3	4	5	6	7	8	9	10	Don't know

Can protect environment only if economic system is fundamentally changed.

Can protect environment without changing economic system.

11. If your company chose not to adopt and certify under ISO 14001 would you fear a reduction in your firm's ability to export its products (includes both goods and services)?

____ Yes, we feared a large reduction in our ability to trade.
____ Yes, we feared a moderate reduction in our ability to trade.
____ Yes, we feared a small reduction in our ability to trade.
____ No, we feared no reduction in trade.
____ I Don't Know

12. If possible, please give specific examples of lost or gained trade opportunities related to ISO 14001.

13. Please estimate the annual predicted savings that your firm expects (or has experienced), if any, by implementing an ISO 14000 EMS. For example, $10,000 from reduced energy use.

14. Where did/will these savings come from? Check all that apply.
____ reduced energy consumption.
____ reduced use inputs/resources.
____ reduced insurance premiums.
____ reduced costs of waste disposal.
____ reduced fines due to noncompliance with national/local regulations.
____ other (please specify)_____
____ other (please specify) _____

15. Did your firm already have an EMS in place prior to adopting the ISO 14001 EMS?
___ YES ___ No ___ Don't Know

16. Please estimate the costs of implementing an ISO 14000 EMS.
_____$USD (or other currency?____)
How long did this process take?_____

17. Please estimate the costs of third-party certification for your facility.
_____ $USD or other currency _____How many facilities?_____

18. Was a formal cost-benefit evaluation done as part of the decision making process?
_____ Yes _____ No _____ I Don't know

19. If yes, did the cost-benefit analysis indicate that ISO 14001 would be cost-effective?
_____ Yes, we predicted immediate economic benefits.
_____ Yes, we predicted benefits in the long-term (2+ years after implementation)
_____ No, we predicted no economic benefits from ISO 14001.

_____ I Don't know

20. Did you experience any difficulty in finding an ISO 14001 auditor who could read, write, and speak in your language?

_____ Yes, it was very difficult.
_____ Yes it was somewhat difficult.
_____ No it was not difficult.

21. Did you experience any difficulty in finding and ISO 14001 auditor who was knowledgeable about the municipal regulations to which your firm is accountable?

_____ Yes, it was very difficult.
_____ Yes it was somewhat difficult.
_____ No it was not difficult.

22. What country did your auditor come from? _____.

Section 2: Changes to ISO 14001

23. Do you believe the overall impact of ISO 14001 on trade between developed countries and developing countries will be:

_____ Positive (i.e. increased trade)
_____ Negative (i.e. decreased trade)
_____ No impact at all.
_____ Don't know/ no opinion

24. Do you believe that ISO 14001 will benefit firms in developing countries as much as it will benefit firms in wealthier countries?

25. What are your suggestions, if any, to make ISO 14001 fairer, or more beneficial, to firms in developing countries?

Section 3: Public Policy Questions

26. Has your facility experienced any change in its relationship with regulators as a result of implementing and/ or certifying under ISO 14001?

____ YES ____ NO ____ Don't know

27. If Yes, what has changed? Check all that apply

____ Reduced inspections by government officials

____ Improved relationship with regulators, more cooperation.

Other_____

28. Did your firm receive any assistance from your government that aided in your efforts to implement an ISO 14001 EMS?

____YES ____ NO ____ Don't know

29. If your firm received governmental assistance related to ISO 14001, how important was this assistance in influencing your decision to implement an ISO 14000 EMS?

____Very important

____Somewhat important

____Somewhat unimportant

____ Very unimportant

____ Don't know/undecided

30. If yes, what type of benefits did your firm receive?

_____ technical assistance/ advice

_____ cash subsidies to reduce the costs of certification

_____ cash subsidies to purchase or upgrade equipment

_____ training

_____ other (please specify) _____

_____ Don't know/Undecided

31. Other comments related to the impact of public policies on your firm's decision to implement an ISO 14001 EMS?

Section 4: Environmental Impacts

32. If you believe ISO 14001 EMS will improve the environmental performance of your firm, when do you expect these benefits to materialize? (for example, will it reduce resource consumption, emissions, etc.)

____ I expect positive results in the long term only.

____ I expect (or did see) positive results immediately.

____ I expect positive results in the short and long term.

____ I do not expect significant environmental improvements.

____ I don't know

33. Please give one or more examples of the kinds of environmental improvements that have occurred at your facility as a result of ISO 14001

_____

_____

Section 5: Demographic information

34. Is this organization owned or operated by the government? Yes No

35. Part of a Multi-National Corporation:
____ YES ____ NO

36. Average Annual Sales: _____($USD, or other currency?)

37. Approximately, what percentage of your total production is exported?_____

38. Of your total exports, approximately what percentage goes to the following countries or regions?
_____ European Union (EU)
_____ United States (US)
_____ Japan
_____ Other_____
_____ Other_____

39. How many employees work at your facility?
____< 20
____ 20-49
____ 50-99
____ 100-299
____ 300-999
____ >1,000

40. Do you know of any other firms that have decided against implementing an ISO 14000 EMS?
____ YES
____ NO

41. If yes, would you feel comfortable sharing their contact information so that I may discuss these issues with them as well?

Firm name: _____
Contact person:_____
Address: _____
_____
Telephone: _____
Fax: _____
Email: _____

42. Would you like a copy of the survey results?
_____ YES _____ No

THANK YOU FOR YOUR ASSISTANCE !

If the envelope included with your survey is missing or insufficient, send to:
Susan S. Raines
School of Public and Environmental Affairs room 331
Indiana University
Bloomington, IN USA 47405

sraines@indiana.edu

Vitae
Susan Summers Raines

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Department of Political Science and International Affairs
Kennesaw State University
1000 Chastain Road
Kennesaw, GA 30144-5591

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Fax 770-423-6312

Education

Ph.D. Public Policy Indiana University, Spring 2002

M.A. Political Science, University of Idaho, May 1995

B.A. Government/ International Relations, California State University, Sacramento, May 1992

Certificate in Canadian Studies, California State University, Sacramento, May 1991

Journal Publications

2002

Bingham, Lisa B., Kiwhan Kim, and Susan Raines. 2002. "Exploring the Role of Representatives in Mediations at the U. S. Postal Service" *Ohio Journal of Dispute Resolution.* February, Vol. 17, Issue 2.

Raines, Susan Summers, 2002. "Implementing ISO 14001 - An International Survey Assessing the Benefits of Certification", *Corporate Environmental Strategy*, Vol.9, No.1.

Raines, Susan Summers, and Christian Haumesser 2002. "ISO 14001 in the United States: Good News on the Question of Hype versus Hope", *Environmental Practice* September, 2002 Forthcoming.

2001

Raines, Susan S., 2001 "Government and Firm-Level Responses to the Globalization of Environmental Management: The Case of ISO 14000" in Proceeding for the 4th International Conference on Management.

O'Leary, Rosemary and Susan S. Raines, 2001 "Lessons Learned from Two Decades of Mediation at the United States Environmental Protection Agency" *Public Administration Review (PAR)* December 2001.

O'Leary, Rosemary and Susan S. Raines, 2001 "Alternative Dispute Resolution and Enforcement at the U.S. Environmental Protection Agency: A Letter to Carol Browner" *The Environmental Lawyer* June, 7(3).

2000

Raines, Susan S. and Rosemary O'Leary, 2000, "Evaluating the Use of Alternative Dispute Resolution In U.S. Environmental Protection Agency Enforcement Cases: Views of Agency Attorneys" *Pace Environmental Law Review*, 18(1):119.

Raines, Susan S. 2000."A Checklist for Government Agencies Considering the Use of ADR" *Dispute Resolution Journal* August-October.

Raines, Susan S. and Rosemary O'Leary, 2000. "Switching Hats: Issues and Obstacles Facing Administrative Law Judges Who Mediate EPA Enforcement Disputes" *Government Policy and Law Journal* Fall 2(1):58.

Papers Currently Under Review

Raines, Susan S. "Judicious Incentives: International Public Policy Responses the Globalization of Environmental Management" *Policy Studies* Submitted January 9th, 2002.

Raines, Susan S. "Hegemony and Legitimacy in International Environmental Institutions: The Impact of Stakeholder Absence" *International Organization* Submitted January 11th, 2002.

Raines, Susan S., Tan Rong, and Xu Fei "Costs, Benefits, and Motivations for ISO 14001 Adoption In China and Around the World" *Journal of Environmental Management* submitted January 14th, 2002.

Book and Article Reviews

Kagan, Robert A. and Lee Axelrad (eds.) *Regulatory Encounters: Multinational Corporations and American Adversarial Legalism* in the *Canadian Journal of Political Science* 2001, 34:3.

Zander, Alvin. 1996.*Motives and Goals in Groups* in the *Review of Public Personnel Administration,* Winter 2000, vol. XX no.1:72-74.

Rabe, Barry.1995. *Beyond NIMBY: Hazardous Waste Siting Policy in the United*

States and Canada, in SENRA newsletter, Spring 1998.

Tickner, J. Ann. 1998. *Gender and Development: Critical Challenges to Modernization and Dependency Theory*, in *Women and Politics* vol.19 no.4.

60+ summaries and reviews of Alternative Dispute Resolution Literature, on the World Wide Web at http://www.spea.indiana.edu/icri

Master's Thesis

Environmental Interest Group Power and Government Action in the Former Soviet Union, University of Idaho Master's Thesis, 1995. Abstract available upon request.

Professional Conference Papers and Participation

2002

American Political Science Association (APSA) "Business and Governmental Collaboration on International Standards: Democracy Exemplified or Abdicated?" Boston, Massachusetts, August 29th-September 1st, 2002.

Association for Conflict Resolution (ACR) "Can On-Line Mediation be Transformative?" Presenter and Panel Chairperson. San Diego, California, August 21-24, 2002.

Association for Conflict Resolution (ACR) "Communication in International Environmental Negotiations" Paper Presenter, San Diego, California, August 21-24, 2002.

International Studies Association "Cooperation and Hegemony in Environmental Management Worldwide: The Case of ISO 14001" New Orleans, Louisiana March 24-27th, 2002.

Asian Studies Development program National Conference "The Harmonization of Environmental Management in China and Around the World" Agnes Scott College, Decatur, Georgia, March 14-16, 2002.

2001

Southern Political Science Association, "Hegemony and Legitimacy in International Environmental Institutions: The Impact of Stakeholder Absence on Regime Efficacy and Legitimacy in the Case of ISO 14001" Atlanta, Georgia, November 7-10, 2001.

Southern Political Science Association, Chairperson and Discussant for "International Relations and US Foreign Policy Making". Atlanta, Georgia, November 7-10, 2001.

Association for Conflict Resolution, Chairperson for Research Exhibition. October 9-14th, 2001. Toronto, Canada.

International Organization for Standardization (ISO) Technical Committee 207 Member-Delegate, United States Delegation, Kuala Lumpur, Malaysia, June 28th through July 7th, 2001.

Fourth International Conference on Management, Xi'an Jiaotong University, Xi'an, Shaanxi, China, "Government and Firm-Level Responses to the Globalization of Environmental Management: The Case of ISO14000 and China". Also Session Chairperson, on May 5-7, 2001.

American Bar Association, Dispute Resolution Section Conference, Washington, D.C. "The Role of Representatives in Employment Mediation in the United States Postal Service's REDRESS Program" Published in Mediation at Work: The Report of the National REDRESS™ Evaluation Project of the United States Postal Service. April, 2001.

2000

American Political Science Association, "Government and Firm-Level Responses to the Globalization of Environmental Management: The Case of ISO 14000" presented at the, 96th Annual Conference, Washington, D.C. August 31-Sept. 3, 2000.

Society for Professionals in Dispute Resolution (SPIDR) "How Do We Determine Who is a 'Stakeholder' in Public Policy Disputes?" Panel Discussion, Annual Conference, Albuquerque, New Mexico, September 13-18, 2000. Also, Research Exhibition Chairperson.

United States Institute for Environmental Conflict Resolution "Lessons Learned from Two Decades of ADR at the EPA: A Letter to Carol Browner" presented at the, May 16, 2000. Panel Moderator.

International Association of Conflict Management, "The Impact of Representatives on Mediation Duration and Settlement in the REDRESS Program at the United States Postal Service, June 2000. Session Chairperson.

1999 and earlier

National Association of Environmental Law Societies Conference "Globalization and Its Effects on Business Standards: ISO 14000", Indiana University, Bloomington Indiana, February 1999. Moderator.

European Consortium for Political Research (ECPR)"Environmental Interest Group

Formation and Government Action in the Former Soviet Union", Bern Switzerland, March 1997.

Northwest Political Science Association "Where Did Everybody Go? Explaining the Downturn of the Environmental Movements in the former Soviet Republics", Portland OR, October 1994.

Invited Guest Lectures

October 2nd, 2001 "Corporate-Sponsored International Environmental Management Standards: New Data on the Question of Hype versus Hope" presented to the faculty and students in the Environmental Studies Department at *Emory University*.

Summer 2001 "The 2000 Elections and Bush's Foreign Policy" May 1 at *Nankai University* in Tianjin, China. Presented to Graduate Students and Faculty in the Political Science Department.

Teaching Experience

2001-- present	Kennesaw State University, Master's of Science in Conflict Management Program. (ADR Continuum, Conflict Theory, Organizational and Community Conflict, Research Methods, Evaluation, Conflict Management for Public Administrators).
1999- Summer 2001	School of Public and Environmental Affairs (4 semesters: Introduction to National and International Policy; 1 semester Graduate level Environmental Dispute Resolution;)
Sumr.1999	Department of Political Science, Indiana University (Introduction to International Relations)
1994-1996	Instructor, Department of Political Science, University of Idaho (Introduction to American Government and Politics, 4 semesters)

Courses for which I was a Teaching Assistant:

Spring 1998	Associate Instructor of Political Science, Indiana University (Introduction to American Government)
Fall 1997	Associate Instructor of Political Science, Indiana University (Ballots and Bullets: Democratization around the World)
1996-1997	Teaching Assistant, Department of Political Science, Washington

State University (World Civilizations, 2 semesters)

Research Associate

1998-2001 Indiana Conflict Resolution Institute
Responsibilities: Program evaluation and report writing; gathering and analyzing data on various research projects conducted by the Institute, including program evaluations of the United States Postal Service's REDRESS™ mediation program, the Indiana Department of Environmental Protection's Pilot Mediation Program, and alternative dispute resolution efforts at the United States Environmental Protection Agency.

Alternative Dispute Resolution Training and Experience

- Registered with the Georgia State Office of Dispute Resolution Neutral # 2055
- Volunteer Mediator, Floyd County Magistrate Courts, Jan 2002- present
- Mediation Program Designer, Indiana Department of Environmental Management, 1998-2001 Duties included roster development, recruitment, and management, along with project design, evaluation, and training of relevant personnel.
- Member of REDRESS Evaluation team at the Indiana Conflict Resolution Institute, 1998-2001. REDRESS is an employment mediation program with the United States Postal Service.

Trainings Given:

Fall 2001 Attended and coached --20 hour Basic Mediation training at Kennesaw State University. Ansley Barton, esq., lead trainer.

January 1999 Organized and co-taught a 40 course with RESOLVE, on environmental dispute resolution at Indiana University.

Spring 1999 Community Kitchen/ Shelter Inc. facilitation and mediation of workplace issues, Monroe County, Indiana.

February 1999 Conducted 2, 1-day trainings in environmental mediation for 45 employees of the Indiana Department of Environmental Management.

Trainings Attended:

April 2002 Attended 40 Family/Divorce Mediation Training.

Fall 2001 "Designing Dispute Resolution Systems for Corporations" led by Ms. Judy Mares-Dixon from CDR Associates, 32 hours.

	September 4-7, Kennesaw State University.
January 2000	World Bank Mediator Training, employment disputes (1-day)
May 2000	20 hour SquareTrade mediator training.
Fall 1998	Attended 48 Hours of general training in ADR, including labor, employment, public policy, and international arenas. Indiana University. Led by Lisa Bingham, esq.
Spring 1998	Attended 48 Hours of environmental mediation training, Indiana University, Led by Dr. Rosemary O'Leary.
February 1994	19 Hour course in Environmental Mediation, University of Idaho Law School.

Roster Membership

January 2000 to present: International Bank for Reconstruction and Development (World Bank)

June 2000 to present: SquareTrade, mediator of online transaction disputes.

Grants and Awards

School of Public and Environmental Affairs-- Award for Excellence in Doctoral Research, $500

National Science Foundation, Doctoral Dissertation Research Grant, Spring 2001, $10,000.

Center for International Business Education and Research, Dissertation Award, Spring 2001, $5,000.

College of Arts and Sciences, Indiana University, Grant in Aid of Conference Travel, Spring 2000, $200.

Foreign Language and Area Studies Fellowship (FLAS) for 1st year Russian language studies, Indiana University, summer 1998, $2,400.

Nettie Mae Stilenger Scholoarship, University of Idaho, 1994, $2,500.

Indiana University Graduate School Grant in Aid of Research, Spring 1998, $500.

Professional Organizations

2001-present	International Studies Association (member)
2001-Present	Southern Political Science Association (member)
1999-present	Association for Conflict Resolution (member)
1999-present	American Political Science Association (member)
1999-present	International Association of Conflict Management (member)
1993- present	Pi Sigma Alpha (member)

Administrative Experience and Service Activity

2002-Present	Legislation and Advocacy Committee Chairperson, Lewis Elementary School, Kennesaw Georgia.
2000-Present	Research Exhibition Coordinator for the Annual Conference for the Association for Conflict Resolution.
2001-2002	Volunteer for the "Conversation Partner" Program for International Students through the English as a Second Language Program, Kennesaw State University.
2001- Present	KSU, Department of Political Science and International Affairs, Technology Committee, member.
2001-Present	Master's of Public Administration, Accreditation Committee Member
Fall 2001	Organized the Indiana University Reception at the Southern Political Science Association Convention in Atlanta, November 7-10.
Spring 2000	Member, Dean's Strategic Advisory Committee, Indiana University's School of Public and Environmental Affairs
October 2000	Guest Speaker, Cinergy Conference on Management Innovations
1999-2000	Grant Writer for Bloomington Developmental Learning Center, raised over $7,000 in grants.
1998 -2001	Member, Graduate Admissions Committee, Indiana University

1994-1996	Chair, Administrative Liaison Committee, University of Idaho's Graduate Student Association
1994-1995	Events/Charitable Activities Director, Pi Sigma Alpha and the University of Idaho's Political Science Student Association
1994-1995	Founder/Staff Advisor, Model United Nations Club, University of Idaho

International Experience

Fall 1994	Researcher, University of Tampere, Finland.
May-Sept 1992	Salesperson, Migros Corporation, Lausanne, Switzerland.
1990-1991	Exchange Student, Lennoxville Quebec, Canada.

Language Skills

French	Fairly fluent
Russian	One year of study, ability to travel without translator, not fluent.

References

Dr. Elinor Ostrom Co-Director, IU Workshop in Policy Analysis and Institutional Development
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