

# **Environmental Regulation and Economic Integration**

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## **Introduction**

This paper explores the relationship between economic integration and environmental regulation. It begins by observing that fears that economic competition would lead to a regulatory “race to the bottom” have proven unwarranted: increased economic integration has proven compatible with the general strengthening of environmental standards. The paper then explains why economic interdependence has not led sub-national, national and regional governments to compete by lowering their environmental standards. The third section examines the ways in which economic integration has contributed to the strengthening of regulatory standards. The final two sections explore the shortcomings of existing mechanisms of global environmental governance and specify the circumstances under which regulatory coordination can promote more effective environmental governance.

### **The Impact of Economic Interdependence**

Contrary to the fears of many environmentalists, increased economic interdependence has not led to a weakening of either product or process environmental standards.<sup>1</sup> International trade as a proportion of GNP has significantly increased in every industrial nation since the late 1960s, yet during this same period, environmental regulations have become progressively stricter in all industrial nations and a number of industrializing ones as well.<sup>2</sup> Virtually all nations now devote substantially more resources both in absolute and relative terms to environmental protection than they did in 1970.

Since the early 1970s few major economies have experienced a greater increase in their exposure to the global economy than the United States: between 1970 and 1980

both its imports and exports as a share of GNP more than doubled.<sup>3</sup> At the same time, American regulatory standards have become substantially stronger during the last quarter century. The proportion of America's GNP devoted to pollution control stood at 1.5% in 1972; it has been higher every year since, averaging more than 1.7% between 1980 and 1986 and increasing to 2.2% in 1992.<sup>4</sup> Annual expenditures on compliance with federal environmental regulations totaled \$90 billion in 1990 and increased by approximately \$30 billion following passage of the 1990 Clean Air Act Amendments.<sup>5</sup>

In Europe, the goal of creating a single market was in large measure motivated by the interests of business managers and political leaders in making European industry more competitive in the global economy. Yet the Single European Act also authorized and has contributed to a significant strengthening of EU environmental regulations. In recent years, the EU has emerged as the world's pace-setter for environmental innovation, led by Germany, its largest and most important member state. Since the early 1970s Japan has been both a major international exporter and has significantly increased its environmental expenditures.<sup>6</sup>

The strengthening of domestic environmental standards has not been confined to the world's richest nations. In recent years, Taiwan, South Korea, Israel and Singapore - all major exporters - have committed substantially more resources to environmental protection.<sup>7</sup> The compatibility between increased exposure to the global economy and the strengthening of domestic regulatory efforts is also borne out by the experience of Mexico. Since 1986, Mexico has significantly opened its economy, while between 1988 and 1991, government spending on environmental protection increased ten fold.<sup>8</sup>

The United States itself provides the clearest example of the compatibility of strict

regulatory standards and economic interdependence<sup>9</sup> As a union of fifty states, the United States itself is a highly integrated market whose constitution permits few restrictions on interstate commerce, especially for traded goods. While many regulatory standards are set by the federal government, a number of federal regulatory statutes only set minimum standards. For example, within limits, states are permitted to enact stricter controls on automobile emissions than those required for the nation as a whole. States also are free to impose tougher standards on stationary sources of pollution and additional restrictions on land use. Additionally, recycling requirements are set by state and local governments.

While states do compete with one another to attract investment, they have generally not chosen to do so by lowering their environmental standards. On the contrary, many state standards are stricter than federal ones. A number of states have enacted more stringent controls over the use of pesticides and CFCs than the federal government. Several state and local governments have also established ambitious recycling programs, bans on the use of specific materials in packaging and strict standards for solid waste disposal and incineration. A number of states also have chosen to adopt stricter automotive emissions standards.

Nor is the United States unique. A number of subnational governments in other federal systems, including Canada and Australia, have enacted environmental regulations stricter than those of their central governments. Indeed, it was precisely the increasing propensity of local governments to establish their own tougher regulatory standards that led the drafters of the WTO Agreement on Technical Barriers to Trade to include a provision holding central governments responsible for the regulatory standards of

subnational political units. Likewise, an ongoing source of conflict within the EU comes from the efforts of the EU's greener member states to impose stricter environmental standards than those required by the EU.

Environmental standards are primarily determined by domestic political preferences and interests.<sup>10</sup> They tend to be stronger and better enforced in affluent nations with influential green pressure groups. They also tend to be strengthened during periods of economic prosperity and stabilized or weakened during periods of slower growth.<sup>11</sup> There is no evidence that any relatively affluent nation has lowered its existing environmental standards in order to increase the competitiveness of domestic producers, though competitiveness concerns may well have reduced the rate at which they have been strengthened.<sup>12</sup> However it is important to note that concerns about the impact of environmental regulation on firm growth, profitability and employment would exist even in the absence of pressures from foreign competitors. Strategic considerations are not the only reason why a government might hesitate to impose stricter environmental standards on domestic firms.<sup>13</sup> In short, an increasingly integrated and competitive global economy has not interfered with the ability of many governments to enact both product and process regulations stricter than those of their trading partners.

### **Why No Race to the Bottom?**

Why hasn't increased regional and international integration not led regions, nations, or sub-national governments to compete with one another by enacting less stringent environmental regulations? How can we account for this phenomena? For example, why did the Single European Act, which was primarily enacted to strengthen the competitiveness of European firms, also contain provisions facilitating the

strengthening of European environmental standards? Why have various Member States sought to impose stricter environmental standards than those of other Member States with whose products they compete? Why have many American states enacted more demanding environmental standards than those of other states? Why have those central European nations who have applied for membership in the EU strengthened their environmental standards? Why did Mexico both strengthen its environmental standards and improve their enforcement prior to opening up its market to Canadian and American products?

Moreover, in light of recent trends in labor markets, it seems puzzling that regulatory policies in rich nations have not followed the same pattern as wages -- which do appear to have been adversely affected by increased competition from developing nations. To take one example from an important industrial sector, why have real wages, fringe benefits and employment security for American automobile workers declined, in part due to increased international competition, while over the same time period both emission and fuel economy standards have been strengthened?

One important reason is that for all but a handful of industries, the costs of compliance with stricter regulatory standards have not been sufficient to force relatively affluent nations or sub-national governments to choose between competitiveness and environmental protection. In marked contrast to labor costs, the overall costs of compliance with environmental regulations have to date been modest. According to Martin Houldin, the environmental director at the consulting firm KPMG Peat Marwick in London, "The international differences in the cost of labor are generally so much more important that the environment pales into insignificance."<sup>14</sup> This is not to say that such

costs are non-existent: many expenditures to improve environmental quality do reduce output and lower the rate of productivity growth and employment and in particular sectors these burdens can be severe.<sup>15</sup> But in the aggregate, increases in national levels of pollution-control expenditures have had little effect on the growth of economic output.<sup>16</sup> Nor have American states with stronger environmental policies experienced inferior rates of economic growth and development.<sup>17</sup>

While production standards obviously can and do affect corporate plant location decisions, for most industries the effects are not significant.<sup>18</sup> Within the United States, differences in environmental standards have not been a major factor in plant siting or expansion decisions.<sup>19</sup> Studies of international corporate location decisions reach similar conclusions. For example, only a relatively few heavily polluting industries have re-located their production from the United States to developing countries, "mostly because pollution control expenses alone are generally not large enough a share of total costs to make it worth a company's while to relocate."<sup>20</sup> Significantly, environmental control costs comprise less than 2 percent of total production cost for most US industries, even though American standards are relatively stringent.<sup>21</sup> The OECD reports that "very little evidence exists of firms being transferred abroad in order to escape the more stringent environmental regulations at home."<sup>22</sup>

In addition, just as industrial production often imposes public costs, so do protective regulations produce public benefits. Thus expenditures on air pollution may increase agricultural output while improvements in water quality may result in better fishing yields or increased tourism. Equally importantly, improvements in environmental quality can improve the health, and thus the productivity, of a nation's work-force, in

addition to reducing health-care expenditures. This analysis cannot be pushed too far: nations are not free to impose whatever environmental regulations they wish. For while stricter environmental standards may not make a nation poorer, neither do they make it richer; greater wealth leads to a preference for strong regulatory standards, not the reverse.<sup>23</sup> Still if we view many environmental regulations as a form of collective consumption, then many citizens in relatively affluent countries would be expected to increase their consumption of such goods, even at the price of some reduction in their levels of private consumption.

### **The Race to the Top**

Not only has national, regional and international competition not forced a weakening of environmental standards, but in some respects, economic openness and capital mobility have actually encouraged nations to enact higher standards than they would have in the absence of increased economic interdependency.

There are a number of ways in which open markets can strengthen regulatory standards. First, stricter domestic regulations can create market opportunities for the export of pollution-control equipment.<sup>24</sup> These markets are not large. For example, pollution-control equipment accounts for less than one-half of one percent of total U.S. merchandise exports. But they can be important for particular sectors. For example, due to their strict emission standards for coal-burning power plants, both Germany and Japan dominate the world market in scrubbers which remove sulfur dioxide from power plant smokestacks.

There is a second, more subtle way in which stricter regulatory standards can strengthen the international competitiveness of domestic firms. Regulations rarely affect

all producers equally: they usually advantage some firms and disadvantage others. Some regulations create a competitive advantage for domestic producers by making it more difficult for foreign producers to sell their products. In fact, knowing or anticipating that the burdens of compliance will fall disproportionately on their international competitors may make domestic producers more willing to support stricter regulations than they would have in the absence of foreign competition.

Examples of "alliances" between environmentalists and domestic producers abound.<sup>25</sup> For example, the recycling requirements enacted by Denmark and the Canadian province of Ontario have both disadvantaged foreign beer producers while improving environmental quality. The strict automobile emission controls requirements supported by German environmentalists during the 1980s protected the domestic market share of German automobile companies, since it was more difficult for French and Italian firms to comply with them. America's strict automotive fuel economy standards have helped to both improve American energy efficiency and raise the prices of European luxury car imports. The American ban on exports of logs from government-owned forests both reduced the cutting of old-growth forests in the Pacific northwest and increased the market share of American lumber mills - satisfying the demands of American environmentalists and the interests of the American forestry industry.

From this perspective, rather than pressing nations to lower their regulatory standards, more liberal trade policies may actually provide governments with an economic incentive for strengthening them. By contrast, since relatively closed economies can rely on tariffs and quotas to restrict imports, they have less need to adopt protective regulations that advantage domestic producers.

## **The California Effect**

A number of environmental regulations exhibit what can be described as the "California effect": they have moved in the direction of political jurisdictions with stricter regulatory standards.<sup>26</sup> The California effect can be illustrated by the history of American automobile emission standards. The 1970 Clean Air Act Amendments specifically permitted California to enact stricter emissions standards than the rest of the United States, an option which California then exercised. Consequently its standards remained stricter than those of any other state. In 1990, Congress brought national emission standards up to California's and once again permitted California to impose stricter standards. It also gave other states the option of choosing either national or California standards.<sup>27</sup>

In 1994, 12 eastern states requested the federal government to permit them to adopt California's new standards.<sup>28</sup> These standards, in turn, are likely to become the basis for the next round of minimum federal requirements. California has now had America's strictest automotive pollution control standards for more than three decades. Thus instead of states with weaker standards undermining those with stricter ones, in the case of automobile emissions precisely the opposite has occurred: California helped make American mobile emissions standards steadily stronger. Automobile producers had a strong incentive to produce vehicles that complied with California's stricter standards so that they could continue to market their cars in such a large and important market.

The term "California effect" is meant to suggest a much broader phenomenon than the impact of American federalism on state regulatory standards. The general pattern suggested by this term, namely the upward ratcheting of regulatory standards through

market mechanisms, applies to many national regulations as well. Political jurisdictions which have developed stricter product standards often force foreign producers in nations with weaker domestic standards to design products that meet those standards, since otherwise they will be denied access to its markets. This, in turn, encourages those producers to make the investments required to produce these new products as efficiently as possible. Moreover, having made these initial investments, they now have a stake in encouraging their home markets to strengthen their standards in part because their exports are already meeting them.<sup>29</sup>

Thus the willingness of Germany's automobile manufacturers to support stricter EU standards was in part due to their previous experience in producing vehicles for the American market. It was precisely the firms supplying the largest, wealthiest automobile market in Europe which took the lead in pressuring the EU to adopt the product standards already set by the world's largest, richest market, namely the United States. They made common cause with German environmentalists to demand that Europe adopt American standards. Significantly, half of German automobile sales in the United States are in California, the political jurisdiction with the world's strictest automotive emission standards.

Indeed, German producers stood to benefit from the EU's adoption of American standards, since they could then produce similar vehicles for both markets at lower costs. For a similar reason, Japan chose to adopt the strict 1970 American automobile emission standards. Indeed they are referred to in Japan as "the Muskie standards" in recognition of Senator Muskie's sponsorship of the 1970 Clean Air Act Amendments.<sup>30</sup> By requiring that its auto makers install the same pollution abatement device on cars sold in the

domestic market as on exports, Korea has effectively upgraded its regulatory standards to match those of the United States, the European Union, and Japan.<sup>31</sup>

Similarly, the eventual willingness of the French and Italian manufacturers to support the stricter standards of the Small Car Directive stemmed in part from the experience they had gained in producing cars for export to greener markets in Europe and the United States as well as their fear of losing additional export markets to their greener competitors. The expansion of trade between the United States and Canada following the Free Trade Agreement between the two countries prompted Canada in 1993 to establish automobile emission requirements similar to those imposed on vehicles sold in America three years earlier.

As a result of the growth of Israeli agricultural exports to the EU, Israel recently adopted EU pesticide standards. (Moreover because of its dependence on automobile imports from Japan, the United States and the EU, it has recently required all imported vehicles to run on unleaded gasoline.)<sup>32</sup> The United States has had a similar impact on the pesticide standards of those nations from whom it imports food.<sup>33</sup> A number of Latin American governments closely follow American pesticide regulations, often prohibiting or restricting the use of pesticides whose use has been canceled or suspended by the US EPA.<sup>34</sup> And due to their dependence on exports of manufactured goods to Germany, Dutch producers have been forced to substantially change their own packaging policies as a result of Germany's *Verpackungsverordnung* (packaging law). Likewise a German ban on leather and leather products containing pentachlorophenol has forced Indian firms to modify their own production processes.<sup>35</sup>

The pattern of chemical regulation also illustrates how concerns about market

access can strengthen regulatory standards. The enactment of the Toxic Substances Control Act by the United States prompted the European Union to enact the Sixth Directive. The EU feared that unless its standards were comparable to those of the United States, it would be deprived of access to one of the world's largest chemical markets. As a result, it established a much stricter system for the introduction and marketing of chemical products. Once again, stricter American standards drove those of its major trading partner upward.

The relationship between product standards that disadvantage importers and those which prompt exporters to strengthen their own standards in order to maintain market access must be understood in dynamic terms. The environmental regulatory agenda is a highly fluid one. Rich green nations are continually enacting new regulatory standards. In some cases, these may create only a temporary source of competitive advantage until other nations have adopted them, while in other cases this advantage may prove more enduring. But the result is similar: economic integration can promote the ratcheting upward of regulatory standards.

### **Production Standards**

The California effect primarily holds for product standards. But product standards constitute only one dimension of environmental regulation; many environmental harms stem from the way a product is produced or processed. But in some cases "greener" nations have used similar restrictions, or the threat of restrictions, on access to their markets to force their trading partners to change their production standards - notwithstanding the fact such practices may violate may GATT/WTO rules. Such restrictions have generally been enacted due to some combination of pressures from

domestic firms which want to create a "level playing field" by imposing additional costs on their international competitors, and environmental groups which want to use trade as a leverage to influence the environmental practices of other countries.

For example, the threat of the withdrawal of market access by the EU forced Canada to end its killing of baby seals and has persuaded both the United States and Canada to modify their use of leg-traps to catch fur bearing animals.<sup>36</sup> The EU's eco-labelling program, because it is based on a "life-cycle" analysis, explicitly covers the way imported products are made: many of its provisions are intended to force the EU's trading partners to change the way forestry products, leather and footwear, and marine life are produced.<sup>37</sup> For example, European eco-labeling standards have pressured Brazil, a major exporter of shoes, to change the way its leather goods are produced. This in turn has affected processing standards for hides in Argentina and Uruguay, for whom Brazil is a major export market.<sup>38</sup>

Thirteen American laws authorize the use of unilateral sanctions to force America's trading partners to adopt American environmental production standards.<sup>39</sup> All involve efforts to protect animals and marine life outside the legal jurisdiction of the United States. These laws have had a significant impact on the conservation practices of a number of America's trading partners. For example, thanks to the American tuna embargo against Mexico, incidental dolphin deaths by non-American tuna fishing vessels significantly declined. America has also effectively used the leverage of its domestic market to protect whales and, more recently, turtles.

In some cases, the impact of the threat of withdrawal of market access has gone beyond specific products. Israel has been effectively (if informally) pressured by both the

United States and the European Union to impose production requirements on its new manufacturing plants that conform to American and European environmental standards - lest goods produced in these factories "unfairly" compete with those produced under American and European laws. An American threat to impose "environmental countervailing duties" on goods from nations whose pollution control standards were laxer than those of the United States played a critical role in encouraging Korean policymakers to upgrade their nation's environmental standards.<sup>40</sup> In 1994, the EU approved a proposal to modify its Generalized System of Preferences (GSP) to extend additional tariff benefits to "recipient countries which are able to prove a commitment to international standards of social progress and environmental protection."<sup>41</sup>

In addition, the interest of some countries in increasing their access to rich, green country markets has also provided an incentive for the former to strengthen their environmental standards. While NAFTA does not formally govern national production standards, the environmental objections raised to NAFTA during the Congressional debates over American approval of the trade agreement played a critical role in intensifying Mexican environmental controls during the early 1990s.<sup>42</sup> Likewise, the possible extension of the North American Free Trade Agreement to Chile has encouraged that Latin American nation to strengthen its domestic environmental standards.<sup>43</sup> And the prospect of membership in the European Union has provided an important incentive for a number of central European nations to bring their production as well as product standards into conformity with those of the EU.

The use of market leverage also has an important non-governmental or political dimension. Environmental activists in rich countries have frequently targeted particular

products that are produced in environmentally harmful ways. In some cases, they have organized boycotts of these products while in others they have applied pressures on multinational firms responsible for their production. A number of these pressures have been highly effective, particularly in the areas of forest and wildlife conservation. International environmental activists based in rich countries have also become an important source of influence on the environmental practices of multinational firms and their subcontractors in many less developed nations.<sup>44</sup>

Moreover, "multinational companies are increasingly adopting the same environmental standards for their plants, regardless of the country in which they operate," thus helping to promote the export of green country standards to less green ones.<sup>45</sup> The Chemical Manufacturers Association Responsible Care program, established in response to widespread criticisms of the environmental impact of global chemical production, has contributed to a general improvement of health, safety and environmental standards in this sector.<sup>46</sup> To the extent that multinational firms establish uniform global production standards, the standards they adopt are likely to be relatively green.

### **Legal mechanisms**

International legal mechanisms have also played a role in strengthening regulatory standards for processes as well as products. The most important of these is the European Union. While primarily an economic agreement, the EU has played an important role in both coordinating and strengthening environmental standards among its fifteen member states.<sup>47</sup>

The EU has significantly magnified the external environmental impact of its six greener member states, namely Germany, the Netherlands, Denmark, Finland, Austria and

Sweden. Thanks to the increasing scope of EU environmental regulations and directives, environmental standards have been significantly strengthened throughout the Union, including in poorer member states in which environmental NGOs enjoy relatively little influence. For much of southern Europe, the EU is the most important cause of any additional resources they have devoted to environmental protection.

Finally, there are also approximately 120 environmental treaties, the majority of which are regional in scope and some of which have been reasonably effective.<sup>48</sup> The Montreal Protocol has succeeded in reducing emissions of chemicals that harm the ozone layer while the Long-Range Transboundary Air Pollution Convention has effectively addressed the problem of acid rain in Europe. Three related agreements, the (London) Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, the Convention on the Protection of the Marine Environment of the Baltic Sea Area, along with the Oslo, Paris and Helsinki Commissions, have made substantial progress toward protecting water quality in the Baltic and North Atlantic, and the Mediterranean Action plan has improved water quality in this sea.<sup>49</sup> Other environmental agreements have reduced cross-border flows of pollution between the United States and Canada and between the United States and Mexico, and have protected both the Arctic and Antarctic region from pollution and commercial exploitation.<sup>50</sup>

The impact of other more ambitious agreements, such as the Convention on International Trade in Endangered Species, various agreements to promote international fisheries management, the International Tropical Timber Agreement, the Bonn Convention on Migratory Species, and the Rio Agreement on Biological Diversity have been more limited.<sup>51</sup> But as in the case of the Montreal Protocol, the threat of rich

countries to deny access to their markets that have pressured less green countries to either agree to their terms or abide by them – in effect an application of the “California effect” to both product and production standards through international law.<sup>52</sup>

### **The Shortcomings of Environmental Governance**

If the California effect is interpreted broadly to encompass the role of external economic, political or legal pressures on political jurisdictions to raise or strengthen their environmental standards, then under what circumstances is it most likely to occur?<sup>53</sup> The California effect is most effective for product standards. More specifically, it is most likely to affect standards for products significant quantities of which are exported from nations with weaker environmental, health, safety or product standards to nations with stricter ones. In the case of production standards, the California effect applies primarily under three circumstances: domestic political or economic pressures in a green country have targeted the environmental practices of a particular sector in a less green country, the country in which the production takes place aspires to enter into a free trade agreement with either the EU or the US (or is already a member of the EU), or the production process is covered by an effectively enforced international environmental agreement.

This means of course that a significant share of global economic activity which has important environmental consequences is unlikely to be reached by the “California effect.” Most obviously, it does not apply to relatively closed economies. But even in relatively open ones, most products either are either consumed domestically or are traded primarily among nations with relatively weak regulatory standards, thus making them unaffected by the product standards of green countries. Because most international trade

is among rich countries, many of the countries whose product standards have been affected by the use of international market mechanisms had relatively high environmental standards to begin with: American product standards have had the greatest impact on its major trading partners, namely Canada, the EU and Japan.

In the case of production standards, the number of products produced in developing countries and exported to developed ones whose environmental impact in the former has become the focus of considerable public concern in the latter is relatively small, mostly involving natural resources. Few consumers or policy-makers in rich countries know or care about the environmental consequences of how most manufactured goods are produced in developing countries. Citizen outrage in rich countries is highly selective, often focusing on developing country practices that have considerable symbolic value, but may have limited not environmental significance, such as wildlife protection. Significantly, the two most important environmental problems that affect citizens in developing nations, namely urban air pollution and the lack of access to safe drinking water, have all been but ignored by environmentalists in rich countries.

The experiences of countries such as Israel and Korea are atypical; most countries have faced relatively little scrutiny of the way their exports are produced. Significantly, neither the EU nor the United States sought to use their market leverage to pressure China to changes its environmental practices. To date the use of economic leverage has been confined to the United States and the European Union. Japan has remained notably reluctant to use access to its large domestic market to pressure other Asian countries to improve their environmental practices, even though Japan imports considerable quantities of raw materials and, more recently, manufactured goods from this region.

Moreover, the WTO has also played a role in discouraging rich countries from using production standards to restrict imports from less developed ones on environmental grounds. The decision of the GATT dispute panel in the 1991 tuna/dolphin case, which held that GATT rules prohibited signatories from restricting the import of a product on the basis of how it was produced outside their legal jurisdiction, has promoted a lively and frequently heated debate about the environmental impact of trade rules.<sup>54</sup> While this holding was modified in the shrimp/turtle decision, the GATT/WTO does appear to have had a chilling effect on the use of trade restrictions to strengthen extra-territorial regulatory standards.

The European Union remains a unique institution. No other regional trade agreement has played a comparable role in strengthening either product or production standards among its members. While a number of others, including Mercosur, (Argentina, Brazil, Paraguay, and Uruguay) the Asia Pacific Economic Forum (APEC) and NAFTA, do have provisions designed to promote the improvement of regulatory standards among their signatories, their impact to date has been modest.<sup>55</sup> In the foreseeable future, only a relatively small number of countries can realistically aspire to join the European Union or NAFTA.

Only a few international industries have established uniform production standards. More importantly, most economic activity occurs through domestic firms, not international ones. Finally, with the notable exception of the Mediterranean Action Plan, regional environmental agreements primarily impose costs and distribute benefits between or among rich countries. Virtually all are among countries in or adjacent to western Europe or North America. Regional environmental agreements are virtually non-existent

in Asia, Latin America or Africa - the regions in the world in which environmental problems are the most serious.<sup>56</sup> And those international environmental agreements that do include poorer countries tend to be relatively limited in scope and poorly enforced.

This means that many of the most serious environmental problems in the third world, such as the destruction of the coral reefs and overfishing in Asia, deforestation and the destruction of farmlands in Latin America and Asia, and air pollution in Latin America and China, remain largely unaffected by the “California effect” or any of its variants. Many developing nations, including the growing economies of China, India and Indonesia, and the most important Latin American economy, Brazil, remain unwilling to curb trade in endangered species, protect the coral seas, reduce their cutting of hardwood trees or maintain biodiversity. They might well change their behavior in response to economic incentives from rich countries, as they did in the case of the Montreal Protocol. But the amount of resources that would be required to be transferred to make them do so is well beyond the political capacity of the EU, the United States and Japan.

In the long run, as many developing nations become more affluent, they are likely to develop both the economic capacity and the political willingness to devote more resources to address domestic environmental problems. And presumably, they will then enter into regional agreements to address cross-border pollution problems and comply with global treaties that address international ones. But in the short run they are unlikely to make any significant changes in their environmental policies. This is not because international competition is pressuring them to lower their regulatory standards; it is rather that their current level of economic development has made them unwilling to trade off economic growth for environmental quality – even in those cases when many of their

own citizens are adversely affected by the environmental harms they cause.

The most important shortcoming of global environmental governance is not that relatively rich countries with relatively competent governments and influential green pressure groups are unable to establish environmental standards that adequately protect their own citizens and country because of fears of foreign competition. It is rather that poorer countries with relatively ineffective governments and weak green pressure groups are either unable or unwilling unlikely to establish environmental standards that adequately protect their own citizens and nation – let alone the global commons. The problem is not that poorer countries are driving richer country standards downward; it is that the regulatory standards of many poorer countries remain sub-optimal . In other words, the problem is not so much the existence of a Delaware effect on the environmental policies of richer countries, but the relative weakness of the California effect on the environmental policies of poorer countries.

In this context, the relevant issue is not whether there is a “race to the bottom.” There is not. It is rather that many developing countries appear to be “struck at the bottom.”<sup>57</sup> The OECD argues that the fears that poorer countries would “deliberately keep environmental standards lax in order to attract investment by becoming pollution havens has [not] materialized . . . mostly because pollution control expenditures are generally not a large enough share of total costs to make it worth a company's while to relocate.”<sup>58</sup> Accordingly, it suggests that “there is no reason to suppose that international competition for comparative advantage will lead nations to adopt inappropriately low environmental standards.”<sup>59</sup> But this argument misses the point. The problem is not so much that poorer countries have become pollution havens for investments from rich

countries; it is rather that they have sub-optimal standards for domestic producers. For many locally owned third world firms, the relative costs of environmental regulation are substantial and imposing stricter regulatory standards would adversely affect them , even if such measures might be optimal from the perspective of the society as a whole.

### **The Case for Coordination**

The fact that there have been a number of efforts to coordinate regulatory standards – most notably the increased centralization of environmental policy-making within the American federal system, the shift in the locus of standard setting from fifteen European national governments to the European Union, and numerous bi-lateral, regional and international environmental agreements - suggests that there is a role for the coordination of environmental standards across political jurisdictions. What is this role?

First, by lowering transactions costs, coordinated standards can play a role in facilitating trade and cross-jurisdictional investment. This is particularly important in the case of product standards. To the extent that public welfare is enhanced by the lowering of barriers to trade, then more uniform standards, by reducing non-tariff barriers and otherwise lowering the costs of cross-border transactions, can confer important public benefits. The centralization of product standards has been critical to the creation and maintenance of a single market within the EU while the coordination of standards and approval procedures for a variety of products have facilitated trade between Europe and the United States.<sup>60</sup> The economic case for coordination also holds for production standards. An important motivation for establishing federal production standards for air and water pollution standards in the United States during the early 1970s was the interest of firms in having uniform standards, and many multinational firms prefer uniform

international standards for a similar reason.

Secondly, coordinated standards are essential to address environmental problems that span political boundaries. This has been a particularly important motivation for international environmental agreements, whose central purpose is to address environmental problems that cannot be adequately ameliorated without policies that bind more than one political jurisdiction. It also has been an important motivation behind a number of federal environmental initiatives in the United States as well as for the coordination of production standards within the EU.

Thirdly, coordination may be appropriate if the costs of pollution abatement are perceived as seriously burdening domestic producers vis-à-vis their competitors in other political jurisdictions with whose firms they compete. The problem is not so much that competitive pressures will force some political jurisdictions to lower their standards as that the fear of being competitively disadvantaged – regardless of whether that fear is warranted - may make some political jurisdictions unwilling to establish standards as strong as their citizens might prefer. As Swire notes, “the perception of a prisoner’s dilemma may well be more important than whether one really exists.”<sup>61</sup> Hence political jurisdictions with “greener” preferences will establish less than optimal standards unless other jurisdictions are required to do likewise. This logic underlay much of the push for federal environmental standards during the early 1970s as well as a number of the EU’s production standards. It also is the basis for a number of environmental treaties. As Esty and Geradin observe: “fears about cost disparities with other jurisdictions operates as a political drag making it difficult for governments to raise environmental standards . . . even if more stringent requirements would demonstrably optimize net environmental

welfare.”<sup>62</sup>

Finally, coordinated standards may be appropriate if a political jurisdiction is unable or unwilling to enact environmental policies that reflect the preferences of its citizens. Such a political market failure may stem from a variety of causes, such as inadequate information or uncertainty about the costs and benefits of new regulatory standards, inadequate information about citizen preferences on the part of policy-makers, the lack of adequate citizen access to the policy-making process, the political power of producers and/or administrative incapacity.<sup>63</sup> In some cases, this rationale for coordination can be paternalistic: it assumes that absent some extra-jurisdictional authority, political jurisdictions will not enact standards that are optimal for their citizens.

Of these four rationales for cross-border coordination, the one for cross-border externalities is the most compelling.<sup>64</sup> However, most environmental practices in developing countries, however they may outrage environmentalists in rich countries, primarily affect only their own citizens or those in neighboring countries. The same is true for environmental practices in rich countries that affect their neighbors. Consequently, such cross-border standards will often be regional in scope. There is a limited category of environmental practices that do affect the global commons – CFC emissions or global warming are two important examples - and in such cases, global standards are essential.

Each of the other three rationales have more limited applicability. Just because a coordinated process or product standards facilitate trade or lower the transaction costs for firms who produce in multiple jurisdictions does not mean that such standards are necessarily in the interests of the citizens in each of these jurisdictions. Such standards are particularly likely to be problematic if the citizens in one jurisdiction have different

preferences or face different environmental conditions than those in another. Similarly, if citizens in two jurisdictions have comparable preferences for stricter regulatory standards, but neither will enact them unless it can be assured that the other will also, then coordination may well be welfare enhancing for both. But if their preferences differ substantially, then having the “greener” standards preferred by one jurisdiction extended to a jurisdiction with less green preferences or less adverse environmental conditions may not be welfare-enhancing for the latter.

These concerns apply with even greater weight for coordinated standards motivated by regulatory paternalism. If the harms caused by particular environmental practices are not irreversible and their effects are primarily local, why should a political jurisdiction should be pressured to raise its standards just because some of their practices differ from those preferred by citizens in more powerful countries? A compelling case for regulatory paternalism requires substantial evidence that citizens in a particular jurisdiction actually prefer stricter standards, but due to political factors outside their control, they are unlikely to be adopted in the absence of extra-jurisdictional coordination. It is important to re-emphasize that not all citizens share similar preferences for stricter environmental standards.

Finally, regulatory coordination does not require identical standards. The later may often either too strict or lax or simply too inflexible to respond to the wide diversity of environmental and economic conditions that exist in different political jurisdictions, even within a particular country – a point which has been repeatedly made by critics of regulatory harmonization.<sup>65</sup> To the extent that there is a compelling case for regulatory coordination, such coordination can take forms other than identical standards, such as the

establishment of minimum standards, common disclosure requirements, uniform decision-making criteria or the use of regulatory instruments which permit flexibility in response to local conditions. In some cases, it may be sufficient to make certain that governments are fully informed about the environmental and economic consequences of their policy choices or to help give local constituencies the resources they need to participate in the policy process.<sup>66</sup>

In fact, much environmental coordination, even within the EU and the United States, as well as the global level through environmental treaties such as the Montreal Protocol, does not establish harmonized standards. In short, the choice is not necessarily between harmonization and regulatory diversity. There are a diversity of strategies that can achieve many of the benefits of coordination while minimizing the costs of uniform standards.

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<sup>8</sup> William Lash III, "NAFTA and the Greening of International Trade Policy St. Louis, Center for the Study of American Business, 1993, p. 11. See also Bryan Husted and Jeanne Logsdon, "The Impact of NAFTA on Mexico's Environmental Policy," Growth and Change Vol. 28, Winter 1997, pp. 24 – 48.

<sup>9</sup> See Richard Revesz, "Rehabilitating Interstate Competition: Rethinking the "Race-To-The-Bottom" Rationale for Federal Environmental Regulation New York University Law Review, 1992.

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<sup>12</sup> See, for example, Bronwen Maddox, "Black Skies, Red Tape, Green Fields, Grey Area," Financial Times, March 3, 1994, p. 8.

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<sup>14</sup> Maddox, "Black Skies ..." p. 8.

<sup>15</sup> See Esty and Geradin, *op cit*, pp. 17 - 21

<sup>16</sup> Frances Cairncross, Costing the Earth, Boston:Harvard Business School Press, 1991, p. 23.

<sup>17</sup> Stephen Meyer, "Environmentalism and Economic Prosperity: Testing the Environmental Impact Hypothesis," M.I.T. Project on Environmental Politics and Policy.

<sup>18</sup> For a summary of the literature on environmental regulation, trade and corporate location decisions, see Richard Stewart, "Environmental Regulation and International Competitiveness," The Yale Law Journal, 102, no. 8 (June 1993): 2077 - 2079 and Judith Dean, "Trade and the Environment: A Survey of the Literature," in International Trade and the Environment, ed. Patrick Low, (Washington D.C. World Bank, 1992), pp. 16-20. See also, Robert Lucas, David Wheeler and Hemamala Hettige, "Economic Development, Environmental Regulation and International Migration of Toxic Industrial Pollution: 1960 - 1988" in Low, International Trade and the Environment, pp. 67- 86; Patrick Low and Alexander Yeats, "Do 'Dirty' Industries Migrate?" in Low International Trade pp. 89 - 103; James A. Tobey, "The Effects of Domestic Environmental Policies on Patterns of World Trade: An Empirical Test," Kyklos, 43, (1990): 191-209; Konrad von Moltke, "Environmental Protection and Its Effects on Competitiveness," in Difficult Liaison: Trade and the Environment in the Americas

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- <sup>19</sup> See Timothy Bartik, "The Effects of Environmental Regulation on Business Location in the United States" Growth and Change, no. 19 (1988): 22 - 44.
- <sup>20</sup> Hilary F. French, "Reconciling Trade and the Environment," State of the World 1993, ed. Linda Starke, New York: W.W. Norton & Company, 1993, p. 166.
- <sup>21</sup> Stewart, "Environmental Regulation," p. 2077.
- <sup>22</sup> "Trade and the Environment," A draft prepared by the Trade Committee of OECD, June 27, 1989, p. 6.
- <sup>23</sup> Gene Koretz, "A Robust Economy Can Help Cure A Sick Environment," Business Week May 23, 1994, p. 20. According to the World Bank, pollution levels begin to decline once per capita income reaches \$5,000.
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- <sup>26</sup> The concept of the "California effect" is developed in Vogel, Trading Up, chapters

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- <sup>29</sup> This latter point is made by John Braithwaite in "Transnational Regulation of the Pharmaceutical Industry," ANNALS, AAPSS, 525 (January 1993): 29.
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- <sup>35</sup> Veena Jha, "Industry Concerns," in Trade and Environment: Conflict or Compatibility? Duncan Brack, ed. London: Royal Institute of International Affairs, 1998 p. 87.
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<sup>38</sup> Tussie and Vasquez,op cit. For a more general discussion of the impact of trade liberalization on Latin American environmental standards and practices, see Difficult Liaison: Trade and the Environment in the Americas, Heraldo Munoz and Robin Rosenberg, eds. New Brunswisk: Transaction Publishers, 1993.

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<sup>41</sup> Shannon Hudnall, "Towards A Greener International Trade System: Multilateral Environmental Agreements and the World Trade Organization," Columbia Journal of Law and Social Problems Vol. 19, no. 2, 1996 p. 212.

<sup>42</sup> See Rhys Jenkins and Tammy Branch, "NAFTA and the Mexican Environment: Facts and Fears". A paper presented to the Canadian Association for Latin American and Caribbean Studies' XXVII Congress, 1996; and Bryan Husted and Jeanne Logsdon, "The Impact of NAFTA on Mexican Environmental Policy," Growth and Change Winter, 1997, pp. 26 - 50.

<sup>43</sup> Eduardo Silva, "Democracy, Market Economies and Environmental Policy in Chile," Journal of International Studies and World Affairs, Vol. 38, no. 4, Winter,

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<sup>44</sup> See Debora Spar, “The Spotlight and the Bottom Line: How Multinationals Export Human Rights,” Foreign Affairs, Vol. 77, no. 2, pp. 7 – 12.

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<sup>59</sup> Stewart, "Environmental Regulation," p. 2058.

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<sup>61</sup> Swire, op cit., p. 104.

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<sup>63</sup> See Swire, op. cit and Daniel Esty, “Revitalizing Environmental Federalism,” Michigan Law Review 95 (3) 1996, pp. 570-653; also Kahler, op. cit.

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<sup>65</sup> See Richard Revesz, “Rehabilitating Interstate Competition: Rethinking the ‘Race-to-the-Bottom’ Rationale for Federal Environmental Regulation,” *op. cit.*

<sup>66</sup> For an excellent discussion of the circumstances under which harmonization is and is not appropriate, see Alvin Klevorick, “The Race to the Bottom in Federal System: Lessons from the World of Trade Policy,” in Yale Law and Policy Review / Yale Journal of Regulation 1996, pp. 177 – 186.