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Rethinking Environmental Protection, Competitiveness, and International Trade

Sanford E. Gaines†

Environmental protection and international trade have moved to center stage in world affairs. At the close of a century defined at its start by concepts of self-determination and independence, the ascendancy of environmental and trade issues highlights the shift to interdependence as the dominant characteristic of international relations. What still eludes policymakers and academic experts alike is the appropriate relationship between these two spheres of thought and action. A dramatic example of this policy ambiguity is the inability of governments or commentators to reach consensus on more than a vague definition of the concept of sustainable development that underpins the Rio Declaration and Agenda 21, which leaders of more than 100 countries endorsed at the 1992 United Nations Conference on Environment and Development.¹ As Alan Boyle succinctly puts

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it, "[s]ustainable development is a useful working description of what is desired, but like motherhood and virtue, it is not easy to define, and there are various ways to get there." With specific reference to the environment and international trade, Agenda 21 contains the affirmation that "[e]nvironment and trade policies should be mutually supportive," but neither before nor after Rio have governments or analysts been able to agree on how (or even whether) such a mutually supportive relationship can be achieved.

Increasing numbers of people, rising consumption per capita worldwide, and the diffusion of powerful technologies are combining to put unprecedented stresses on the global environment. In response, environmental protection programs have become commonplace (which is not to say universally effective) in both the public and the private sectors. Generally evading the sensitive issue of population control, and persisting in vigorous pursuit of ever-higher levels of consumption, governments and businesses attempting to mitigate or eliminate environmental stresses have focused almost entirely on changes in technology (broadly defined) to reduce the environmental burden of each unit of economic activity. In spite of concerted efforts, however, the world as a whole has seen twenty-five years of explosive population growth and historic increases in per capita consumption that appear to have outstripped environmentally beneficial technological change. These increases have led to more multifarious and widespread adverse environmental effects from human activity than ever before.

\[ I = P \times C \times T \]

I will not intone the familiar litany of the ways global environmental conditions have worsened in recent decades. Instances of environmental improvement (for example, increased temperate region forest cover, improved surface water quality in heavily developed regions) are more than outweighed by signs of increased deterioration or resource depletion on a global scale (for example, rapid deforestation in tropical regions, depletion or total exhaustion of commercial fisheries). Among the more useful and accessible compendia of environmental data showing these trends is WorldWatch's annual State of the World report.

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4 See Paul Ekins, The Sustainable Consumer Society: A Contradiction in Terms?, 3 Intl Envir Aff 243, 249 (1991), in which Ekins presents the simple formula \( I = P \times C \times T \), showing that increases or decreases in environmental impact (I) are determined by the combined effect of changes in population (P), consumption per capita (C), and the environmental impact of the technologies being used (T).

5 I will not intone the familiar litany of the ways global environmental conditions have worsened in recent decades. Instances of environmental improvement (for example, increased temperate region forest cover, improved surface water quality in heavily developed regions) are more than outweighed by signs of increased deterioration or resource depletion on a global scale (for example, rapid deforestation in tropical regions, depletion or total exhaustion of commercial fisheries). Among the more useful and accessible compendia of environmental data showing these trends is WorldWatch's annual State of the World report.
Certainly, governmental and private responses have succeeded to varying degrees in stabilizing or even improving some local or national environmental conditions. In a few instances, governments have also responded effectively through international agreements to contain or reverse global environmental damage. In general, however, it seems fair to say that the number and seriousness of identified adverse environmental changes continues to grow faster than the ability of governments to respond to or forestall them. Even in nations that have made significant environmental progress in pollution control and in protecting natural areas at the national level, overall environmental quality continues to erode because of environmental changes induced by human actions beyond the limits of their national jurisdiction. Thus, we are becoming increasingly aware that environmental protection, at home and abroad, has become a matter of national security that merits substantial domestic and even foreign policy interventions. The perceptible degradation of environmental conditions, coupled with enhanced scientific ability to detect hitherto unperceived ecological changes and improved scientific understanding of the linkages between ecosystem vitality and

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6 The most frequently cited success stories, at least in developed countries, are the reductions in concentrations of sulfur dioxide, particulate matter, and lead in the air. For an interesting short history of the phaseout of lead in gasoline, see George M. Gray, Laury Saligman, and John D. Graham, The Demise of Lead in Gasoline, in John D. Graham and Jennifer K. Hartwell, eds, The Greening of Industry: A Risk Management Approach 17 (Harvard 1997).

7 The leading success story is the worldwide reduction in the production of chlorofluorocarbons and other ozone-depleting substances in order to halt and reverse deterioration of the stratospheric ozone layer under the auspices of the Montreal Protocol on Substances that Deplete the Ozone Layer. For a general description, see James K. Hammitt and Kimberly M. Thompson, Protecting the Ozone Layer, in Graham and Hartwell, eds, The Greening of Industry 43 (cited in note 6).

8 To take just the limited example of North America, the North American Commission for Environmental Cooperation has published a major continent-wide study of the nature and sources of air pollution, with the eventual aim of assisting the governments of Mexico, Canada, and the United States, acting individually and collectively, to control such pollution more effectively. Air pollution in the U.S. Southwest comes from both U.S. and Mexican sources. Contamination of the Great Lakes is traced to airborne contamination from Mexico and the southern U.S., as well as pollution generated in the regional airshed and watershed of the Great Lakes. Commission for Environmental Cooperation, Continental Pollutant Pathways: An Agenda for Cooperation to Address Long-Range Transport of Air Pollution in North America (CEC 1997). The virtual collapse of the North Atlantic fisheries stems from the high catches of fishing fleets from Asia and Europe as well as Canadian and U.S. fishermen. The dwindling numbers of migratory songbirds in North America appears to be linked, in part, to changing practices of coffee cultivation in Central and South America.

human welfare, has generated sharply heightened worldwide concern about protecting the environment.

As environmental protection was becoming a high priority for government policymakers and was absorbing increasing managerial attention in the private sector, policy concern with matters of economic welfare also intensified globally. In particular, governments and businesses alike have looked increasingly to international trade as a stimulus for economic growth, inspiring international consensus on the dismantling of national tariff and nontariff barriers to the free exchange of goods, services, and investments. The World Trade Organization, completely restructured in 1994 to manage this far-reaching agenda, is widely viewed as one of the most robust and effective international organizations. At its 1996 ministerial meeting, the WTO continued the trade liberalization agenda with substantial vigor.

Trade liberalization since World War II has apparently contributed to significant gains in economic welfare in most parts of the world; at the very least, there is a strong temporal association between steady worldwide increases in real per capita income levels over the last fifty years and equally steady increases in the share of wealth-producing activity represented by goods (and services) that are traded internationally.

Even while enjoying the fruits of liberalized international trade, however, national governments fret constantly about the ability of their domestic producers to compete with foreign producers in the intensely competitive international marketplace. Governments are prompted to such worries in part by the protectionist pleading of domestic producers who, regardless of general proclivities for free markets, typically prefer to be shielded from foreign competition, at least unfair foreign competition, in their home markets. Consequently, national trade policies throughout the world are rife with exceptions to or deviations

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10 The initiatives begun in the so-called Kennedy Round of world trade negotiations in the mid-1960s culminated in the comprehensive Uruguay Round agreements on tariff reductions and restraints on nontariff trade barriers, the 1994 Agreements Establishing the World Trade Organization. Regionally, the tightening integration of the European Union and the conclusion of the North American Free Trade Agreement reflect the same trade-liberalizing impulse.

11 The major new initiative was an agreement on trade liberalization in the information technology sector.

12 Not all observers believe that the concern with competitiveness is well founded. For a pungent critique of the many books sounding the competitiveness theme, see Paul Krugman, Competitiveness: A Dangerous Obsession, in Paul Krugman, ed, Pop Internationalism 3 (MIT 1996).
from the free-trade norm, born from insecurity about the national economy, ambivalence about interdependence with other nations, and perpetual recalculation of the trade-off, both economic and political, between the general welfare benefits of liberal trade and the short-term or specific losses to certain sectors of their economies caused by opening markets to international competition.

The prevalent view of the relationship between environment and trade policy in the early stages of their parallel evolution supposed that environmental protection measures would impose costs on producers of goods that would, at least in theory, adversely affect their competitive position in international trade. In the absence of empirical evidence to the contrary, this theoretical scenario was accepted by trade proponents and environmental activists alike. It was readily accepted in part because it meshed neatly with the political economics of the policy debate. Environmentalists could morally condemn free-trade-advocating businesses for being more concerned with their economic welfare than with the harmful effects of their pollution. Businesses trying to contain or rationalize the proliferation of environmental requirements constraining their performance could couch their resistance to environmentalism in terms of preserving competitiveness of domestic-welfare-enhancing production. Depending on their ideological proclivities and interest-group bases, politicians could line up on one side or the other of this simplified debate. Over time, the supposed negative effect of strong environmental regulation on international trade competitiveness has become so instilled in both the academic and political consciousness that it has assumed a mythical character.

Without doubt, the myth of fundamental conflict between trade and environmental policy objectives is destructive, for it presumes an inherent contradiction in the relationship and leaves no room for mutually satisfying reconciliation. It offers policymakers only three equally unpalatable choices: prefer economic welfare to environmental protection; prefer environmental protection to economic welfare; or compromise both objectives in pursuit of a balanced policy. We should embrace such a destructive mythology only if we are sure that it accurately portrays our real policy dilemma.

This Article urges a rethinking of the prevailing mythology. Using a growing body of empirical economic analysis as a reference point, it argues that environmental protection measures have no policy-relevant effect on international competitiveness.
Nations can secure both the environmental and economic advantages of sound environmental protection policies with negligible risk to the ability of firms to compete in international trade and investment. This Article therefore urges both environmental advocates and proponents of open trade to rethink their hostility to the other side’s policies. By rethinking trade and environmental policy from a presumption that no fundamental conflict exists between them, important opportunities for collaboration across these two policy spheres emerge that provide useful new frameworks for international cooperation in pursuit of sustainable development. Though the factual premises for this revisionist analysis are not irrefutable, rethinking environmental protection, competitiveness, and international trade in these terms builds a constructive mythology that substitutes engagement and collaboration for the current mood of conflict and alienation.

Because the argument just outlined is countertheoretical and counterintuitive, Part I of the Article briefly reviews the theoretical and political roots of the dominant mythology. Part I will quickly traverse what should be largely familiar ground to students of environmental policy: the twin economic concepts of environmental externalities and the internalization of costs, the early resistance of most of the business community to the new costs of environmental protection in the national context, and the redefinition of that resistance in the 1980s in terms of threats to international competitiveness. Environmental counterarguments to this business resistance at each stage served most often to heighten rather than diminish the sense of conflict, cementing in the popular and the political mind the view that environmental protection and economic welfare are fundamentally incompatible objectives.

With the rational as well as the irrational features of the prevailing mythology fully in view, Part II reviews the empirical economics literature testing the hypotheses that underlie the mythology. Do environmental standards drive environmental control costs, and do those costs in turn significantly affect the competitive position of the firms bearing them? In the context of international trade, do differentials in environmental standards from one country to another have identifiable consequences for the international competitive position of firms from various countries? Although the empirical literature is neither entirely uniform nor conclusive, the weight of the evidence strongly suggests that a competitiveness effect, if it exists at all, is generally negligible except in isolated sectors. There are theoretical
and practical explanations for the somewhat surprising empirical findings that reinforce their credibility.

Part III explains why the empirical evidence has not yet had any influence on the public policy debate. Part of the explanation is that many widely read economists continue to construct their arguments on the premise that the competitiveness effect exists while failing to consider the work of their empiricist colleagues. More significantly, the empirical studies focus on pollution control, which is just one aspect of environmental protection. Ultimately, the troublesome issues in working out the relationship between international trade law and environmental protection policy will have to do with resource management, not with pollution control. Part III will explore how the competitiveness issue relates to trade policy affecting resources.

Policymakers need simplified constructs of reality to guide them in formulating policy objectives and in persuading others that their policy offers the best outcome. If today's prevailing mythology misrepresents reality and thus leads to misguided policies, how should we rethink the trade-environment debate? What new model of reality should replace the mythology? Part IV outlines a new model that not only accords better with how the world really works, but has enormous potential for building alliances in favor of sustainable development among erstwhile antagonists—environmentalists and entrepreneurs, developed and developing countries, trade policymakers and environmental policymakers. This alternative model is presented without any claim as to its absolute truth. It may simply be another myth. But the choice of myth matters, and the choice can be made rationally to advance common interests if we have the will.

In the conclusion, I ask the self-skeptical question whether all this matters in terms of the real-world discussion of the trade-environment relationship? The analysis in this Article has its limits, particularly because it sheds little light on the all-important matter of how the international trade system should be shaped to enhance national and international policies for natural resource protection and management. Even so, changing the terms of the discussion about how best to control pollution can replace distrust with an atmosphere of cooperation in national and international policy dialogues, and thereby create an opportunity for effective solutions on other aspects of the trade-environment relationship.
I. THE ORIGINS OF THE MYTHOLOGY: THEORIES TO EXPLAIN THE PERCEIVED WORLD

Well before the rise of modern environmentalism around 1970, economists had firmly established the theory that the environmental and health damage caused by pollution represents a true cost of production, but one that is external to the market for the goods of the polluting firm, in most cases because the damage accrues to public goods such as air and water that have no owner and no market price. The economists noted that because the market fails to compel the firm to consider these costs, the firm produces more goods than the market would absorb if the true cost of the good were accurately reflected in its price. It follows that the existence of environmental externalities fosters a less-than-optimal allocation of resources or, put another way, results in economic inefficiencies. Within this simple and uncontroverted theoretical framework, the obvious remedy for the market's failure to convey appropriate price signals about the externalized environmental costs of production is to devise an artificial set of rules that will effectively internalize those costs to the firm.

However benign cost internalization may be in theory, environmental laws enacted in the early 1970s suddenly presented firms with new direct costs that forced unexpected adjustments to their competitive positions. Both individually and collectively, the first reaction of many businesses was to argue that the new costs threatened their ability to maintain profitable production. Their instinctive reaction to oppose environmental protection initiatives in the 1970s in order to avoid costs sowed seeds of

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13 The pioneering work on this subject was done by Arthur Pigou in The Economics of Welfare (MacMillan 1918). Among the seminal modern works is William J. Baumol and Wallace E. Oates, The Theory of Environmental Policy (Cambridge 1988). The basic economic theories are covered in many environmental law texts, such as Peter S. Menell and Richard B. Stewart, Environmental Law and Policy 44-81 (Little, Brown 1994).

14 In the final analysis, as Ronald Coase demonstrated in his famous article, The Problem of Social Cost, from the point of view of pure economic theory, it makes no difference how legal rights and obligations are structured in the set of rules as long as the costs are fully accounted for and the polluters and those suffering the pollution have a costless opportunity to bargain with one other. R.H. Coase, The Problem of Social Cost, 3 J L & Econ 1 (1960). But see Ernst-Ulrich Petersmann, Trade Policy, Environmental Policy and the GATT: Why Trade Rules and Environmental Rules Should be Mutually Consistent, 46 Aussenwirtschaft 197, 204 (1991) (noting that Coase's assumption of no transaction costs is especially unrealistic in the international relations context).

15 Robert Cahn, Footprints on the Planet: The Search for an Environmental Ethic 85-86 (Universe 1978), relates stories of corporate response to environmentalism in the 1970s, including two threats to shut down in the face of environmental requirements.
environmentalist distrust of the business community that continue to bear bitter fruit.

Business opposition was overcome in part by harmonization of measures so as to minimize competitive distortions between jurisdictions within national markets. In the United States, for example, huge flows of interstate commerce are managed under legal principles similar to those that govern international trade. One early policy response was to ensure equality of environmental standards through federal laws that exalted national uniformity over local diversity. The 1970 amendments to the Clean Air Act and the 1972 amendments to the Clean Water Act each substantially restructured pollution control programs so as to subordinate state-level policy choices to nationally-promulgated environmental quality objectives and uniform technology-based pollution control standards. Similarly, Europe saw significant moves toward harmonized environmental standards under the authority of directives from the European Council beginning in the late 1960s.

With these successful examples in mind, some now argue for uniform international standards. In purely international contexts, however, the strategy of complete equality of environmental policy clashes with fundamental notions of national sovereignty, so countries opted for other measures to mitigate possible competitive disruptions from different environmental policies.

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16 The language of U.S. Supreme Court opinions in Commerce Clause cases is similar to the language in comparable rulings of dispute settlement panels under the World Trade Organization. Compare, for example, City of Philadelphia v New Jersey, 437 US 617 (1978) ("The New Jersey law blocks the importation of waste in an obvious effort to saddle those outside the State with the entire burden of slowing the flow of refuse into New Jersey's remaining landfill sites. That legislative effort is clearly impermissible under the Commerce Clause of the Constitution.") with United States—Standards for Reformulated and Conventional Gasoline, WTO Doc WT/DS2/AB/R (Apr 29, 1996) ("[I]f no restrictions on domestically-produced like products are imposed at all, and all limitations are placed upon imported products alone, the measure cannot be accepted as primarily or even substantially designed for implementing conservationist goals. The measure would simply be naked discrimination for protecting locally-produced goods.").


The industrialized countries of the Organization for Economic Cooperation and Development ("OECD"), which shared a common preference to encourage strong environmental programs, in 1972 adopted the polluter pays principle ("PPP") to avoid distortions in international trade and investment. Devised by economists, the PPP expresses the fundamental policy that individual firms in each country should be required to bear the cost of meeting government-mandated environmental objectives and standards. The PPP was primarily intended to prevent governments from creating distortions in trade that would favor domestic firms by having the government absorb the costs of environmental controls as a public expense; it specifically declared off-limits subsidies that would create significant distortions. It also had the effect, within a group of like-minded nations that were all moving to adopt environmental legislation, of providing a modicum of mutual reassurance to each government that its economic position would not suffer as a result of its new environmental policies.

Within the broader society of nations, however, where the impulse to create policy frameworks conducive to strong environmental programs is substantially less than in the OECD club, no real efforts were made to try to mesh international trade policy with emerging environmentalism. Watching the business-environmental debate as it unfolded in developed countries, developing countries in the 1970s focused on the immediate costs, taking the view that environmental control costs were an unaffordable luxury during the early stages of their economic development. In its more strident form, the South's response to Northern initiatives to establish international principles and rules of environmental protection was to lambaste them as neo-imperialist ploys to keep former colonies in a state of underdevelopment.


22 The Stockholm Conference on the Human Environment in 1972 almost foundered on the Third World rhetoric of absolute sovereignty to decide on use of natural resources inspired by expressions of past injustice by such leaders as Indian Prime Minister Indira Ghandi, who remarked: "Many of the advanced countries of today have reached their present affluence by the domination over other races and countries, the exploitation of their own masses and own natural resources." Quoted in Lynton K. Caldwell, International Environmental Policy: From the Twentieth to the Twenty-First Century 65 (Duke 3d ed 1996).
Scholars and government experts gave considerable theoretical attention at this formative stage to the international trade consequences of new environmental regulations. Aside from the formulation and adoption of the polluter pays principle, however, the early theoretical work drew little political attention.

The mythology of the competitiveness effect of environmental regulation took on new dimensions in the late 1970s and 1980s. Even though economists began to publish empirical studies showing little or no negative effect of environmental control costs on the international competitiveness or investment patterns of industries in developed countries with strong environmental controls, the stagflation that afflicted many developed economies and the advent of chronic U.S. trade deficits engendered great public anxiety in North America and Europe about waning competitiveness. This anxiety was manifested, for example, in "Buy-American" legislation and in a fixation on "Japan, Inc." as a more efficient competitor. At the same time, a conservative political mood less receptive to environmental concerns took hold in many developed countries, symbolized by the ascendancy of President Reagan in the United States and Prime Minister Thatcher in Great Britain. In this political and economic climate, environmental regulation became one of the favorite scapegoats for the economic malaise. Developed-country businesses frequently


26 Economists Henry Peskin, Paul Portney, and Allen Kneese open their serious 1981 study of environmental regulation and the economy with this comment:

Along with many other developed nations, the United States is currently experiencing economic difficulties that many feel are unprecedented. The common symptoms appear to be a substantial decline in the rate of growth of real income and productivity, increasing numbers of unemployed, and inflation that seems to be immune to conventional therapies. Under such bleak circumstances, it is only natural to expect that any and all possible causes of difficulties will be closely scrutinized. A currently popular candidate for scrutiny is governmental regulation in general and environmental regulation in particular. . . . This perception—the feeling that there is too much regulation—and the belt-tightening that can be expected as a result of slow growth and inflation, is already beginning to
argued, and politicians eagerly agreed, that excessive environmental control costs were hobbling their ability to compete against low-cost producers in the international marketplace, notwithstanding the early results of the empirical economic analyses to the contrary.\textsuperscript{27}

Rather than contest the competitiveness argument on its merits, environmentalists found it more effective for their organizations and for their political success to demonize the business community and the politicians who advocated or implemented anti-environmental policies in the name of a better business climate. Environmentalism thus took on attributes of a moral crusade, in which adherents favored environmental controls, even if it meant sacrificing businesses and jobs.

Though public opinion pollsters in the United States found strong support for environmental regulation despite possible direct economic costs, and many environmental programs were initiated or expanded during the 1980s, few questioned the underlying premise that there were, in fact, net economic costs associated with environmental compliance. Some political and business leaders expressed the view that environmental protection and economic growth were not incompatible,\textsuperscript{28} but few appeared to take that claim seriously.

Internationally, scientific findings in the 1980s, such as the discovery of the ozone hole over Antarctica, gave environmental advocates new issues to pursue. At the same time, developing countries were beginning to accept the legitimacy of many environmental concerns, and even beginning to take the lead on some, such as the international transport and disposal of hazardous wastes.\textsuperscript{29} As a result, even while environmental lawmaking

\begin{itemize}
\item spell trouble for environmental regulation.
\item Henry M. Peskin, Paul R. Portney, and Allen V. Kneese, eds, \textit{Environmental Regulation and the U.S. Economy} 1 (Johns Hopkins 1981).
\item President Reagan's Executive Order 12,291, 3 CFR 127 (1981), revised and repromulgated by President Clinton as Executive Order 12,866, 3 CFR 638 (1993), requires an assessment of costs and benefits, including international trade impacts, of all new regulatory actions imposing a cost of $100 million or more. Regulatory impairments of U.S. ability to compete were a major theme of the Task Force on Regulatory Relief in the Reagan Administration, tellingly renamed by President Bush as the Council on Competitiveness.
\item See, for example, National Commission on the Environment, \textit{Choosing a Sustainable Future: The Report of the National Commission on the Environment} xi (Island 1993), in which a blue-ribbon group, including several business leaders and former public officials, among others, put forward a series of recommendations built on the premise that "the merging of economic and environmental goals . . . can and should constitute a central guiding principle for national environmental and economic policymaking." Id.
\item The African countries pushed for a strong regime in the negotiation of The Basel
was being re-examined in developed countries, international environmental law advanced on many fronts. At the same time, the developing countries, as a bloc, aggressively promoted their concept of a new international economic order, in which developed countries would be required to transfer wealth and technology to the developing countries to rectify international inequities and to redeem their past imperialistic exploitation.

In 1986, the World Commission on Environment and Development gave a strong impetus to the concept of sustainable development. In the Commission’s formulation, sustainable development encapsulated the twin propositions that economic development was essential for improved environmental protection and that ensuring environmental sustainability was an absolute prerequisite for sound economic development. Governments embraced the challenging but vague idea of sustainable development at Rio, but both environmentalists and business interests in developed countries, already entrenched in the mythology of environmental-economic conflict, have expressed skepticism. Environmentalists find that sustainable development places too much emphasis on development, an emphasis that they fear will come at the expense of the environment. Businesses worry that sustainability implies curtailed access to non-renewable resources such as oil and coal, and that its associated emphasis on intragenerational equity and intergenerational equity will become the inspiration for anti-business initiatives such as compulsory transfers of technology.

Even after Rio, however, the assumption that pollution control or other environmental measures impose costs on domestic producers and thereby potentially put those producers at a competitive disadvantage to foreign producers has persisted as an article of faith, or at least as part of the conventional wisdom of

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30 Caldwell, International Environmental Policy at 204-07 (cited in note 22), provides a short synopsis of the new international economic order.


public policy. Governments the world over shape their environmental policies and their trade policies with an eye toward preventing, minimizing, or counteracting the competitiveness effects of environmental protection programs.

A General Agreement on Tariffs and Trade ("GATT") dispute settlement panel crystallized the emerging tensions between trade and environment policies in an August 1991 report finding a U.S. embargo of Mexican yellowfin tuna pursuant to the dolphin-protection provisions of the U.S. Marine Mammal Protection Act inconsistent with the GATT. The panel explained its decision in terms that confirmed the centrality of the presumed competitiveness effect of environmental policies in the nascent conflict over the trade-environment relationship. The initial conception of the 1970s had hardened into an idée fixe of the 1990s: environment and trade policies were in conflict; mutual support was simply out of the question.

The outpouring of commentary since 1991 on the trade-environment topic characteristically defines (or simply assumes)

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33 See, for example, Remarks of Senator Max Baucus to the National Association of Manufacturers (Aug 11, 1992), in National Association of Manufacturers, Trade and the Environment: Setting a New Course (NAM 1992) ("As the Office of Technology Assessment recently concluded, lax enforcement of environmental laws can confer a significant subsidy. This can result in a trade advantage for the nation not enforcing environmental standards. The result could be significant job losses in the United States, where environmental laws are enforced, and increased pollution in the other countries.").


35 16 USC § 1361(a)(2) (1994). The Act bans the importation of fish caught with fishing technology which results in the incidental kill or incidental serious injury of ocean mammals in excess of United States standards.

36 *As a corollary to these rights, [that is, the right to regulate imported products on a nondiscriminatory basis and the right to regulate domestic production for environmental purposes], a contracting party may not restrict imports of a product merely because it originates in a country with environmental policies different from its own." United States—Restrictions on Imports of Tuna, GATT BISD 39th Supp 165, 204 (1992).

the conflict between the world’s trade and environmental objectives. The commentators deduce this conflict from the same unquestioned assumptions that have guided policymakers for 25 years: environmental controls represent unproductive costs to firms; firms in nations taking strong environmental measures will have higher environmental control costs than firms with weak standards; therefore, firms in countries with strong environmental programs will be competitively disadvantaged in the world market vis-a-vis firms located where environmental standards are more lenient. The only question that occupies the commentators and the policymakers alike is: What policy response will best mitigate the conflict?

Environmentally grounded analysts propose to resolve the trade-environment conflict through new trade rules to unshackle the authority of governments to respond to the world’s urgent environmental challenges without forcing them to sacrifice the competitive position of their producers in the global marketplace. Trade-oriented analysts, who emphasize the national and global benefits of liberalized trade, respond that governments can and must find ways to protect the environment without threatening the carefully crafted rules of the World Trade Organization agreements, which form the essential foundation for efficient operation of the global economy and help satisfy the aspirations of billions of people for a decent life. In the strong version of this argument, trade proponents see nothing wrong with international competitive relationships determined in part by differences in environmental circumstances and environmental

(Allanheld, Osmun 1982).

Erik Coulter Luchs, Maximizing Wealth with Unilaterally Imposed Environmental Sanctions under the GATT and the NAFTA, 5 L & Pol Int'l Bus 27 (1994) (policy recommendations based on explicitly assumed competitiveness effect); Petersmann, 46 Aussenwirtschaft at 199, 203-04 (cited in note 14) (posing a free-rider problem from failure of trading partners to internalize environmental costs equivalently, even while noting the small cost effects found in empirical studies).

Most commentators simply assume the conflict. See, for example, Jagdish Bhagwati, Trade and Environment: The False Conflict?, in Zaelke, Orbuch, and Housman, eds, Trade and Environment: Law, Economics, and Policy 159, 166-70 (cited in note 37) (raising the competitiveness issue and then arguing from a free trade perspective against the proposed palliatives); Robert E. Hudec, GATT Legal Restraints on the Use of Trade Measures Against Foreign Environmental Practices, in Bhagwati and Hudec, eds, 2 Fair Trade and Harmonization at 95 (cited in note 20). A notable exception is Esty, Greening the GATT at 21-23, 155-62 (cited in note 37), who does not ignore the contrary argument but disputes it vigorously.

See, for example, Steve Charnovitz, Environmental Harmonization and Trade Policy, in Zaelke, Orbuch, and Housman, eds, Trade and Environment at 267 (cited in note 37).
standards from one country to another, finding virtue in those differences consistent with Ricardian notions of comparative advantage. Environmental advocates, in rebuttal, assert that the mobility of capital in the modern world has invalidated the theory of comparative advantage, and that in any event, to allow competition to be based on differences in environmental standards will promote a race to the bottom of ever-decreasing environmental standards as countries compete for investment, thus accelerating already worrisome trends of environmental degradation that ultimately threaten world economic, as well as environmental, well-being.

In the emotionally charged atmosphere after the 1991 tuna-dolphin GATT panel and during the NAFTA debate in the United States, over-eager advocates for the environment and for trade appealed to their supporters by invoking the mythology of the competitiveness effects of environmental regulation.


43 The environmentalists were the more ardent in expressing their concern. See, for example, Tom Wathen, A Guide to Trade and the Environment, in Zaelke, Orbuch, and Housman, eds, Trade and Environment at 3, 10-11 (cited in note 37); Charles Arden-Clarke, An Action Agenda for Trade Policy Reform to Support Sustainable Development: A United Nations Conference on Environment and Development Follow-up, in Zaelke, Orbuch, and Housman, eds, Trade and Environment at 71, 76-77 (cited in note 37); Max Baucus, Environmental Policy and Trade Agreements: The New Nexus, in Zaelke, Orbuch, and Housman, eds, Trade and Environment at 258, 258-61 (cited in note 37); Frieder Roessler, Diverging Domestic Policies and Multilateral Trade Integration, in Bhagwati and Hudec, eds, 2 Fair Trade and Harmonization at 21, 36-37 (cited in note 20) (quoting congressional testimony of Ralph Nader). Trade advocates, especially on behalf of developing countries, expressed concern that environmentalist-inspired reforms of trade rules would be used to gain competitive advantage and impede economic development, even while they minimized the significance of the competitiveness effect. See, for example, Latin American Economic System Secretariat, Trade, Environment, and the Developing Countries, in UN Conference on Trade and Development and Latin American Economic Systems, Trade and Environment: The International Debate 41 (undated publication of UNCTAD and SELA); René Vossemaar and Veena Jha, Environmentally Based Process and Production Method Standards: Some Implications for Developing Countries, in UN Conference on Trade and Development and Latin American Economic Systems, Trade and Environment at 145 (cited in note 43). International Institute for Sustainable Development, GATT, the WTO and Sustainable Development: Positioning the Work Program on Trade and Environment 17-21 (IISD 1994), summarizes the views of the "non-industrialized" countries. For the business community, individual businesses will invoke the competitiveness issue, but the broader business community generally prefers the benefits of
Discussions of trade-environment issues at the international level have much the same flavor. The effort of the United States to formulate a policy position that would justify its dolphin-protecting trade measures opened the door to charges of Yankee unilateralism and eco-imperialism, and heightened anxiety in many other governments that the entire structure of the international trade system was vulnerable to erosion in the name of environmental protection. With the political spotlight now on the issue, and with real policies rather than mere ideas at stake in the negotiations, positions became polarized. The polarization has stymied progress on introducing environmental factors into WTO agreements and understandings, and threatens to prevent the United States from seizing the benefits of further liberalization of trade. This policy paralysis ought not to be tolerated for long; progress toward sustainable development is urgent, and international trade conducted under sound environmental conditions has a vital role to play in that effort. Reconciliation and synthesis of trade and environment policy after decades of conflict can only occur if the interested parties are prepared to rethink their dogmas in light of new evidence and new circumstances.

By background, I am an environmentally grounded analyst, but I will argue in this article that it is time that we environmentalists rethink our position. The trade-environment conflict, as we and many of our trade-oriented respondents portray it, is largely a myth. The available empirical evidence and rigorous analysis indicates that well-designed measures to protect the environment do not, after all, result in significant net non-pro-

free trade to any potential impairments to competitiveness. See, for example, Robert J. Morris, A Business Perspective on Trade and the Environment, in Zaelke, Orbuch, and Housman, eds, Trade and Environment at 121, 123-24 (cited in note 37) (noting that the concerns of a European steel producer about "unfair" competition from eastern Europe where environmental standards are lower "underlined the fact that some in business are prepared to harness the cause of environmental protection to the more dubious cause of commercial protection"); Logan G. Robinson, The Growth of US Environmental Regulation and the Cost of Compliance: A Model for Europe?, in A.E. Boyle, ed, Environmental Regulation and Economic Growth 243, 245-47 (Clarendon 1994) (complaining that the U.S. auto industry, "as the most regulated, finds itself at a competitive disadvantage," but then noting that having lost out in the 1970s to the Japanese, "Chrysler is determined to be in the forefront of the new environmentally driven technologies").

ductive costs for most firms engaged in international trade or for the trade-affected sectors of national economies. If we environmentalists have the confidence to believe the evidence and analysis rather than be guided by intuitive fears, we should take the position that there is no serious basis for concern that efforts to protect the environment will impair a nation's ability to compete in world markets.

By the same token, defenders of open systems of international trade should relent in their resistance to the incorporation of environmental considerations into the architecture of the trade regime. If demanding environmental standards do not impair the ability of firms to compete in the global marketplace, there is no fundamental incompatibility between economically efficient trade and the setting of environmental conditions on access to markets or other terms of trade. Environmental conditionality may force changes in the processes or production methods used to produce goods, but if the trade conditions are properly developed to safeguard against market-protecting abuses, the record suggests that those changes are more likely to enhance rather than obstruct economic development and thus will augment the economic benefits of international trade.

II. LOOKING BEHIND THE MYTHS

Established mythologies that conform with people's expectations and prejudices about the world often persist because contrary empirical reality can only be incompletely and tentatively described. In economics, as in any field, empirical study is laborious work from which the individual researcher can draw nothing more than certain narrow conclusions about the tiny part of the problem that he or she studied. Broader patterns, if they exist at all, emerge slowly as the studies accumulate and the separate conclusions in each study begin to reinforce one another, allowing stronger inferences and broader conclusions. Along the way, the emerging pattern may be contradicted by certain study results or the studies may be subject to methodological or theoretical critiques. In particular, inadequacies in the available data often force extrapolations, inferences, or statistical manipulations that are open to question. Thus, unless the underlying reality is simple and uniform, empirical studies rarely support unqualified statements about the real world or how it works. More often, disciplined synthesizers of the empirical data state cautious, qualified conclusions. Meanwhile, of course, undisciplined proselytizers or persons outside the discipline may use the studies
selectively or inappropriately to support their preconceptions or policy agendas.

The case of environmental protection, competitiveness, and international trade follows this pattern. The empirical study by economists of the effects of environmental regulation on the competitive posture of firms, industries, and national economies began almost as soon as the theoretical precepts of environmental economics became firmly established in the 1970s. Only now in the 1990s, however, have enough such studies of acceptable quality accumulated that we can draw general conclusions with reasonable confidence and can challenge theoretical hypotheses about the environmental-competitiveness relationship. Because empiricists are not usually publicists or policy wonks by nature, the growing body of empirical economic literature has received relatively little attention from policy-oriented macro-economists, and even less attention from government officials, lawyers, and other non-economists engaged in environmental policy debates and the trade-environment dialogue.

One might excuse the competitiveness arguments made by government policymakers as merely expedient gestures to the conventional wisdom made in the heat of legislative battles. I have more difficulty with policy analysts who argue that the political attitude about competitiveness itself justifies the level of concern about it. In one analyst's view,

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45 For example, the noted economist Jagdish Bhagwati, co-editor and contributing author of a superb two-volume study of trade issues with respect to demands for harmonization of environmental, labor, and other national policies, in both his introduction and his major chapter responds to the various arguments about competitiveness effects of differences across countries in purely theoretical terms, reciting without criticism the concerns of businesses and governments about the "unfairness" of differences in standards and the fear of industrial migration and downward pressure on domestic standards. Thus, he notes that because of reduced trade barriers and increased capital mobility, "... producers face now the prospect that their competitive advantage is fragile.... There is, therefore, much more sensitivity to any advantage that one's rivals abroad may enjoy in world competition ...." Jagdish Bhagwati and T.N. Srinivasan, Trade and the Environment: Does Environmental Diversity Detract from the Case for Free Trade?, in Jagdish Bhagwati and Robert Hudec, eds, 1 Fair Trade and Harmonization: Prerequisites for Free Trade? 159, 163 (MIT 1996).

46 To take just one example, U.S. Trade Representative Mickey Kantor insisted on provisions in the supplemental environmental agreement to the North American Free Trade Agreement allowing trade sanctions against any country found to be engaged in a pattern of non-enforcement of its environmental laws on the basis that such provisions were necessary to guard against unfair competition from Mexico. See Mickey Kantor, NAFTA Maintains U.S. Environmental Standards, NY Times A26 (Sept 23, 1993) (editorial). From his perspective as a policymaker in the political arena, any argument that there was no basis to fear a competitive effect on that basis was irrelevant.
Environmental concern over competitiveness has little to do with how companies fare economically in the international marketplace. . . . Specifically, environmentalists fear that lax environmental regulations elsewhere give credence to business arguments about competitive disadvantage and can be significant in debates over the rigor of new environmental laws, leading to weakened support for strong environmental standards.47

In other words, because politicians are inclined to listen to business arguments about competitive effects of strong environmental standards, environmentalists should also argue that the competitive effect exists! This strikes me as both circular and, for environmentalists, self-defeating.

Environmentalists need to consider carefully the underlying consistency between their environmental objections and their position on trade policy, in particular since there are strategic considerations involved which make the environmentalists potential bedfellows of interests that have less pure objectives in influencing trade policy than the environmentalists impute to themselves.48

The only way to distinguish environmentalists from misguided business lobbyists using the competitiveness argument is that the businesses will argue for lower domestic standards to conform to the norms in other countries, while environmentalists will counter that other countries should be pressured, with trade restrictions if necessary, to raise their environmental standards. Neither strategy has much chance of political success, resulting in an unproductive policy stalemate. Faced with this bleak prospect, should not environmentalists (and enlightened business and political leaders) re-examine the predicates of the competitiveness argument?


A. The Endurance of the Mythology

The empirical studies focus on one of four indicators of the possible effect of environmental regulation on international competitiveness:

I. Productivity: What has been the effect of environmental regulation on productivity in various industries, and how does that effect compare across industries and from country to country?

II. Trade Patterns: What is the correlation between the sectors most affected by environmental regulation and the sectors experiencing reduced exports from higher standard countries and/or increased exports from countries with lower standards?

III. Investment Flows: Is the flow of foreign direct investment into countries with lax environmental standards increasing in comparison with the flow to countries with stringent standards?

IV. Industrial Flight: Have heavily regulated industries relocated their operations from nations with strict regulations to ones with lower standards—pollution havens?

The productivity, trade flow, and locational studies are helpful in understanding the trade-environment dynamic, but the relevant bottom-line question asks what are the possible effects of national differences in environmental regulation on international competitiveness. Even if environmental regulation has a negative effect on productivity in one country, that is primarily an issue of national economic welfare, and is only germane in the trade context if there are differences in the productivity effect of environmental regulation among countries that are large enough to change relative productivity overall. Trade flows between any two countries or any groups of countries vary for many reasons, including relative rates of economic growth and fluctuations in currency exchange rates. For trade-environment policy purposes, it is necessary to isolate among all those variables the effect of the single factor of environmental control differences, which comes down to the core issue of whether environmental controls have any effect on the relative competitive position of producers in the countries being studied. Finally, changes in industry location, if they have trade-environment significance, will show up as changes in trade flows and thus will emerge as one factor in the evaluation of the competitiveness relationship.

In the recent legal literature on environmental policy and competitiveness, only one writer, Professor Richard Stewart, has
dealt with the empirical economics literature in detail. Since his article provides a reasonably thorough and even-handed canvas of the literature available up to that time, I will not re-present the studies he describes but will offer a brief recapitulation.

Of the productivity studies, Stewart concludes that they show a significant but not overwhelming portion of the recent measured slackening in productivity growth in the United States can be attributed to environmental compliance outlays. When compared with similar data from other countries, however, the implications of that productivity effect on competitiveness are less clear. A somewhat greater effect in the U.S. than in Western Europe might be accounted for by differences in environmental standards, but the much larger differential in productivity growth between the U.S. on the one hand and Japan and Germany on the other, Stewart believes, cannot be explained in this way, given the similar stringency of their environmental regulations.

From his review of the available empirical studies of trade patterns, which were largely based on data from the late 1960s to the early 1980s, Stewart fairly concludes that the studies indicate that environmental compliance outlays have some impact on trade performance, but that the impact is not significant for most industries. At least one of the studies, by Low and Yeats, while stating that the possibility that environmental regulation affected industry migration cannot be dismissed, immediately goes on to note that “there is no shortage of competing explanations for the phenomenon of dirty industry dispersion suggested by the trade flow data . . . ,” including labor, resource endowments, technological factors, and simple differences in the stage of economic development. More recent studies, discussed below, reach similar conclusions.

The locational studies reviewed by Stewart also show a significant shift in the location of a few intensively-regulated indus-
tries from developed to developing countries, but the researchers are hesitant to attribute that shift to differences in environmental standards, noting that the changing composition of industrial production in developing economies may better explain much of the observed change. As described below, subsequent studies of locational effects, including studies of investment flows, support the compositional explanation and tend to negate the notion that differences in environmental standards account for observed worldwide changes in location of production in recent decades.

Despite his objective survey of the empirical literature, Stewart seems disinclined to accept the ultimate conclusion that differences in environmental regulation have negligible effects on international competitiveness. First, he discounts the literature in advance with a prefatory discussion of the inherent limitations of the studies, summing up with this cautionary note: "While such difficulties do not mean that empirical studies can teach us nothing, understanding their limitations is essential in evaluating the studies' findings." At the end of his review, he seizes on two hypothetical limitations—the lack of observations based on data from the second phase of environmental regulation in the 1980s and the absence of rigorous accounting for indirect effects such as foregone investments—to reach the remarkably unqualified conclusion that, accordingly, the studies understate the adverse effects of current U.S. environmental law and regulation on competitiveness.

While most of Stewart's observations about weaknesses in both data and methodology are legitimate, economists express much less skepticism of the studies' conclusions on that account, even though the studies contradict theoretical expectations. Thus, in a 1992 review that Stewart cites, Judith Dean sums up the literature this way:

More stringent regulations in one country are thought to result in loss of competitiveness, and perhaps industrial flight and the development of pollution havens. The many empirical studies which have attempted to test these hypotheses have shown no evidence to support them. There may be room here for better estimates of actual environmental control costs incurred by firms,

54 Stewart, 102 Yale L J at 2079 (cited in note 49).
55 Id at 2062.
56 Id at 2085.
and estimates by industry of actual losses in output due to these costs. It is doubtful that this would yield a significant impact on trade patterns.\textsuperscript{67}

Another review of empirical studies in this area by four economists reached a similar conclusion:

We assess the evidence and find that there is little to document the view that environmental regulations have had a measurably adverse effect on competitiveness. . . . [S]tudies attempting to measure the effect of environmental regulation on net exports, overall trade flows, and plant location decisions have produced estimates that are either small, statistically insignificant, or not robust . . . .\textsuperscript{68}

An even more recent review of the literature by Arik Levinson, focusing particularly on industrial location, also reaches a firm conclusion: "[T]he literature as a whole presents fairly compelling evidence across a broad range of industries, time periods, and econometric specifications that regulations do not matter to site choice."\textsuperscript{69}

Stewart also ducks the policy implications of the empirical studies by asserting: "The burden of proof in the arena of public debate rests on those who would challenge the prevailing belief. Given their limitations, the empirical studies cannot be expected to dispel the widespread belief in U.S. competitive disadvantage."\textsuperscript{70} It would be hard to dispute that as a descriptive statement of political reality. As Daniel Esty has observed, the views of the empirical economists do not comport with political reality where competitiveness concerns arising from environmental standards are a major issue.\textsuperscript{71} The economists themselves are resigned to being ignored; Levinson wryly comments, "I suspect that the existing literature cannot convince policymakers or the public that links between environmental regulations and industrial location are insignificant . . . ."\textsuperscript{72}

\textsuperscript{69} Arik Levinson, \textit{Environmental Regulations and Industry Location: International and Domestic Evidence}, in Bhagwati and Hudec, eds, \textit{Fair Trade and Harmonization} at 429, 450 (cited in note 45).
\textsuperscript{70} Stewart, 102 Yale L J at 2084 (cited in note 49).
\textsuperscript{71} Esty, \textit{Greening the GATT} at 21-22 (cited in note 47).
\textsuperscript{72} Levinson, \textit{Environmental Regulations and Industry Location} at 453 (cited in note 45).
Nonetheless, Stewart's observation about the burden of proof and Esty's observation about political reality have normative overtones, suggesting that the empirical data should be ignored until its limitations are overcome. This proposition should be rejected on its own normative terms. There are principled as well as pragmatic reasons for taking precisely the opposite point of view. First, the prevailing belief is grounded only on untested theory. Economic theories, like scientific theories, should be treated skeptically until they are validated by at least some empirical data. Second, the prevailing theory has become a tenet of public policy through rent-seeking political behavior. This fact should not confer the special status that Esty suggests. On the contrary, policy analysts and strong political leaders should always remain ready to challenge received dogma that primarily serves special interests. Third, there is no principled reason to cling to theory or conventional wisdom if it fosters international confrontation and domestic policy dissension. Portraying trade promotion and environmental protection policies as inherently in conflict has precisely that effect. In short, the competitiveness argument in the environment and trade context has no presumptive claim to legitimacy and should be set aside in light of the substantial evidence that contradicts its theoretical predictions. At the very least, the empirical evidence, with all its limitations, should prompt a critical reconsideration of the prevailing beliefs. This Article proceeds on that premise.

B. Letting the Mythology Go: Considering the Empirical Studies Anew

On a more practical level, the presumption in favor of the mythology over the empirical observations should be rejected now.

59. Indeed, this more cautious approach to theoretical hypotheses is the standard approach in economics. Discussing a closely-related debate in economics about the benefits of strategic trade policy and his own role in that debate, economist Paul Krugman remarks that "lots of things could be true in principle" and then describes how "economists began a sustained process of research, probing the weaker parts, confronting the new idea with the data." Of course, as Krugman also points out, "Research results are always open to challenge, especially in an inexact field like economics." Paul Krugman, Proving My Point, in Paul Krugman, ed, Pop Internationalism 25, 30-31 (MIT 1996).

as the theory-contradicting studies accumulate and as analysis and anecdotal information provide reasonable explanations for the empirical results. Studies published since Professor Stewart's article strengthen the case for giving more rather than less credence to the consistent empirical findings.

A 1994 working paper from the World Bank looked at shares of world exports by country and by industry over the period 1970 to 1990 as a relatively direct measure of competitive relationships. The industrial countries' share of world exports of manufactures declined during that period faster than the decline in their share of all exports. This result is expected on the basis of the compositional effect—expected changes in the mix of economic activities as an economy develops. In this case, both the great strides made by many developing countries during this period in establishing a manufacturing base and the concurrent trend away from heavy manufacturing toward services and specialty manufacturing in the industrial countries drove this decline.

But when the focus narrows to environmentally sensitive industries, defined as those with the highest pollution abatement and control costs, the industrial countries' share of world exports was virtually the same in 1990 (81.1 percent) as it was in 1970 (81.3 percent). In other words, the industries incurring high environmental control costs in industrial countries, which have stronger environmental control regimes, actually did better in maintaining their international market share than other domestic manufacturers less affected by environmental regulation. The World Bank researcher concludes, "Contrary to common perceptions, higher environmental standards in developed countries have not tended to lower their international competitiveness. There has been little systematic relationship between higher environmental standards and competitiveness in environmentally sensitive goods . . . ."

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65 Piritti Sorsa, Competitiveness and Environmental Standards (World Bank 1994).
66 Id, tbl 2.
67 Id at i. The use of data up through 1990 in the World Bank's research also answers in part one of Stewart's objections to reliance on the empirical studies he reviewed for policy guidance—that they were, "based on data from the 1970s and the early 1980s, which represented the first phase of pollution control. . . . Since the mid-1980s, environmental regulation has entered a more ambitious stage . . . ." Stewart, 102 Yale L J at 2082 (cited in note 49). One analysis of these compositional changes in Latin America shows a high proportion of pollution-intensive products in Latin American exports to OECD countries, and increasing competitiveness in those products through the 1980s. Roland Mollerus, Environmental Standards: Impact on SELA's Competitiveness and Market Access, in UN Conference on Trade and Development and Latin American Eco-
The same pattern holds when investment flows are analyzed. According to a 1995 study, nearly half of direct investment abroad by the United States in 1992 went to developing countries, a significant increase from twenty years earlier. The surging foreign investment in countries like Mexico and Thailand once again reflects the compositional effect of changing general patterns of industrial growth in the developing world. The data reveal no impetus to avoid strict environmental regulation behind the changed investment flows, however. On the contrary, the more highly regulated industries tended to channel their foreign investments to other developed countries:

[A] much smaller proportion of direct investment [in developing countries] went into the environmentally sensitive industries (petroleum and gas, chemicals and related products, and primary or fabricated metals) than was the case for U.S. direct investment abroad in the already developed countries with relatively tight environmental standards. . . . Of the total direct foreign investment in pollution-intensive industries, 84 percent went to other developed countries, compared to 49 percent of overseas investment in other industries.68

Arik Levinson, in his 1996 review of trade effects and locational studies, looks at the studies described by Stewart, but many others as well, including studies of industrial location within the United States, where the data are more robust than for international studies. These studies uniformly conclude that any locational effect from differences in environmental regulatory stringency is either not measurable or not significant. Levinson

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68 Robert Repetto, Jobs, Competitiveness, and Environmental Regulation: What are the Real Issues? 8 (WRI 1995). Repetto also shows that the records of inward investment by key developing countries corroborate the direct investment data, showing that foreign investment in pollution-intensive industries is a much smaller share of total foreign investment in the 1990s than it was in the 1960s and early 1970s. Id.
sums up: "[P]lant locations appear unaffected by environmental compliance costs."69 Taking the domestic and the international studies together, the result is the same. "[T]he literature as a whole presents fairly compelling evidence across a broad range of industries, time periods, and econometric specifications, that regulations do not matter to site choice."70

A more technically oriented and skeptical review of some of the same studies by Thompson and Strohm in 1996 comes to the same bottom line: "[T]he evidence we studied—covering foreign direct investment, studies of production mixes, and export patterns—shows no sign that dirty industries are migrating in the face of increasing environmental regulations and liberal trade."71 Having pointed out the many serious flaws of the studies in their review, they nevertheless reject as untenable the hypothesis that the studies are biased away from finding significant interactions. It is more likely that the absence of significant findings results from the fact that environmental compliance costs have to date not constituted a major component of production costs. In short, there is little evidence to justify an overriding concern that trade liberalization will lead to wholesale migration of dirty industries.72

In spite of the empirical studies, the mythology of the competitiveness effect of environmental regulation maintains its grip on the imagination. Thus, Stewart's article builds from his insistence that a nation's imposition of stringent environmental regulation and liability rules may harm its international competitiveness, even though most empirical studies have not established a strong causal association between the two. According to Stewart, this threat is especially significant in the United States due to the exceptionally complex, burdensome and costly character of its regulatory and legal system.73 Even the responses to Stewart by Edith Brown Weiss74 and Alfred Aman75 in the same issue of the Yale Law Journal do not question the competitiveness effect

69 Levinson, Environmental Regulations and Industry Location at 447 (cited in note 59).
70 Id at 450.
72 Id.
73 Stewart, 102 Yale L J at 2041 (cited in note 49).
75 Alfred C. Aman, Jr., The Earth as Eggshell Victim: A Global Perspective on Domestic Regulation, 102 Yale L J 2107 (1993).
itself, limiting themselves to challenging Stewart's policy prescriptions for alleviating it.

C. Explaining the Empirical Studies

In the face of such disbelief or lack of regard for the empirical studies, some effort must be made to reinforce the studies' conclusions by explaining why stringency of environmental regulation does not impair competitiveness, why the empirical economic results are, after all, not as surprising as they might appear. The explanations may also contribute useful insights for policy.

One part of the explanation rests on a better understanding of the relatively small influence of environmental control costs in business decisionmaking and in competitive relationships. The generally low level of environmental compliance costs for most industries is the most oft-cited and probably the single most powerful explanatory factor. For most manufacturing, environmental control costs, even in the United States or other countries with strict environmental regulations, constitute no more than one or two percent of the costs of production. Even for highly polluting industries with relatively higher environmental costs, those costs rarely exceed ten percent of the costs of production.

It is thus clear that the costs of many other factors—such as labor, capital, transportation, raw materials, energy, inventory, and management—dwarf environmental control costs in terms of their effect on the price of the final product.

Moreover, most foreign competitors also face at least some environmental control costs, so the part of any differences in cost of production that can be attributed to differences in stringency of environmental regulation will be even less than these gross

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77 Id at 191-93 (showing pollution abatement costs as a percentage of value added of 15.42 percent for petroleum, and 12.39 percent for the pulp mills sector of the paper industry). The only other industries with abatement costs more than 2 percent of value added are primary metals, the paper industry in general, chemicals, and the metal plating sector of the fabricated materials industry. By another measure, gross abatement costs as a percentage of the value of shipments, environmental costs seem even lower. By this measure, 1991 petroleum and coal industry costs were 1.80 percent, and paper and allied products costs were 1.27 percent (industries as a whole had costs of .62 percent). Jaffe, et al, 33 J Econ Literature at 141 tbl 6 (cited in note 58).
percentages for environmental costs for most producers. Consequently, it should not be surprising that investigations of facility siting decisions have revealed that the decisive issues relate to the dominant cost factors—productivity of the labor force, access to and cost of raw materials and intermediate inputs, proximity to markets and/or transportation, and so forth.78 As competition has become keener in many sectors, relatively small changes in factors such as labor productivity and inventory costs have increased in significance.

How do these more salient factors operate in the international trade context? Developing countries are often at a comparative disadvantage to developed countries with respect to these factors, a disadvantage that cannot be overcome by marginal differences in environmental compliance costs. For example, the skill and reliability of the workforce is typically lower in a developing country. Local transportation and telecommunications infrastructure may often not support modern manufacturing practices such as just-in-time inventory management. Consequently, favorable differentials in wages and other costs are offset by lower worker productivity and costly disruptions in production. Compounding these factor disadvantages are the general vagaries of international trade or doing business overseas, such as exchange rate fluctuations, political arbitrariness, unstable national economic conditions, and the daily hassles of customs and immigration.

The powerful influence of these factors can be seen in the shifting patterns of trade and investment between the United States and Mexico during the 1990s, before and after the effective date of the North American Free Trade Agreement. This is a particularly relevant example given the arguments by many opponents of NAFTA that Mexico’s lower environmental standards and more lax enforcement practices would draw U.S. producers south of the border to avoid environmental control costs.79

During the early 1990s, a stable exchange rate and business confidence in the political stability and the economic policies of the Salinas administration stimulated a high rate of foreign di-

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78 See, for example, Levinson, Environmental Regulations and Industry Location at 444-45 (cited in note 59) (citing surveys in repeated years of state manufacturing associations by Alexander Grant and Co., which consistently ranked environmental regulation far below energy costs, wages, and other factors as influences on industrial location).

79 Esty, Greening the GATT at 35-36 (cited in note 47), briefly recaps the arguments, including Ross Perot’s claim that “one of Mexico’s principal economic attractions has been the government’s lax enforcement of its environmental laws.”
rect investment in Mexico and active development of export industries. Even so, the rapid development of production facilities, relative consumer prosperity, and an exchange rate that made foreign goods relatively cheap in peso terms, stimulated the Mexican demand for imported goods, including machinery and other capital goods as well as consumer items. This demand for imports was substantially satisfied by the United States, giving the United States a favorable balance of trade with Mexico for several years. During this period, environmental regulations and enforcement in Mexico, though rapidly becoming more effective, were not as stringent as in the United States, so this favorable trade balance was contrary to the competitiveness effect prediction.

Opponents of the NAFTA pointed to a General Accounting Office report on the relocation of many furniture-makers out of the Los Angeles area around 1990 due in part to new and extremely stringent air quality controls on vapors from furniture finishing and coating as an example of the likely industrial flight south because of differences in environmental regulation. There is no doubt that this episode shows that extremely stringent environmental regulation affecting relatively portable small enterprises can prompt some industrial relocation. But as an illustration for the broader competitiveness argument, the Los Angeles furniture-makers case is much less clear. To begin with, only a small percentage of the furniture-makers left Los Angeles at all. Of those that did leave, it turns out that by far the greatest number relocated elsewhere in the United States, particularly Georgia and Michigan (presumably for easy access to raw materials) or Arizona (presumably to stay close to their established market in southern California). Moreover, Mexican officials in the northern border states moved quickly to adopt vapor-control requirements equivalent to those in adjacent areas of California (though these are somewhat less stringent than the especially severe rules for Los Angeles). Only a handful of the furniture-makers moved to Mexico, and even those cited labor costs as well as the vapor control requirements as factors in their decision to relocate.

More recently, NAFTA critics have pointed to a sharp upsurge in maquiladoras—border-area assembly operations—as further evidence of a pollution-haven effect. But their sugges-

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81 Public Citizen's Global Trade Watch, NAFTA's Broken Promises: The Border
tion of a causal relationship does not withstand closer scrutiny. Factors much more significant than stringency of environmental regulation explain the boom in the maquiladoras. In 1994, the first year of NAFTA and the last year of the Salinas administration, Mexico's exports to the United States increased by 24 percent, but U.S. exports to Mexico increased almost as much, 22 percent. This was in line with pre-NAFTA predictions by the agreement's proponents. But then circumstances changed dramatically. The uprising of the Zapatistas in Chiapas on January 1, 1994 and the assassination of presidential candidate Luis Donaldo Colosio had already engendered anxieties among foreign investors about political stability in Mexico. In December, 1994, when the incoming Zedillo administration mismanaged the overdue adjustment of the value of the Mexican peso, anxious money managers on Wall Street precipitated an immediate and massive flight of foreign capital, forcing an abrupt devaluation of the peso by nearly a third and a later slide to a valuation more than 60 percent below its 1994 value.

Changes in currency exchange rates exert powerful effects on trade flows. The trade and investment adjustments that followed the peso devaluation are readily predictable. The sharp recession in Mexico and the loss of the peso's purchasing power caused a drop of nearly 9 percent in Mexico's imports of goods from the United States. By the same token, Mexican goods suddenly became much cheaper in dollar terms, so the rise in Mexico's exports to the U.S. not only continued, but accelerated, jumping an additional 24.6 percent in 1995. Although foreign direct investment into Mexico plummeted in 1995, investments continued to flow into the Mexican export sector, especially the maquiladora operations in northern Mexico through which U.S. and other foreign manufacturers can import intermediate goods into Mexico, perform final assembly, and re-export the finished goods under favorable tariff terms.

Betrayed 3-11 (Public Citizen 1996) ("NAFTA's passage spurred increased foreign investment in the maquila growth among U.S. manufacturers looking for cheap labor and weaker enforcement labor and environmental standards by providing U.S. manufacturers in the new investment protections.").

Deborah I. Riner and John V. Sweeney, The Effect of NAFTA on Mexico (unpublished manuscript) (on file with author) (tabulating U.S. Department of Commerce data). Mr. Sweeney is the financial affairs advisor at the U.S. embassy in Mexico.

Id. Similarly, as the Mexican economy has rebounded in 1996, Mexican imports of U.S. goods rose to record levels, while Mexican exports to the U.S., though continuing to rise, increased at a less rapid pace.

Maquiladora exports rose 18.4 percent and employment increased by 80,000 in
Some environmentalists take those data as evidence of the competitiveness effect of differences in environmental control costs, but that explanation is not tenable. Nearly half (43 percent) of maquiladora firms are wholly Mexican owned, and thus not influenced either by changes in NAFTA’s investment rules or by lower environmental standards. The more obvious and powerful explanation for maquiladora expansion is that the costs of labor and other locally-acquired factors of production in Mexico, measured in dollar terms, declined by about 50 percent between 1994 and 1995. The dramatic devaluation of the peso and its strong impact on the dollar-based cost of doing business in Mexico was all the encouragement that foot-loose manufacturers needed to set up shop in Mexico. Even if foreign investors in maquiladoras were susceptible to motivation by lower environmental control costs, which is a debatable proposition, the massive new investment flows into that sector in 1995 and 1996 cannot be connected to any significant change in Mexico’s environmental policies. Declines in Mexico’s federal budget for environmental affairs and reform of Mexico’s basic environmental law in this period mirror trends elsewhere in the world, including the United States. Meanwhile, the Mexican environmental ministry continues to devote a disproportionate share of its meager enforcement staff to the border region, with some reported effect in improving environmental compliance among maquiladoras.

While the effect of NAFTA on the terms of trade between the U.S. and Mexico is difficult to evaluate because of the short period of time and confounding economic changes other than NAFTA, careful analysis tends to support the view that the U.S. has gained more than Mexico. This result contradicts the prediction that lower environmental standards in Mexico would give Mexico the competitive edge.5

Another explanation for the sharp difference between theoretical predictions of competitiveness effects from environmental controls and empirical data showing no such effect is that the theoretical predictions fail to account for indirect or unintended effects of environmental controls at the level of the firm.66 Other
ers, including Stewart, have made the same observation in terms of additional costs from such indirect effects, but there is a large body of evidence and anecdotes to suggest that many indirect effects are positive, and thus diminish or even completely offset the direct costs to the firm.

Michael Porter has focused on these indirect benefits as the basis for his hypothesis that stricter environmental regulations actually improve the international competitiveness of the regulated firms. Whether or not his hypothesis of net benefits can be supported beyond anecdotal examples (and it certainly has its critics), many kinds of evidence clearly suggest that these unintended consequences often go a long way toward reducing the net cost of environmental controls for many businesses. At least one corporation, 3-M, has made it a matter of corporate policy to seek out these benefits under its long-standing “Pollution Prevention Pays” program, a program that has indeed been successful in notable instances in reducing 3-M's overall production costs while simultaneously reducing the environmental burden of its production. It is also well-documented that environmental control costs actually incurred by industry are usually significantly lower than the costs that are predicted when environmental regulations are first proposed.

analyses some accounting for the social welfare benefits of environmental controls, and have thus typically eschewed any a priori conclusion that a competitiveness effect results in economic inefficiency. Quite the contrary, much of the theoretical literature leaves open the possibility that environmental policy-induced shifts in competitive relationships between countries may represent a more economically efficient allocation of economic resources and environmental impairments. Such theoretical preferences, however, leave environmentalists cold. They instinctively reject scenarios under which nations might compete with one another for supposedly “optimal” levels of environmental degradation. Edith Brown Weiss and Alfred Aman, in their responses to Stewart's article, each develop policy arguments against Stewart's economic efficiency orientation. See notes 73, 74. Macroeconomic preferences also do little to persuade business people or their policymaking allies that competitiveness effects of environmental regulation might be better for society as a whole, since individual firms are unlikely to share fully or equally in the cost-countervailing general welfare benefits, which will be largely external to their competitive cost structure.

88 Richard A. Liroff, Reforming Air Pollution: The Toil and Trouble of E.P.A's Bubble 68 (Conservation Foundation 1986). See also Bruce Smart, Beyond Compliance: A New Industry View of the Environment 12-17, 89-90 (WRI 1992) (canvassing various corporate environmental initiatives, including 3M's, which reports overall savings in excess of $500 million from its “Pollution Prevention Pays” program).
89 See, for example, Conservation Foundation, State of the Environment 35-36 (Conservation Foundation 1982) (noting that even estimates of total compliance costs for the iron and steel industry over a ten year period were 14-44 percent below original estimates, and air and water pollution control costs for the pulp and paper industry were 34-
Apparently, once firms are confronted with unavoidable mandates to reduce their pollution, they begin seriously to investigate creative strategies for meeting those mandates at the lowest possible cost. Thus, for example, a firm may identify a change in raw materials or manufacturing processes that prevents a certain pollutant from being used or released, and thus avoids the need for expensive end-of-the-pipe pollution control systems.\footnote{61 percent below estimates). A more recent and more dramatic example is the difference between pre-enactment estimates of SO$_2$ emission allowance values under the 1990 Amendments to the Clean Air Act (about $1000$-$1500/ton) compared with the value of SO$_2$ rights today according to the Chicago Board of Trade ($68/ton in 1996). Robert V. Percival, et al, \textit{Environmental Regulation: Law, Science, and Policy} 831-32 (Little, Brown 2d ed 1996).} The urgent efforts over the last decade by manufacturers of electronic components to respond to the mandate to eliminate use of ozone-depleting chlorofluorocarbons, as one example, have prompted just such overall innovations and resulting cost reductions.\footnote{In one effort to verify the innovation incentive that Porter attributes to strict environmental regulation, Jaffe and Palmer found a significant positive relationship between regulatory compliance expenditures and R&amp;D expenditures by the regulated industry when controlling for industry-specific effects (but no relationship with patenting activity). Adam B. Jaffe and Karen Palmer, \textit{Environmental Regulation and Innovation: A Panel Data Study} 25 (Resources for the Future 1994).}

Beyond such an obvious effect, however, a more pervasive change in management philosophy also often occurs, particularly in the environmentally sensitive industries that have been forced repeatedly to evaluate their compliance options. Having found that measures to prevent pollution can save costs, plant managers and corporate teams broaden their search for hidden efficiencies to all parts of the plant’s or firm’s operations, and reap further rewards in factors of production unrelated to environmental control by changing raw materials, redesigning products, simplifying production processes, reducing energy inputs, and so forth, often with concomitant improvements in product quality, reductions in maintenance or production losses, and reduced management and production labor costs.\footnote{For a compact account, see Pamela Wexler, \textit{Saying Yes to “No Clean”}, in Elizabeth Cook, \textit{Ozone Protection in the United States: Elements of Success} 87 (WRI 1996).}
Aware of the changing mood in American firms, the U.S. Environmental Protection Agency designed an entire voluntary air pollution prevention program around structured inducements for businesses to seek out energy savings in their operations, with remarkable results in terms of cost savings for the businesses, as well as associated reductions in emissions from electric power plants.93 Experience abroad is similar; a recent British initiative produced annual cost savings of about $5 million for eleven companies through waste and emission reduction programs in a single river basin.94 With such experiences in mind, and against the backdrop of flagging economic growth, the European Union has embraced the potential competitiveness benefits of strict environmental control measures as a matter of policy.95

A common response to such anecdotal evidence about undiscovered opportunities for pollution prevention and broader unintended benefits from environmental regulation is to ask: “If such [resource-efficient] technologies significantly reduce production costs, why have they not already been developed and used by firms for economic reasons alone?” Somehow society has accepted the assumptions of some economic theorists that firms are perfectly rational competitors in perfect markets, despite much contradictory evidence, though to be fair, other economists and students of organizations have developed other models to explain the sub-optimal behavior of corporations. As one researcher remarked, with allusion to the well-known Heckscher-Ohlin model used in trade effects and other studies, “The real-world environment in which firms make long-term trade and investment decisions is not a Heckscher-Ohlin world, and all other things are never equal.”97 It requires no esoteric models and only a little imagination to appreciate that ignorance, disbelief, and the human tendency to hold fast to comfortable habits are substantial obstacles to the widespread acceptance of, much less implementation of, new ideas and new practices.98 Frequently, it requires a
sharp change in the cost associated with a particular aspect or factor of production to jolt a firm or industry into responsive action. That is what occurred with respect to energy prices as well as environmental control costs in the industrialized world in the 1970s, and with respect to chlorofluorocarbons in the late 1980s. Once the response mode is established, however, it may take on a life of its own within the organization, prompting searches for additional cost savings even without the threat of regulatory action.

Even if the anecdotes of cost-saving innovation are accepted, skepticism remains strong that businesses on the whole will be able to discover substantial cost-saving opportunities under the stimulus of environmental regulation. To answer that skepticism empirically, Robert Repetto of the World Resources Institute has performed an analysis that uses newly-available government databases to test the two competing hypotheses about the relationship between environmental performance and profitability—the standard hypothesis that environmental performance and profitability should be inversely related, and the Porter Hypothesis that, once firms are motivated to seek out solutions to environmental problems, they typically find previously overlooked cost-saving opportunities to improve processes, reduce wastes, or redesign products. Repetto looked at pollution and profitability data for thousands of U.S. companies in many different industries, and ran both simple correlations and partial correlations (controlling for scale, age of plant, and recent capital investment) between air, water, and toxics emissions and net and gross operating margins. Although the correlations favoring the Porter Hypothesis are not strong enough to give it definitive support, there are even fewer and weaker correlations in keeping with the standard hypothesis. From the many correlations, Repetto concludes simply: “The results fully support earlier findings based on international trade and investment flows. There is simply no evidence that superior environmental performance puts firms at a market disadvantage or adversely affects market performance.”

one speaker noted that “the level of true strategic environmental awareness within the business world as a whole remains relatively low.” Lord Alexander, chairman of National Westminster banking group, quoted in Boulton, Planet Profit, Financial Times at 12 (cited in note 94).

99 Repetto, Jobs, Competitiveness, and Environmental Regulation at 11 (cited in note 68).

100 Id at 19. Jaffe, et al, 33 J Econ Literature 132 (cited in note 58), are less forceful in
Several other observations further help to explain why environmental control costs have not had the anticipated negative effect on competitiveness. First, as Repetto notes, "The sectors in which the industrial countries markedly lost their comparative advantage [from 1970 to 1990] were not those heavily affected by environmental regulations, but rather those in which labor costs are a large fraction of total costs, such as textiles, apparel, footwear, and other light manufactures." For labor-intensive industries, the disparities in wage rates between developed and developing countries have an enormous impact on total product costs, and make relocation of production to low wage rate countries attractive despite transportation and other costs. What has occurred in the last twenty years in these industries is just a reprise of the transfer of the same industries from Europe to the Americas in the early nineteenth century, or from New England to the South in the U.S. during the early to mid-twentieth century.

The "footloose" character (as economists put it) of such labor-intensive light manufactures points to another significant competitiveness factor—capital. Some environmental commentators argue that the mobility of capital in the late twentieth century invalidates the comparative advantage justification for liberal trade and also heightens concern about the competitiveness effect of environmental regulation. In fact, the high capital inputs that go into certain products may actually advantage developed economies over less developed ones. Light manufactures such as shoes, textiles, and plastic parts fabrication, require relatively little capital, and the capital they do use—looms, cutting ma-

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1 Repetto, Jobs, Competitiveness, and Environmental Regulation at 6-7 (cited in note 68).
3 Herman E. Daly and John B. Cobb, Jr., For The Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future 213-18 (Beacon 1989)
machines, sewing machines, plastics extruders, et cetera—is relatively portable. This makes relocation of production equipment easy or new capital investment in distant locations relatively affordable. By contrast, the industries that spend the most to comply with environmental regulations—such as pulp and paper, petroleum products, chemicals, coal mining, and ferrous and nonferrous metals—are characterized by large scale and capital intensiveness in their production facilities and by reliance on heavy inputs of natural resources. Capital intensiveness exerts two restraints on industrial relocation: it limits the portability of production facilities (and discourages development of greenfield facilities); and with respect to labor, it reduces the relative significance of wages while heightening the significance of worker skill (in handling the machinery) in the calculation of worker productivity. Moreover, producers in these industries are often dependent on each other for intermediate goods, and thus tend to locate in proximity to already established centers of production. This is particularly true of chemicals and refining, where production by many different firms is concentrated in centers like Houston or Yokkaichi, Japan. All of these factors tend to maintain the comparative advantage of developed countries as the preferred places for production in these industries, and would help to explain the relatively high proportion of foreign direct investment in these pollution-intensive industries that goes to developed rather than developing countries.

Capital intensiveness also means that production in these industries tends to be dominated by large corporations that can mobilize capital and finance the research and development of new technologies. In the 1980s and 1990s, large multinational corporations have been in the forefront of a new wave of focused corporate management attention to environmental issues. Whether their environmental initiatives have been motivated by a sincere concern to reduce pollution and other environmental burdens of their activities, by the necessity of meeting demanding environmental regulations, by the realization that good environmental management is an element of efficiency, or only by a shallow preoccupation with the corporate image, the fact is that these large corporations have established environmental management as an important component of how they do business. Moreover, because corporate efficiency and corporate image are affected by activities overseas as well as at home, as Union Carbide learned after the Bhopal tragedy and Shell is learning from controversy about the environmental contamination of its Nigerian
operations, many of these same corporations have adopted internal policies requiring equivalent levels of environmental performance at all of their facilities throughout the world, regardless of less-rigorous environmental standards in some countries. Of course, equivalency does not mean strict observance of exactly the same practices, and widespread differences remain in the degree to which local facility managers adhere to, or are held accountable to, such general corporate policies. Nevertheless, the trend is strongly in the direction of worldwide standards of environmental performance, not only for production management, but in corporate investment policies and joint venture arrangements as well.

The most recent manifestation of this trend is the development of standards for effective corporate environmental management systems by the International Organization for Standardization under the rubric ISO 14,001. When the ISO 14,001 standard is implemented, most large corporations will not only comply with the standard in order to be certified, but will insist that all of their suppliers be ISO-certified as well. To this extent, private compliance and audit systems in the international marketplace will set a high benchmark of performance that will override less demanding national rules and enforcement practices. Interestingly, by focusing on environmental management systems within the firm rather than quantitative measures of compliance with particular pollution limits, ISO 14,001 will promote the worldwide diffusion of the new corporate culture of continuous, high-level attention to environmental issues that already governs large businesses in the developed world. This system is far from perfect, and is certainly no substitute for national rules and enforcement as basic mechanisms for defining and achieving national environmental performance objectives. Nevertheless, the broad participation of the international business community in the development of ISO 14,001 is indicative of an awareness throughout the world that environmental performance is a proper concern of businesses and that efforts to improve environmental performance will not jeopardize their ability to compete in the

104 For one example, see Stephen Schmidheiny, Changing Course: A Global Business Perspective on Development and the Environment 278-80 (MIT 1992) (describing a Ciba-Geigy wastewater treatment project in Indonesia, implemented in accordance with a corporate policy that “in environmental protection, the objectives we pursue in the Third World are the same as those we pursue in the industrialized countries.”).

international market, and may even be a necessary precondition for doing business with other firms around the world.\textsuperscript{106}

III. WHY TRADE-ENVIRONMENT POLICY RESISTS CHANGE

In light of the overwhelming evidence that rigorous environmental policies have little or no negative effect on the international competitiveness of regulated industries, why do policymakers and politicians continue to express such strong competitiveness concerns?

Part of the explanation is no doubt political. Though academic analysts may win plaudits for attacking the fallacies of conventional wisdom, politicians and public policymakers challenge conventional wisdom at their peril. If such major constituencies as organized labor, small businesses, and environmentalists are invoking competitiveness concerns as part of their attack on a major initiative like the NAFTA, it would be politically foolish to argue that the competitiveness effect is a myth. Instead, politicians are likely, at least publicly, to accept the concern as legitimate and then to point to specific provisions in the agreement that address it. The Clinton Administration, for example, responded to strong environmentalist opposition to NAFTA by negotiating strenuously for enforcement provisions backed by sanctions in the environmental side agreement to NAFTA. In this way, it could show its ability to pressure Mexico into effective enforcement of its own environmental laws.\textsuperscript{107}

That much is understandable as an example of pragmatic political dealing. But the reluctance to adopt a fresh outlook on the issue runs deeper. Even reputable trade-affirming economists seem to accept this mythology and couch their arguments against trade policy adjustments within that framework. Like the politicians, they focus either on ways to ameliorate the competitiveness effect or on policy arguments suggesting that the benefits of liberal trade policy outweigh the more elusive and controversial benefits of harnessing trade policy to the service of environmen-

\textsuperscript{106} Alessandra Casella, \textit{Free Trade and Evolving Standards}, in Bhagwati and Hudec, eds, \textit{1 Fair Trade and Harmonization} 119 (cited in note 45), notes that standards are "public goods," and projects a natural upward convergence of environmental standards through trade, especially through the proliferation of voluntary standards such as ISO 14001.

\textsuperscript{107} Pierre Marc Johnson and André Beaulieu, \textit{The Environment and NAFTA: Understanding and Implementing the New Continental Law} 211-12 (Island 1996) (noting that the trade sanctions for failure to enforce environmental laws were included over Canadian opposition and the "most emphatic objections" of Mexico).
tal protection. 108 Unfortunately, this style of argumentation tends to drive environmentalists and liberal traders further apart. As one commentator, Nemat Shafik, remarked in response to another economist's paper on the issue of harmonization of standards: "I was struck by the fact that economists and environmentalists could have such different views on so seemingly an uncontroversial issue." 109 The only common ground Shafik sees requires accepting a fundamental distinction between local and international environmental problems, a proposition that environmentalists are unlikely to accept. Until the high-profile trade policy economists embrace the work of the empiricists and use facts rather than themes to proselytize against the competitiveness mythology, few environmentalists, and thus few politicians, will be able to shape trade-environment policy on more realistic premises. 110

Another reason for trade (and environmental) resistance to the message that competitiveness should not be allowed to fuel the trade-environment conflict is the lack of congruence between most of the empirical economic studies and the issues that motivate most real-world policy conflicts. As we have seen, the political and academic debate on the competitiveness and trade effects of unharmonized environmental protection measures focuses al-

108 A particularly vivid, but far from unusual, example of this style of argumentation is Patrick Low and Raed Safadi, Trade Policy and Pollution, in Patrick Low, ed, International Trade and the Environment 29 (World Bank 1992). Without challenging the competitiveness argument, Low and Safadi dismiss it on theoretical grounds: "The argument that the cost of pollution abatement and control measures in one country imposes a competitive disadvantage on the industry of that country if the industries of its trading partners do not face the same cost schedule is protectionist." Id at 38. By "protectionist" they mean, of course, economically protectionist and therefore anathema to liberal trade policy. They go on to explain that the environmentalist position fails to account for differences in preferences for environmental quality, different assimilative capacities, different benefits from pollution control, and such equitable considerations as ability to pay and the need for international cooperation. "In sum, the satisfaction of protectionist economic demands predicated on environmental considerations by no means guarantees effective action to safeguard the environment. Under standard assumptions, the welfare costs of trade restrictions represent a net national loss. Even if a convincing link could be made with environmental policy and the internalization of an externality, there would be costs associated with the use of trade restrictions as the chosen intervention." Id at 39.


110 At least in the United States, environmentalists, in affiliation with organized labor, continue to exert strong political leverage on trade policy, as reflected in the 1997 debate on fast-track reauthorization. Gary G. Yerkey, U.S. Will be Scaling Fast-Track Authority Like That Given Past Presidents, Aide Says, 8 Intl Trade Rep 295 (Feb 19, 1997); Jim Landers, China, Fast Track Power Pose Struggles for Clinton, Dallas Morning News 1D (May 19, 1997).
most exclusively on pollution-control regulations. But specific conflicts between governments over the competitive consequences of environmental measures have typically arisen in a very different domain of environmental policy: the conservation of natural resources. Recent deliberations on the trade-environment relationship in the WTO's Committee on Trade and Environment and in other intergovernmental forums also focus more on trade-based constraints on use or management of specific resources than on the trade consequences of more stringent pollution control. In this domain, however, the competitiveness concerns of the governments generally arise in terms of market access and discrimination against foreign products, not in terms of price effects on otherwise similarly situated producers.

The lack of congruence raises a substantial question: Does the thesis advanced in this article—that differentials in the stringency of environmental measures from country to country have no significant bearing on the competitiveness of firms engaged in international trade—apply to the broader arena of trade-environment policy under active discussion among governments? It is difficult—perhaps impossible—to answer that question generally or conclusively. Nevertheless, two key observations support an affirmative answer. First, though there are few studies of competitiveness effects in natural resources trade, they tend to support the same conclusion as the one drawn in the pollution control context—that relative stringency of national environmental policies has only slight consequences for international trade.

111 See generally, World Trade Organization, Report of the WTO Committee on Trade and Environment, PRESS/TE 014 (Nov 18, 1996).

112 The Committee on Trade and Environment report, id, summarizes discussions on such topics as "the relationship between the provisions of the multilateral trading system and (a) charges and taxes for environmental purposes; and (b) requirements for environmental purposes relating to products, including standards and technical regulations, packaging, labelling and recycling" and "the effect of environmental measures on market access, especially in relation to developing countries and environmental benefits of removing trade restrictions and distortions."

113 See, for example, U.S. Department of Agriculture, Exploring Linkages Among Agriculture, Trade, and the Environment: Issues for the Next Century 8 (Agricultural Economics Research Report No 738, May 1996) ("Little empirical work exists on the trade effects of environmental policy in the agricultural sector."); Jaffe, et al, 33 J Econ Literature at 136 ("With a few exceptions, economists have paid little attention to the effects of environmental regulation on competitiveness in the natural resources sector.")

114 The USDA report observes that some studies support the general conclusion of the industry studies that environmental regulation is not a significant cost or competitiveness factor for agriculture, accounting for less than one percent of the final cost in most cases according to one study. Id. The USDA researchers also find little evidence to support a
disputes over natural resources issues have involved considerations distinct from the pollution haven type of competitiveness concern. Thus, the relative frequency of such disputes does not reflect a greater real or perceived competitiveness effect from more stringent or more lax environmental controls on resource production.

The relative scarcity of empirical studies on natural resources trade and competitiveness may reflect the relative difficulty of assessing the presence or absence of the effect in this context. Environmental requirements relating to resource production or use take many different forms and often vary from one location or circumstance to another within a single country. Thus, while it may well be possible to analyze the relative competitive circumstances of producers of a particular resource sector in a small sample of countries with respect to a specific set of environmental requirements, the competitive circumstances for producers of other resources in other countries will be completely different. As explained below, the large number of trade disputes involving resource conservation or management measures shows that although producers pay close attention to the terms of competition, the disputes rarely involve national disparities in environmental requirements of the type that inspire the competitiveness debate with respect to the manufacturing industry.

Assessing the competitiveness consequences of differences between countries in environmental requirements involves at least two basic steps. The first involves developing some way to determine the relative stringency of environmental regimes so that countries can be paired or grouped as high standard and low standard countries. One could then analyze changes in trade flows or investments between the two categories for their compet-

"pollution haven" hypothesis with respect to trade and investment in agriculture and food products. Citing the upswing in investment by U.S. poultry processing firms in Mexico, the researchers conclude that it was driven by the low cost of labor and by market access considerations, a conclusion reinforced by the fact that poultry raised and processed in Mexico is entirely for the Mexican market since it cannot, at this time, be exported to the United States. Id at 10.

115 "[The] effect of freer agricultural trade on environmental quality depends on several factors, such as the level of production, mix of post-reform goods, variable input use, land use, technical change, and the assimilative capacity of the natural resource base." U.S. Department of Agriculture, Exploring Linkages Among Agriculture, Trade, and the Environment at 12 (cited in note 113). More generally, Judith Dean observes that "trade liberalization will undoubtedly have some impact on the use of natural resources and the extent of environmental degradation. However, the type of impact is not predictable a priori." Judith Dean, Trade and the Environment: A Survey of the Literature, in Low, ed, International Trade and the Environment at 25 (cited in note 108).
itiveness effect. The second basic step is to assess, at least in relative terms, which products are more affected by environmental conditions and thus more likely to exhibit the hypothesized shifts in trade flows or investments. Each step is fraught with difficulty in the natural resources case.

In the pollution-control context, relative stringency of environmental measures can be determined preliminarily by looking at the numerical performance standards applied to different waste streams or at the pollution control technologies used in different countries. No such easy metrics can be used in dealing with environmental constraints on resource production or use, however. A couple of examples illustrate the difficulties. U.S. tuna boats in the eastern tropical Pacific do not set their nets if dolphins are observed; Mexican boats will set their tuna nets when dolphins are present, but crew members get in the water and release any dolphins that get caught in the nets. They do not kill or injure any more dolphins per set than U.S. boats. Is the U.S. practice more environmentally stringent than the Mexican practice? Conversely, similar resource management strategies can have widely different environmental and economic results. Among major producers of tropical hardwoods, Brazil and Indonesia followed similar strategies to promote development of a domestic wood-processing industry, but only Indonesia succeeded in fostering long-term increases in both overall wood production and in the share of its production going to the export market.

Trying to determine the costs to a natural resource industry of complying with certain environmental requirements is similarly complex. If certain equipment is mandated, its cost can be assessed readily enough, but a more sophisticated assessment of the total cost to a natural resource producer must also consider many variables, including changes to production practices, changes to the yield per unit of effort from the resource, enhancements to the quality or abundance of the resource, and so forth. The U.S. requirement that shrimp trawlers install and use turtle

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116 Until amendment of the law in 1997, U.S. labeling provisions allowed only tuna caught without "setting" on dolphins to be labeled "dolphin safe"; the Mexican practice, though equally effective in saving dolphins, is not considered "dolphin safe." In fact, for more complicated reasons, Mexican tuna were banned from import into the U.S. under the terms of the Marine Mammal Protection Act. 16 USC § 1371 (1994), amended by International Dolphin Conservation Program Act, Pub L No 105-42, 111 Stat 1122, 1123-25 (1997).

excluder devices ("TEDs") to protect sea turtles is one example of an environmental requirement associated with the production of a resource. There are firm figures for the cost of the turtle excluder device itself, but beyond that, the cost estimates are highly controversial. Proper use of the TEDs involves slower trawl speeds and an effort to bring the net to the surface more often. There is also the possibility that some of the shrimp will escape through the hatch in the device meant to release turtles. Because of these changes in work practices, many shrimpers claim that using the TEDs significantly reduces their catch for each trawl. If catch-per-trawl has declined, however, it could also stem from natural or human-induced reductions in shrimp populations rather than, or in addition to, the switch to TEDs. A complete analysis of the competitiveness of the offshore shrimp fishery should also consider the recent entry into the industry of coastal shrimp farms, which are unaffected by the TED requirement.

Even though it may be infeasible to directly compare the competitiveness in natural resources trade between two countries, studies of resources trade support a broader argument that imposing regulatory constraints on resource production can enhance the economic value of the resource while reducing environmental degradation. This broader argument is fully compatible with the basic objective of this article's critique of the conventional wisdom on competitiveness—to establish a policy space in which environmental protection and trade liberalization policies can become mutually supportive rather than antagonistic. Thus, one analysis of the environment as a factor of production concludes:

The policy implications of the analysis are quite clear. Policies that provide internalization of the full social value of the resources that have stock productive effects can be very effective in inducing resource conservation. These policies not only cause a once-and-for-all decrease in the rate of extraction of the resource but also lead to a positive dynamic relationship between resource conservation and economic growth.

Thus, to a large extent the fate of resources such as biomass, fishing, forestry, soil quality, etc., so vital for many developing countries, will depend crucially on the ability of the developing countries to implement and enforce an adequate regulatory framework.  

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118 Ramon Lopez, *The Environment as a Factor of Production: The Economic Growth*
Another paper examines the trade and environmental consequences of one aspect of such a regulatory framework: a property rights regime for resources. Through a standard economic modeling analysis, the author shows that a

... difference in property rights by itself explains trade between otherwise identical regions: the South exports the environmentally intensive product even though it has no comparative advantage and the North the capital intensive products. The North overconsumes the resource intensive products which it imports at prices which are below social costs. This occurs even though in equilibrium the prices of all goods and all factors of production are equal across the world. Resources are overextracted and the world pattern of consumption and trade of resources is Pareto inefficient.  

Those model results are consistent with current patterns of primary resource exports and imports. The exports that the poorest of the developing countries make to the industrial world are almost exclusively primary products.

The corollary of these analyses is that giving enhanced economic value to the resource is the key to its improved management in environmental terms. This leads to the uniform conclusion of researchers that trade-restricting measures are a second-best option for influencing such policies as tropical forest management practices. Two different analyses of trade-restricting policies in the Indonesian forestry sector—Indonesia's ban on exports of whole logs in an effort to develop an indigenous wood processing industry—go further, concluding, in the words of one of the researchers, that rather than fostering the conservation of tropical forests, restrictive trade policies (both in theory and in practice), may end up promoting their depletion.


As previously noted, the difficulty of drawing global conclusions about the significance or insignificance of competitiveness effects from environmental requirements on resources does not gainsay the existence of such effects in particular instances. Nevertheless, the relative frequency of formal trade disputes over environmentally-related measures affecting resource trade does not mean that competitiveness effects from different environmental regimes are substantial and pervasive. The trade cases typically arise from the way wholly internal measures affect importers’ access to a particular market or create specific cost discrimination between domestic and foreign producers. The international trade disciplines relevant to these cases are ambiguous, which encourages trade disputes. Moreover, the governments themselves are usually directly engaged in such disputes as the sovereign owners and managers of the resource in question. The most common natural-resource-based trade dispute involves competitive distortions from discrimination between domestic firms and foreign firms in their access to or cost of obtaining a resource within a particular nation’s jurisdiction. In recent years, a second class of situations has arisen in which regulation of post-consumer waste in an importing jurisdiction changes resource choices or costs for producers in exporting countries. These cases raise issues of direct, unavoidable government measures that change the cost structures of firms complying with the same environmental standard within a single jurisdiction in ways that favor domestic producers over foreign competitors. As such, they present a wholly different category of trade-environment conflict that renders irrelevant whether there is a competitiveness effect of costs to comply with different standards between jurisdictions.

Because resources are essentially immobile, the location of production is determined by the location of the resource. As a result, trade disputes often concern the conditions under which a firm acquires the opportunity to harvest, extract, or otherwise obtain the resource. Two disputes between Canada and the U.S. illustrate alleged unfairness in this regard. The U.S. complaint over Canadian management of its salmon and herring fisheries centered on a Canadian requirement that fish caught in Canadian waters had to be landed in Canada before they could be exported to the U.S. for sale or processing. The U.S. did not question the limitations on the number of fish that could be taken in Canadian waters or Canada’s right to enforce the limits through inspection. It merely attacked the trade-burdening and, in the
U.S. view, environmentally needless requirement that fishing boats had to off-load their catch in Canada before proceeding (after re-loading) to processing plants outside Canada. GATT and U.S.-Canada Free Trade Agreement dispute-settlement panels indeed found the Canadian measure to be an unduly trade-restrictive approach to the conservation of the fish. The second dispute was the long-running U.S. defense of extra duties on Canadian softwood lumber imports into the U.S. to countervail a Canadian subsidy to Canadian producers in the form of government sales of rights to harvest the timber at less than market value. Once again, the U.S. was not contesting Canadian forest management policies on environmental grounds. Rather, it questioned the commercial fairness of government measures granting below-cost access to a resource under its control that seemed deliberately designed to give its domestic producers a competitive advantage.

A second category of natural resources disputes occurs when importing consumer nations try to achieve local environmental objectives through measures that have the incidental effect—whether intended or not—of restricting resource use choices among suppliers of goods to the market. Examples of such measures include the German program requiring recovery of packaging materials and laws in several jurisdictions requiring a minimum percentage of recycled fiber in newsprint, which helps reduce waste paper needing disposal. These cases also involve just a single environmental standard; the competitiveness effect is rooted in the way the importing country's environmental

125 In this case, the panels concluded that while the Canadian practices conferred some benefits on Canadian producers, they were not countervailable under U.S. law (which closely tracks GATT (and now WTO Agreement) provisions).
126 For a thorough description of the German law, see Christine Wyatt, Environmental Policy Making, Eco-Labeling and Eco-Packaging in Germany: The Impact on Exports from Developing Countries, in UN Conference on Trade and Development and Latin American Economic Systems, Trade and Environment: The International Debate 345 (undated publication of UNCTAD and SELA). For another thoughtful discussion of how the German measures and others like them affect developing countries, see Simonetta Zarrilli, Eco-Packaging Initiatives: Impact on International Trade and the Special Conditions of Developing Countries, in UN Conference on Trade and Development and Latin American Economic Systems, Trade and Environment at 297 (cited in note 126).
127 Geoffrey Elliot, Trade Implications of Recycling of Newsprint (paper for OECD workshop on life-cycle management and trade, July 1993).
regime affects the ability of producers in another country to meet local requirements at a competitive price, not in any difference in the degree of environmental control required of producers in each country. In most situations falling in this second category, the environmental rule in question affects the post-consumer disposal of the product, which disfavors foreign producers because of their distance from the place of consumption. For example, in the recycled fiber content cases, producers in countries with large forest resources but few paper consumers, such as Canada and Finland, face prohibitively high costs to obtain post-consumer waste paper from their major market areas (the United States and Germany, respectively) and ship the waste paper back to their mills. Local paper producers in the United States and Germany, on the other hand, can transport the same post-consumer waste paper to nearby mills at relatively low cost because they are located near major population centers. Thus, the primary trade effect of these environmental measures is to impose, however incidentally, higher costs or market access barriers on foreign producers. Thus, in a reversal of the scenario usually portrayed, in which strict domestic environmental measures are said to disadvantage domestic producers, these environmental measures tend to favor domestic producers over foreign competition.

Another category of resource-centered trade disputes stems from national laws, especially the so-called Pelly Amendment in the United States,126 that authorize the use of trade sanctions to punish nations whose nationals are undermining the effectiveness of widely-accepted international environmental programs.129 The propriety of amending international trade law to expressly allow one nation to withdraw trade benefits from another nation that is undermining a multilaterally-agreed environmental regime is an important trade-environment topic that has received considerable attention within the WTO and among commentators. It has little relevance to this Article’s topic of the supposed competitiveness effect of differing national environmental standards, however. In the instances involving wildlife protection, the resource being protected has no legitimate commercial value in international trade (though it clearly has a high value in the illicit traffic in animals and animal parts).130 Trade restric-

129 For a complete, thoughtful discussion of these trade sanctions, see Daniel P. Blank, Target-Based Environmental Trade Measures: A Proposal for the New WTO Committee on Trade and Environment, 15 Stan Envir L J 61, 67-77 (1996).
130 A notable possible exception is whales, whose meat does have commercial value.
tions are threatened or invoked in these cases simply as an effective sanction to induce the targeted country to change its practices. In other instances of multilateral environmental agreements, the agreement itself prohibits or restricts the production of a good\(^{131}\) or seeks directly to control the conditions of international commerce.\(^{192}\) The trade restrictions seek to prevent non-complying countries from commercial profiteering through evasion of the internationally agreed market controls. There is an issue of competition here, but it is different from the issue of competition between producers of commercial goods in two different countries. In the resource context, the competition being prevented is sale of restricted products (or substandard disposal of hazardous waste) in countries that do not conform to the international regime.\(^{132}\)

As noted at the outset of this section, there is one major category of potential trade measures involving natural resources that would implicate the terms of commercial competition among producers in different countries with different environmental standards. These trade measures would set restrictions on market entry, or give certain market preferences, to natural resource products according to the environmental conditions under which the product was obtained. In such circumstances, many of the same considerations relevant in the pollution control context apply. This Article's central message remains relevant: Competitiveness rhetoric deepens antagonisms and impedes constructive policy resolutions that will bring trade and environmental policy into a mutually supportive relationship.\(^{133}\)

By the same token, When Norway resumed commercial whaling contrary to the policies of the International Whaling Commission, however, it agreed not to export the meat.\(^{131}\)


In a slightly different vein, these trade measures are sometimes justified as a response to the potential problem of "free riders"—that is, countries that might avoid the economic costs of the international regime but that would still enjoy the benefit of the environmental improvement it brings about. Richard E. Benedick, Ozone Diplomacy: New Directions in Safeguarding the Planet 91-92 (Harvard 1991).

For example, reduced concern on all sides about competitive effects from environmental controls would help assuage the bitterness between environmentalists and many trade advocates in the aftermath of the tuna-dolphin cases. Developing countries, in particular, believed that the import bans of the Marine Mammal Protection Act were enacted to protect U.S. tuna boats from "lower cost" producers not using dolphin-protective equipment and procedures. U.S. environmentalists, who claim more high-minded credit for the statute as a vindication of U.S. policy to protect all marine mammals, think the refusal of the world trade system to countenance the exercise of national leadership...
as the tuna-dolphin cases have taught us, the natural resources cases are precisely the ones in which the strict trade principle, prohibiting trade measures based on processes and production methods, comes into play. So the issue is joined: Are countries rightfully concerned when other countries use trade intervention to force compliance with high environmental standards?

IV. CONSTRUCTING NEW WAYS OF THINKING ABOUT ENVIRONMENTAL PROTECTION, TRADE, AND COMPETITIVENESS

Because both environmental advocates and trade proponents have accepted the standard hypothesis about the way strict environmental regulations adversely affect competitiveness, they have played to each other's worst fears and have polarized trade-environment policy deliberations. In world forums such as the World Trade Organization, the polarization on these issues is sharpest not between environmentalists and traders, but between the developed countries and the developing countries. From the developed country perspective, environmentalists and producers both agree (though for different reasons) that producers in developed countries should be shielded from unfair competition from countries with lower environmental standards.

Environmentalists are concerned that unfettered competitive pressures from low-cost producers overseas will cause policymakers in high-standard countries to weaken their own environmental requirements in order to relieve the pressure on domestic producers, leading to a race to the bottom and resulting in lower environmental standards worldwide. Whether developed-country producers are opportunistically seizing on another argument for protection from competition or whether they are more nobly concerned with establishing at least minimum environmental standards, they also often favor international efforts to harmonize environmental standards at a high level. Many environmentalists carry the argument a step further, urging reform of trade rules to permit countries to deny market access to producers that do not meet environmental performance norms or even to rectify competitive imbalances through green countervailing duties and and market power to protect a global commons resource epitomizes the lack of regard that trade advocates have for any environmental considerations. If environmentalists would disavow the rhetoric of competitiveness on other dimensions of the trade-environment relationship, they might stand some chance of persuading nervous developing country leaders of their good faith non-protectionist concern for dolphins and other environmental values.
green subsidies. The governments of the developed countries have firmly rejected the green countervailing duty position, recognizing the widespread mischief that it could cause as countries jockey for a competitive edge in various market sectors. On other aspects of the trade-environment debate, however, the OECD countries are the major advocates for linking environmental and trade policies and for at least modestly reforming the trade rules to forge the appropriate links.

Even environmental advocates from developing countries, themselves trapped in the mythology of a competitiveness effect, view these northern proposals with alarm because they seem to threaten fundamental economic development objectives that must be achieved for long-term environmental as well as economic welfare. At least in theory, government officials and businesses from developing countries embrace the view that differences from country to country in environmental resources and standards are a legitimate element of comparative advantage. Even environmentalists in developing countries urge that rules should not impair the sovereign right of each nation to make its own environmental policies (with the possible exception that some obligations might be imposed to support broad international efforts to deal with international environmental problems). Developing countries, in particular, vehemently reject the notion that the opportunity for their producers to compete on the international market might be constrained by the insistence of some other

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136 The view that environmental standards can legitimately vary from place to place depending on local geographic and climate conditions, as well as local value preferences, is a popular one among critics of command-and-control regulatory systems. See, for example, Thomas J. Schoenbaum, International Trade and Protection of the Environment: The Continuing Search for Reconciliation, 91 Am J Intl L 268, 290-91 (1997). I am skeptical of that reasoning, especially with respect to the many environmental standards established to prevent or minimize health risks, for which "assimilative capacity" is irrelevant and differing "preferences" suspect. On the other hand, most natural resource management choices provide greater scope for local variation. The Federal Insecticide, Fungicide, and Rodenticide Act, 7 USC § 136o(a) (1994 & Supp 1996), makes just such a distinction, prohibiting export to other countries of pesticides banned or severely restricted in the U.S. on human health grounds, but allowing controlled export where the ban or restriction rests on hazards to the natural environment and the country of import affirmatively accepts the transaction.

137 At the December 1996 ministerial meeting of the WTO, however, the members were unable to reach agreement on any part of the trade and environment agenda, including any new rules governing trade measures taken under, or in support of, multilateral environmental agreements. See Schoenbaum, 91 Am J Intl L at 269-71 (cited in note 136).
country that they observe a higher standard of environmental performance. They also fear that environmental arguments may become excuses for a “green” form of protectionism for developed-country producers against the struggling industries of the developing world. They are eager to preserve their option to have less robust and complex rules to protect the environment so as to allocate more resources to the urgent task of development.

Thus, the supposed competitiveness effect is the root of much of the conflict that characterizes the trade-environment dialogue. Yet, as we have seen in Part II, the evidence is clear: the relative stringency of environmental regulation in various countries has little or no bearing on competitiveness in the international marketplace. There may be isolated adverse effects on competitiveness in narrow sectors of the economy. There may also be positive synergies through which the challenge of meeting strict environmental regulations prompts firms to a higher level of competitive performance overall. Generally speaking, however, the proper basis for thinking about environmental policy and trade policy is to understand that there is no basis in fact for the apprehension about a competitiveness effect.

Since trade-environment policy debates in the past five years have revolved around the conventional hypothesis that the competitiveness effect is real, debunking the debate of that notion opens up the possibility—indeed the necessity—of recasting the debate along altogether different lines. This section will propose new ways of thinking, first from the perspective of environmental protection advocates, then from the perspective of persons preoccupied with development and free trade.

The first advantage environmentalists would gain by setting aside their concern with competitiveness would be to free themselves from the inconsistencies of their own advocacy. When advocating domestic environmental measures, they have consistently argued that the benefits of environmental protection outweigh the costs. This has been a difficult argument, because it has usually meant the internalization of control costs on specific firms, products, or behaviors in order to reap generalized benefits that rarely redound directly to those bearing the costs. Nevertheless, they have insisted that environmental protection is not (or not only) an abstract moral good, but that it provides net benefits to society. By building up the competitiveness argument as a basis for opposing the North American Free Trade Agreement and other trade arrangements, however, environmental advocates concede a core element of the business community arguments
against to environmental controls, and thereby undercut their own best arguments for strong national environmental policies. If environmentalists would only embrace the evidence that strong environmental performance does not detract from profitability and the ability to compete, they would significantly strengthen their arguments in favor of strong national and state environmental programs.

Such a change in strategic thinking and advocacy, along with reference to the empirical data, would also enhance the effectiveness of environmentalists in many international forums. Without equivocation or any taint of hypocrisy, they could press national governments in developing countries to adopt more aggressive environmental policies on the ground that such policies would not impair, and indeed will probably benefit, developmental efforts. Because the data shows more congruence than previously expected between environmental and economic performance, environmentalists could also more wholeheartedly embrace the developmental as well as the environmental protection dimension of sustainable development. Finally, they could come to a common understanding with their trade counterparts in the trade-environment discussions that open, nondiscriminatory patterns of international trade do not, after all, present a threat to national environmental policies or foster environmentally-based competition from foreign producers.

Based on the same empirical data, trade advocates and development-oriented leaders should have no difficulty meeting the environmentalists half-way. It is long past time for trade and development advocates to get over their fear that rigorous efforts to control pollution and protect resources will impede economic growth or shift trade in favor of developed countries. This is not to say that programs of government assistance and other transitional measures might not be needed to help businesses meet high environmental performance standards without economic disruption. Such measures may be especially appropriate for small- and medium-sized enterprises that lack the technical skill and capital to implement control measures. In general, however, the data clearly show that investments in environmental controls

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128 One trade provision facilitating such measures is the allowance for a "non-actionable" subsidy of up to 20 percent of the cost of adapting an existing facility to new environmental requirements in Article 8.2(c) of the Agreement on Subsidies and Countervailing Measures, Apr 15, 1994, Uruguay Round Final Act, Annex 1A, Legal Instruments—Results of the Uruguay Round vol 27, 22419.
will not hold back economic performance, and may actually enhance it, especially when the broader efficiency gains and other social benefits are factored in.

For environmental and developmental policies to be mutually supportive, in fact, will require some willingness on the part of the trade community to incorporate environmental conditions into trade relationships. If trade and development advocates accept the competitiveness neutrality of environmental regulation, they can more readily appreciate the developmental benefits of many environmental protection investments. Just as importantly, they can relax their guard against environmentally-based measures to influence trade. For instance, environmental advocates have proposed that trade policy condone incentive-based or information-based measures that, viewed properly, are market-perfecting measures that are mutually supportive of an open international trade system. For example, allowing countries to require eco-labels on products to inform consumers of the environmental burdens associated with the production or use of the product should help to promote more sustainable consumer choices, and thus the manufacture of more sustainable products with more sustainable processes. Eco-label rules would need to be carefully managed to avoid their manipulation for non-environmental objectives, but in principle the trade system should embrace such initiatives.

Environmentally based trade measures that would restrict or condition access to markets on the basis of the environmental effects of the process or production method employed in the exporting country are more problematical. Even if carefully tailored to their environmental purposes, such measures are intended to prompt environmentally protective responses in target countries. There is obvious reluctance to empower one country to use powerful economic leverage to influence the domestic policies of another, except in matters of the utmost importance. On the other hand, achievement of sustainable patterns of development is a matter of great importance and considerable urgency, and in the political economy of international trade, it is not unusual for leaders intent on promoting broad national interests to take refuge in the mandates of international trade policy as justification for overriding politically powerful economic actors pursuing narrow self-interest. On that basis, enlightened development advocates in developing countries should welcome the occasional use of external trade pressures to overcome domestic resistance to welfare-enhancing environmental protection initiatives.
V. CONCLUSION—AND SOME LINGERING QUESTIONS

The challenge of achieving sustainable development throughout the world is intimidating in its complexity and in its political and social implications. The core concepts of intragenerational equity and intergenerational equity, for example, viewed from the perspective of today’s prevailing inequities, imply the kind large and widespread redistribution of wealth-producing opportunity that are not easily accomplished under generally prevalent free-market, democratic systems of decisionmaking, which are themselves highly favored as part of the sustainable development construct. Work toward the sustainable development goal is further impeded by an environmental advocacy posture that distrusts the developmental impulse, and a developmental advocacy posture that views environmental protection as inimical to developmental goals. Thus, despite lofty political rhetoric and near-universal accord that sustainable development is a proper goal (at least as defined in one simple, vague sentence), policymakers, like the U.N. Commission on Sustainable Development, spend as much of their effort mediating debates over the definition of sustainable development as they do designing programs to advance both aspects of the dual goal. The two sides could learn from Nobel laureate economist Robert Solow, who once observed that sustainability is an essentially vague concept, and it would be wrong to think of it as being made precise. It is therefore probably not in any clear way an exact guide to policy. Nevertheless, it is not at all useless.159

The two camps distrust each other largely because they share a common belief, based on a standard hypothesis of environmental economics, that the costs incurred to comply with environmental regulation have a negative effect on the competitiveness of the regulated firms, and that higher environmental control costs lead to a stronger competitiveness effect. Part II of this Article shows that the overwhelming weight of the empirical evidence contradicts the standard theory. Moreover, the fixation on competitiveness reflects a systemic tendency in both data collection and analysis to overstate cost considerations and under-state benefits of environmental investments. As Joseph Stiglitz, the past chair of the Council of Economic Advisers, remarked at a recent meeting:

Largely, those allegations [that environmental regulations have decreased productivity] are a result of mismeasurement of the output. They look at the costs of environmental protection and environmental improvements, but they don’t measure the benefits on the output side. Our output ought to be net of environmental degradation and if we improve the environment, it ought to include that environmental improvement.140

Consequently, the conflict between environmental advocates and trade/development advocates is rooted in mythology rather than in objective fact. The facts show a solid basis for a convergence of interests, rather than a conflict, between strong environmental protection efforts and competitive economic development. Even if policymakers refuse to give full credence to the empirical data, the data provide a persuasive basis for substituting the myth of congruent interests for the discredited myth of conflict.

The myth of congruence is preferable, not only because it more likely approximates reality, but more importantly because it offers a constructive, optimistic basis for accommodation and cooperation in place of acrimonious, destructive, and ultimately irresolvable debate. Only with a spirit of cooperation and constructive engagement can we achieve the much longed-for patterns of mutual support between trade policy and environmental policy.141 And only when the trade-environment debate is quieted can the developed countries of the world, who place a relatively high economic value on environmental resources, join forces with the developing countries, whose primary focus naturally remains on development as the path out of environmentally-degraded poverty, to strive toward world patterns of resource allocation and resource consumption that are consistent with both long-term prospects for widespread economic well-being142 and indef-

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141 Accord, U.N. Conference on Trade and Development, Sustainable Development: The Effect of the Internalization of External Costs on Sustainable Development 23, UN Doc TD/B/40(2)/6 (1994) (“Whatever the merits of these differing views [about the justifiability of harmonization of standards or environmental countervailing duties as responses to competitiveness concerns], however, it is clear that a cooperative international approach will be required to resolve potential problems.”)
142 As noted earlier in Part II, to the extent that there is a competitiveness effect, it seems most acute when environmental regulation is first imposed and when firms adjust to new ways of doing business. Thus, part of the policy challenge is to convince governments that they should set policies with their long-term interests in mind, accepting some short-term costs for long-term benefits. This is particularly difficult, but important, for
inite viability of our common ecological infrastructure and heritage.

At least two clouds of doubt cast shadows on this sunny prospect. First, it must be recognized that even if the relative stringency of environmental regulation does not impair the ability of firms to compete in world markets, that does not mean that the choice of environmental performance objectives or the design of regulatory strategies to meet those objectives is economically irrelevant.¹⁴³

The second cloud of doubt is, in my mind, even more substantial. Both the theoretical literature and the empirical studies on the environmental protection/competitiveness/trade relationships focus almost exclusively on pollution control. But the trade-environment conflicts that have surfaced in the international arena more often center on natural resources management than on industrial environmental control, and the international environmental agenda reflects as much scientific and governmental concern with the depletion of natural resources as with the fate of industrial pollutants.¹⁴⁴ Does the low correlation between environmental performance and profitability hold as well when the environmental performance involves a change in the method of extraction or exploitation of a natural resource such as fish, trees, minerals, or requirements to preserve habitats such as rainforests or wetlands? That may not even be the right question to ask when some resources are publicly owned and therefore not accessible to foreign producers, others are found in the global commons and are therefore available to all, and still others are in developing countries if they are to make a transition to sustainability in both developmental and environmental terms. UNCTAD, largely a forum of developing countries, notes the tension between short term costs and probable long term benefits in the competitiveness context, and encourages developing countries to try to obtain the positive dynamic effects that come when open economies strive for such goals as environmental protection. Id at 3.

¹⁴³ Much work has been done, and more work remains, on regulatory design and the criteria for choice among regulatory strategies. Political and cultural as well as economic criteria will influence that choice.

¹⁴⁴ The emphasis on natural resources protection and pollution control related to natural resources (especially the negotiations on greenhouse gas emission reductions scheduled for Kyoto in December 1997) may take on renewed vigor in light of a recent effort by economists and ecologists to assign a dollar value to the "services to human welfare provided by natural systems. Their best (though admittedly crude) conservative estimate is $33 trillion per year." William K. Stevens, How Much is Nature Worth? For You, $33 Trillion, NY Times B7 (May 20, 1997). More generally, see Lawrence Goulder and Donald Kennedy, Valuing Ecosystem Services: Philosophical Bases and Empirical Methods, in Gretchen Daily, ed, Nature's Services: Societal Dependence on Natural Ecosystems (Island 1997).
private ownership or leaseholds, and national markets may be substantially uncoupled from world markets. Many agree instinctively with efforts to protect some resources by cutting off trade in them, yet studies indicate that efforts to restrict marketing of a resource may diminish its unit value and thus stimulate an increase in the rate of extraction to maintain the producers' cash flow. This observation leads to serious suggestions that the best strategy for the conservation of some resources is to enhance their value to the point where it makes economic sense to protect it and use it sustainably rather than to exploit it immediately. For example, some argue that it may be easier to protect African elephants by creating a legal market in ivory instead of banning all ivory sales and thus reducing the value of a live elephant to zero.\(^{145}\)

Some work on the subject of the possible environmental benefits of economic and trade policy reform in the agricultural sector gives cause for optimism that similar positive synergies are available to secure environmental improvement while liberalizing trade. A rigorous analysis of the environmental consequences of the U.S. system of commodity price supports, for example, shows that properly tailored reductions in the program can increase incentives for farmers to improve their environmental performance.\(^{146}\) More globally, similar win-win scenarios undoubtedly exist, though the precise design of policy reforms needs to take multiple variables into account, including the effect on exports (and production) in one country of environmental measures adopted in the importing countries.

In short, the appropriate relationship between resource protection and resource use that will result in the most effective management regime from an environmental protection standpoint is elusive at best. It is even more difficult to calculate the effect of various resource-management regimes on the profitability of affected firms or on national and international market prices. For these reasons, it is not clear that the same congruence

\(^{145}\) Edward B. Barbier, The Role of Trade Interventions in the Sustainable Management of Key Resources: The Cases of African Elephant Ivory and Tropical Timber, in James Cameron, Paul Demaret, and Damien Geradin, eds, Trade and the Environment: The Search for Balance 436, 443 (Cameron & May 1994) (arguing that "[a]n ineffective, indefinite ban may be worse for the survival of the African elephant over the medium and long term than a policy aiming to establish a controlled trade based on a sustainable yield of ivory, however small.").

\(^{146}\) Paul Faeth, Growing Green: Enhancing the Economic and Environmental Performance of US Agriculture (WRI 1995).
of interest between environmental protection policies and trade/development policies exists with respect to natural resources. On the other hand, plausible calculations of sustainable rates of harvest exist for many widely used resources, and they may offer the basis for consensual management regimes in which any short-term tactical competitive advantages are sublimated for long-term predictability and continued access to the resource. The possibility then arises of using trade measures not as a means of influencing a particular nation to improve its environmental performance, but as a means of enforcing a collective management regime against defectors or intruders. I leave such troublesome natural resource issues in the trade-environment dialogue for future research, but with some basis for hope that many points of congruence will emerge, particularly if environmental policymakers opt for market-based approaches to achieving environmental objectives.

It is my fond hope that if both environmentalists and their trade-oriented economic opponents free themselves from their misplaced concern with competitiveness effects, proponents of environmental protection will be doubly empowered, at no cost to trade policy. First, environmentalists can argue without apology for strong environmental measures, at home and abroad, as measures that will have no meaningful negative effect on any nation's competitive position. Second, we then can engage enlightened proponents of economic development, particularly in developing countries, as allies in a collaborative effort to use higher environmental standards to enhance economic development.

At the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, political leaders of well over 100 countries reaffirmed in strong terms their commitment to both the enhancement of economic development through trade and the safeguarding and restoration of the earth's ecological systems, under the rubric of sustainable development. It has been fashionable for environmental commentators to bemoan Rio's relative emphasis on development, and to distrust the environmental commitment of the development-oriented national leaders in the world's poorer countries. If environmentalists rethink sustainable development, and work hard to give it the right structure rather than deconstruct it, then international trade as
an open international economic system may yet, as the Rio Declaration promises, promote sustainable development in all countries.148