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Green and Global: A Review of Trading Up: Consumer and Environmental Regulations in a Global Economy, by David Vogel; Greening the GATT: Trade, Environment, and the Future, by Daniel C. Esty; and Financing Change: The Financial Community, Eco-Efficiency, and Sustainable Development, by Stephan Schmidheiny and Federico J. L. Zorraquin

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Book Review

Green and Global: A Review of *Trading Up: Consumer and Environmental Regulations in a Global Economy*, David Vogel, Harvard University Press, 1995, pp. 322; *Greening the GATT: Trade, Environment, and the Future*, Daniel C. Esty, Institute for International Economics, 1994, pp. 319; *Financing Change: The Financial Community, Eco-Efficiency, and Sustainable Development*, Stephan Schmidheiny and Federico J.L. Zorraquin with the World Business Council on Sustainable Development, The MIT Press, 1996, pp. 211.

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ECONOMIC GLOBALIZATION: AN OVERVIEW

There is much talk that the globalization of the world economy will drastically alter the current systems of governance. The increasing power of multinational corporations (MNCs) will render governments ineffective in enforcing labor and environmental regulations. MNCs will pit one government against another leading to a race-to-the-bottom. Others argue that globalization is a myth; the world has always had extensive economic linkages. Globalization may not erode State power but may merely rechannel it. Governments will shed old functions and embrace new ones.

Without getting entangled in the debates over the etiology and impact of globalization, I focus on how economic globalization (independent variable) may or may not create incentives for firms to adopt environmentally sustainable policies (dependent variable). I discuss two broad themes. First,

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do globalization and free trade/investment regimes create incentives for MNCs to relocate in countries with the least stringent environmental regulations, the so-called pollution-havens? If so, then the question arises whether the trade-environment conflict can be resolved at all and whether the new international organizations are up to this task. Second, do financial markets create incentives for firms to adopt policies which only meet (but do not exceed) the requirements of laws? If so, is reforming financial markets a prerequisite for moving towards environmental sustainability?

It is important to recognize that firms' adoption of "green policies" is only an initial step toward environmental sustainability since non-firm actors are significant contributors to environmental degradation. Environmental sustainability is also a much broader concept including sociocultural aspects of human existence, and for some scholars, reflecting preferences/interest of non-human species as well.[1]

In this essay, I treat globalization as being synonymous with the increasing integration of input, factor, and final product markets across countries. This results in economic actors treating the whole globe or a group of countries, rather than a particular country, as their unit of economic decisionmaking. The two distinctive features of globalization are: (a) the increased salience of MNCs in economic activity; and (b) the internationalization of financial markets and their unprecedented influence on allocation of resources within and across firms.

MNCs are firms undertaking value-addition activities in foreign countries and internalizing intermediate product markets across countries.[2] Though scholars often treat foreign direct investment (FDI) as a proxy for MNC activity, transnationalization of production manifests in forms such as licensing and franchising, for example. The World Investment Report notes that:

> [Firms] undertake and organize international production employing a wide variety of modalities of international transactions, including FDI; cross-border intra-firm trade;

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1. Thomas N. Gladwin, *The Meaning of Greening: A Plea for Organizational Theory*, *in* ENVIRONMENTAL STRATEGIES FOR INDUSTRY 37 (Kurt Fisher & Johan Schot eds., 1992).

2. For a conceptual discussion on why MNCs exist at all, see RICHARD E. CAVES, MULTINATIONAL ENTERPRISE AND ECONOMIC ANALYSIS (2d ed. 1996); JOHN H. DENNING, THE GLOBALIZATION OF BUSINESS (1993); James R. Markusen, *The Boundaries of Multinational Enterprise and the Theory of International Trade*, 9 J. ECON. PERSP. 169 (1995).

> cooperative inter-firm agreements (such as strategic alliances); non-equity forms of TNC involvement (e.g., licensing, turnkey agreements, franchising, management contracts); and subcontracting. . . . The important thing is that, in their totality, these various modalities are not only used to access international markets for outputs, but also to access international markets for inputs . . . .[3]

How extensive is the transnationalization of production and how important are MNCs in global economic activity? Consider the following trends:

- The internationalization of production has reached an unprecedented level with the FDI stock at $2.6 trillion (1995);
- Global sales of foreign affiliates of MNCs stand at $5.2 trillion (1992), exceeding arm's length trade of $3 trillion (1992);
- 108 of the 110 legislative changes made in 49 countries liberalized rules governing FDI (1994);[4]
- One-third of the arm's length trade takes place on an intrafirm basis.[5]

Globalization is often associated with internationalization of financial markets.[6] It is important to distinguish financial markets from monetary systems. Stopford and Strange note that:

3. U.N. CONF. TRADE & DEV., WORLD INVESTMENT REPORT 1995; TRANSNATIONAL CORPORATIONS AND COMPETITIVENESS, at 36, Sales No. E.95.II.A.9 (1995); *see also* DEANNE JULIUS, GLOBAL COMPANIES AND PUBLIC POLICY (1990).

4. U.N. CONF. TRADE & DEV., *supra* note 3, at xx.

5. EDWARD M. GRAHAM, INSTITUTE FOR INT'L ECON., GLOBAL CORPORATIONS AND NATIONAL GOVERNMENTS 14 (1996).

6. This unprecedented role of financial markets is not surprising as Drucker had argued that capital is the main agent of economic integration. *See* Peter F. Drucker, *The Changed World Economy*, 64 FOREIGN AFF., 768 (1986).

> By the international financial structure we mean the system by which in a market-based economy, credit is created, bought, and sold and by which, therefore, the use of capital is determined. This is not to be confused with the international monetary system which is usually understood to mean the system that governs exchange rate parities . . . . It is in the international financial structure that change in the past two decades has proceeded fastest, away from nationally-centred [sic] credit systems toward a single system of integrated financial markets.[7]

There is unprecedented growth in the volume of financial transactions. More than ever before, financial markets are playing important roles in allocating resources within and across firms. Consider the following trends:

- The stock of international bank lending (cross-border lending plus domestic lending denominated in foreign currency) rose from 4 percent of the combined Gross National Product (GNP) of the OECD[8] countries in 1980 to 44 percent in 1990;

- As early as 1992, the daily turnover of currency markets was around $900 billion;

- In 1994, the market capitalization of stock markets all over the world totaled about $15 trillion, more than 2.5 times the GNP of the United States;

- In 1993, the world bond markets held more than $16 trillion of publicly issued debt.[9]

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7. JOHN M. STOPFORD ET AL., RIVAL STATES, RIVAL FIRM 40 (1991).

8. Organization of Economic Cooperation and Development (OECD) is an association of leading industrialized countries.

9. INTERNATIONAL FINANCE CORPORATION, EMERGING STOCK MARKETS FACTBOOK (1995); Robert Wade, *Globalization and Its Limits*, *in* NATIONAL DIVERSITY AND GLOBAL CAPITALISM 60 (Suzzane Berger & Ronald Done eds., 1996).

Clearly, financial transactions are dwarfing real transactions involving goods and services. Since most financial flows such as currency trading are short-term, there are concerns that financial markets will force firms to focus on short-term perspectives while environmental issues require a long-term perspective. On this count, globalization may create disincentives for firms to adopt environmentally sound but expensive policies.

The books under review competently illuminate different aspects of the globalization-environment discourse. Since the authors of these books represent different professions--Vogel is a professor of business and public policy, Esty is a lawyer-bureaucrat, and Schmidheiny and Zorraquin are industrialists[10]--these books carry distinct, though complementary, professional imprints. The organizing scheme of this essay is as follows. First, I suggest a typology classifying various kinds of environmental policies that firms may undertake. Then I briefly summarize the three books under review, highlighting their main themes, conclusions, and recommendations. Finally, I present my conclusions and identify areas in need of more research.

I. INCENTIVES FOR GREEN POLICIES

Profit-maximizing firms internalize benefits and externalize those costs they do not have to bear voluntarily. They internalize such costs or negative externalities only if required to do so by laws and regulations. Even these firms can be predicted to compare the expected costs of breaking laws (a product of penalties for violations and the probability of being caught) with the expected gains from externalizing such costs. If the expected costs exceed the expected gains, firms are predicted to comply with laws and regulations.[11] Laws and regulations therefore create incentives for

10. Schmidheiny and Zorraquin are members of the World Business Council for Sustainable Development (WBCSD), which consists of 120 members in 35 countries belonging to more than 20 industrial sectors. The mission of WBCSD is "to provide business leadership as a catalyst for change toward sustainable development, and to promote eco-efficiency." STEPHAN SCHMIDHEINY & FREDERICO J.L. ZORRAQUIN, WORLD BUS. COUNCIL SUSTAINABLE DEV., FINANCING CHANGE: THE FINANCIAL COMMUNITY, ECO-EFFICIENCY, AND SUSTAINABLE DEVELOPMENT at xv (1996). WBCSD emerged in 1995 through a merger of Geneva-based Business Council on Sustainable Development (BCSD) and Paris-based World Industry Council for the Environment (WICE). BCSD was established in 1990 to represent business perspective during the 1992 Rio Summit--United Nations Conference on Environment and Development (UNCED)--and worked actively with Maurice Strong, the Secretary General of UNCED.

11. In most developed countries, stringent enforcement and stiff civil and criminal penalties tone down incentives for managers to systemically resist compliance.

compliance by stipulating harsh penalties for non-compliance. Governments, through strict enforcement, can increase the probability that violators will be caught and punished. Markets create incentives for firms to adopt green policies if such policies increase profits. As I discuss subsequently, firms with environmentally sound policies may have lower insurance premiums and easier access to credit. However, financial markets may punish firms if rates-of-return on environmentally sound projects are below firms' cost-of-capital.

Environmental policies of firms may just meet the requirements of laws and regulations or may exceed such requirements (beyond-compliance). As shown in Table 1, based on two attributes--impact on profits and impact on compliance--we can identify four broad categories of environmental policies: (a) TYPE 1 (meet profit norms and go beyond-compliance); (b) TYPE 2 (do not meet profit norms and go beyond-compliance); (c) TYPE 3 (meet profit norms and ensure compliance); and (d) TYPE 4 (do not meet profit norms and ensure compliance).

Table 1
Categories of Environmental Policies

Impact on Compliance **Impact on Profits**	**Ensure Compliance**	**Result in Beyond-Compliance**
Profits Match or Exceed the Firm's Norm	TYPE 3 policies required by law; get implemented without any opposition from financial markets	TYPE 1 policies involving profitable changes; supported by financial markets
Profits Do Not Match the Firm's Norm	TYPE 4 profitable policies required by law; get implemented without any opposition from financial markets	TYPE 2 policies which are opposed by financial markets

Firms have incentives to implement TYPE 3 and TYPE 4 policies since they are required by law and there are stiff penalties for non-compliance. Firms also have incentives to implement TYPE 1 polices since these meet or exceed the profit norms. Many firms such as 3M, Procter & Gamble, and Dow have enthusiastically adopted TYPE 1 policies.[12] Such policies enable firms to capture the "low-hanging fruit"--projects which are potentially profitable if new organizational policies and structures were to be adopted.[13]

The trade-environment debate really pertains to TYPE 2 policies; to what extent will firms operating in developed countries adopt TYPE 2 policies? A derivative issue is whether MNCs have incentives to relocate to so-called pollution-havens and export their outputs back to industrialized countries. If so, then one expects that to attract MNCs, developing countries will progressively lower their environmental standards ("regulatory arbitrage," as Cerny[14] puts it) and eventually undermine environmental standards in the industrialized world.[15] On this count, free trade/investment regimes create disincentives for firms to adopt TYPE 2 policies in the industrialized world. The policy prescription then is to construct new regimes and institutions to restrict exports from and investment in such alleged pollution-havens.

II. TRADE AND ENVIRONMENT: IS THERE A CONFLICT?

David Vogel's book *Trading Up* examines the relationship between trade and environmental regulations, given the extensive linkages between the

12. There is a veritable cottage industry on this topic. For example, see ROGENE A. BUCHOLZ, PRINCIPLES OF ENVIRONMENTAL MANAGEMENT: THE GREENING OF BUSINESS (1993); FRANCES CAIRNCROSS, GREEN, INC.: A GUIDE TO BUSINESS AND THE ENVIRONMENT (1995); CURTIS MOORE & ALAN MILLER, GREEN GOLD: JAPAN, GERMANY, AND THE UNITED STATES, AND THE RACE FOR ENVIRONMENTAL TECHNOLOGY (1994); ANN RAPPAPORT & MARGARET F. FLAHERTY, CORPORATE RESPONSE TO ENVIRONMENTAL CHALLENGES (1992); BRUCE SMART, BEYOND COMPLIANCE: A NEW INDUSTRY VIEW OF THE ENVIRONMENT (1992); Stuart L. Hart, *A Natural-Resource-Based View of the Firm*, 20 ACAD. OF MGMT. REV. 986 (1995); Christopher B. Hunt & Ellen R. Auster, *Proactive Environmental Management: Avoiding the Toxic Trap*, 32 SLOAN MGMT. REV. 7 (1990); Michael E. Porter, *America's Green Strategy*, 256 SCI. AM. 168 (1991); Paul Shrivastava, *The Role of Corporations in Achieving Ecological Sustainability*, 20 ACAD. OF MGMT. REV. 936 (1995).

13. *See* Michael E. Porter & Claas van der Linde, *Toward a New Conception of the Environmental-Competitiveness Relationship*, 9 J. ECON. PERSP., Fall 1995, at 97.

14. Philip G. Cerny, *Globalization and the Changing Logic of Collective Action*, 49 INT'L ORG. 595, 610 (1995).

15. *See* Herman E. Daly, *Problems with Free Trade: Neoclassical and Steady-State Perspectives*, *in* TRADE AND THE ENVIRONMENT: LAW, ECONOMICS, AND POLICY 147, 156 (Durwood Zaelke et al. eds., 1993) [hereinafter TRADE AND THE ENVIRONMENT].

making of trade and regulatory policies.[16] Vogel focuses on three themes. First, that the steady growth of domestic health, safety, and environmental regulations, along with the General Agreement on Tariffs and Trade's (GATT)[17] efforts at reducing tariff barriers, has increased the relative importance of protective regulations as non-tariff barriers. Second, the making of environmental and consumer regulations is no longer in the exclusive realm of domestic politics; it is increasingly being shaped by global influences. Along with products and FDI, countries are exporting their rules and standards. Third, non-business actors, such as environmental groups, have become important players in shaping trade policies. Interestingly, it is not uncommon to find an alliance of protectionist manufacturers and environmental groups pushing for import restrictions.

Vogel has organized this book around discussions of key regional and global trade treaties, evaluating them for their impacts on domestic regulations and their potential misuses as non-tariff barriers. The first three chapters examine the European Union's (EU) experience in harmonizing trade with environmental and food safety concerns. Chapters four and five focus on GATT, providing extensive discussions on the tuna-dolphin case, and the use of the Standard Code established in the Tokyo Round as a trade barrier. Chapters seven and eight examine the politics of environmental policy making in the United States. Vogel discusses the impact of the "baptist-bootlegger" coalition--alliances of protectionist producers and environmental groups--on the trade-environment debate. He then examines the Free Trade Agreement (FTA), between the United States and Canada, and the North American Free Trade Agreement (NAFTA), which also included Mexico. He suggests these agreements have not weakened Canadian or American standards; they are likely to strengthen Mexican regulatory standards. The concluding chapter examines conditions for making free trade and stringent environmental standards mutually reinforcing.

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16. DAVID VOGEL, TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN A GLOBAL ECONOMY (1995) [hereinafter VOGEL, TRADING UP]. Vogel is a well-known scholar of the politics of environmental regulation. His previous work, *National Styles of Regulation*, traced different regulatory styles in the United States and the United Kingdom to different patterns of historical evolution of business-government relations in the two countries. *See generally* DAVID VOGEL, NATIONAL STYLES OF REGULATION: ENVIRONMENTAL POLICY IN GREAT BRITAIN AND THE UNITED STATES (1986) [hereinafter VOGEL, NATIONAL STYLES OF REGULATION].

17. VOGEL, TRADING UP, *supra* note 16 at 3. Now called the World Trade Organization (WTO). *See id.*

Vogel sums up the trade-environment conflict in the following way:

> Free trade advocates want to limit the use of regulations as barriers to trade, while environmentalists and consumer advocates want to prevent trade agreements from serving as barriers to regulation. While the trade community worries about an upsurge of "eco-protectionism"--the justification of trade barriers on environmental grounds--consumer and environmental organizations fear that trade liberalization will weaken both their own country's regulatory standards and those of their nation's trading partners.[18]

Will trade liberalization weaken environmental regulations? Vogel thinks the answer is no. According to Vogel, the impact of trade liberalization on domestic regulations depends on the preferences of wealthy trading partners and the degree of economic integration among the trading partners. Thus the relative salience of the Delaware Effect (the race-to-the-bottom)[19] and the California Effect (race-to-the-top) depends on the stringency of environmental standards of the dominant trading partners. He identifies the critical role of Germany, the wealthiest of all European countries, in "greening" the EU. Similarly, in the United States, California's huge economy creates incentives for firms supplying the United States market to follow California's stringent environmental regulations.

The impact of trade liberalization on environmental regulations critically depends on the degree of integration among trading countries--the closer the economic integration, the greater the leverage enjoyed by wealthy green countries in encouraging other countries to adopt their green laws and regulations. Hence, tighter integration among EU countries enables Germany to *de facto* impose its standards on the rest of the EU. In contrast, the weak economic integration among the GATT signatories reduces the United States' leverage on other GATT members.

Vogel's optimism regarding the positive impact of trade liberalization on environmental sustainability needs to be tempered with three caveats. First,

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18. *Id.*

19. *See id.* In the United States, corporate charters are given by individual states and all states mutually recognize each other's charters. This creates incentives for states to progressively lower their chartering requirements (race-to-the-bottom) with Delaware's chartering requirements being most liberal. *Id.* at 5.

as discussed before, the greening of firms is only an initial step towards environmental sustainability. As Daly argues, there may be a need to identify an upper limit to aggregate economic activity; economic growth does not monotonically support environmental sustainability.[20] Second, Vogel focuses on firms' incentives for adopting TYPE 2 product standards.[21] He does not tell us anything about incentives for adopting TYPE 2 process standards. Lax process standards can coexist with stringent product standards. Some scholars argue that non-uniform process standards create incentives for firms to migrate to so-called pollution-havens.[22] Third, East Asia and China lead other regions in economic growth. Since many of these countries, particularly China, have less stringent environmental laws than the industrialized countries, the likelihood of Vogel's California Effect is doubtful in this increasingly important region.

III. GREENING THE GATT

Vogel identifies incentives for firms to adopt TYPE 2 product standards. The next question is how should firms be encouraged to adopt TYPE 2 process standards? Esty's *Greening the GATT* illuminates this issue by drawing insights from U.S. environmental policymaking as well as international environmental diplomacy.[23] He notes that:

> In an ecologically interdependent world, each country's right to decide for itself how to exploit the natural resources within

20. *See* Herman E. Daly, *Allocation, Distribution, and Scale: Towards an Economics that is Efficient, Just, and Sustainable*, 6 ECOLOGICAL ECON., Oct. 1992, at 185.

21. VOGEL, TRADING UP, *supra* note 16. GATT/WTO distinguishes between process and product standards and allows only the latter. Process standards pertain to the manner in which products are manufactured. Product standards regulate properties of products and how products may be consumed and disposed of. Process standards, in contrast, specify production technologies and impede countries from manufacturing and trading based on their respective comparative advantages. GATT/WTO disallows import tariffs or other restrictions intended to harmonize differences in process standards across countries since its mandate is promoting free trade. For free trade to flourish, firms must have autonomy in choosing their production technologies. Since product standards do not clash with the logic of comparative advantage, they are compatible with GATT/WTO. *Id.* at 112.

22. *See* Steve Charnovitz, *Environmental Harmonization and Trade Policy*, *in* TRADE AND THE ENVIRONMENT, *supra* note 15.

23. *See* DANIEL L. ESTY, GREENING THE GATT (1994). Esty has served as the United States Environmental Protection Agency's (EPA) Deputy Assistant Administrator for Policy, Planning, and Evaluation; EPA's Deputy Chief of Staff; and Special Assistant to EPA Administrator William Reilly. He was also EPA's chief NAFTA negotiator.

> its borders and how much waste to dump into the air, water, or onto the land must be reconciled with the environmental needs of others in the shared ecosystem and the global aspiration for sustainable economic growth.[24]

He argues that current environmental policies do not meet the above objectives for two broad reasons. First, there is an economic failure to adequately internalize environmental costs, which results in making consumers and producers pay the full price for the environmental harm they cause. Second, there is a political failure to override special interests and adopt cost-internalization policies that protect the environment while encouraging trade.

Esty has organized this book into ten chapters. In chapters one and two, Esty examines the trends in trade and environmental policies and how they have impacted each other. He identifies four core propositions of environmentalists relating to trade: (a) since trade promotes economic growth, it undermines environmental sustainability; (b) trade liberalization undermines environmental regulations; (c) trade restrictions are legitimate tools for addressing transboundary and global environmental problems; and (d) firms operating in countries with lax environmental standards have a competitive advantage over firms operating in countries with stringent standards. In chapter three, Esty discusses the internalization of externalities argument as the economic basis for resolving trade-environment disputes. In chapter four, he lays out the *raison d'etre* for a Global Environmental Organization (GEO). In chapters five and six, he identifies trade measures to achieve environmental objectives and provides an interesting discussion on the use of "swords" (sanctions to address environmental harms outside one's borders) versus "shields" (defensive measures to address environmental harms within one's borders). He then lays out conditions for employing "swords" and "shields" to achieve environmental objectives. In chapter seven, Esty focuses on the environment-competitiveness relationship, noting that current discourses focus on pollution control expenditures while ignoring more critical factors such as energy prices. Chapter eight adds the North-South dimension to the trade-environment debate and discusses how the North can employ both "carrots" and "sticks" in creating incentives for the South to participate in global environmental

24. *Id.* at 225-26.

agreements. In chapters nine and ten, Esty provides a blueprint for making the GATT more sensitive to environmental concerns by addressing political and economic failures of current policymaking. Esty also provides five excellent appendices on the history of the GATT, measuring levels of restrictiveness of trade measures, key trade-environment cases, international environmental agreements with trade measures, and a matrix of appropriate unilateral trade measures for meeting environmental objectives.

Overall, Esty recommends two broad strategies for harmonizing trade and environmental objectives. First, Esty suggests enacting environmental regulations based on the "polluter pays principle"--polluters paying the costs of internalizing environmental externalities. Second, Esty recommends creating a GEO to ensure that environmental concerns remain on an equal footing with trade issues. He views no existing international organization as having the resources or the mandate to organize global environmental efforts. The proposed GEO meets this objective by acting as a bulwark against domestic pressures which undermine long-term approaches to environmental policies. Though he recognizes that cost internalization may be achieved without creating another international institution, he feels that the politics of competitiveness makes this task difficult. Hence, for Esty, a GEO is a political response to environmental issues.

Though Esty's arguments are interesting, creating yet another international bureaucracy may be extremely difficult, if not undesirable. There is a strong anti-United Nations sentiment in the United States right now, which I suspect, will be asked to pay the bulk of the costs of running the GEO. I think, Esty's suggestion is politically infeasible; focusing on upgrading the mandate and resources of an existing organization such as the United Nations Environment Programme (UNEP) may be more practicable. Esty does not consider UNEP fit for this role since its mandate is narrow, its budget small, and its staffing inadequate. Further, UNEP is locationally disadvantaged by being headquartered in Nairobi where inadequate communication infrastructure and poor quality of life make it difficult to attract first-rate staffers. I think it is much easier to fix these alleged problems than to create a new international organization.

IV. FINANCIAL MARKETS AND ENVIRONMENTAL SUSTAINABILITY

Globalization is marked by internationalization of financial markets and the dwarfing of real flows by financial flows. With active transnational mergers and acquisitions (M & A) markets, managers seek to tailor their firms' policies to keep financial markets in good humor.[25] In many firms, the compensation of top executives is linked to the share price of the company's stock (deferred payment compensation). Hence, managers in firms have incentives to pay close attention to how financial markets are evaluating their company's performance. As Schmidheiny and Zorraquin note, these trends raise the following questions:

> Do the financial markets encourage a short-termist, profits-only mentality that ignores much human and environmental reality? Or are they simply tools that reflect human concerns, and so will eventually reflect disquiet over poverty and the degradation of nature by rewarding companies that treat people and the environment in a responsible manner?[26]

To answer these questions, the two authors examine the workings of financial markets and the roles of various financial players. They identify incentives for different players to send positive as well as negative signals to firms adopting TYPE 2 process standards. Hence, the evidence is mixed on whether financial markets encourage or discourage the greening of firms.

The authors have organized this book into nine chapters. In chapters one and two, they lay out the broad canvas of how financial markets may impact environmental sustainability. They identify seven propositions on the impacts of financial markets' eco-efficiency, which denotes both economic and ecological efficiency at the firm level. These propositions are as follows:

- Sustainable development requires investment with long payback. Financial markets seek short-term payback;

- Green policies reduce present earnings in favor of future earnings. Financial markets reward high present earnings;

25. The value of all M & A transactions in 1995 amounted to $229 billion, double the 1988 levels. For details, see U.N. CONF. TRADE & DEV., WORLD INVESTMENT REPORT 1996; INVESTMENT,TRADE AND INTERNATIONAL POLICY ARRANGEMENTS, at xiv, U.N. Sales No. E.96.II.A.14 (1996).

26. SCHMIDHEINY & ZORRAQUIN, *supra* note 10, at xxi.

- Given low prices of natural resources and the possibilities of externalizing environmental costs, financial markets will punish firms investing in green policies;

- Sustainable development requires massive investment in developing countries. However, due to political risks in such countries, financial markets put high risk premia and thereby discourage such investments;

- High taxes on personal income coupled with low resource prices, create incentives for resource intensive and not labor intensive technologies. This harms the environment;

- The current accounting standards do not adequately report potential environmental risks/benefits. Since financial markets judge firms on the basis of such standards, their assessment of environment risks/benefits is biased;

- Sustainable development emphasizes the future; financial markets discount it.

The authors then discuss the environmental consequence of increasing private financial flows to emerging economies. In chapters three through eight, the authors focus on specific financial actors: company leaders, investors and analysts, bankers, insurers, accountants, and raters. The authors identify incentives as well as disincentives for such actors to reward firms pursuing TYPE 2 policies and offer suggestions on how these actors can be encouraged to take greater cognizance of environmental implications of economic actions of firms. For example, U.S. courts hold banks liable for contaminated land held by them as surety. This creates incentives for bankers to carefully scrutinize their borrowers' environmental policies. Similarly, since the increasing concentration of the greenhouse gases may influence the frequency and predictability of natural disasters, the insurance industry may have incentives to lobby for capping emissions of greenhouse gases. Finally, in chapter nine, the authors present their conclusions by summarizing empirical evidence relating to the seven propositions listed above.

This book is important for two reasons. First, it focuses attention on a key, though neglected, aspect of firms' behavior--their relationship with financial markets in the context of making environmental policies. Along with highlighting the inadequacies of the current financial systems in supporting the greening of firms, the authors suggest solutions and examine the challenges in implementing them. Second, the authors are well known industrial leaders with extensive knowledge of the working of firms as well as financial markets. This factor contributes to the credibility of their analysis. I view this book as a continuation of the larger project initiated by Schmidheiny's previous book--*Changing Course*,[27] in which an effort was made to identify how economic and environmental agendas can be harmonized. This is a far tougher option than the usual academic pastime of damning the corporate sector.

CONCLUSION

MNCs are often viewed as preeminent agents of environmental degradation.[28] One reason may be the predominance of MNCs in pollution-intensive extractive industries. Also, industrial accidents such as the Bhopal disaster have reinforced the perception that MNCs have little concern for environmental issues. Populist politicians, as evidenced during the recent U.S. presidential campaign, also create a specter of MNCs laying off workers in industrialized countries and relocating to so-called pollution-havens. Numerous empirical studies, however, demonstrate an absence of systemic trends suggesting that MNCs have relocated to so-called pollution-havens.[29] This is attributed to the low proportion of pollution-abatement costs in relation to total costs for most (though not all) industries and the

27. STEPHAN SCHMIDHEINY, CHANGING COURSE: A GLOBAL BUSINESS PERSPECTIVE ON DEVELOPMENT AND THE ENVIRONMENT (1992).

28. *See*, PRATAP CHATTERJEE & MATTHIAS FINGER, THE EARTH BROKERS: POWER, POLITICS, AND DEVELOPMENT (1994); MULTINATIONAL CORPORATIONS, ENVIRONMENT, AND THE THIRD WORLD (Charles S. Pearson, ed., 1987).

29. This argument has also been made in the context of domestic United States policy. *See*, EBAN GOODSTEIN, JOBS AND THE ENVIRONMENT: THE MYTH OF A NATIONAL TRADE-OFF (1994); STEPHEN M. MEYER, MIT PROJECT ON ENVIRONMENTAL POLITICS AND POLICY, ENVIRONMENTALISM AND ECONOMIC PROSPERITY: TESTING ENVIRONMENTAL IMPACT HYPOTHESIS (1992).

high costs of relocating.[30] FDI trends confirm this conclusion since developed countries, with comparably stringent environmental laws, are the major recipients of FDI--in 1994 they accounted for 65 percent of the FDI inflows.[31] Further, it can also be argued that, in some cases, since MNCs are beneficiaries of stringent process standards, they may lobby for them.[32] Hence, we cannot claim *a priori* that globalization supports or impedes firms' propensities in adopting TYPE 2 policies on product and process standards. An understanding of the politics of trade liberalization, financial integration, and environmental regulations is important. Vogel's book is an outstanding contribution on this count in that it outlines conditions (preferences of wealthy countries on environmental issues and the degree of economic integration among trading partners) influencing how trade liberalization may create incentives for the adoption of stringent TYPE 2 product standards. Esty's book furthers our understanding of collective action dilemmas in implementing TYPE 2 process standards, and the urgent need for reforming the GATT/WTO if we are not to have another international organization dealing with environmental issues. Schmidheiny and Zorraquin's volume competently examines how financial markets may influence incentives for firms to adopt TYPE 2 policies. Since existing financial markets may not always reward firms adopting TYPE 2 policies, Schmidheiny and Zorraquin lay out an agenda for institutional changes such as creating new accounting standards which reflect environmental costs of business decisions.[33]

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30. INTERNATIONAL TRADE AND THE ENVIRONMENT (Patrick Low ed., 1992); H. D. Robinson, *Industrial Pollution Abatement: The Impact on the Balance of Trade*, 21 CAN. J. ECON. 187 (Feb. 1988); H. JEFFREY LEONARD, POLLUTION AND THE STRUGGLE FOR THE WORLD PRODUCT: MULTINATIONAL CORPORATIONS, THE ENVIRONMENT, AND INTERNATIONAL COMPARATIVE ADVANTAGE (1988); I. Walter, *The Pollution Content of American Trade*, 11 W. ECON. J. 61 (1973). *But see* Noah Walley & Bradley Whitehead, *It's Not Easy Being Green*, 72 HARV. BUS. REV. 46 (May-June, 1994).

31. U.N. CONF. TRADE & DEV., *supra* note 25, at xiv.

32. Aseem Prakash et al., *Multinational Corporations and International Environmental Policy*, BUS. & CONTEMP. WORLD (forthcoming 1997).

33. *See* Adam B. Jaffe et al., *Environmental Regulation and the Competitiveness of U.S. Manufacturing: What Does the Evidence Tell Us?*, 33 J. ECON. LIT. 132 (1995); Karen Palmer et al., *Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm?*, J. ECON. PERSP., Fall 1995, at 119. Porter and van der Linde argue that investments in environmental projects are profitable since properly designed environmental regulations encourage innovations which offset increased costs of compliance. *See generally* Porter & van der Linde, *supra* note 13. However, Palmer et al., point out that in 1992 pollution abatement expenditures by United States based firms add up to $102 billion while the cost-offsets, which Porter and van de Linde emphasize, total only $1.7 billion. *See* Palmer et al., *supra*, at 127.

What are the issues in need of more research? First, we need a better understanding of how increasing levels of multinationalization impact on MNCs' incentives for adopting TYPE 2 process standards. Though the 1993 UNCTAD[34] report suggests that MNCs with sales greater than $4.9 billion dollars have stronger environmental programs than MNCs with sales less than $4.9 billion, higher sales may not always translate into higher levels of multinationalization. A more sophisticated measure of the degree of globalization is required; probably building on the composite index of multinationality which combines three attributes of firms: salience of foreign sales, foreign assets, and foreign workforce in the corresponding totals.[35] Second, we need to unpack MNCs to understand their internal decisionmaking on TYPE 2 policies. A given MNC may adopt only some, and not all, TYPE 2 policies. The research challenge, then, is to specify conditions, external as well as internal to MNCs, which facilitate the emergence of TYPE 2 policies. Thus, along with macro sample studies linking levels of multinationality to greenness of environmental policies, micro firm level studies are required. This will require academics to closely collaborate with business managers; the payoff being the strengthening empirical bases of our understanding of links between globalization and environmental sustainability.

34. U.N. CONF. TRADE & DEV., ENVIRONMENTAL MANAGEMENT IN TRANSNATIONAL CORPORATIONS; REPORT ON THE BENCHMARK CORPORATE ENVIRONMENTAL SURVEY, U.N. Doc. ST/CTC/149.

35. U.N. CONF. TRADE & DEV., *supra* note 3, at xxvi.