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Stuck In the Mud?
Nation-States, Globalization and the Environment

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Abstract

Environmental and resource management is largely the preserve of nation-states. Economic globalization, however, constrains the unilateral management capacities of nation- states and creates new imperatives on states to cooperate internationally—not only to manage global resources but also to coordinate domestic environmental policies.

This paper presents the hypothesis that--in the absence of effective multilateralism--economic globalization constrains innovation in national environmental policy and thus the rate of improvement in environmental performance. Rather than a "race to the bottom," heightened competition for global markets causes environmental policy to be "stuck in the mud." Nation-states are pulled by market-driven and political pressures, primarily to maintain or gain competitiveness, toward environmental policy convergence. In the balance and over time, the effect of convergence pressures on the average level of national environmental performance may be positive. Without effective international policy cooperation, however, the terms of convergence will be too low and too slow to point development toward sustainability.

The central challenge of globalization is to raise the terms of policy convergence through effective supranational governance, both global and regional, both by states and within the private sector. Good environmental management in the age of globalization also requires new approaches to national policy, approaches in tune with a highly open economy. Far from making them irrelevant, globalization makes new and difficult demands on nation-states.

The paper is organized in four sections. The first section develops an analytical framework to show why globalization causes national environmental policy initiatives to be "stuck in the mud." The second section examines two illustrative case studies: energy pricing and resource subsidies. The third section explores creative institutional responses to raise

the terms of convergence, at both supranational and national levels. The final section concludes with some reflections on broader problems of environmental leadership and economic management in a global economy; and suggestions toward a further research agenda, including the informational requirements of global environmental policy coordination.

I. Environmental Management in the Age of Globalization

Economic globalisation is fundamentally changing the nature of environmental management. On the one hand, globalization heightens the influence of market forces, most importantly, competition, on the making and enforcement of environmental policy. On the other hand, globalization subjects national environment policy to the discipline—or chaos--of international economic institutions.

On both counts, the most significant impact of globalization is that it limits the unilateral policy-making capability of nation-states. Overcoming these constraints will require strengthening sub-national capacities for environmental management on the one hand, and, on the other hand, international collective action to build supra-national governance capacities. In the age of globalization, nation- states face new imperatives to coordinate domestic environmental and resource management policy, as well as to develop new unilateral approaches to the government-market interface. The existing institutional framework for environmental multilateralism, however, is rudimentary at best and its integration with international economic governance nearly non-existent.

The case for international environmental cooperation is usually made in terms of the need to manage global or regional commons and transboundary resources (Young,O.R, 1994; Haas et al, 1993). (1) These types of collective actions problems stem from ecological rather than economic interdependence: autarkic as well as open economies would still have to cooperate to establish sustainable utilization regimes for global commons. However, globalisation constrains and conditions cooperation by changing the matrix of incentives within and among nations.

The central and specific impacts of globalisation on environmental management are the new constraints on unilateral policymaking, primarily to govern ecosystems and resources within national boundaries. With increasing global economic integration, domestic economic and social policies have impacts on global prices, market shares, and investor expectations—and vice versa. For the large and rich countries of the OECD, the reverberations from domestic policy to global markets is greater than for small or poor countries. Nonetheless, even the largest market economies are subject to cost, price and exchange rate pressures imposed by global markets. OECD countries are particularly sensitive to the market-impacting policies of other OECD countries.

The impacts of globalization on environmental management capacities cut two ways: they constrain governments and they enhance the influence of markets on social and economic outcomes. Markets, in turn, influence environmental performance through a variety of channels, including technology transfer, changes in the level of demand for environment-intensive goods, substitution effects, "green" consumerism, and others. Indeed, in the context of globalization, markets become important vehicles and arenas for the generation and transmission of social norms and behaviors. The nub of the relationship between globalisation and environmental management is that globalisation changes the character of the government- market interface.

Given this change in the relationship between governments and markets, the two key questions are: 1) what, in the aggregate, is the likely impact of global market integration on environmental performance, given the current global institutional regime; and 2) what institutional innovations, supranational or national, could significantly raise the level of environmental performance in the context of globalisation? The first question is taken up here, the second in the section following.

Convergence in a Global Economy

Market-driven economic globalisation creates pressures for countries to become more alike. Convergence trends encompass economic performance, economic policy, and social—including environmental—policy. (2) Convergence trends in economic performance are the most theorized and studied empirically. With the increasing integration of markets, capital flows toward economic activities with the highest return. In theory, if all markets— capital, labor, ideas and goods and services--were fully integrated, there would be absolute convergence over time in the performance of key economic indicators such as productivity (output per worker), real wages, rates of return on capital and living standards (Obstfeld and Rogoff, 1996).

In practice, markets are not perfect nor perfectly open. Market imperfections and obstacles generate economic gaps even among fairly homogenous countries like members of the OECD. Moreover, large and seemingly entrenched gaps between rich/developed and poor/developing countries continue to plague the world economy. Nonetheless, empirical studies suggest that globalisation drives a discernible, if less-than-absolute, process of economic convergence both within and between broad categories of "rich" and "poor" countries (Williamson, 1996; O'Rourke and Williamson, 1995). These studies are based largely on the "prior wave" of globalisation which took place in the late 19th century. The hypothesis of this paper is that market integration also drives policy convergence. The deeper and broader the level of market integration among countries, the greater the tendency towards economic and social policy convergence. Moreover, the larger the national market share in global trade and capital, the greater the forces of convergence toward that nation. At a global level, the rich countries of the OECD are the "large-market" countries as well as the most highly integrated countries. Policy convergence is likely both within the OECD group, as well as, over time, from developing countries toward the OECD.

Market integration drives governments to undertake similar economic policies, especially macroeconomic policies. Obviously, broad international agreement on open market policies is the sine qua non of globalisation. Moreover, given technological and communication capabilities, governments would not be able to restrict capital outflows even if they so desired. But governments are also constrained to keep key aspects of domestic macroeconomic policies, including interest rates, within bands similar to each other. An interest rate too far below an average international rates would spark capital outflows and exchange rate depreciation, triggering or exacerbating domestic inflation. The highly speculative character of unregulated international financial markets aggravates the problem enormously: small changes or expectations of small changes in interest or exchange rates can ignite huge waves of capital movement.

The market forces of convergence also affect social policy. While theoretical and empirical studies are scarce, historical accounts suggest that the broadest parameter of social policy--the social contract between government, capital, labor and communities--is pulled by global market forces toward sameness. In the post World War II period, the social contract within Western nations was based on full employment and the welfare state. The unraveling of this social contract in Britain and the U.S. generated market pressures on other OECD countries to follow suit (Eichengreen and Kenen, 1994; Boyer R. and D. Drache, 1996). It is unlikely that radically different terms of the social contract among countries, especially OECD countries, are sustainable in a global economy.

Environmental Policy Convergence

Environmental policy can be seen as part of the social contract. Like other aspects of social governance, environmental policy is subject to international market forces, primarily forces of competition. Indeed, environmental and resource management policies are especially sensitive to international market forces because they are so deeply bound up with costs of production. The deeper the exposure to international competition, the more the particular resource or environmental management policy is subject to convergence pressures.

There are few empirical studies of the impacts of globalization on environmental policy formation at the national level. An analytical framework suggests that environmental degradation—and good environmental management--impose costs. Unless specific policy measures are taken, these costs are not reflected in market prices but are borne socially, today or in the future. An individual country or company which takes measures to internalize its own local or global environmental costs could be priced out of export markets or lose attractiveness as a production site for domestic or foreign investors.

Even if the actual change in relative costs is negligible, the fear or threat of such an effect can create policy paralysis. Policymakers are subject to a wide variety of domestic political economy pressures, in the form of advocacy, lobbying and campaign contributions by international business, as well as labor and community groups. Political pressures to promote competitiveness intensify as the share of income, both wages and profits, derived from international trade and investment increases. There are thus strong incentives for the costs to producers imposed by environmental management standards to converge toward those of primary competitors. More subtly, global markets provide incentives for the total costs to business of meeting environmental requirements to converge. Total costs include compliance costs, as well as information, regulatory and other transactions costs. More efficient regulatory regimes may generate a higher level of environmental performance for the same cost—and vice versa.

The competitors subject to convergence pressures include nations competing for export markets, overseas investment projects, and as domestic production platforms; and multinational corporations competing for export markets, government procurements, or investment projects.

Even wholly domestic firms are subject to convergence pressures if their product markets or inputs are sourced internationally. Moreover, to facilitate trade and investment, policymakers have a further incentive to harmonize environmental policy in order to reduce transaction costs, i.e. the costs to business of getting information about and meeting different environmental requirements. Transnational firms, as well, can reduce learning and management costs by maintaining global standards.

In addition to competitiveness, convergence in environmental product standards is driven by state regulation, especially import requirements by large-market countries. Product standards in OECD and other countries require importers to meet a host of requirements which promote consumer safety and health. The larger the import market, the greater the impact of domestic product standards on international standards. Moreover, OECD policymakers expressly work to facilitate trade by seeking convergence. Cases where U.S. and EU product standards or procedures differ radically, such as eco-labeling, capture a large amount of policymaker attention to find commonality.

Environmental standards for production and resource management are less subject to policy transmission effects than product standards. Currently, states are prohibited by the World Trade Organization from unilaterally imposing process and production method (PPM) standards on imports. Ecolabeling standards are controversial in part because they introduce the possibility of discrimination between products on the basis of production processes. Within some regional groupings, like the European Union, policy convergence for both products and PPMs is driven by regional intergovernmental cooperation, as well as market forces.

Like economic performance, the process of environmental policy convergence is not likely to be absolute or uniform on a global scale. The process called "globalization" is far from truly global: the overwhelming portion of goods and services are still produced by local producers within countries for domestic markets (Lipsey et al, 1995). Moreover, processes of economic integration are largely regional. And while the North-South divide has been blurred by the emergence of the Newly Industrializing Economies (NICs), the gap between the OECD countries and all the rest is still glaring (as is the gap between the very poorest and all the rest).

Policy convergence is likely to be most pronounced among countries whose markets are the most highly integrated, as well as among countries which are the most homogenous in economic capacity. Among rich countries, environmental product and production standards are likely to converge around an "OECD average" as well as industry-wide averages for internationally-exposed industries.

For developing countries, the primary export markets are OECD countries. Product standards, therefore, are pulled toward the OECD average as export markets become more deeply and broadly integrated with the OECD. The primary competition as production platforms, on the other hand, comes from other developing countries. Absent the power of the regulation transmission belt, environmental production standards are likely to converge not towards the OECD but towards some kind of NIC or developing country benchmark, at least in the short term. Over time, as the sectoral composition of production becomes more like the OECD countries, the environmental management capacities of developing countries improve, or as market forces themselves bring new norms, developing country environmental production standards may be pulled toward the OECD average.

"Stuck in the Mud?" The Constraints of Competitiveness

What will market-driven trends toward environmental policy convergence mean for environmental performance? Some analysts have argued that globalisation will generate a "race to the bottom" in terms of environmental performance standards (Revesz, 1992). The operational dynamic in this framework is competition, especially between high and low standard countries, as production platforms. The search for highest returns and lowest costs will drive international investment towards the low standard countries; and the capital outflow and/or the threat of relocation will create pressures to lower standards in high standard countries.

Empirical studies, however, have generally failed to detect any affects of differential environmental management costs on location-of-investment decisions. One exception is a study in progress which suggests that U.S. mining capital relocated investment to Europe during the 1980s to escape the high transactions costs of the U.S. style of "adversarial legalism" in environmental regulation (Anderson and Kagan, 1996). The study presumes, however, that European standards are no lower than American standards and that investors were attracted by a more a more efficient, rather than more lax , regulatory regime. Since the study provides no environmental performance indicators, it is inconclusive as to whether the cheaper regulatory regime in Europe generated the same, better, or worse environmental performance as in the U.S.

One reason often cited for the failure to detect "race to the bottom" effects is that environmental compliance costs in most industries are low and form a small fraction of either investment or operating costs. Given environmental performance indicators (e.g. greenhouse gas emissions, generation of toxic waste, loss of bio-diversity), low environmental compliance costs suggest that industry production costs and hence market prices do not incorporate environmental costs and commitments. In other words, the fact that environmental regulations seem to matter little in investment decisions may be that they are universally low.

The central argument of this paper is that, rather than triggering a downward spiral, the primary impact of globalization is to keep environmental policy initiatives "stuck in the mud." On the one hand, the constraints of competitiveness induced by globalization retard the capacity and willingness of all nation-states to take any unilateral measures which impose costs of good environmental management on domestic producers. On the other hand, the pressures of policy convergence mean that measures which are taken will only be those in step with primary competitors. The net results are first, that markets become the primary drivers of changes in environmental performance; and second, that environmental managers are pressured to maintain the status quo or to change it only incrementally.

The current structure of relative market prices and patterns of competitive advantage, however, grow out of an institutional context in which environment is mostly out of the equation. The presssures of globalization to maintain status quo mean that improvements toward environmental performance will be slow. Given the large new demands on global ecosystems posed by rapid economic growth in developing countries, slow progress—even if steady--points toward a pessimistic assessment for the prospects of global sustainability. Environmental performance, in both OECD and developing countries, in the context of globalization is propelled upward nonetheless by other forces, including consumer trends, industry self-regulation, and advocacy efforts by citizen groups, both internal and external. Moreover, the drive for international competitiveness is itself a two-edged sword: the push to compete in markets can act to undermine inefficient, ecologically damaging national policies such as resource subsidies. For businesses, it can also promote innovation in waste-saving and input efficient production processes.

Market-driven pressures to be competitive, in short, can enhance as well as retard improvements in environmental performance. In a global economy, crossborder flows of capital, commodities and people promote technological and managerial change. Indeed, over the long run, globalization may be positively correlated with improvements in environmental performance—even taking scale effects into account--as resources are better allocated, environmentally cleaner technologies are disseminated and the environmental standards of the worst performers are pulled gradually upward.

The problem is that, with each nation (or firm) reluctant to take unilateral action which could undermine competitiveness, the average level of environmental performance in the OECD is likely to be low and, most important, the rate of innovation in improving environmental performance will be slow in all countries. Nation-states and businesses are willing only to innovate in incremental ways that increase costs only slightly or generate "win-win" outcomes in terms of improving both competitiveness and environmental performance. Moreover, nation-states are unwilling to take bold unilateral initiatives which are out of line with their primary competitors. Rather than racing to the bottom, market- driven convergence pressures cause environmental standards to be "stuck in the mud."

The pressures of competitiveness constrain management not only of domestic resources but unilateral and collective policy responses to international environmental problems, such as climate change. The greater the potential competitiveness impacts on domestic producers and export markets, the more difficult to build political support for policy change—even when fully justified at a domestic level economically and/or environmentally.

Besides being low and slow, a market-driven process of convergence is bound to be too blunt. Good ecosystem and resource management requires sensitivity to local ecological and social conditions. Diversity of goals and approaches both across and within nations will yield a better environmental outcome than uniformity.

Overcoming the problems of uniformity and inertia requires collective action by governments and/or by firms to set broad, common environmental and resource management frameworks which promote continuous improvement in environmental performance. In Europe, the "common standards" problem was tackled primarily by side payments from more to less powerful nations to bring up their standards (Steinberg, 1996). In the global context, gaps between low and high standard countries are much greater and the potential costs of a "side payment" strategy politically problematic. Indeed, most OECD countries have either cut or not increased foreign aid flows in the past decade.

Economic Multilateralism - and Anarchy

Pressures to compete for markets and investment in a global economy constrain nation-states from environmental management strategies which impose costs on domestic producers greater than those of primary competitors. The constraints of competition in effect create a prisoner's dilemma paradox: if governments (and/ the private sector) were willing to coordinate policy, they could attain greater welfare for all. Without enforceable coordination, market forces inhibit major initiatives by both governments and businesses to internalize environmental costs.

The "stuck in the mud" problem is exacerbated by the lack of effective economic multilateralism, especially international monetary management. International financial markets, including exchange rates, are largely unregulated. International capital markets are highly developed, with a large menu of financial instruments by which monies can be invested offshore. Large volumes of can money move virtually instantaneously across borders, due primarily to electronic transfer and communication capacities. There is little international regulation or global financial markets or coordination of monetary policy. Except for periodic attempts by G-7 countries to undertake market interventions, the global determination of exchange rates is left to international financial markets. (3)

A floating exchange rate regime in the context of increasingly deep and broad international capital markets creates highly volatile and speculative financial market behavior. Expectations of even small changes in domestic interest rates and/or exchange rates can trigger capital movement out of the country. As a result, exchange rates are volatile and domestic monetary and thus growth policies are highly constrained.

Floating exchange rates constrain national environmental policy initiatives by heightening domestic sensitivities to competitiveness in two ways. First, they exacerbate the sensitivity of policymakers and business managers to small differentials in costs of production—actual or prospective. "What can comparative advantage mean among developed economies broadly competitive over a wide range of goods when exchange rates can shift by 10 or 20% over a few months?" laments Paul Volcker, who, as head of the Federal Reserve Bank under President Reagan, maintained high U.S. interest rates to keep the dollar high (Volcker, 1996, p. 34). Volatility in exchange rates creates an unstable climate for both policy and private sector decisionmaking. Additional volatility (or even predictable change) in business cost structures stemming from environmental management commitments is unwelcome.

Second, floating exchange rates constrain domestic policymakers from undertaking macroeconomic, especially monetary, policies to promote growth in developed countries. Low interest rates are the cornerstone of a high investment, high growth development path (Keynes, 1936). Unilateral low interest rate policies, however, spark capital outflow and exchange rate depreciation, thus increasing the value of foreign debt and increasing the cost of imports. High interest rates, on the other hand, increase the cost of domestic deficit spending, thus constraining growth-oriented fiscal policies. Low rates of economic growth, in turn, generate high unemployment rates.

Constraints on growth-oriented domestic macroeconomic policies make domestic policymakers highly sensitive to social, including environmental policies, which could impair competitiveness. In the United States, political debates have often centered on a perceived "jobs versus environment" trade-off. Some studies have demonstrated, persuasively, that "win-win" strategies are possible, at least for particular sectors like forest products (Repetto, 1995). Nonetheless, in the larger picture, high-employment policies in developed countries are not financially sustainable without moderating the tumultuous and constraining effects of volatile and speculative international financial markets. While not sufficient, sustainable, high-employment growth requires policy coordination through a managed international monetary regime (Williamson and Henning, 1994). Without it, political concern over competitiveness and jobs will overshadow and constrain unilateral environmental management initiatives, whether justified or not.

II. Energy Prices, Resource Subsidies and Collective Action

The "stuck in the mud" hypothesis suggests that the pressures of competitiveness constrain nation-states from taking major unilateral initiatives to improve environmental management which impose significant costs on domestic producers. It also predicts that environmental and resource standards will converge around benchmarks set by large-market, primarily OECD, countries for product standards and by primary production-platform competitors for PPMs. The result is that developing country standards are pulled towards OECD standards but gradually and unevenly; and OECD standards improve only gradually. With so much inertia in the system, major innovations to improve domestic environmental management require collective action.

What empirical, historical or even anecdotal evidence might generally support the "stuck in the mud" hypothesis? While specific studies are lacking, two broad sectors of environmental management policy—energy pricing and resource subsidies--may help to illustrate and generally support the argument.

Energy Prices

Energy prices in many OECD and developing countries incorporate large financial and environmental subsidies. Financial subsidies are defined as "economic and fiscal measures with clear budget impacts" which keep market prices below market-levels or otherwise influence the level of a particular commodity's production or consumption (Runge and Jones, 1996, p.12). An environmental subsidy can be defined as any damage to the environment which is external to market prices. The elimination of environmental subsidies through full-cost pricing is a central task of environmental policy.

In the case of fossil fuel-based energy prices, environmental externalities which constitute subsidies include local air pollution, the effects of climate change due to greenhouse gas emissions, health and environmental damage caused by sulfur emissions in the form of acid rain and snow, and marine degradation caused by oil tanker pollution and accidents. Because environmental subsidies are difficult to quantify, most definitions and estimates of energy subsidies incorporate only direct and indirect financial subsidies. Even with the narrower definition, there is considerable debate about how precisely to define and quantify subsidies.

Even excluding environmental externalities, energy production and use in many countries are highly subsidized financially, skewing energy prices even further from "true" costs. In the past few years, especially following the Rio Earth Summit in 1992 and the Climate Change Convention it help to spawn, many countries have taken or tried to take measures to improve energy pricing. Competitiveness concerns, however, especially within OECD countries, have stymied modest proposals. In developing countries, heavily subsidized energy prices bolster rapid industrialization strategies and help keep the social peace through subsidies to workers and the poor.

Within the OECD, the United States has probably the highest level of energy subsidies: estimates range from about $5 billion to $36 billion, depending on how subsidies are defined (Michaelis, 1996, p. 184). By keeping prices below market levels, subsidies increase demand for energy products. The United States has the lowest energy prices in the OECD. In 1993, U.S. prices of unleaded gasoline were 43 percent of European OECD countries; electricity prices in industry were 58 percent of the average OECD-Europe price. The U.S. also has the highest emissions of carbon dioxide per dollar of GDP and the second lowest (after Canada) level of energy efficiency, that is, the input of energy per unit of GDP (OECD, 1996, Figures 5.1 and 5.3; World Bank, 1995, Figure 5.1).

In February 1993, U.S. President Bill Clinton proposed a broad-based U.S. energy tax, primarily as an environmental policy initiative to improve energy pricing. The tax was to be levied on the energy content of fuels, with a higher rate for petroleum than coal and natural gas, as well as nuclear and hydropower. Non-conventional renewable energy sources were exempted and, because the tax applied to energy input rather than electric output, efficient natural gas technologies were favored over coal for electricity production. The President's rationale for the Btu tax when first proposed was that it would contribute to deficit reduction while reducing environmental degradation, increasing energy conservation and efficiency, and decreasing dependence on foreign oil (Muller, 1995).

Immediately after the proposal was announced, various American companies and industry associations demanded and received special exemptions in the drafting of the tax legislation. The exemptions, however, did not diffuse strong business opposition, especially by the oil industry and the National Association of Manufacturers. The business campaign to defeat the tax proposal was based primarily on the claim—which came to be widely accepted--that the tax would undermine the international competitiveness of U.S. industry and cause widespread job loss, as well harm fuel- producing regions disproportionately (Hoerner and Muller, 1996).

Estimates of the actual impacts of the proposed tax on competitiveness suggest a small or negligible impact on even the most energy-intensive industries. For primary aluminum, the tax was estimated to be 2.14% of the value of shipments; for nitrogenous ferilizer, it was 1.55% ; and for industrial inorganic chemicals 0.94% (Muller, 1995, Table 2). Indeed, Congress subsequently enacted legislation to raise corporate income tax, apparently imposing a greater burden on most businesses than the energy tax would have done. Nonetheless, the business-driven argument about competitiveness won the day: the tax legislation was defeated in Congress. (4)

In Australia, the Minister for the Environment proposed a small carbon tax in December, 1994. The tax, which came to be known as the "greenhouse levy," aimed to reduce domestic consumption of fossil fuels, excluding transport fuels. Four fifths of Australia's electricity is generated with coal, much of it dirty "brown coal." Low-sulfur black coal is Australia's most valuable export. The proposed tax rate was US$3 per tonne of carbon with the revenues targeted for the establishment of an Australian Sustainable Energy Authority to promote energy efficiency and renewable energy.

The greenhouse levy would not have applied to exports of fossil fuels, including coal. Nonetheless, concerns about competitiveness became the central focus of political debate, especially impacts on energy-intensive industries like aluminum. One argument was that the levy would favor the export of raw materials over value-added industries which are more job-intensive. However, the levy was so small that it's effect on relative electricity prices would have been very slight at best. A proposal to rebate the levy to energy- intensive industries was strongly—and understandably--opposed by trade advisors (Muller, 1995).

One of the central arguments of the aluminum industry was that, even if the actual effect on costs was negligible, the perceived effects could skew investments away from Australia and toward low-energy cost countries. The greenhouse levy was described as the "thin edge of the wedge" which would send a signal about the future direction of Australian energy and environmental policy. If out of line with competitors, the signal would suggest higher relative costs of production in the long run, if not in response to the particular tax proposal.

Not all proposals for national carbon or energy taxes have failed. In Europe, Denmark, Finland, the Netherlands, Norway and Sweden, as well as Poland, have all adopted carbon/energy taxes. But these exceptions essentially prove the rule. None of the five EU countries has significant domestic coal production and only Denmark uses (imported) coal for electricity production. Finland, Norway and Sweden barely utilize fossil fuels at all for electricity production. Moreover, Denmark and Sweden provide substantial tax relief for industry. Competitiveness concerns about domestic costs of production are therefore less salient.

On the other hand, the implementation of an EU-wide carbon/energy tax has been postponed because of the failure of the U.S., Japan and other trading partners to adopt similar measures. Instead, the EU will impose a more general energy tax on electricity consumption. To win the support of the Europe's powerful and competition-conscious trade unions, the EU has agreed that the proceeds would go into an "employment fund" (Scherp, 1997). In the U.S., some of the debate over the energy tax focused on the potential benefits to European and other OECD (as well as developing country) competitors of even a small change in energy costs in the U.S. In early 1997, the executive council of the AFL- CIO, the largest trade union group in the U.S., passed a resolution opposing a pending agreement on Climate Change. Their opposition stemmed from the exemption of China, Brazil and other rapidly growing developing grounds from pollution restrictions. According to the resolution, the exemptions create an "uneven playing field" which would "cause the loss of high-paying U.S. jobs in the mining, manufacturing, transport and other sectors" (Reuter, 1997).

Among developing countries, China, India and the transition economies have the highest rates of direct financial subsidies for energy use. In 1991, China and India subsidized fossil fuels at 26-28 per cent of the world price, transition economies at 40 percent. Electricity subsidies in 1991 were over 40 percent in China and India and over 50 per cent for the transition economies (World Bank, 1995, Figures 5.1 and 5.2).

These subsidies were not designed to improve export competitiveness but to promote internally oriented, state-directed growth. The result, however, was to promote inefficient power sector technologies. As these economies have opened to the growth opportunities and competitiveness pressures of global markets, energy subsidies have become very expensive. Domestic energy demand has increased greatly, especially in China, helping to promote domestic financial reforms which will generate more private capital internally for energy projects (Razawi, 1997). Development strategies based on linkage with global markets have also increased the availability of external private finance, transfer of more efficient energy technologies, political pressure from developed countries to reduce subsidies, and opportunities to learn about better energy management.

On the other hand, developing countries—especially the "major developing economies"--are committed to rapid industrialization and are highly competitive with each other as production platforms, slowing the subsidy-reform agenda. Moreover, development assistance from the rich countries to improve energy performance has been meager. Finally, while aimed primarily at industry, energy subsidies are also provided to workers and the poor. Even if the greatest portion of the benefit of subsidies is captured by the wealthy—who use more energy—the poor still suffer when subsidies are cut. Attempts in the Philippines and elsewhere to cut subsidies have sparked worker and peasant uprisings.

Overall, linkage-led growth strategies are likely to gradually move energy prices in developing countries towards a world price. While the environment would benefit, the world price excludes environmental externalities. Better pricing at the global level requires supranational coordination.

Resource Subsidies

The commercial utilization of resources for export is highly subsidized, both financially and environmentally, in both OECD and developing countries. Resource-intensive sectors involved in international trade which receive high levels of direct and indirect financial subsidy include agriculture, forestry, primarily timber and timber products, and fishing. Direct subsidies embrace a wide range of policy measures, direct payments to producers and input support, especially in agriculture; tax breaks and/or concessional terms for credit or grants, including for the expansion and modernization of fishing fleets; and trade protectionism, including import constraints and export promotion supports which permeate both agriculture and forestry.

In addition to direct financial subsidies, resource-intensive exports are also supported by indirect financial subsidies. In the forestry sector, for example, the failure to capture full economic rents on logging concessions is a major source of subsidy for the timber industry and potentially, for the timber products sector. Quantitative assessment is problematic, since definitions vary and information is scarce. Nonetheless, estimates suggest that low stumpage fees permeate forest policy in both developed and developing countries. Indonesia captured some 20-33 percent of economic rents from timber concessions in 1993; Malaysia between 35 and 53 percent in 1991; and Canada between 33 and 67 percent in 1979 (Porter, 1996, Figure 1). Low stumpage fees lead to undervaluation and overutilization of forest timber resources.

Indirect financial subsidies are also provided by incomplete property rights which allow appropriation of resources without compensation. Coastal shrimp aquaculture, for example, is characterized in most developing countries by a "slash-and-burn" style of utilization of mangrove swamps. Shrimp companies, often with ties to local elites, appropriate the mangrove swamps from traditional users for intensive shrimp aquaculture, primarily for export, based on a high level of chemical inputs. Once the waters are too polluted to support further harvesting, the ponds are abandoned, leaving local communities deprived of a key livelihood resource (Primavera, 1994).

Direct financial subsidies have strongly shaped the marine fisheries sector, leading to overcapitalization of fishing fleets and over-fishing. Subsidies are targeted primarily toward fleet modernization, as well as keeping fuel costs below market prices (Porter, 1996).

The largest direct financial subsidies to resource-intensive sectors at a global scale probably accrue to agriculture in OECD countries. The value of direct monetary transfers from governments and consumers to the agricultural sector is measured by Producer Subsidy Equivalents (PSE). In OECD countries, these transfers include market price supports, primarily via border measures to control inputs and outputs; direct payments to farmers; input support, including through capital grants and low interest rates; and agriculture infrastructure projects, including irrigation water delivery projects. In 1994, the total PSE for the OECD as a whole was US$175 billion (Legg, 1996, p. 118).

In developing countries, the net financial subsidy to agriculture is generally negative. While most developing countries protect certain "key" agricultural commodities such as rice, agriculture as a whole subsidizes industrial sectors. At the global level, the rich countries subsidize agriculture and food exports, while the developing industries drain the agricultural sector and subsidize food imports (Lutz, 1992). Agricultural subsidies, in short, distort international trading patterns.

The environmental impacts of financial subsidies in developed countries are well-documented and include water and land pollution from excessive chemical input use, loss of soil productivity through monocultural cropping patterns and non-biological management, and loss of habitat (Faeth, 1991; OECD, 1989). How the skewed trading pattern created by subsidies affects the environment, however, still needs to be studied, especially as developing countries move to further liberalize agriculture. If liberalization means importing heavily subsidized OECD agricultural commodities, then "free trade" may become a vehicle to disseminate ecologically unsustainable agricultural management practices.

In California, for example, the production of water-intensive crops like rice is internationally competitive only because of large water subsidies to farmers. The production of rice and other water-intensive crops generates environmental degradation in California and skews crop choices by farmers elsewhere. One study found that the environmental effects of freer agricultural trade with Mexico due to NAFTA depended crucially on water pricing in California. As long as agricultural water use is subsidized, both Mexico and California suffer the environmental and financial costs of misallocated production decisions (Feenstra and Rose, 1993).

The [unilateral] removal of direct financial subsidies would yield net economic and environmental benefits. Why then, do they persist? In the deep-sea marine fisheries sector, the problem is one of open access and free riding: the benefits of unilateral action cannot be captured unilaterally and an international management regime is needed.

For resources within domestic boundaries like agricultural lands and fisheries within EEZs, however, the net benefits can be captured domestically. However, there are costs of adjustment due to loss of competitiveness of the existing industries. The costs to particular, typically powerful, domestic interests inhibit domestic policymakers from undertaking subsidy reform. Moreover, lobbying by special interests finds broad public resonance given broader concerns about jobs and competitiveness. Furthermore, because of global market integration, there is a free rider problem: producers in one country are unwilling to pay costs of adjustment that producers in other countries benefit from.

Globalization and the heightened concern about competitiveness which it spawns do not create domestic opposition to subsidy reform but give it greater political weight and inhibit unilateral reform efforts. On the other hand, subsidies are expensive in macroeconomic terms, both domestically and externally. The need to be more competitive at an economy-wide level provides incentives to governments for subsidy reform. Collective action would help to overcome the inertia by setting broad policy parameters limiting and eventually eliminating subsidies as legitimate policy instruments within a global trading framework. As a recent OECD Workshop on subsidies and the environment concluded: "Overcoming opposition to subsidy reform will be substantially easier if countries can be convinced to react together, rather than separately, in reducing subsidies/tax concessions to particular industries or sectors" (Runge and Jones, 1996, p 12).

III.Creative Institutional Responses

"Imagine a wondrous new machine, strong and supple, a machine that reaps as it destroys. It is huge and mobile...running over open terrain and ignoring familiar boundaries ...[throwing] ...off enormous mows of wealth and bounty while it leave behind great furrows of wreckage.

Now imagine that there are skillful hands on board, but no one is at the wheel. In fact, this machine has no wheel nor any internal governor to control the speed and direction. It is sustained by its own forward motion, guided mainly by its own appetites. And it is accelerating" (Greider, p.11; my emphasis).

Market forces, especially at the global level, are wondrous things. Markets coordinate millions of consumption and production decisions every second. Market-based competition spurs innovation and learning, including rapid changes in technology, and promotes social transformation. Economic interdependence brings people from many cultures and nations into contact, often to undertake common projects. On the other hand, global markets can also promote undesirable and even dangerous outcomes: social upheaval and inequality within and between countries, which sows seeds of civil and international conflict; (5) cultural homogenization; and degradation of the life-support systems of the earth.

The key to the social impacts of market forces is the institutional structure in which they are embedded. If market forces are like great torrential rains, institutions—with both big and small "I's"-- are the channels and aquaducts which guide them over the land. Or to use Greider's metaphor of global markets as Terminator-like machines, institutions are the software programs which put someone "at the wheel".

Institutional dynamism is the key to overcoming the inertia of global market competition which keeps rapid improvements in environmental and resource management "stuck in the mud." Institutional innovation is needed at two levels, supranational and national, to change the ways that states and markets interact in a global economy. At the supranational level, the primary goals of institutional innovation are to increase the average level of environmental performance within OECD countries by enhancing policy coordination, especially for PPMs; and to close the gaps between the OECD and developing countries in both product and production standards by promoting development and capacity-building. At the national level, the primary goal is to enhance the efficiency and reduce the cost of strategies to greatly enhance environmental performance. One of the key ways to do this is to strengthen sub-national capacities for environmental management, at both municipal and provincial levels.

Supranational Governance

The foremost institution governing world trade is the World Trade Organization (WTO). Since 1991, the WTO or its predecessor, the GATT, has included environmental issues within its purview, first as a Working Group and, since 1994, as a standing Committee on Trade and Environment (CTE). The hope for the CTE was that it could build a bridge between rulemaking for transparent, non-discriminatory, open--and environmentally sound-- trade policies. At the broadest level, the vision was that the CTE would nudge a paradigm shift from a negative to a positive understanding of the trade-environment link; that is, from an emphasis on limiting unilateral state action in order to protect the

trading system to a focus on collective responsibility to promote sustainable trade, investment and economic growth (Zarsky, 1991).

In the event, the CTE has done nothing of the kind, at least for the past two years. Instead, it has focused exclusively on whether and when unilateral or multilateral trade restrictions on environmental grounds are permissible. The two issues which have absorbed all the attention of the CTE—with little result—are the so-called "MEA issue" (trade restrictions within multilateral environmental agreements) and eco- labeling. In the former, the debate revolves around whether or not there should be a "safe harbor" within the GATT for trade restrictions within international environmental agreements; and whether powerful nations, especially the United States and the EU, will eschew unilateral trade measures. On ecolabeling, the central issue is whether so- called "eco-seal" programs potentially raise environmentally unjustified non-tariff trade barriers, requiring the WTO to develop a set of guidelines for national ecolabeling programs. The central issues, in other words, have revolved around the potential that environmental concerns may unduly or unfairly restrict trade rather than how trade rules could promote sustainable development.

A spate of studies arrived at the same assessment: the WTO is apparently itself "stuck in the mud" of its own modus operandi and status quo. "In terms of new rules, innovative recommendations or solutions to complex policy conflicts, the Committee on Trade and Environment has failed to deliver," concludes a paper to the US Trade and Environment Policy Project (Cameron and Campbell, 1997, p. 1). "The Committee on Trade and Environment has made little progress in resolving most of the difficult issues before it," concludes David Runnalls, director of the Trade Program of the International Institute for Sustainable Development (Runnalls, 1997, p. 2). According to an IUCN study, "CTE discussions so far have not focused on finding a synergy between environment and trade as two equal policy objectives. Rather, they have explored how to fit environmental concerns within the framework of the existing trade regime" (Ewing and Tarasofsky, 1996, p.1). "The CTE, concludes an IISD study, "has addressed its esssentially political task in a largely technical manner" (IISD, 1996, p.1).

There is no doubt that the resolution of technical issues is itself an important part of the larger trade-environment agenda. Appropriate international guidelines for ecolabeling, for example, entail thorny issues of methodology in evaluating environmental performance over a product life cycle and in deciding whether environmental marketing claims are scientifically robust However, even on the technical issues, the CTE has made little progress.

The OECD Joint Session of Trade and Environment Experts has fared somewhat better (Reiterer, 1997). In June, 1993, the OECD issues a set of Guidelines called for the environmental review of trade policies and agreements and vice versa. In May, 1995, the Joint Session submitted a Report on Trade and Environment which included studies on Environmental Principles and Concepts, Trade Principles and Concepts, and Dispute Settlements in Environmental Conventions. The culmination of two years' work, the Report canvassed many of the same issues which the CTE later examined but came to a broader and deeper set of conclusions. On the MEA issue, for example, OECD countries took a more pronounced stance on limiting unilateral measures. On ecolabeling, the OECD proposed a seven-step approach to the use of life-cycle analyses, including transparency, adaptation time for trade partners, the use of "best available science," and special treatment for developing countries. The OECD's role, however, has been primarily as a thinktank. OECD governments have not been willing to take policy initiatives within the OECD context or to coordinate their approach in the WTO.

Institutional innovation towards both goals of environmental multilateralism—domestic policy coordination and capacity- building—should start with the WTO. First, the WTO as a whole needs to affirm its commitment to a "development agenda:" ways that trade and investment could greatly improve economic and managerial capacities, including for the environment, within developing countries. Among other things, this would entail abandoning the idea that the primary goal of trade-environment diplomacy is to enhance the capacities of developed countries to restrict market access on environmental grounds.

Second, the CTE must resolve the issue of its relationship to MEAs and provide clear guidelines to environmental negotiators for the use of trade restricting measures. Third, environmental issues should not be ghettoized in one particular Committee. Policies which impact environmental management are relevant to Councils and Committees throughout the WTO and should be evaluated and developed with environmental as well as trade goals in mind. Fourth, the WTO must take up the central issue of managing the trade-environment interface, viz, production process methods or PPMs. This includes the negotiated elimination of domestic resource management policies, including energy, water, chemical and other subsidies, which both distort trade and engender environmental degradation.

Among the most important innovations at the WTO is the need to widen and institutionalize the participation of non-state actors, both non-governmental organizations and international governmental organizations such as UNEP and

UNCTAD. Transparency and access are crucial especially to address the increasingly interdisciplinary nature of global trade policy, as made clear by the mere existence of the CTE (Cameron and Campbell, 1997, p. 6). Among the innovations championed by environmental NGOs are the establishment of a Right of Intervention, such as amicus curiae ("friend of the court") briefs in WTO's Dispute Settlement Understanding; and the granting of observer status to NGOs for WTO meetings which are not trade negotiations (Cameron and Campbell, 1997). Greater openness would pave the way for a transition from the narrower trade paradigm of the GATT to the broader policy development role of the WTO. The broadening of perceived institutional identity is central to the task of effective policy coordination.

The WTO may not be up to the task of coordinating joint action to internalize environmental costs, causing at least one analyst to call for a new "Global Environment Organization" (Esty, 1994). While potentially promising in the long run, the political will for such an organization has not yet materialized. In the short to medium term, regional and plurilateral groupings offer a promising arena for institutional innovation. Regional groups involve fewer negotiating partners than the WTO and are less burdened by its legalistic, rule-bound style. Moreover, economic "globalization" is in large part a regional phenomenon: in the early 1990s, about 60 percent of European trade was intra-regional. In East Asia, the figure was about 40 percent, in South America about 40 percent and in North America about 35 percent (Young, Y. S., 1994, Table 14.2).

Regional economic organizations, such as the Asia Pacific Economic Cooperation forum (APEC), may provide a vehicle and an incipient model of cooperation and collective action in coordinating environmental policy goals (Zarsky, 1997). The eighteen member economies of APEC span East Asia, Australasia, North America, and Latin America (Mexico and Chile). Both developed and developing countries are within APEC, though generally the developing countries are the world's rapidly industrializing "star performers". APEC's raison d'etre has evolved since it was formed in 1989 from a loose forum for consultation to a vehicle to implement trade and investment liberalization. It has also embraced environmental, technical and development cooperation as part of its agenda (Zarsky and Hunter, 1996).

APEC is not a negotiating body but undertakes practical initiatives based on consensus. The emphasis on consensus suggest that common initiatives are taken not primarily through a process of side payments and threats of sanctions but on a perception of self-interest, as well as more subtle forms of political pressure. The consensus-building approach has been important in gaining regional support for an environmental agenda at APEC and helped to head off Western country tendencies to define environmental issues primarily in terms of their links to market access. Many East Asian countries are deeply concerned about and opposed to a "trade- environment" agenda based on market restrictions. Moreover, a consensus style may increase the likelihood that the initiatives governments commit to at a regional level will actually be implemented. To date, environmental cooperation at APEC has focused on norm- building and capacity-building (Zarsky and Hunter, 1997).(6)

The "APEC Model" may eventually generate innovative approaches to environmental policy coordination. The Fisheries Working Group, for example, is considering subsidies as part of a four-year study of market barriers and could potentially build momentum for policy subsidy reform. However, there are some significant drawbacks at APEC. The consensus style derails controversial issues and makes progress slow. A lack of institutional transparency and formal participatory mechanisms inhibits accountability and public input. Moreover, some of the most difficult--and significant--issues are still to be resolved, especially the development of a consensus to undertake common policy initiatives, especially on resource management.

Another regional grouping which could help to promote effective international environmental policy coordination is the OECD. Currently, OECD countries are negotiating, rather hastily, a Multilateral Agreement on Investment (MAI). As currently conceived, the MAI is designed primarily to promote foreign investor interests by reducing political risk and enhancing the principle of national treatment. There is considerable resistance in developing countries to the broad liberalization which the principle of national treatment implies. The MAI is essentially an end-run around the WTO: with the MAI a fait accompli, developing countries are likely to comply either through bilateral agreements with OECD countries or through the WTO.

The rules and principles which shape investment decisions, both domestic and foreign, are crucial for good environmental management. An international investment agreement represents an opportunity to set a global policy framework for investment to enhance good environmental management. The framework could include policy guidelines such as requirements for environmental and social impact assessment prior to undertaking investment projects; commitments by multinational investors to use the higher of either home or host country standards; adherence to international labor and human rights norms; and capacity- building commitments to transfer technology and train local personnel. A group of American environmentalists also called for exceptions to MAI provisions for measures to protect the environment and the promulgation of mandatory "environmental readiness criteria" which

must be met before countries can sign on the MAI (CIEL et al, 1997). Another group called for a broad "Sustainable Development Investment Agreement" which incorporates the principles of Agenda 21 (Earth Council, 1996).

To date, OECD negotiators have offered to incorporate environmental concerns in the MAI by including a "pollution haven" clause, whereby countries pledge not to encourage foreign investment by lowering standards. However, as this paper has argued, competition-induced inertia, not pollution havens, are not the main issue. The OECD has also offered to append to the MAI "Guidelines for Multinational Enterprises", which were adopted in 1976. While welcome, the voluntary Guidelines provide no assurance of effective policy coordination to raise environmental performance: multinational firms operating in OECD countries may undertake some, all or none of the initiatives encouraged by the Guidelines. (7)

In addition to investment, the OECD could be a fruitful arena in which to move toward collective action on reducing and eliminating resource subsidies within OECD countries. A "Multilateral Agreement on Resource Subsidies" (MARS) would bring benefits to both developed and developing countries, especially if it aimed expressly at those sectors in which developing countries suffer the ill-effects of OECD subsidies. The OECD could also promote better energy pricing both by reducing subsidies and collectively accepting economic instruments to internalize the environmental costs of energy production and use. The success of OECD initiatives, on investment, subsidies or other collective action environmental issues, would also be greatly enhanced if it provided a modality for the regular participation of the "big market economies," including Brazil, Russia, India and China.

In addition to investment and resource management, the OECD could offer its substantial thinktank and convening capabilities to undertake policy coordination on energy pricing. The coordination among OECD countries on the use of economic and other instruments to internalize energy costs could help to speed the snail pace of the Climate Change negotiations. The OECD could also undertake initiatives to promote capacity-building in developing countries, including financial mechanisms.

Other proposed functional groupings are "buddy systems" like Joint Implementation schemes for the Climate Change Convention. Joint Implementation, however, has foundered on the concerns of developing countries that the schemes will retard industrialization, and of environmentalists that the schemes will retard adjustment in developed countries toward lower consumption patterns. Other "buddy schemes" might be problematic if they enhanced bloc-like alliances which promoting internal bloc interests.

Innovative institutional approaches are also emerging in the private sector, the most significant of which are the environmental management standards (EMS) generated by the International Organisation for Standardisation, ISO 14,001. The new voluntary standards provide guidelines for industry to monitor and improve environmental performance. The self-regulation aspect could prompt industry to undertake internal management reforms, especially those which cut costs by increasing energy or input efficiency, which they would not have otherwise taken. Nonetheless, critics have raised concerns that the lack of environmental performance standards at best reduces the robustness of ISO 14,001 and at worst, allows companies to have a "green fig leaf" over business-as-usual (Benchmark, 1995).

The key to the success or failure of ISO 14,001 will be the broader regulatory and institutional context in which it is implemented by companies (Roht-Arriaza, 1996). One of its provisions, for example, calls for businesses to comply with all domestic environmental regulations. If these are weak, then companies have no guidelines, let alone incentives. But if domestic performance expectations are strong, and governments provide help industries to build management capacities, then ISO 14,001 could reach its goal of "continuous self-improvement.". ISO 14,001 also requires international institutional innovation, primarily to develop certification standards and procedures.

There are also a host of attempts at self-regulation by industry. While such initiatives should be welcomed, they, like the ISO 14,001, need to be nurtured by government regulatory and capacity-building support. To date, there is little evidence that self-regulation has substantially altered business behavior (UNCTAD, 1996).

Pessimists argue that international policy coordination will founder on the opposition of business, especially multinational corporations. However, the instability and heightened insecurity of global markets, especially the increasing sensitivity to competitors subject to different jurisdictional constraints, suggests that business may generally be more supportive of international than national institutional innovation. "Despite their supple strengths," argues William Greider eloquently, "the great multinationals are, one by one, insecure themselves. Even the most muscular giants are quite vulnerable if they fail to adapt to the imperatives of reducing costs and improving rates of return" (Greider, 1997, p 25). Paul Kennedy, the economic historian, chimes in: "Without the frameworks established

by our international organizations, international business would be lost—only pirates and criminals would flourish. Within these frameworks, legitimate enterprise can prosper" (Kennedy, 1996, p. 35).

National Policy Initiatives

In addition to new imperatives for international policy coordination, globalization creates new constraints—and opportunities--for unilateral policy initiatives. The central constraint is an emphasis on the efficiency of environmental policy.

The cost of environmental policy can be defined as the improvement in environmental performance per dollar of spending. The more efficient the policy, the greater the benefit for the same level of spending. The greater the fiscal constraint, the more important it is to ensure that policy initiatives are efficient.

While theoretically simple, the measurement of environmental performance is complex, both theoretically and quantitatively. A host of think tanks and organizations are undertaking work to develop environmental indicators to provide guidance both to policymakers and business managers (Ditz and Ranganathan, 1996). In the main, policymakers are operating largely in the dark, often in a "pin-the-tail-on-the-donkey" fashion: one knows that the donkey is out there but a blindfold makes it hard to know exactly where is its rear end. Nonetheless, the direction of environmental performance improvements is generally known and wasteful expenditures can be identified.

One of the most significant innovations to improve efficiency would be development of "community partnership" models. These models are based on two key ideas: first, that stakeholders at all levels are legitimate and often creative partners in environmental governance; and second, that local communities offer a practical vehicle for broad citizen engagement in environmental management. Partnerships aim to enhance the role of business in improving internal environmental management, and the role of citizens in monitoring and improving the environmental performance of business, government and other citizens. A public role in monitoring and improving environmental performance would reduce the costs of government enforcement which, in highly adversarial and legalistic contexts like the United States, are substantial. In developing countries, as well, governments are under severe financial and person power constraints. Involving businesses and local communities in improving environmental performance is likely to yield faster and broader results than relying on governmental regulatory and enforcement capacities alone.

A key role for government in the "community partnership" model is to provide training, information and other capacity- building services. For small and medium size firms in particular, the problem of poor environmental performance is often ignorance of better methods or financial constraints for training or capital improvements. Rather than emphasize the punitive role of governments, efficiency concerns might point toward government as cheerleader, convenor, and facilitator.

In federal systems, the emphasis on efficiency and partnership may also justify a devolution of environmental management responsibilities to states and cities. However, if such a devolution leads to lower environmental performance, then it does not increase efficiency.

IV.Conclusions

This paper has argued that the central challenge of globalization for environmental management is the need for international coordination to manage—and raise—the terms of policy convergence. It has also offered some rudimentary suggestions for institutional innovations to take on this task.

The problems in moving down this path should not be underestimated. In particular are three stumbling blocks. The first has to do with leadership. Globalization creates a kind of leadership vacuum. On the one hand, globalization makes nation-states increasingly interdependent and homogenous, which both creates common problems and makes it easier to identify common solutions. On the other hand, globalization heightens the sensitivity of policymakers in all nation-states, big and small, to competitiveness and reduces their willingness to suffer costs for the common good.

The problem is especially acute given constraints on the United States. In much of the postwar period, the U.S. has been looked to for leadership in international economic, security and environmental affairs. Still dominant in many markets, the U.S. is nonetheless subject to chronic trade and budget deficits and financial market pressures. Moreover, the emergence of anti-government domestic politics and a new isolationism hobble U.S. capacities to offer effective global environmental leadership. Since the 1980s, American trade negotiators have often pushed agendas in international institutions which reflect its sectoral trade, rather, than broad strategic interests.

The problem is a structural one: in a global economy without effective multilateral governance, each nation is pressed toward conceiving of economic diplomacy in terms of its own commercial interest. American and European negotiators often complain bitterly of the reluctance of the other side to take leadership initiatives. Progress towards effective supranational governance will require both greater vision and policy integration within countries, especially OECD countries; and an effective style of collective leadership.

The second problem in achieving effective environmental multilateralism are the large global gaps between rich and poor. "At a global level," argues one analyst, "the key stumbling block is the problem of inequity. True commitment to "development" has to be part of the institutional framework of environmental and economic institutions" (Athanasiou, 1996, p. 54). Besides a moral imperative, a commitment by rich countries to "development" is needed to move forward the project of multilateral governance.

The third and perhaps the most tractable set of problems stem from the informational and analytical requirements of policy coordination. Work is needed to develop—and to standardize-- indicators of environmental performance. Further research is need to develop common definitions and measures of financial subsidies, to analyze the relationship between subsidies and the environment, and to determine where "double dividends" are possible. Finally, further research is needed on the institutional dynamics of globalization and the environment. This paper offers some thoughts toward the direction of such research.

References

Andersen L. and R.A. Kagan (1996), "Adversarial Legalism, Transaction Costs, and the Industrial Flight Hypothesis." Draft paper for Trade and Environment Policy Project, a collaboration of the Berkeley Roundtable on the International Economy, Nautilus Institute for Security and Sustainable Development, and the National Wildlife Federation.

Athanasiou T. (1996), Divided Planet: The Ecology of Rich and Poor, New York: Little Brown.

Benchmark (1995), "ISO 14001: An Uncommon Perspective," Brussels: European Environment Bureau, November.

Boyer R. and D. Drache (1996), eds. States Against Markets, The Limits of Globalization, London and New York: Routledge.

Cameron, J. And K. Campbell (1997). "The CTE: A Renewed Mandate for Change or more Dialogue?" Paper presented to a workshop on The Future of the Environment at the WTO, Trade and Environment Policy Project, a collaboration of the National Wildlife Federation, Nautilus Institute for Security and Sustainable Development, and the Berkeley Roundtable on the International Economy, Washington D.C., March.

CIEL (Center for International Environmental Law) (1997), Letter to the Hon. Charlene Barshefsky, US Trade Representative, February 13. Signatories: Community Nutrition Institute, Defenders of Wildlife, Friends of the Earth, Greenpeace, Institute for Agricutlure and Trade Policy, Naitoinal Wildlife Federatiuon, Sierra Club, World Wildlife Fund.

Ditz, D. And J. Ranganathan (1996), "Corporate Environmental Performance Indicators: Briding Internal and External Information Needs," World Resources Institute, October.

Earth Council, Proposal for a Sustainable Development Investment Agreement (SDIA), San Jose, Costa Rica, August/September, 1996.

Eichengreen B. and P. Kenen (1994), " Managing the World Economy Under the Bretton Woods System: An Overview," in P.B. Kenen, ed., Managing the World Economy, Fifty Years After Bretton

Woods, Washington DC: Institute for International Economics.

Esty, D.C. (1994), Greening the GATT, Trade, Environment, and the Future, Washington D.C.: Institute for International Economics.

Ewing, K.P and R.G. Tarasofsky (1996), The "Trade and Environment" Agenda: Survey of Major Issues and Proposals From Marakesh to Singapore, IUCN Environmental Law Centre, Bonn, December.

Faeth P. et al (1991), Paying the Farm Bill: U.S. Agricultural Policy and the Transition to Sustainable Agriculture, Washington D.C.: World Resources Institute.

Feenstra R. and A. Rose (1993), "Trade With Mexico and Water Use in California Agriculture," in P. Garber, ed., Mexico-U.S. Free Trade Agreement, Cambridge, Massachusetts: MIT Press, pp. 189-218.

Haas, P.M., R.O. Keohane and M.A. Levy (1993), Institutions for the Earth, Sources of Effective Environmental Protection, Cambridge MA: MIT Press.

Greider W. (1997), One World, Ready or Not, The Manic Logic of Global Capitalism, New York: Simon and Schuster.

Hoerner J.A. and F. Muller (1996), "Carbon Taxes for Clinate Protection in a Competitive World," Environmental Tax Program, Center for Global Change, University of Maryland at College Park, June.

IISD (1996), The World Trade Organization and Sustainable Development, An Independent Assessment, Winnipeg, International Institute for Sustainable Development.

Kennedy, P. (1996). "The Private, Sector, the Nation- State, and International Organizations," World Economic Affairs, Vol. 1 No. 1, Summer, pp. 35-39.

Keynes J.M. (1964). The General Theory of Employment, Interest and Money, New York: Harcourt Brace Jovanovich.

Krupnick. A.J., M.A. Walls, and H.C. Hood (1993), "The Distributional and Environmental Implications of an increase in the Federal Gasoline Tax," Washington D.C.: Resources for the Future, September.

Legg W. (1996), "Agricultural Subsidies and the Environment," in Subsidies and the Environment, Exploring the Linkages, Paris: OECD, 117-138.

Lipsey, R,E,, M. Blomstrom and E. Ramstetter (1995), Internationalized Production in World Output, Working Paper 5385, National Bureau of Economic Research, Cambridge, MA, December.

Lutz E. (1992), "Integration of Environmental Concerns into Agricultural Policies of Industrial and Developing Countires," World Development, Vol. 20 No. 2, pp 241- 253.

Michaelis, L. (1996), "The Environmental Implications of Energy and Transport Subsidies," in Subsidies and the Environment, Exploring the Linkages, Paris: OECD, pp. 175-192.

Muller, F (1995), "Energy Taxes, The Climate Change Convention and Economic Competitiveness," paper presented to the 3rd International Conference on Social Costs, Ladenburg, May 27-30.

Obstfeld M. and K. Rogoff (1996), Foundations of International Macroeconomics, Cambridge: MIT Press, Chapter 7.

OECD (1997), The OECD Guidelines for Multinational Enterprises, http://www.oecd.org/daf/cmis/mneguide.htm.

OECD (1996), Environmental Performance Reviews, United States, Paris.

OECD (1989), Agricultural and Enviornmental Policies, Opportunities for Integration, Paris.

O'Rourke K.H. and J.G. Williamson (1995), "Around the European Periphery 1870-1913: Globalization, Schooling and Growth," Working Paper 5392, National Bureau of Economic Research, Cambridge, Massachusetts, December.

Porter G. (1996), "Natural Resource Subsidies, Trade and Environment: The Cases of Forest and Fisheries," paper to Workshop on APEC and the Environment: Innovative Approaches to Trade and Environment in Asia-Pacific, Trade and Environment Policy Project, San Francisco, October 18.

Primavera J.H. (1994), "Shrimp Farming in the Asia- Pacific Region: Environment and Trade Issues and Regional Cooperation," in Trade and Environment in Asia- Pacific: Prospects for Regional Cooperation, Workshop Compendium, Nautilus Institute, September.

Razawi H. (1997), "Innovative Financing for Environmentally Sustainable Energy Development in Northeast Asia," Nautilus Institute for Security and Sustainable Development, Berkeley, January.

Reiterer, M. (1997). "Trade and Environment: Reflections on the Impact of the OECD Joint Session of Trade and Environment Experts on the Report of the WTO Committeee on Trade and Environment (CTE) and the Future Role of the JS," International Environmental Affairs, 9:1, Winter.

Repetto, R. (1995), "Jobs, Competitiveness, and Environmental Regulation: What Are the Real Issues?" Washington D.C.: World Resources Institute, March.

Reuter (1997), "Labor Opposes Cutting Pollution in 2000," February 22, via labornews@igc.apc.org.

Revesz R.L. (1992), "Rehabilitating Inter-State Competititon: Rethinking the 'Race to the Bottom' ", New York University Law Review, 67.

Roht-Arriaza N., "ISO 14,001 in the APEC Context: Uses, Limitations and Policy Alternatives," paper to Workshop on APEC and the Environment: Innovative Approaches to Trade and Environment in Asia-Pacific, Trade and Environment Policy Project, San Francisco, October 18, 1996.

Roodman D.M. (1996), Paying the Piper: Subsidies, Politics, and the Environment, Worldwatch Paper 133, Washington DC: Worldwatch Institute, December.

Runge C.F. and T. Jones (1996), "Subsidies, Tax incentives and the Environment: An Overview and Synthesis," in Subsidies and the Environment, Exploring the Linkages, Paris: OECD.

Runnalls, D. (1997), Shall We Dance? What the North Needs to Do to Fully Engage the South in the Trade and Sustainable Development Debate," http://iisd1.iisd.ca/trade/dance.htm.

Scherp, J. (1997), Comments to Expert Workshop on Globalisation and the Environment, Vienna, OECD Environment Directorate, January 30-31.

Serageldin I. and J. Martin-brown, eds, Servicing Innovative Financing of Environmentally

Sustainable Development, Environmentally Sustainable Development Proceedings Series No. 11, World Bank: Washington D.C., April 1996.

Steinberg R (1996), "Trade-Environment Rules and Practices: Globalizaiton, Westernization or Regionalization?" paper to Workshop on Innovative Approaches to Trade and Environment in Asia-Pacific, Nautilus Institute and Berkeley Roundtable on the International Economy.

UNCTAD (1996), Self-Regulation of Environmental Management, An Analysis of Guidelines Set By World Industry Associations for their Member Firms, UNCTAD/DTCI/29 Environment Series No. 5, Geneva and New York: United Nations.

Volcker, P. (1996), "Challenges facing the International Monetary System," World Economic Affairs, Vol. 1 No.1, Summer, pp. 32-27.

Williamson, J.G. (1996), "Globalization and Inequality Then and Now: the Late 19th and Late 20th Centuries Compared," Working Paper 5491, National Bureau of Economic Research, Cmabridge, Massachusetts, March.

Williamson J. and C.R. Henning (1994), "Managing the Monetary System," in P.B. Kenen, Managing the World Economy, Washington: Institute for International Economics, 1994.

World Bank (1995), Monitoring Environmental Progress, A Report on Work in Progress, World Bank: Washington D.C., Environmentally Sustainable Development Department, September.

Young O.R. (1994), International Governance, Protecting the Environment in a Stateless Society, Ithaca, New York: Cornell University Press.

Young, S. (1994), "Globalism and Regionalism: Complements or Competitors?" in R. Garnaut and P. Drysdale, eds., Asia Pacific Regionalism, Readings in International Economic Relations, Pymble, Australia: HarperEducational, pp. 179-193.

Zarsky L. (1997), "APEC and the Environment: Regional Governance in the Age of Globalization," Colorado Journal of International Environmental Law and Policy, Summer.

Zarsky L. and J. Hunter (1997), "Environmental Cooperation at APEC: The First Five Years," Journal of Environment and Development, September.

Zarsky, L. (1991). Trade-Environment Linkages and Ecologically Sustainable Development, Report to Department of Arts, Sports, Environment, Trourism and Territories, Environmental Strategy Branch, Australia, October.

Notes

(1) For global or regional commons like the atmosphere or regional seas, international cooperation is needed to overcome coordination (prisoner's dilemma) and free rider problems, viz, because individual nation-states cannot be excluded from the benefits of investment in sustainable resource utilization, they face an incentive to not pay. Coordination would improve the welfare of all but costs must be apportioned and enforced. For crossborder resources like rivers, nation-states have incentives to capture benefits from and sluff off externalities onto neighboring states.

(2) Globalisation also seems to drive countries to be more alike in key social dimensions, especially

internal wage and income distribution, at least within the broad categories of "rich" and "poor" countries. See Williamson, 1996.

(3) EU countries are attempting to establish a European Monetary Union which would keep exchange rates within a certain band.

(4) The proposed tax also foundered because of its likely distributional impacts, especially the gasoline tax. See Krupnick et al, 1993.

(5) "It...appears that the inequality trends which globalization produced prior to World War I were at least partly responsible for the interwar retreat from globalization. Will the world economy of the next century also retreat from its commitment to globalization because of its inequality side effects?" (Williamson, 1995, p. 31).

(6) Environmental priorities at APEC are currently defined to be: 1) clean technology; 2) sustainable urbanization; and 3) sustainable marine environment.

(7) The "Environmental protection" section of the Guidelines exhorts multinational and domestic enterprises to: 1) assess environmental and health consequences of their activities; 2) cooperate with and provide information to competent authorities; 3) minimize the risk of accidents and environmental damage and to cooperate in mitigating adverse effects. Risk minimization is to be achieved viz technology choice, environmental auditing at the enterprise level, education and training programs for employees, contingency plans, equipping and assisting component entities, and supporting public information programs. See OECD 1997.
