

EMISSIONS TRADING AND THE DEVELOPMENT CRITIQUE: EXPOSING THE THREAT TO DEVELOPING COUNTRIES

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Global climate change is a complicated issue, both politically and environmentally. Though some uncertainty remains, scientists have come to a general consensus that carbon emissions released in fossil fuel combustion are causing the earth's temperature to rise. Despite this scientific agreement, policymakers and economists continue to debate the best way to alleviate the problem. A number of economists and legal thinkers have asserted that an international emissions trading scheme is the most efficient way to reduce the carbon emissions that cause climate change. These scholars have filled hundreds of pages evaluating the efficiency gains of emissions trading and comparing trading to other potential policy instruments, including command-and-control regulations and taxation of carbon emissions.

Unfortunately, however, they largely have ignored an important element of any international policy: the effect of emissions trading programs on the development prospects of the world's poorest nations. Emissions trading poses special problems for these nations that economists' equations and politicians' rhetoric seem to leave out of the picture. A few scholars, notably David Dreisen and Joyeeta Gupta, have identified some of the potential threats to developing nations posed by emissions trading programs. But even with their work, the extensive literature on emissions trading seems to lack any systematic analysis of the impact on developing nations or any thorough comparison of the development effects of emissions trading with the development effects of other potential climate change policy solutions.

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In contrast, another body of writings makes the special problems of developing nations its sole focus. What I call here “the development critique” seeks to analyze the effects of developed countries’ policies on developing nations. The development critique contends that the developed world often dominates and exploits the developing world. Development critics carefully have assessed the often negative effects of development aid from wealthier neighbors on poor countries. They assert that the very development assistance intended to foster growth in developing nations actually stunts development by imposing unwelcome Western structures, offering new avenues for exploitation by the developed world, and blaming the developing world for its continuing poverty. Development critics have not, however, applied their criticisms to emissions trading in any systematic way.

This Note attempts to fill the gap left by both the economic literature on emissions trading and the development critique. Its goal is a rigorous analysis of the development effects of emissions trading. It will use the criticisms that development critics have made of other Western interventions in the developing world to identify the threats and, to a lesser extent, benefits, that emissions trading may present to developing countries. It will expand upon and incorporate the work of Dreisen and Gupta to offer a more thorough analysis of the effects of trading on the developing world. Though this Note will focus mainly on the negative impacts of trading on development, its aim is not to argue that international climate change actors simply should scrap nascent emissions trading programs. Instead, its goal is to identify potential harms to developing countries so that regulators are aware of all of the costs and benefits of trading, even those that mainstream economic literature has overlooked. In fact, cataloging the possible harms may allow regulators to reshape emissions trading into a more development-friendly program.

Part I of this Note gives background on the climate change problem: it briefly explains what climate change is, describes the various regulatory tools that economists and policy makers have proposed to deal with it, and details the emissions trading schemes of the Kyoto Protocol. Part II profiles the development critique, assessing the criticisms that scholars have made of previous Western interventions in the developing world. Part III applies this critique to the emissions trading

context, outlining a number of problems, as well as a few benefits, that emissions trading might pose for the developing world. Finally, Part IV offers some modifications to emissions trading programs aimed at minimizing the potential harms identified by the development critique.

I. BACKGROUND

A. *Global Climate Change*

In 1988, the United Nations Environment Programme and the World Meteorological Organization jointly established the Intergovernmental Panel on Climate Change (IPCC) to assess the emerging scientific evidence on global warming.¹ During a decade of extensive, peer-reviewed scientific analysis² by thousands of scientists from more than 150 countries,³ the IPCC published a series of reports that concluded human activity, largely through fossil fuel combustion, is contributing to the warming of the planet.⁴ The IPCC Reports, along with other scientific evidence, led to what a recent Organisation for Economic Co-operation and Development (OECD) report and a number of other scholars have called “an increasing scientific consensus” on global warming.⁵ Though some scien-

1. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, IPCC SECOND ASSESSMENT: CLIMATE CHANGE 1995, at v (1995), available at [http://www.ipcc.ch/pub/sa\(E\).pdf](http://www.ipcc.ch/pub/sa(E).pdf) [hereinafter IPCC SECOND ASSESSMENT REPORT]; see also Clare Breidenich et al., Current Developments, *The Kyoto Protocol to the United Nations Framework Convention on Climate Change*, 92 AM. J. INT'L L. 315, 316 (1998).

2. See Breidenich, *supra* note 1, at 316 (noting that the work of the IPCC was a “complicated and massive scientific undertaking”); IPCC SECOND ASSESSMENT REPORT, *supra* note 1, at vii–viii (describing the extensive research and peer-review process of the IPCC’s Second Assessment Report).

3. David M. Driesen, *Free Lunch or Cheap Fix?: The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVTL. AFF. L. REV. 1, 6 n.13 (1998) [hereinafter Driesen, *Free Lunch or Cheap Fix?*].

4. See, e.g., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 1992: THE SUPPLEMENTARY REPORT TO THE IPCC SCIENTIFIC ASSESSMENT 5 (J.T. Houghton et al. eds., 1992); IPCC SECOND ASSESSMENT REPORT, *supra* note 1, ¶ 1.2, at 3; see also Breidenich, *supra* note 1, at 316 (describing the findings of several IPCC reports).

5. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, ACTION AGAINST CLIMATE CHANGE: THE KYOTO PROTOCOL AND BEYOND 7, 83 (1999) [hereinafter OECD Report]. A number of other scholars have referred to the general scientific agreement on climate change. See, e.g., Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 6 n.13 (relying on the

tists remain skeptical of the scientific evidence of climate change,⁶ these skeptics appear to be in the minority.⁷

According to the IPCC, human combustion of fossil fuels over the past century has released significant amounts of carbon dioxide, which has increased, and will continue to increase, the heat absorbing capacity of the earth's atmosphere.⁸ Over the next century, the increased heat absorbing capacity will cause the earth's average temperature to rise.⁹ This rise in temperature may melt polar ice caps, raising sea levels and flooding islands and other low-lying areas.¹⁰ Increased temperatures may also make some regions of the earth uninhabitable, transforming arid but livable areas into deserts¹¹ and expanding the geographical range of tropical diseases like malaria, cholera, and dengue fever.¹² Even regions like Europe, the northern United States, and Canada may feel the effects of global climate change: Though less at risk from flooding or desertification, these areas, like the rest of the world, may experience increasingly frequent and intense storms and other climatic irregularities.¹³

"consensus views of [the] large number of scientists as reflected in the IPCC Reports"); Breidenich, *supra* note 1, at 316 (asserting that "[a]s a result of the IPCC's and other scientific work, most scientists believe that anthropogenic emissions of GHGs increase the heat-absorbing capacity of the atmosphere and will result in a corresponding increase in the global average temperature"); Dan Bodansky & David Freestone, *Series Editors' Preface to KYOTO: FROM PRINCIPLES TO PRACTICE* at xvii, xvii (Peter D. Cameron & Donald Zillman eds., 2001) (noting that the scientific consensus on global climate change is growing stronger); Albert Mumma, *The Poverty of Africa's Position at the Climate Change Convention Negotiations*, 19 UCLA J. ENVTL. L. & POL'Y 181, 182 (2000/2001) (referring to the "mainstream scientific opinion" on climate change and its effects).

6. Peter Duncanson Cameron, *The Kyoto Process: Past, Present and Future*, in *KYOTO: FROM PRINCIPLES TO PRACTICE*, *supra* note 5, at 3, 7; OECD Report, *supra* note 5, at 12.

7. OECD Report, *supra* note 5, at 12.

8. See IPCC SECOND ASSESSMENT REPORT, *supra* note 1, ¶ 2.2, at 4.

9. See *id.*

10. See *id.* ¶ 1.2, at 3, ¶ 2.8, at 5, ¶ 3.14, at 7–8.

11. See *id.* ¶ 3.8, at 7.

12. See *id.* ¶ 3.15, at 8.

13. See *id.* ¶ 3.14, at 8 (noting that countries with coastal populations are vulnerable to extreme climatic events like "storm surges"). For concise descriptions of the causes and effects of climate change, see Breidenich, *supra* note 1, at 316–317; Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 6–7.

In contrast to the scientific debate, the economic and political debate over what to do about global climate change continues in full force.¹⁴ Most economists and policymakers have agreed that climate change is a serious threat.¹⁵ Unmitigated global climate change would render massive investments in capital infrastructure worthless, force huge numbers of people from their homes and livelihoods, and wreak havoc on the natural environment.¹⁶ The consensus, however, ends there. Debate continues over how and by whom emissions reductions will be made.¹⁷

The discussion over which nations will be responsible for reducing carbon emissions to ameliorate the greenhouse effect began as early as 1992 at the United Nations Conference on Environment and Development in Rio de Janeiro. The delegates to the Rio conference, representatives of more than 140 nations, penned the Framework Convention on Climate Change (FCCC), a preliminary agreement to reduce carbon emissions without substantive, binding obligations for particular nations.¹⁸ Developing nations, with their nascent industries and struggling economies, balked at being ordered to reduce their emissions in order to help solve an environmental problem caused largely by the earlier, pollution-heavy indus-

14. See James M. Lindsay, *Global Warming Heats Up: Uncertainties, Both Scientific and Political, Lie Ahead*, BROOKINGS REV., Fall 2001, at 26, 26–29 (noting that “[t]he global warming debate is heating up”); Vanessa Houlder, *Experts Raise Heat Another Notch in Climate Debate*, FIN. TIMES, Jan. 23, 2001, at 15 (noting that the IPCC’s new and stronger scientific evidence is likely to have “a powerful influence” on the ongoing political debate over climate change); Charlotte Schubert, *Global Warming Debate Gets Hotter*, 159 SCI. NEWS 372, 372 (2001) (discussing the negative response of environmentalists to President Bush’s alternatives to the Kyoto Protocol).

15. Leaders from more than 140 nations agreed that climate change was enough of a threat to establish the Framework Convention on Climate Change (FCCC) in order to negotiate an agreement to address the problem. The progress of the FCCC is discussed in detail below. Further, Peter Cameron noted that “there appears to be a world-wide consensus among policymakers that a problem does indeed exist.” Cameron, *supra* note 6, at 7.

16. See Breidenich, *supra* note 1, at 316.

17. See Lindsay, *supra* note 14, at 27–28.

18. *United Nations Framework Convention on Climate Change*, 5th Sess., Part II, Annex I, U.N. Doc. A/AC.237/18(Part II)/Add.1 (1992) [hereinafter *Framework Convention*]; see also Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 8 (noting that drafters of international environmental treaties must avoid imposing unfair burdens on developing countries).

trial revolutions of today's developed world.¹⁹ Developed nations seemed to have some sympathy for this position: The Framework Convention on Climate Change established the principles of "common but differentiated responsibilities" and "developed country leadership," requiring all countries to assume some responsibility for combating climate change, but ordering developed nations to take the lead, both in emissions reductions and in technological innovations.²⁰

Developed country altruism seemed to wane, however, when it came time to set binding commitments for emissions reductions. During the drafting of the Kyoto Protocol in 1997, the United States pressed for reductions commitments from developing nations.²¹ The U.S. Senate passed a resolution just prior to the Kyoto negotiations to accept no agreement limiting U.S. carbon emissions unless developing countries also agreed to binding reduction obligations.²² Ultimately, developing countries managed to hold their ground, and the Kyoto Protocol today contains no binding obligations for developing countries.²³ Under the current agreement only developed nations, known as "Annex I" countries, have binding emissions reductions obligations.²⁴ However, the failure of the U.S. to ratify the Protocol in 2001 threatened to derail the tenuous agreement.²⁵ Whether the remaining countries can and will implement the Protocol without the participation of the United States remains to be seen.²⁶

Debate also continues over how to reduce carbon emissions.²⁷ Over the past few decades, a number of prominent

19. See Mumma, *supra* note 5, at 187-88.

20. See Lindsay, *supra* note 14, at 28.

21. See Lindsay, *supra* note 14, at 28; see also Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 19 (indicating the pressure placed on the United States government by industries that relied heavily upon fossil fuel burning).

22. Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 19.

23. See Kyoto Protocol to the United Nations Framework Convention on Climate Change, Conference of the Parties, 3d Sess., U.N. Doc. FCCC/CP/1977/7/Add.1 (1997) [hereinafter Kyoto Protocol].

24. See *id.* art. 2 (including those undergoing the transition to a market economy).

25. See Lindsay, *supra* note 14, at 28 (quoting national security advisor Condoleezza Rice as saying "Kyoto is dead").

26. *Id.* at 28-29.

27. This Part focuses on economic analysis of potential climate change solutions. Notably, a number of scholars have asserted that economic analy-

economists and legal scholars, including Robert Stavins and Richard Stewart, have argued that command-and-control regulations, which require individual nations and firms to meet certain non-transferable reduction obligations, are an inefficient way to address environmental problems.²⁸ Command-and-control regulations prohibit each polluter from exceeding a certain preset emissions limit, even though some might be able to reduce more cheaply than others.²⁹ These scholars, as well as a number of policymakers, have argued for regulatory schemes that account for economic incentives and market forces.³⁰ According to Stavins, Richard Revesz, and Nathaniel Keohane, “[a]t least in theory, market-based [environmental regulations] minimize the aggregate cost of achieving a given level of environmental protection, and provide dynamic incentives for the adoption and diffusion of cheaper and better con-

sis is itself misguided. While that may be true, this paper attempts to confront economists on their own turf, so to speak. It will use economic rhetoric and analysis to contend that even in their own models, economists have left a large variable out of the equation.

28. Stavins asserts that command-and-control regulations like uniform technology and performance standards “tend to lead to non-cost-effective outcomes in which firms use unduly expensive means to control pollution.” Robert N. Stavins, *Policy Instruments for Climate Change: How Can National Governments Address a Global Problem?*, 1997 U. CHI. LEGAL F. 293, 300. Stewart, along with Bruce Ackerman, argues that command-and-control regulations are inefficient forms of environmental regulation generally, wasting billions of dollars annually. See Bruce Ackerman & Richard Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1339-40 (1985). According to Stewart and Ackerman, numerous studies have shown command-and-control regulations to be radically more expensive than alternative solutions. See *id.* at 1338-39.

29. See Tara Bunker, *Environmental Upgrade: The Potential for Chile to Use Market Incentives in Preparing for NAFTA Accession*, 8 COLO. J. INT’L ENVTL. L. & POL’Y 165, 173 (1997).

30. See Richard B. Stewart, *Models for Environmental Regulation: Central Planning Versus Market-Based Approaches*, 19 B.C. ENVTL. AFF. L. REV. 547, 552-555 (1992) (praising the U.S.’s recent use of market-based environmental regulation); see also Jeanne M. Dennis, Comment, *Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990*, 40 UCLA L. REV. 1101, 1102 (1993) (noting that “the United States commitment to capitalism led policymakers to advocate the use of economic pressures, such as markets, as more palatable environmental regulatory systems than ‘command and control’ regulation”); Stavins, *supra* note 28, at 302 (noting that “considerable attention” in scholarship has been devoted to the use of market-based instruments for alleviating global climate change).

trol technologies.”³¹ In fact, the academic pressure for market-based, rather than command-and-control, environmental regulation has been so strong that, according to one article, “every major environmental policy review in the last five years has called for even greater use of [market-based environmental regulation].”³²

In the global climate change context, the primary market-based regulatory options are carbon taxation and emissions trading. Under a carbon taxation system, national or international regulators would allow producers to emit as much carbon as they desired, but would levy a tax for each ton of carbon emitted.³³ This would allow regulators to determine the price of emissions but not the global amount of carbon emitted. Under an emissions trading scheme, discussed in greater detail below, regulators would distribute a finite number of permits to potential polluters who could then buy and sell them at will, depending on how much carbon they wished to and could afford to emit.³⁴ This would allow regulators to set limits on the global amount of carbon emitted, but not the price per ton.

Economic incentive regulations are appealing to economists for two reasons. First and foremost, they are more efficient than command-and-control regulations because they allow the countries or firms that wish to emit carbon to treat it as just another cost of doing business. Economic incentive regulations force emitters to internalize the cost of pollution and thus determine exactly how much they are willing to pay for it. In other words, economic incentive programs allow individual firms or nations to choose how much to spend on carbon

31. Nathaniel O. Keohane, Richard L. Revesz & Robert N. Stavins, *The Choice of Regulatory Instruments in Environmental Policy*, 22 HARV. ENVTL. L. REV. 313, 314 (1998).

32. James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607, 609 (2000). Salzman and Ruhl cite several influential policy review groups which called for increased use of market-based environmental regulation, including the President's Council on Sustainable Development convened by President Clinton; the “Next Generation Project,” sponsored by Yale University with academic experts like Carl Rose and Don Elliot; and Enterprise for the Environment, a consensus panel including “influential environmental policy figures such as former EPA administrators Bill Ruckelshaus and Bill Reilly.” See *id.* at 609 n.3.

33. See Stewart, *supra* note 30, at 552.

34. See *id.* at 553.

emissions, rather than having an amount dictated to them by national or international regulation.³⁵ Economists believe that the internalization of the externality of pollution will force a reduction in emissions but at a lower cost to businesses than pre-determined, uniform reductions promulgated through command-and-control regulations.³⁶

Second, some economists, notably Lawrence Goulder, have suggested that economic incentive regulations will create “double dividends.”³⁷ Besides reducing pollution, there is the possibility of such regulations raising revenues that can be spent to finance climate change research, alleviate the effects of climate change, off-set the expenditures of polluters, supplement national or international regulatory agency budgets, or for any other purpose that regulators select.³⁸ Under a carbon taxation scheme, revenues would accrue in the form of tax payments.³⁹ An emissions trading scheme could generate revenues through the initial distribution of the permits if regulators auctioned permits to the highest bidders, rather than allocating them for free based on past or current population.⁴⁰ Economists suggest that because of the creation of “double dividends,” carbon taxation is arguably the least expensive reduction alternative,⁴¹ with emissions trading through auctioned permits not far behind.⁴²

35. *C.f.* Dennis, *supra* note 30, at 1102.

36. *See* Salzman & Ruhl, *supra* note 32, at 620.

37. *See generally* Lawrence Goulder et al., *The Cost-Effectiveness of Alternative Instruments for Environmental Protection in a Second-Best Setting*, 72 J. PUB. ECON. 329 (1999) (applying a general equilibrium efficiency analysis to determine the impact of pre-existing taxes for the costs of pollution reduction under a range of environmental policy instruments).

38. *See* Goulder et al., *supra* note 37, at 330.

39. *See* Stavins, *supra* note 28, at 306.

40. *See id.*

41. *See generally* Lawrence H. Goulder, *Environmental Taxation and the Double Dividend: A Reader's Guide*, 2 INT'L TAX & PUB. FIN. 157 (1995) (arguing that double dividends provide for optimal environmental taxation).

42. *See* Ackerman & Stewart, *supra* note 28, at 1343 (arguing that revenues from auctioned permits in an emissions trading scheme “could well equal the amount polluters would spend in cost-minimizing control activities”).

B. *Emissions Trading: An Overview*

Though economists first theorized about emissions trading in the 1960s,⁴³ the concept grew in popularity in the past few decades, with the focus on market-based regulation more generally.⁴⁴ Stewart and Stavins, along with Bruce Ackerman and numerous other economic and legal scholars, have since championed trading as an efficient way to reduce a number of environmental pollutants.⁴⁵ Like carbon taxation programs, emissions trading schemes would allow emitters to choose how much pollution they want to “purchase.” Emissions trading schemes, however, have an added advantage: the transferability of pollution permits. Under an emissions trading scheme, each firm or nation has a binding reduction obligation, but each could meet this obligation either by making reductions itself or by purchasing them from another firm or nation.⁴⁶ Economists argue that this allows reductions to be made in the places where they cost the least, thereby reducing the overall cost of worldwide emissions reductions.⁴⁷

43. Keohane, *supra* note 31, at 314 n.3 (mentioning the introduction of the trading concept by John H. Dales in 1968 and the elaboration by W. David Montgomery in 1972).

44. See Salzman & Ruhl, *supra* note 32, at 609 (noting a “sea change in environmental law and policy” over the past decade, “marked by growing interest in market-based instruments[,]” especially environmental trading markets). Salzman and Ruhl also note that there is today a “vast literature” on environmental trading markets. *Id.* at 613.

45. See Ackerman & Stewart, *supra* note 28, at 1341–42 (arguing that “[a] system of tradeable rights will tend to bring about a least-cost allocation of control burdens, saving many billions of dollars annually”); Stavins, *supra* note 28, at 297–98 (noting that market based instruments like emissions trading programs can be cost-effective in theory); see also Keohane, *supra* note 31, at 313–14 (noting economists’ consistent endorsement of market-based regulation, such as emissions trading); *Free Lunch or Cheap Fix?*, *supra* note 3, at 35 (noting that “[m]any American scholars and government officials tend to view emissions trading as a free lunch, a proposition with no significant downside”).

46. See Stewart, *supra* note 30, at 558 (“Under tradeable allowances, [greenhouse gas] emitters would receive allowances and be free to trade them.”).

47. According to Stewart, “[b]ecause the cost of limiting [] emissions is likely to vary considerably among emitters, market-based allocation of compliance burdens [through emissions trading] could achieve significant cost savings and promote innovation.” *Id.*; see also Salzman & Ruhl, *supra* note 32, at 620 (noting that proponents of trading programs argue that emissions trading allows each polluter to “make an efficient individual decision”).

A simplified example helps to illustrate the theoretical advantages of transferable emissions permits. Suppose Power Plant A, which emits 1,000 tons of carbon, is required to reduce its emissions by 500 tons. Plant A already uses high quality pollution reduction technology; to reduce its emissions further, it would have to cut its output or invest in the latest, state-of-the-art technology which limits emissions even further, but is very expensive. Thus, reductions would cost Plant A \$1,000 per ton. Plant B is also required to reduce its emissions by 500 tons. Plant B uses old, out-dated pollution reduction technology and could implement the technology that Plant A already uses at fairly low cost. Thus, Plant B could reduce emissions for \$500 per ton. If Plant A and B each meet their emissions reductions obligations themselves, without any trading, Plant A would spend \$500,000 and B would spend \$250,000. Overall, 1,000 tons of emissions reductions would cost the economy \$750,000. On the other hand, under a trading program, Plant A could purchase emissions credits from Plant B at the lower price. Thus, Plant B would make 1,000 tons of reduction for a total price of \$500,000. Plant B could even charge Plant A a premium (anywhere between \$501 and \$999) and the reductions would still cost less than if Plants A and B each had to make reductions independently. Price differentials can arise from disparate technology, as here, but can also stem from the development of efficient production processes in Plant B, Plant B's agreement to produce less, or a variety of other situations.⁴⁸

A number of scholars have argued that emissions trading will be most successful on an international scale.⁴⁹ International trading would allow countries or firms in the developed world, who have generally already limited carbon emissions through improved technology, to buy permits from developing nations who are not using them or to earn emissions credits by financing pollution reduction in developing nations. Ba-

48. For a similar example, see Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 35-36.

49. See OECD Report, *supra* note 5, at 8 (suggesting that international emissions trading under the Kyoto Protocol could reduce significantly the costs of meeting the Protocol's emissions reduction targets); Stavins, *supra* note 28, at 322-23 (arguing that at the international level, market-based regulations, specifically emissions trading, are "clearly superior"); see also *id.* at 298; Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 36.

sically, international schemes might allow the benefits of trading on the grandest scale, thus permitting the greatest efficiency gains.⁵⁰

These efficiency gains have lead economists to call emissions trading a “win-win” situation, as well as “a free lunch.”⁵¹ Further, Stewart, Ackerman, and Stavins have all repeatedly asserted that trading invites innovation: They argue that emissions trading creates an incentive for some actors to develop new technology in order to make more reductions than a regulator requires, because owners of these “overcomplying” sources may sell these credits to other pollution sources.⁵² Some have also suggested that international emissions trading fosters assisted and sustainable development, as it encourages developed countries to transfer technologies and expertise to developing nations in exchange for emissions credits.⁵³

C. Emissions Trading in Practice

Emissions trading has already made the transition from theory to practice. The United States has engaged in an internal sulfur dioxide emissions trading program for over a decade.⁵⁴ This national program was implemented by Title IV of the Clean Air Act Amendments of 1990 in order to reduce the sulfur dioxide emissions that cause acid rain.⁵⁵ Like carbon emissions, sulfur emissions result from the burning of fossil

50. See Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 37-38 (elaborating the cost-effectiveness justification for international emissions trading).

51. See *id.* at 2, 35.

52. See Ackerman & Stewart, *supra* note 28, at 1342; Stavins, *supra* note 28, at 303 (asserting that trading “would promote dynamic efficiency,” meaning that it would provide continuous incentives for developing better emissions control technologies); Keohane, *supra* note 31, at 314; see also Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 COLUM. J. ENVTL. L. 171, 183 (1988) (arguing that a marketable permit system would “reward innovative improvements in existing cleanup techniques”).

53. See Mumma, *supra* note 5, at 191-93 (noting that during the negotiations over the Kyoto Protocol, parties promoted trading through the Clean Development Mechanism “as a new channel for financial assistance [for developing countries], investments to promote sustainable development, technology transfer and the promotion of equity”).

54. See U.S. Env'tl. Prot. Agency, *Sulfur Dioxide (SO₂) Allowance Trading Program* (Feb. 2, 1998), available at <http://yosemite.epa.gov/aa/programs/nsf/0/06a411fee3006e238525651e16?OpenDocument>.

55. See 42 U.S.C. § 7651(b) (1990).

fuels,⁵⁶ especially by electric utilities, and are thus closely linked to production and economic growth.⁵⁷ Lawmakers opted for a trading scheme to mollify those who asserted that command-and-control regulations were inefficient and overly expensive.⁵⁸

Title IV, also known as the Acid Decomposition Control Program, mandates massive reductions in sulfur dioxide emissions from 1980 levels.⁵⁹ In order to achieve the reductions, Title IV initially allowed the Environmental Protection Agency (EPA) Administrator to distribute a pre-determined number of pollution allowances to electric utilities based on their emissions levels in previous years.⁶⁰ Each allowance permits a utility to emit one ton of sulfur dioxide into the atmosphere.⁶¹ Utilities that hold more than enough allowances to cover their emissions in a given year are free to sell them to another firm or to save them for a later year.⁶² Utilities that emit more than their share can buy extra allowances from other firms. Each year, the EPA uses Continuous Emission Monitoring System (CEMS) technology to ensure that the amount of emissions a utility emits is equal to the number of allowances it holds.⁶³ If a utility's emissions exceed its allowances, it must pay a fine of \$2,000 and make up for the excess pollution in the following year.⁶⁴ In order to encourage the development of a robust

56. See U.S. DEPARTMENT OF ENERGY REGIONAL BIOMASS ENERGY PROGRAM, BIOFUELS . . . BETTER FOR THE ENVIRONMENT 2, available at <http://www.ott.doe.gov/rbep/pdfs/betterforenvironment.pdf> (last accessed Oct. 15, 2003).

57. See Frank B. Cross, *The Naïve Environmentalist*, 53 CASE W. RES. L. REV. 477, 493 (2002) (explaining the Kuznets curve and the relationship between pollution and economic growth). But see U.S. ENVTL. PROT. AGENCY, PUB. NO. EPA 454/K-03-001, LATEST FINDINGS ON NATIONAL AIR QUALITY: 2002 STATUS AND TRENDS I (2003), available at http://www.epa.gov/airtrends/2002_airtrends_final.pdf.

58. See Jeffrey M. Hirsch, *Emissions Allowance Trading Under the Clean Air Act: A Model for Future Environmental Regulations?*, 7 N.Y.U. ENVTL. L.J. 352, 360 (1999).

59. Dennis, *supra* note 30, at 1114.

60. See *id.* at 1115-16.

61. Brian L. Ferrall, *The Clean Air Act Amendments of 1990 and the Use of Market Forces to Control Sulfur Dioxide Emissions*, 28 HARV. J. ON LEGIS. 235, 241 (1991).

62. Dennis, *supra* note 30, at 1115.

63. *Id.* at 1115.

64. *Id.* at 1118.

market in allowances, Congress required periodic EPA sponsored auctions⁶⁵ and permitted anyone, not just utility owners, to purchase credits (thus inviting the participation of skilled market participants like brokers and investors).⁶⁶

Title IV appears to be a success, both environmentally and economically.⁶⁷ The program has reduced emissions by thirty-five percent more than the pre-existing command-and-control emissions cap, with a cost savings of twenty-five to thirty-five percent (about \$225-375 million) each year.⁶⁸ According to the EPA, it has also fostered innovation, as sulfur removal technology has become radically more effective and less expensive during the life of the program.⁶⁹ Title IV has garnered praise from a wide range of sources. Regulated utilities applaud the program for the cost savings it offers, and even the Environmental Defense Fund (EDF) has come out in favor of the program.⁷⁰ EDF has asserted that “[t]he superior environmental and economic results of . . . the [sulfur dioxide trading] program are precisely what should have been expected of a program that matched an explicit emissions limit with a market that turned pollution reductions into marketable assets.”⁷¹

Like sulfur emissions trading, carbon emissions trading is also making the transition from mere economic jargon to political reality. The Kyoto Protocol, the international global climate change accord, envisions two types of carbon emissions trading: “Joint Implementation” and the “Clean Development

65. See Ferrall, *supra* note 61, at 243-244 (including a description of the auction process).

66. See Dennis, *supra* note 30, at 1117-18.

67. See Salzman & Ruhl, *supra* note 32, at 621 (noting that the “acid rain trading program has been regarded as a success story”).

68. Hirsch, *supra* note 58, at 385. According to Salzman and Ruhl, some economists have estimated even greater cost-savings, finding “the compliance costs [under the trading program] were up to forty percent lower than would have been the case under existing command-and-control requirements.” Salzman & Ruhl, *supra* note 32, at 621.

69. See CLEAN AIR MKTS. DIV., U.S. ENVTL. PROT. AGENCY, PUB. NO. 430F-02-009, CLEARING THE AIR: THE FACTS ABOUT CAPPING AND TRADING EMISSIONS 7 (2002), available at <http://www.epa.gov/airmarkets/articles/clearingtheair.pdf> (last visited Sept. 3, 2003).

70. See Keohane, *supra* note 31, at 354 (noting EDF’s “enthusiastic and effective support” of the program).

71. CLEAN AIR MKTS. DIV., *supra* note 69, at 10 (internal quotation marks omitted).

Mechanism."⁷² These two types represent the Protocol's division between Annex I and non-Annex I nations. As noted above, Annex I includes all developed country signatories; the Protocol imposes binding obligations on these nations, requiring them to reduce emissions by a varying percentage below 1990 levels.⁷³ The Protocol does not impose binding, quantifiable emissions reductions obligations on developing nations, or non-Annex I countries.⁷⁴ Article 10, however, requires all signatories to take designated steps toward reducing emissions.⁷⁵

The Joint Implementation option, described in Article 6, allows the developed nations of Annex I to trade amongst themselves.⁷⁶ These nations may trade with each other provided that they meet several conditions. First, both trading parties must agree to any particular trade.⁷⁷ Second, the trade must produce reductions additional to any that would otherwise occur⁷⁸; in other words, if a power plant in Canada closed down due to inadequate financing, Canada could not then sell the resulting reduction in emissions to the U.S. because these emission reductions would have occurred even without trading. Third, Annex I parties may not trade if they are not in compliance with other provisions of the Protocol.⁷⁹ Finally, and rather significantly, the parties may obtain credits through trading only if they are also taking steps to reduce emissions domestically.⁸⁰

The Clean Development Mechanism (CDM) allows Annex I nations to earn credits by assisting non-Annex I nations to reduce their emissions.⁸¹ According to Article 12 of the Protocol, the purpose of CDM is to help non-Annex I parties to achieve sustainable development, while assisting Annex I countries in meeting the quantified emissions reductions com-

72. See Kyoto Protocol, *supra* note 23, arts. 6, 12.

73. See Kyoto Protocol, *supra* note 23, art. 3(1); *supra* Part I(A).

74. See generally Kyoto Protocol, *supra* note 23 (addressing all commitments to Annex I parties).

75. See *id.* art. 10.

76. See *id.* art. 6(1).

77. See *id.* art. 6(1)(a).

78. See *id.* art. 6(1)(b).

79. See *id.* art. 6(1)(c).

80. See *id.* art. 6(1)(d).

81. See *id.* art. 12(2).

mitments imposed by the Protocol.⁸² Like Joint Implementation, CDM requires approval by each of the parties to a proposed trade, as well as emissions reductions supplemental to those that would occur otherwise.⁸³ Article 12 also establishes a rudimentary administrative structure for trading under CDM, and requires further elaboration on CDM procedures by Protocol signatories at a later meeting. It dictates that emissions reductions through CDM be certified by “operational entities to be designated by the Conference of the Parties.”⁸⁴ Article 12 also requires that some of the proceeds from certified CDM projects be used to cover the administrative expenses of developing nation participants and to defray the costs of adaptation by developing nations that are particularly vulnerable to the adverse effects of climate change.⁸⁵ Though the Protocol itself does not establish procedures to enforce these rules, it requires that its future signatories “approve appropriate and effective procedures and mechanisms to determine and to address cases of non-compliance” at their first meeting as signatories.⁸⁶

The Kyoto Protocol, however, does not provide the exclusive venue for trading. Signatory nations could trade outside the bounds of the Protocol, although they would likely not receive credits towards their Kyoto obligations. The European Union, for example, could institute its own carbon emissions cap and allow member states to trade with each other to meet this E.U. cap. Nations that did not ratify the Kyoto Protocol would also be free to form their own climate change treaty and to trade emissions amongst themselves to meet their carbon reductions goals. Furthermore, the Protocol itself contains provisions for its own amendment.⁸⁷ In order to entice the ratification of recalcitrant nations like the United States, the Kyoto’s signatories might be willing to modify the trading provisions. Thus, the Kyoto Protocol provides a framework for envisioning the effects of trading, but certainly not the only possible framework.

82. *See id.*

83. *See id.* art. 12(2).

84. *Id.* art. 12(5).

85. *Id.* art. 12.

86. *Id.* art. 18.

87. *Id.* art. 21.

II. THE DEVELOPMENT CRITIQUE

Critics of colonialism and exploitation have existed as long as colonialism and exploitation themselves. But what I term the “development critique” began in earnest in the late 1950s with two pioneer theorists, Hans Singer and Raul Prebisch. Economists had long struggled to explain why some nations prospered and others languished in poverty. Until the late 1950s, many viewed the problem of underdevelopment through the lens of classical economic theory: Economists clung to the Ricardean assumption of comparative advantage and attributed underdevelopment to undercapitalization.⁸⁸ Thus, they believed that developing countries could get rich by producing a specialized commodity for export and that Western nations could help them along, as they had helped to rebuild Europe under the Marshall Plan, by simply sending money.⁸⁹

Prebisch and Singer challenged the simplicity and optimism of these earlier models. They contended that developing countries were not slowly converging with developed nations through specialization and external capitalization; instead, they were trapped in a relationship of dependence and domination with the developed world.⁹⁰ They further asserted that colonialism and historical dominance by the Western world had pressed the developing world into an inferior and self-perpetuating trade relationship.⁹¹ According to another economist, Theotonio Dos Santos, “[d]ominant countries are

88. See JAMES M. CYPHER & JAMES L. DIETZ, *THE PROCESS OF ECONOMIC DEVELOPMENT* 177 (1997) (explaining economists’ “very basic orthodox economic contention, from the time of David Ricardo at least, that the pursuit of comparative advantage in international trade will benefit all participating nations and that, in time, income levels between different regions of the world should tend toward equality as a consequence of equalizing tendencies set in motion by the movement of goods and factors of production with free trade”).

89. See MICHAEL P. TODARO, *ECONOMIC DEVELOPMENT* 79 (7th ed. 2000). For a description of these so-called “linear-stages” theories, see *id.* at 79–84.

90. CYPHER & DIETZ, *supra* note 88, at 177; OZAY MEHMET, *WESTERNIZING THE THIRD WORLD: THE EUROCENTRICITY OF ECONOMIC DEVELOPMENT THEORIES* 80 (2d ed. 1999).

91. See MEHMET, *supra* note 90, at 80 (noting that the results of empirical studies by Prebisch and Singer showed that “the terms of trade seemed to be biased against [underdeveloped] primary producers and that these terms had been deteriorating for . . . nearly a hundred years”).

endowed with technological, commercial, capital and socio-political predominance over dependent countries – the form of this predominance varying according to the particular historical moment – and can therefore exploit them, and extract part of the locally produced surplus.”⁹² Rather than getting rich through comparative advantage, developing nations continually were producing the cheapest raw materials and agricultural products while developed nations continually developed new and better technology to export to the poor developing world at high prices.⁹³ This, argued Dos Santos, created “an international division of labor which allows industrial development to take place in some countries while restricting it in others, whose growth is conditioned by and subjected to the power centers of the world.”⁹⁴

Prebisch and Singer found that rather than being helped along the development path by developed nations, developing countries were actually in an antagonistic and losing relationship with their so-called benefactors.⁹⁵ Since the late 1950s, subsequent theorists, including Stephen Marglin, Ozay Mehmet, and Charles Pouncy, have expanded upon this hypothesis to form what I call the development critique.⁹⁶ According to these development critics, aid from the developed world often helped only the so-called *comprador* class in developing nations: wealthy elites who, often as a result of past colonialism, were tied more to developed countries than to their home countries and who cared more about lining their

92. Theotonio Dos Santos, *La Crisis de la Teoría del Desarrollo y las Relaciones de Dependencia en América Latina*, in *LA DEPENDENCIA POLÍTICO-ECONÓMICA DE AMÉRICA LATINA* (Jaguaribe et al. eds., 1969), *quoted in* TODARO, *supra* note 89, at 92.

93. Ozay Mehmet explains that Singer and Prebisch concluded that “far from working as an engine of growth, diffusing gains of trade to all countries that were specialized and traded according to Ricardean theory, trade had actually impoverished [underdeveloped] primary producers.” MEHMET, *supra* note 90, at 80.

94. Dos Santos, *supra* note 92, at 92.

95. See MEHMET, *supra* note 90, at 80.

96. See, e.g. Stephen A. Marglin, *Towards the Decolonization of the Mind*, in *DOMINATING KNOWLEDGE: DEVELOPMENT, CULTURE, AND RESISTANCE 1* (Frédérique Apffel Marglin & Stephen A. Marglin eds., 1990); Charles R.P. Pouncy, *Stock Markets in Sub-Saharan Africa: Western Legal Institutions as a Component of the Neo-Colonial Project*, 23 U. PA. J. INT’L ECON. L. 85 (2002); MEHMET, *supra* note 90.

own pockets than about facilitating domestic development.⁹⁷ Further, under the “false paradigm” model, theorists argue that underdevelopment often was caused or at least exacerbated by “faulty and inappropriate advice provided by well-meaning but often uninformed, biased, and ethnocentric international ‘expert’ advisors from developed-country assistance agencies and multinational donor organizations.”⁹⁸

Development critics also assail the equation of development with Westernization, arguing that “the intellectual dominance of the Western model has derived not from its inherent and unequivocal superiority,” but rather from the political and military dominance of Western powers.⁹⁹ Marglin and Pouncy have both contended that defining development and social progress in terms of Westernization is harmful to developing nations on several levels.¹⁰⁰ First, they argue, it limits the development options open to these nations, foreclosing alternative development paths more compatible with indigenous cultures and traditions.¹⁰¹ Second, it imposes Western structures and ideas onto developing nations.¹⁰² These Western structures, according to Marglin, infect developing nations with some of the negative aspects of Western culture, including environmental despoliation and obsession with work.¹⁰³ Western structures also supplant valuable local customs, understandings, and technologies.¹⁰⁴ Pouncy has asserted that “Western legal regimes have totally rewritten traditional understandings of family relationships, gender and sexuality, and real property interests, to name but a few areas of cultural contamination.”¹⁰⁵ Marglin likens development to coercion, as Western powers impose their views and structures onto developing na-

97. See TODARO, *supra* note 89, at 91.

98. TODARO, *supra* note 89, at 92. Mehmet argues that mainstream Western economics “has produced flawed theories of economic development for the Third World” and that these theories “have lacked fit resulting in distorted and biased Third World development.” MEHMET, *supra* note 90, at 3.

99. Marglin, *supra* note 96, at 3 (reiterating the argument of Tariq Banuri).

100. See Marglin, *supra* note 96, at 3; Pouncy, *supra* note 96, at 85-86.

101. Marglin, *supra* note 96, at 3.

102. See *id.* at 7; Pouncy, *supra* note 96, at 85-86.

103. See Marglin, *supra* note 96, at 3.

104. See Pouncy, *supra* note 96, at 85; Marglin, *supra* note 96, at 3.

105. Pouncy, *supra* note 96, at 85.

tions.¹⁰⁶ He notes as an example that in colonial India, British officials introduced smallpox vaccination despite the existence of a viable indigenous inoculation method known as variolation.¹⁰⁷ Rather than using vaccination and variolation as complements to each other, the British outlawed the local method entirely.¹⁰⁸ Further, scholars assert, the imposition of Western structures creates a conduit through which the developed world can exploit the resources of the developing world.¹⁰⁹ According to Pouncy the creation of Western-style stock markets in Sub-Saharan Africa has not served the intended purpose of establishing capital markets to fund domestic African enterprise.¹¹⁰ Instead, it has allowed Western powers to buy up African resources to use for their own benefit.¹¹¹

These criticisms have gained momentum in recent years with the increase in Western intervention in developing nations through the conditional lending practices of organizations like the World Bank and the International Monetary Fund (IMF).¹¹² In exchange for increased or continued loans, these organizations began requiring debtor nations to undertake reforms dictated by neo-liberal economic policy.¹¹³ Under these "structural adjustment programs," the IMF and the World Bank required debtor nations to forego significant governmental inventions, including trade restrictions and industrial subsidies.¹¹⁴

Development critics attack structural adjustment programs on two grounds. First, critics like Mehmet argue that

106. Marglin, *supra* note 96, at 7-10.

107. *Id.*, at 7-8.

108. *Id.* at 8.

109. *See, e.g., id.* at 7 (arguing "that the transformation of work into its modern Western form was the result of deliberate attempts to take control of process and product from the worker").

110. *See* Pouncy, *supra* note 96, at 104.

111. *See id.*

112. *See* MEHMET, *supra* note 90, at 125-33 (describing the conditional lending practices of the IMF and World Bank and criticizing the effects of these practices on development); Migai Akech, *The African State, Markets and the Rule of Law: An Introduction* (draft) (manuscript at 1-4, on file with N.Y.U. Journal of International Law and Politics) (criticizing the effects of IMF and World Bank conditional lending policies on African nations).

113. *See* MEHMET, *supra* note 90, at 128-29.

114. *See* RICHARD SANDBROOK, *THE POLITICS OF AFRICA'S ECONOMIC RECOVERY* 2-3 (1993).

these programs, though hidden behind the guise of development assistance, are actually motivated by the economic goals of the Western organizations that imposed them.¹¹⁵ Similarly, in an article on Africa's economic woes, Richard Sandbrook argues that "[i]t would be naïve to treat . . . the World Bank and the IMF[] as non-ideological agencies open-endedly searching for cures for Africa's financial disequilibria, stagnation, poverty and oppression."¹¹⁶ Instead, he contends, the World Bank and the IMF have structured economic reform programs to meet their longtime goals of "integrat[ing] as many national economies as possible into multilateral global capitalist economy."¹¹⁷ Thus, according to Sandbrook and Mehmet, the policies of so-called development assistance organizations are often aimed at furthering the goals of their Western managers rather than their developing country beneficiaries.

Second, critics argue that this allegiance to Western interests has resulted in economic reform programs that are often harmful to developing nations.¹¹⁸ Sandbrook argues that although "[o]pen, export-oriented development may meet the needs of international capital and the advanced industrial countries[,] it does not necessarily advance the interests of the poor within low-income developing countries."¹¹⁹ Mehmet goes even further, asserting that structural adjustment policies have contributed to falling real wages, rising food prices, ethnic violence, and political instability in several African, Latin American, and Asian countries.¹²⁰ He contends that while the West can simply reformulate its terms "to ensure that foreign debts are repaid by borrowers, the true social costs . . . are

115. Mehmet asserts that World Bank and IMF conditional lending programs have "a Western, capitalist bias," which "favours Western capital and technology, and tends to increase foreign control and ownership in developing countries." He further contends that "[t]he terms of 'conditionality' of [World Bank and IMF lending] and debt rescheduling are determined in Washington, Paris or London in a manner which completely ignores the social and domestic policy constraints in borrowing countries." MEHMET, *supra* note 90, at 132.

116. SANDBROOK, *supra* note 114, at 4.

117. *Id.*

118. *See id.* at 4, 11.

119. *Id.* at 4.

120. *See* MEHMET, *supra* note 90, at 2, 132.

borne by Third World victims.”¹²¹ According to Mehmet, despite years of sacrifice, many developing countries have yet to see any of the promised benefits.¹²² The criticisms of structural adjustment programs echo the “false paradigm” argument that Western policy makers and development advocates, who formulate policy programs based on economic theory and Excel spreadsheets, often do more to harm developing nations than to help them.

The development critique, then, indicts developed countries for creating a system of dominance and dependence with developing nations, imposing Western structures and values upon nations that may not welcome or know how to manage them, exploiting the resources of developing nations, and pushing often wrong-headed development policies that force developing nations to make major sacrifices for little gain.

Arguably, the development critique is overly critical. In its quest to condemn Western influence, it ignores many positive contributions of the developed world and romanticizes many unfortunate traits of the developing world. Marglin, for example, condemns Western work as meaningless, while praising the often back-breaking work of the developing world as filled with “transcendent meaning.”¹²³ In his haste to denounce everything Western, he ignores the developed world’s success in affording its citizens greater job security and choice, and offers a naïve and overly sunny picture of manual labor in developing countries.¹²⁴ Further, the development critique often denies that developing countries have any agency to affect their fate, a position which is arguably neo-colonial itself.

III. EMISSIONS TRADING AND DEVELOPMENT

Despite its flaws, the development critique is valuable both for its challenge to the dominant neo-liberal model of economic development and for its close attention to the interests of developing countries. It is a useful tool in analyzing the development effects of international policy. Scholars of emissions trading, in their quest for efficiency, largely have overlooked effects on developing nations. While they have given

121. *Id.* at 132.

122. *See id.* at 2; accord Akech, *supra* note 112, at 1-4.

123. Marglin, *supra* note 96, at 5.

124. *See id.*

some lip service to development, they have not undertaken a rigorous analysis of the potential harms to developing nations. Even David Driesen and Joyeeta Gupta, who have pointed out some of trading's threats to development, have not systematically identified the effects on developing nations.¹²⁵ This Part undertakes a rigorous analysis of the development effects of emissions trading. It will use the development critique as a lens through which to identify the potential problems that trading poses for development. It will apply the same sorts of criticisms that development scholars have made of Westernization and development aid to the context of emissions trading. In so doing, it will expand upon the work of Driesen, Gupta, and other scholars, placing their isolated criticisms into a broader framework.

A. *Imposition of Western Structures upon Developing Nations*

As discussed above, development scholars have long argued that the imposition of Western policies and structures upon developing countries does not help and may actually impede their development.¹²⁶ This criticism can be extended to the imposition of emissions trading schemes upon developing nations.

Emissions trading schemes may impose Western structures upon the developing world because the schemes themselves will likely embody the goals and values of Western nations. Significant asymmetries in bargaining and information between developing and developed nations suggest that developed nations will dominate negotiations over the details of any future emissions trading program, successfully crafting the international agreement to suit their interests. Many developing nations are ill-equipped to evaluate emissions trading programs thoroughly and to judge if and how they might benefit from participating. According to Alfred Mumma, developing

125. Driesen and Gupta each noted the possibility that emissions trading might allow developed nations to exploit developing country resources by buying up all of the developing nations' emissions credits early in a regulatory scheme. See David M. Driesen, *Choosing Environmental Instruments in a Transnational Context*, 27 *ECOLOGY L.Q.* 1, 12 (2000) [hereinafter Driesen, *Choosing Environmental Instruments*]; JOYEETA GUPTA, *THE CLIMATE CHANGE CONVENTION AND DEVELOPING COUNTRIES: FROM CONFLICT TO CONSENSUS?* 122-23 (1997). This is discussed in much greater detail below.

126. See *supra* Part II.

nations, particularly African countries, have the resources neither to determine the potential emissions trading program rules most favorable to them, nor to bargain with other nations to have these favorable rules incorporated into the larger regulatory scheme.¹²⁷

As Mumma noted, successful negotiation requires financial, technical, and human resources “to develop, popularize and consistently articulate a position.”¹²⁸ This process must “start long before the actual negotiations, be intensified during, and continue after, the negotiations whether one has ‘won’ or ‘lost’ the point.”¹²⁹ The United States, for example, has demanded binding obligations for developing nations and thus consistently raised the issue of the lack of such obligations at major international meetings, whether or not the issue was on the formal agenda.¹³⁰ In contrast, some developing country negotiators were forced to develop climate change positions off the cuff as conferences progressed because their home nations simply lacked detailed stances on important issues.¹³¹ Furthermore, developing nations have far fewer non-governmental organizations, which, pursuant to international agreements, can intervene in negotiations by presenting their views on the floor for a limited amount of time.¹³² This is particularly significant, considering that non-governmental organizations representing developed country business interests at the Kyoto negotiations claimed that the ability to intervene allowed them to manipulate the course of the negotiations and ultimately affect the shape of the agreement.¹³³

Africa’s inability to stake out and lobby for a distinct position at the Buenos Aires Conference on Climate Change provides a particularly striking example of the disparity in resources, and thus bargaining power, between developed and

127. See Mumma, *supra* note 5, at 202-03.

128. *Id.* at 202.

129. *Id.*

130. See Tamlyn Hunt, Comment, *People or Power: A Comparison of Realist and Social Constructivist Approaches to Climate Change Remediation Negotiations*, 6 UCLA J. INT’L L. & FOREIGN AFF. 265, 302 (2001).

131. See GUPTA, *supra* note 125, at 125.

132. See Hunt, *supra* note 130, at 284 (explaining the ways in which NGOs have presented their views during negotiations).

133. See *id.*

developing countries.¹³⁴ Mumma noted this disparity while serving as an observer at the Conference.¹³⁵ While the United States boasted a contingent of eighty-three people and the European Union forty-five, Mumma observed that a typical African state sent only two to four people, most of whom were able to attend only by availing themselves of the free plane tickets provided by the U.N. Secretariat.¹³⁶ He found that “[t]he ‘developed country viewpoint’ was supported by a whole array of publications distributed by ‘think-tanks’ . . . which had been at work for months (perhaps years) developing and clarifying their positions on the pertinent issues,” along with “hundreds of ‘manned stands’ and ‘side events’ at the Conference venue,” where developed country advocates could explain and argue these viewpoints.¹³⁷ In contrast, Africa had no stands, no side events, and very few non-governmental organization or business representatives.¹³⁸ In fact, according to Mumma, the African representatives spent much of the conference at poorly attended internal meetings, trying to develop an African network and position on climate change.¹³⁹ Africa’s lack of resources, then, seriously impeded its ability to develop, much less advocate, a position on climate change.

This is not to say that all developing countries lack effective bargaining capabilities. The Association of Small Island States (AOSIS), a group of small developing nations likely to be hardest hit by the effects of climate change,¹⁴⁰ has succeeded in carving out a distinctive position, which it has stuck to throughout the many years of negotiations with some positive results.¹⁴¹ Further, Tamlyn Hunt contends that the lack of binding obligations for developing countries in the Kyoto Protocol demonstrates that developing countries actually have far more bargaining power in climate negotiations “than a simple analysis of the power distribution between developed and developing nations would suggest.”¹⁴² She argues that develop-

134. See Mumma, *supra* note 5, at 202-03.

135. *Id.* at 181 n.1.

136. *Id.* at 202-03.

137. *Id.* at 202.

138. *Id.* at 203.

139. *Id.*

140. See *id.* at 195.

141. *Id.* at 199.

142. Hunt, *supra* note 130, at 299.

ing countries' lack of non-governmental organizations, rather than impeding negotiations, actually helped developing nations by freeing them from constituent pressure.¹⁴³ Moreover, according to Hunt, the United States Senate's insistence on binding obligations for developing countries actually increased developing nation bargaining power by placing U.S. negotiators "in the uncomfortable position of having to rely on the good will and cooperation of the developing countries to advance [the U.S.] domestic climate change agenda."¹⁴⁴

But while some developing nations successfully have taken a distinct stand on global change and developing countries as a group may have exerted more influence in negotiations than expected, these nations clearly have fewer resources to dedicate to advocating their positions. Successful negotiation is a far greater drain on developing country coffers than on those of the developed world. Costs of negotiation represent a tiny fraction of a developed nation's GDP, but could consume a far greater percentage of a developing country's meager finances (and would drain these resources away from other pressing development concerns).¹⁴⁵ Further, the developing country success that Hunt alludes to seems to be in large part a byproduct of U.S. policy decisions.¹⁴⁶ Thus, while the developing world may be able to take advantage of what it sees as developed world policy blunders, its influence arguably remains reactive, dependent upon the actions of the developed world.¹⁴⁷ The developed world continues to hold the trump cards, as evidenced by the U.S.'s devastating refusal to ratify the Kyoto Protocol in large part because of its lack of developing country obligations.

Developed nations, therefore, had and will likely continue to have significant influence over the development of the details of any emissions trading scheme. Moreover, even if developing nations can exert their influence to modify particular details, emissions trading itself is a Western structure, originally designed by Western economists in accordance with

143. *See id.* at 303.

144. *Id.* at 303-304. (quoting a 1997 Senate floor debate, 143 CONG. REC. S8138-39 (daily ed. July 25, 1997)) (internal quotations omitted).

145. *See* Mumma, *supra* note 5, at 202 (noting that Africa lacks the financial, technical, and human resources to negotiate successfully).

146. *See* Hunt, *supra* note 130, at 302.

147. *See* GUPTA, *supra* note 125, at 125.

Western conceptions of efficiency and market-based allocation of resources. The question becomes, then, how will the imposition of this Western structure affect developing nations? Arguably, it will pose a number of problems: A trading scheme may foist unwanted Western values onto developing nations, provide a vehicle through which the developed world may exploit the resources of the developing world, impinge on developing nation sovereignty, and strain the administrative resources of the developing states.

B. *Foisting Western Values onto Developing Nations*

Some development scholars see the importation of Western structures as problematic in itself, apart from other secondary harms it might cause. Pouncy, for example, argues that Western institutions often function like Trojan horses, serving “as instruments for deployment of European cultural values, including European economic values that judge a process based on its efficiency and view institutions based on their ability to protect property rights.”¹⁴⁸

Emissions trading programs may serve as another vehicle through which developed nations attempt to foist neo-liberal economic ideas upon the developing world. According to Kenyan professor Calestous Juma, emissions trading embodies the characteristics of Western rationality: “efficiency, reductionism, selectionism (survival of the fittest) and quantification.”¹⁴⁹ Juma argues that it is these “epistemological underpinnings of [emissions trading] that make critics uncomfortable.”¹⁵⁰ A number of other scholars have opposed economic incentive programs like emissions trading on ethical grounds, asserting that by attaching a price tag to pollution, these programs wrongfully commodify the environment and legitimize pollution.¹⁵¹ Besides offending moral sensibilities, this com-

148. *Id.* at 110; see also GUPTA, *supra* note 125, at 126.

149. GUPTA, *supra* note 125, at 124 (quoting interviews with Juma conducted in 1994 and 1995) (internal quotation marks omitted).

150. *Id.* (internal quotation marks omitted).

151. See STEVEN KELMAN, WHAT PRICE INCENTIVES?: ECONOMISTS AND THE ENVIRONMENT 27-28 (1981); Mark Sagoff, *We Have Met the Enemy and He Is Us or Conflict and Contradiction in Environmental Law*, 12 ENVTL. L. 283, 307-08 (1982); see also Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2045-46 (“Critics claim that emissions trading has damaging effects on social norms by making environmental amenities seem like any

modification might help to force Western notions of markets and efficiency onto developing countries.

Emissions trading might then seem more dangerous than command-and-control regulation or carbon taxation. Though each of those policies would require some oversight by international regulators and some importation of Western values, they do not embody the Western ideal of markets and efficiency in the way that emissions trading does. Unlike those potential programs, emissions trading is inextricably linked to what Juma calls the characteristics of Western rationality. Developing nations could participate in mandated reductions or levy taxes on carbon emissions without embracing Western notions of market-mediated efficiency. Under a trading system, this would be much more difficult.

C. *Potential for Exploitation of Developing Countries*

If these harms seem ephemeral, the development critique suggests that the imposition of Western structures may serve as Trojan horse in another, more imminent sense as well. Emissions trading schemes may allow the developed world to enter and then exploit developing countries.¹⁵² As soon as a viable international emissions trading program takes shape, emissions credits will become very valuable. Developing nations have no binding obligations under Kyoto, but through the various trading mechanisms of the Kyoto agreement, they theoretically will have access to a massive supply of these very valuable credits. As both Driesen and Gupta have noted, international emissions trading schemes might allow developed nations to buy the cheapest emissions reductions opportunities en masse, before developing countries acquire binding ob-

other commodity: a good that has its price, to be set through market mechanisms. Thus they suggest that emissions trading systems may have damaging effects on social norms by making people see the environment as something without special claims to public protection.”); Keohane, *supra* note 31, at 354-55; Salzman & Ruhl, *supra* note 32, at 621-22 (“Strong normative critiques contend that trading programs legitimize pollution, weakening the environment’s special claim to public protection.”).

152. See GUPTA, *supra* note 125, at 126. Gupta notes that critics have called Joint Implementation a “‘trojan horse within which is packaged another [developed world] ploy to extend their exploitation of resources and cheap labor in the South.’” *Id.* (quoting Zhou).

ligations of their own.¹⁵³ The idea here is that the price of emission will rise over time as cuts become more and more difficult to make. According to Driesen, allowing developed countries to purchase all the early, cheap credits will “raise the price of future emissions reductions in the credit generating countries.”¹⁵⁴ In other words, emissions trading might allow developed nations to buy up developing country resources in the form of emissions credits.

An illustration may make this threat more clear. Assume that the United Kingdom, a developed country, seeks to meet its emissions reductions obligations under Kyoto, but all of its carbon emitting factories already use the most advanced existing pollution reduction technology. In order to reduce its emissions at home, the U.K. would have to either close down some factories, at great cost to its national economy, or invest massive amounts of resources to research and develop new and more effective pollution reduction technology. However, the U.K. could meet its obligations at a fraction of the price by buying or earning emissions credits from developing nations. Under the Clean Development Mechanism, for example, the U.K. could earn credits by giving its own technology to a power plant or factory in, say, Guatemala. Guatemala, which does not have access to the more advanced British technology, would have polluted far more without the agreement and the U.K. will receive the credits for these avoided emissions for the comparatively low cost of installing some already existing technology.

This all seems fine: The U.K. meets its reductions obligations cheaply and Guatemala avoids polluting excessively. However, ten or fifteen years later, international climate change accords likely will require developing nations to take on binding emissions reductions obligations of their own. By that time, the U.K.s of the world will have bought up many of the easy and relatively cheap emissions reductions opportunities in the Guatemalas of the world. Guatemala will find itself in the same pinch that the U.K. experienced at the beginning

153. See Driesen, *Choosing Environmental Instruments*, *supra* note 125, at 12; GUPTA, *supra* note 125, at 122-23; *c.f.* Deborah Cooper, Note, *The Kyoto Protocol and China: Global Warming's Sleeping Giant*, 11 *GEO. INT'L ENVTL. L. REV.* 401, 423 (1999).

154. Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 19.

of this example: All of its factories and power plants will already have the most advanced existing pollution reduction technology. Instead of being able to meet emissions reductions quotas for the now relatively low price of installing modern pollution reduction technology, developing nations will have to forego production, invent new technology, or attempt to purchase emissions credits from other countries.

Thus, developing countries have reason to fear that, as Dreisen has suggested, "trading will make their future pollution reductions more expensive because developed countries [will] purchase the world's cheapest abatement credits in a regime's evolution, before developing countries' obligations become effective."¹⁵⁵ History is replete with examples of developed nations buying up the resources of developing nations for their own advantage. Unfortunately, the revenues from these resource sales often do not purchase development in the selling nation.¹⁵⁶ Nigeria, for example, sold large amounts of domestic oil to developed country interests, but still languishes in poverty.¹⁵⁷

Clearly, developed nations have a right to buy, and developing nations a right to sell, emissions credits to each other if they so desire. And arguably, it is paternalistic to argue against such transactions. But not every market-mediated transaction is fair or equitable. Developing countries are so often desperately impoverished that they are willing to sell off resources that will be necessary for their development in the future. Further, developing nations likely will have far less information than developed nations about the value of emissions credits in the long term. In fact, emissions trading schemes may encourage trading contracts that developed countries' courts would find unenforceable for unfairness. Many developed countries invalidate exploitative contracts between parties of widely disparate bargaining power. It seems odd, then, that emissions trading schemes would allow developed nations to

155. Dreisen, *Choosing Environmental Instruments*, *supra* note 125, at 12.

156. See Scott E. Holwick, *Transnational Corporate Behavior and Its Disparate and Unjust Effects on the Indigenous Cultures and the Environment of Developing Nations: Jota v. Texaco, A Case Study*, 11 *COLO. J. INT'L ENVTL. L. & POL'Y* 183, 197-98 (2000).

157. See Holwick, *supra* note 156, at 198.

make trades that conflict with the very laws those nations use to protect their own citizens from exploitation.

An analysis of American contract law helps to illustrate the potential for unfair trades, although U.S. law obviously would not apply to most trades.¹⁵⁸ Under American contract law, courts might consider some trading contracts between developed and developing countries void for unconscionability.¹⁵⁹ Though there is no uniform test for unconscionability, courts consider whether the terms of the contract are unfair substantively.¹⁶⁰ In fact, in many cases courts have ruled that high price and unfair terms alone are sufficient to make a contract void for unconscionability.¹⁶¹ Exploitative emissions trading agreements between developed and developing nations may be unconscionable under this framework, as they demand a high price (valuable emissions credits) and may include unfair terms. Other American courts have used a stricter standard to identify unconscionability, requiring not only substantive unfairness but also procedural unfairness, including significant disparity of bargaining power between the contracting parties or absence of meaningful choice of one of the parties.¹⁶² Exploitative emissions trading may satisfy this unconscionability test as well, as developing nations clearly have inferior bargaining power and inadequate information. Further, particularly impoverished nations, when faced with immediate payment and emissions reductions implications far in the future, may have little meaningful choice. Procedural unfairness might also arise from developed nations bargaining with known kleptocrats in developing states, asking them to sell off a future resource whose value developing countries are unable (and kleptocrats unwilling) to assess. Thus, the specific contracts between developed and developing nations may be un-

158. American contract law also serves as a helpful example because it is representative of the larger Anglo-American law tradition, which has influenced the legal systems in many developed and developing nations.

159. See 2-5 A. CORBIN, CORBIN ON CONTRACTS § 5.15 (2003).

160. See *id.*

161. See, e.g., *Am. Home Improvement v. MacIver*, 201 A.2d 886, 889 (N.H. 1964); *Kugler v. Romain*, 279 A.2d 640, 653 (1971) (holding that price two-and-a-half times the reasonable market price was *per se* unconscionable when that price was not open to negotiation).

162. See *Williams v. Walker-Thomas Furniture Co.*, 350 F.2d 445, 449 (D.C. Cir. 1965); *Patterson v. Walker-Thomas Furniture Co.*, 277 A.2d 111, 114 (D.C. 1971).

fair, as judged by American contract law. Though American law would apply to only a small fraction of the trades, it seems unfair for the international community to set up a trading regime in which such deals are likely to take place.

Command-and-control regulations and carbon taxation schemes are far less likely to promote such unfair transactions between the developing and the developed world. In each of those programs, developing nations likely will deal with an international regulatory agency, rather than with developed nations directly. While this body may be influenced by developed country interests, the incentives driving command-and-control regulation and taxation programs are far less likely to induce exploitation of the resources of developing countries. Furthermore, neither of these two alternative programs will create an international market structure through which such exploitative transactions can occur. Thus, emissions trading schemes seem more menacing to developing countries in this context.

D. *Infringing on Developing Country Sovereignty*

The imposition of Western structures through emissions trading may infringe on developing country sovereignty by imposing external rules and structures, thereby limiting developing country governments' already limited policy options. According to development critics, developed nations already create "institutional, political, and economic rigidities, both domestic and international," for developing countries, constraining their policy choices based on dynamics established by the wealthy developed world.¹⁶³ And, as a number of critics contend, the autonomy of developing country governments is further restricted by structural adjustment programs imposed upon debtor nations by the World Bank and the IMF; as noted above, these programs, justified by neo-liberal economic theories about development, prohibit developing nation governments from many interventions in their domestic economies, including trade restrictions and industrial subsidies.¹⁶⁴ Developing nations' leaders have also argued that general international environmental standards impinge on their countries' sovereignty, asserting that "decisions concerning trade and en-

163. TODARO, *supra* note 89, at 91.

164. See SANDBROOK, *supra* note 114, at 17–19; *supra* Part II.

vironment, such as whether to allow the overexploitation of their natural resources or higher levels of pollution to gain market advantage, are theirs alone to make."¹⁶⁵

Arguably, emissions trading schemes further would infringe on the already compromised sovereignty of developing nations. Developing nations already have bristled at the possibility of external, international standards for determining the eligibility of projects under the Clean Development Mechanism of the Kyoto Protocol, claiming that it is their sovereign right to make such decisions.¹⁶⁶ Emissions trading programs might add another layer of complication, further constraining the already limited policy arsenal of developing country governments. According to some development scholars, this is problematic because developing countries desperately need more autonomy and less intervention.¹⁶⁷

As compared to command-and-control regulations and carbon taxation, emissions trading schemes seem like far less of an infringement on developing nation sovereignty. Each of the alternatives to trading would entail rules set or taxes levied on developing countries by international regulators, which seemingly would impose much greater restrictions on domestic policy-making in developing nations. However, the sovereignty implications of those policy choices seem fairly clear upfront. Emissions trading, on the other hand, masks its potential effects on sovereignty. Trading seems at first glance to allow developing nations to make all of their own choices with minimal intervention from the developed world. The development critique, as noted above, would caution against such a simplistic view.¹⁶⁸ Thus, although emissions trading may intrude less on developing country sovereignty than other policy options, policymakers should not assume that trading imposes no constraints on developing country governance.

E. *Administrative and Resource Problems*

The imposition of Western structures would also pose administrative problems for developing nations. Initially, many

165. Sheila C. Lahey, Note, *Trade and the Environment*, 16 N.Y.L. SCH. J. INT'L & COMP. L. 181, 183 (1996).

166. See Mumma, *supra* note 5, at 195.

167. See Pouncy, *supra* note 96, at 115.

168. See *supra* Part II.

developing nations would lack the resources and administrative capacity to administer emissions trading schemes on a domestic level.¹⁶⁹ According to William Andreen, developing country agencies often contend with “a shortage or lack of adequately trained staff, poor management capacity, lack of certain professional skills such as financial accounting, limited fiscal resources, and inadequate equipment or facilities.”¹⁷⁰ Further, Andreen argues that government personnel in developing nations “often lack access to necessary information – statutes, regulations, reports, and studies.”¹⁷¹ Even telephones are “in scarce supply as are computers, printers, and copying machines.”¹⁷² According to many development critics, the failure to increase developing countries’ administrative capabilities remains what Andreen terms “one of the major causes behind the failure of development programs.”¹⁷³ Pouncy, for example, contends that Western-style stock markets in Sub-Saharan Africa floundered in part because the host nations simply lacked the expertise, detailed legal structure, and experienced personnel necessary to manage local stock markets to their benefit.¹⁷⁴

In the emissions trading context, developing countries might make detrimental trades because they have not developed the infrastructure and managerial capabilities necessary to evaluate and negotiate potential bargains.¹⁷⁵ Furthermore, the development of the infrastructure necessary to manage emissions trading on a domestic level will be very costly and difficult, requiring the extensive training of personnel, development of detailed domestic laws, increased access to relevant information, and purchase of facilities and equipment like

169. See William L. Andreen, *Environmental Law and International Assistance: The Challenge of Strengthening Environmental Law in the Developing World*, 25 COLUM. J. ENVTL. L. 17, 63 (2000).

170. *Id.* at 64.

171. *Id.*

172. *Id.*

173. *Id.*

174. See Pouncy, *supra* note 96, at 111-13.

175. The problem of disadvantageous trades motivated by asymmetrical information is discussed further below. Additionally, Driesen describes a related problem: Developed countries may have an incentive to trade with developing countries with poor monitoring capabilities in order to cheat on their emissions reductions obligations. See Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 65.

computers and telephones.¹⁷⁶ Developing nations are largely ill-prepared to make large investments in capacity building. In fact, Africa's position paper on global climate change expresses that region's desire for funding to help it pay for the "training and capacity building [necessary] to deal with sustainable development and the development and implementation of [the Clean Development Mechanism]."¹⁷⁷

The development of infrastructure and managerial capacity, then, costs money that developing nations often do not have. And even if developing nations are able to scrape together or borrow the money to develop such capabilities, this diverts money away from the potentially more pressing needs of these nations: growing their domestic economies, feeding their people and, unfortunately, servicing their debt. To take the argument a step further, this may be an example of what Pouncy deems "the neo-colonial project [of] redirecting resources to functions that primarily serve the interests of foreign investors and domestic elites, rather than the less specialized needs of the general population."¹⁷⁸

Instead of developing governmental administrative capacity, developing nations might attempt to privatize trading by allowing domestic firms to trade with other nations or their firms. Though the Kyoto Protocol sets emissions reductions obligations on nations rather than firms, it does not seem to prohibit individual nations from allowing their domestic firms to trade.¹⁷⁹ Unfortunately, this privatization will not cure the problem of inadequate administrative capacity. Instead, a developing nation's lack of capacity to regulate trading by its firms will create serious agency problems. Without the threat of regulatory enforcement by their governments, developing country firms will have little incentive to seek the best price for their emissions credits. Corrupt or lazy firm managers could sell credits below market price in exchange for kickbacks or out of unwillingness to search for a higher bidder. Developing nations, rather than their firms, would pay the price of these bad bargains since they, not their firms, would be responsible

176. *C.f.* Andreen, *supra* note 169, at 25-26 (indicating the importance of national policies, domestic laws and regulations, and administrative capacity).

177. Mumma, *supra* note 5, at 201.

178. Pouncy, *supra* note 96, at 112-13.

179. *See* Kyoto Protocol, *supra* note 23, art. 6.

for continuing compliance with international climate change obligations.

The Kyoto Protocol's CDM provisions do currently provide for some defraying of the administrative costs of developing country participation in emissions trading.¹⁸⁰ However, the Protocol provisions are quite vague and do not indicate the amount or timing of the funding. In other words, the financing may be inadequate to cover developing countries' true costs, or may come in the form of reimbursement after detrimental trades have already taken place. Furthermore, as noted above, the current Kyoto agreement is certainly not the only emissions trading framework that policymakers should evaluate.¹⁸¹ It is subject to amendment and does not preclude trading under other programs, which may be less generous to developing nations.

Command-and-control regulation and carbon taxation would also require enforcement and administration by developing nations. However, emissions trading schemes may require more structure developed by the developing nations themselves. In a world of command-and-control regulations or carbon taxation, an international regulatory body likely would set maximum emissions levels or tax rates. Developing nations may be responsible for enforcing these regulations, and this, like emissions trading programs, will certainly draw on the limited resources of developing nations. The most significant difference between the programs is the allocation of the costs of developing countries' inferior administrative capabilities. If developing countries cannot adequately enforce command-and-control regulations or levy taxes, the burden likely will fall on the world as a whole. Either developing countries will emit more carbon than allowed or the international regulatory body will have to expend resources to aid developing country enforcement. It is possible that international regulators somehow would penalize developing countries, but if these nations simply lack the capacity to do what regulators have requested, penalties seem illogical. On the other hand, if developing countries lack the resources to properly administer an emissions trading scheme, they may bear the losses exclusively: Their lack of administrative capability may allow other

180. *See id.* art. 12(8).

181. *See supra* Part I.B.

nations (or their own firms) to take advantage of them in trading. Thus, in emissions trading schemes, developing countries bear all the costs of their lack of administrative capacity, whereas in command-and-control or carbon taxation systems the international coalition as a whole will share the burden. The latter burden allocation may give the coalition an incentive to aid developing nations in developing necessary administrative capacity.

F. *Shifting Responsibility from the Developed to the Developing World*

Development critics contend that neo-liberal Western development policies, like the structural adjustment programs of the International Monetary Fund and the World Bank, saddle developing countries with the burden of making up for their own underdevelopment, which was caused, at least in part, by centuries of exploitation, colonialism, and Western dominance.¹⁸² Structural adjustment policies mandate that developing nations make painful sacrifices to correct the problem;¹⁸³ and when these policies fail to bring much needed economic relief, developed countries blame developing countries for faulty implementation, rather than reassessing the utility of the policies themselves.¹⁸⁴

Emissions trading programs might similarly allow developed countries to avoid making painful sacrifices themselves by exporting the hard work to developing countries. Much of the problem of global climate change resulted from the dirty industrial revolutions of the developed world. Today's developed countries grew rich by burning fossil fuels with impunity, immune from international regulation (and even most domestic regulation) until the last quarter-century. Yet, emissions trading programs would place some of the burden of addressing the problem on developing nations.

Trading programs might allow developed nations to shirk the obligations embodied in the common but differentiated

182. See MEHMET, *supra* note 90, at 125-32; see also Akech, *supra* note 112, at 1-4.

183. See MEHMET, *supra* note 90, at 126, 128, 132.

184. See *id.* at 129; *c.f. id.* at 132 (noting that "it is also conveniently forgotten that it was Western theorizing which had built state capitalism and ISI industrialization in the Third World in the first place").

responsibilities and developed country leadership principles. Developed nations accepted this leadership responsibility voluntarily at the FCCC meeting at Rio de Janeiro.¹⁸⁵ They agreed not only to make the earliest and deepest cuts in emissions, but also to fund the full incremental costs of developing country compliance with the treaty, to fund necessary technology transfers, and to develop pollution reduction innovations.¹⁸⁶

Emissions trading may conflict with the developed country leadership principle in several ways. Most obviously, it allows developed countries to avoid making the early and deep cuts that they committed to at Rio. Though they committed to make the first sacrifices in pollution, and thus production, developed nations can claim that they are meeting their reductions obligations through trading. Though the Kyoto Protocol requires that Annex I parties make some reductions at home before they are permitted to trade, it does not specify a minimum amount of domestic reduction.¹⁸⁷ Even under the Protocol's restrictions, developed nations could still earn the vast majority of their emissions reductions credits through trading, while making only minimal reductions domestically.

Further, trading allows developed nations to claim credit toward their leadership obligations for funding of reductions in developing countries, reductions that also earn credits for developed nations themselves. In other words, emissions trading enables developed nations to "double count" trades as both domestic reductions and assistance to developing countries required by the leadership principle. This also increases developing countries' fear that developed nations will attempt to use emissions trading projects as a substitute for, rather than an addition to, official development assistance.¹⁸⁸

Finally, and perhaps most concretely, emissions trading encourages developed nations to avoid developing pollution reduction innovations that will make emissions cuts cheaper for everyone.¹⁸⁹ The developed country leadership principle requires not only that developed countries make the first emis-

185. See *Framework Convention*, *supra* note 18, art. 3(1).

186. *Id.* arts. 4(1)(c), 4(2)(a), 4(3).

187. See *Kyoto Protocol*, *supra* note 23, art. 6.

188. GUPTA, *supra* note 125, at 123.

189. See Driesen, *Choosing Environmental Instruments*, *supra* note 125, at 12.

sions reductions, but also that they use those cuts as an opportunity to develop new pollution reduction technology that will allow developing countries to increase production without dramatically increasing pollution.¹⁹⁰ According to Driesen, however, emissions trading “increases the risk that countries and industries that have the capacity to develop new technologies will fail to do so.”¹⁹¹ Developed nations may seek to meet early emissions reductions obligations by transferring already existing technology to developing countries (because this is the least expensive option), instead of investing in the development of new and better emission reduction technologies.

The risks of developed country shirking exist under command-and-control regulation and carbon taxation as well. Developed countries may still refuse to accept regulations significantly restricting emissions or imposing high carbon taxes. This shirking, however, is more visible than shirking under emissions trading. It would be difficult for developed nations to portray their opposition to stringent reduction obligations or high tax rates as cheerful cooperation. In contrast, under emissions trading developed nations may be able to appear to be fulfilling their leadership obligation while they actually avoid making reductions by trading with developing nations. Furthermore, command-and-control regulations and taxes may create more desirable incentive structures in terms of innovations in pollution reduction technologies. Under command-and-control or taxation schemes, developed nations will have significant incentives to develop improved emissions reduction technologies in order to meet regulatory standards or avoid excessive taxation. They will not have the option of deferring innovation by meeting their reductions obligations by exporting existing technology to developing nations.

G. *Potential Benefits of Emissions Trading from a Development Perspective*

Clearly, emissions trading poses significant problems from a development perspective. But viewing emissions trading through the development lens may also reveal some benefits for development. In fact, emissions trading may offer an op-

190. See *Framework Convention*, *supra* note 18, art. 3.

191. Driesen, *Free Lunch or Cheap Fix?*, *supra* note 3, at 49.

portunity to remedy some of the ills of which development scholars often complain.

As discussed above, developing countries seem to have significant difficulties in bargaining for a favorable emissions trading framework.¹⁹² However, according to Hunt, developing countries were able to exercise more power in climate change negotiations than they would be able to assert in other types of negotiations between developed and developing nations.¹⁹³ As noted above, she argues that the U.S. Senate's insistence on binding obligations for developing countries increased the bargaining power of those nations, forcing U.S. negotiators to depend on the cooperation of developing nations to advance U.S. policy interests.¹⁹⁴ This reversal of fortune stems from several factors. First, because developing country participation is central to the cost-savings associated with emissions trading, developed countries seem willing to pay a premium, so to speak, to ensure that developing countries agree to participate. Second, developing countries might have benefited from their *lack* of resources in the negotiations. The U.S. Senate Resolution insisting on developing country participation was motivated at least in part by intense pressure from constituent groups (probably including wealthy interests like fossil fuel and automobile producers). Hunt notes that most developing nations, on the other hand, "did not face this same pressure, as their constituents did not have the knowledge or means to exert such pressure."¹⁹⁵ Third, developing nations have a powerful fairness argument that developed nations should take the lead in reducing emissions because their dirty industrial revolutions caused the climate change problems in the first place.

Developing countries, then, may be able to organize enough to take advantage of their increased freedom from constituent pressure, developed countries' desire for developing country participation, and strong fairness arguments. Despite the significant disparities in information and general bargaining power, developing nations might be able to bargain for favorable emissions trading rules.

192. See *supra* Part III.A.

193. See Hunt, *supra* note 130, at 299.

194. See *id.* at 303-04; *supra* Part III.A.

195. Hunt, *supra* note 130, at 303.

Furthermore, once a trading system is established, developing nations likely will have numerous, very valuable emissions credits. Arguably, this would constitute a massive wealth transfer to the developing world. According to Robert Stavins, “a tradeable permit scheme would tend to reallocate world production [P]oor countries would receive compensation, whereas rich countries would have to pay”¹⁹⁶ As noted above, these credits might fall victim to developed country exploitation.¹⁹⁷ But developing nations are not completely lacking in agency: They may be able to prevent exploitation and instead use the emissions credits to bargain to reduce their foreign debt or promote internal development. This would create a significant benefit in terms of development, as external debt currently serves as a major barrier to upgrading internal infrastructure and improving domestic economic conditions.

Finally, as noted above, the initial distribution of emissions permits in a trading scheme could create large revenues.¹⁹⁸ Rather than allocating permits based on past emissions, as in the U.S. sulfur dioxide trading program, or based on population, as some economists have suggested, the program could auction permits to the highest bidders from developed nations. As noted by the proponents of the “double dividend” theory, an auction of the rights to all the carbon emission by the developed world will create enormous revenues.¹⁹⁹ The rules of the trading scheme could require that this money be used to create new development programs, pay off debts of developing nations, or provide assistance to the developing countries potentially most affected by climate change.

IV. CONCLUSION

A look through the “lens” of the development critique, then, reveals that emissions trading has special implications for developing countries that most economists and policymakers have failed to address. Emissions trading may help developing nations by creating an extremely valuable commodity—the right to emit carbon dioxide—which developing nations

196. Stavins, *supra* note 28, at 309-10.

197. *See supra* Part III.F.

198. *See supra* Part I.A.

199. *See* Goulder, *supra* note 37, at 232.

would possess in large quantities. However, trading might also impose serious costs on developing nations: It might foist unwanted Western values onto developing countries, provide a vehicle through which the developed world may exploit the resources of the developing world, impinge on developing nation sovereignty, strain the administrative resources of developing states, and allow developed nations to shirk the responsibilities embodied in the developed country leadership principle.

It is extremely important to recognize the potential effects of emissions trading on developing nations. However, the potential burdens on developing nations do not render trading an entirely unattractive policy option. In fact, identifying these potential burdens actually may be the first step toward reshaping emissions trading into a more development-friendly program. In other words, if policymakers consider the burdens of emissions trading on developing nations, they may be able to modify trading programs so as to minimize these harms. For example, regulators may be able to prevent developed nations from exploiting the resources of developing nations by prohibiting trades that violate general principles of fairness. Though developed nations' laws, such as the U.S. prohibition on unconscionable contracts, would not necessarily apply, regulators could develop their own scheme to prevent exploitative contracts. An international trading scheme could permit developed nations to buy up developing nations' emissions credits only at approved prices and only under established, fair trading procedures.

Further, policymakers might be able to limit the administrative burden on developing nations by supplying funding for development of administrative resources. As noted above, the Kyoto Protocol already has taken steps in this direction by promising funding for some administrative development.²⁰⁰ Regulators could expand on this by guaranteeing funding in advance rather than reimbursement after the fact, to ensure that developing nations will have the administrative capabilities to evaluate trades before they happen. Regulators could also provide full, rather than partial, funding to prevent the high cost of developing a trading infrastructure from falling on developing nations alone, and thereby diverting funds

200. See *supra* Part I.A.

from other needed development projects. Clearly, such a burden-shifting approach will cost money. Perhaps the funding could come from the theoretical cost savings over other regulatory alternatives that emissions trading potentially will provide. If emissions trading really offers as much of a cost savings over other regulatory tools as economists assert, then funding of administrative development in developing nations should look like small change.

Policymakers could also reduce the adverse impacts of emissions trading on developing nations by limiting the percentage of credits that developed nations may earn through trading. The Kyoto Protocol currently prohibits developed nations from trading unless they make some reductions at home.²⁰¹ But as noted above, the Protocol does not contain a specific minimum amount of domestic reductions, thus allowing developed nations to earn the vast majority of their credits through trading while potentially shirking their responsibilities under the developed country leadership principle.²⁰² Regulators could impose a minimum amount of domestic reductions as a prerequisite to trading with developing nations. By requiring that developed nations make, say, forty percent of their reductions obligations at home, regulators could ensure developed nations do not escape the responsibility for mitigating the effects of climate change.

However, there are some potential harms to developing countries that no amount of policy modification can eliminate. Emissions trading programs inherently embody Western ideals of markets and efficiency. Any attempt to prevent trading programs from imposing these ideas upon developing nations would likely destroy the very efficiency gains that make trading such an attractive policy option in the first place. This raises a more difficult question: Do the overall cost-savings and potential benefits to developing countries from emissions trading justify the remaining harms to developing nations? On one hand, modified emissions trading programs may offer the best of both worlds, allowing massive worldwide efficiency gains and a theoretical creation of great wealth (in the form of emissions credits) for developing countries while creating only a minimal, ephemeral harm. In fact, some might assert that

201. Kyoto Protocol, *supra* note 23, art. 6(d).

202. *See supra* Part I.C.

the imposition of Western market ideals onto developing countries is not a harm at all, as these ideals have significant value. Modified trading programs, then, might offer the best balance of development, cost savings, and environmental protection. On the other hand, some development scholars might assert that the ideological infiltration of Western ideals through trading programs remains a very significant harm and that the policy modifications suggested above do not alleviate the burdens imposed on developing nations fully.

A thorough analysis of this question is beyond the scope of this paper. Hopefully, however, this piece has achieved the more modest goal of using the development critique to expose the effects of emissions trading on developing nations. And hopefully, an analysis of the costs and benefits of emissions trading for developing countries likely will aid in answering the larger question of which climate change policy can best forestall the devastating effects of global warming without draining the world's coffers or further entrenching its poorest nations in poverty and underdevelopment.