unimportant, the indirect impacts due to their intangible products and services are very high. Financial institutions are regarded as important stakeholders with enormous influence on companies' strategies. The argumentation of this section has much in common with that of the first. Financial institutions exert influence on the basic conditions under which companies operate.

The question arises of why the book is entitled *Eco-efficiency and Beyond*. Delimitations of the term eco-efficiency can be found in the Introduction: Eco-efficiency is outlined as an idea and management approach that brings together the economic and ecological dimensions of management (p. 10 and p. 123). In addition, eco-efficiency is characterized as a steady state: "Eco-efficiency is achieved when goods and services satisfy human needs, increase the quality of life at competitive prices and when environmental impacts and resource intensity are decreased to a degree that keeps them within the limits of Earth's expected carrying capacity" (p. 10). Keeping in mind that eco-efficiency indicators are normally defined as ratios between value added and environmental impact added, this is a really surprising characterization. The definitions rather recall sustainable development in general and seem to be good characterizations of sustainable enterprises. As such, they are in line with the intentions of the book. In the article "Sustainable Business Development" the term eco-efficiency is used to name an important step to sustainable enterprises (p. 68). Indeed, the main objective of the book is to draw a picture of such a "transition scenario," called eco-efficiency.

The title of the book may attract readers with a background in environmental management accounting or life-cycle assessment. Obviously, the book does not offer a coherent application-oriented approach to eco-efficiency. Although the authors make many good points regarding eco-efficiency, it is not discussed in great detail. The book is rather an extensive paradigmatic justification of eco-efficiency and complements more application-oriented eco-efficiency analysis textbooks.

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Global Crises, Economists' Solutions?

Global Crises, Global Solutions, edited by Bjorn Lomborg. Cambridge, UK: Cambridge University Press, 2004, ISBN 0521844460, £45.00 (Also in paperback: ISBN 0521606144, £19.00).

Economics often defines itself as the science of making choices under conditions of scarcity. Does this mean that economists are uniquely qualified to set public priorities for such broad objectives as world development? Danish political scientist Bjorn Lomborg presents an ambitious, but ultimately quite unsuccessful, test of this hypothesis in *Global Crises, Global Solutions* (2004).

In his previous book, *The Skeptical Environmentalist*, Lomborg claimed that the scientific basis for environmental concerns was systematically exaggerated. That claim was overwhelmingly rejected by reviewers, who pointed out the book's numerous errors and omissions (Pimm and Harvey 2001; Grubb 2001; Rennie 2002; Schneider 2002; Holdren 2002; Bongaarts 2002; Lovejoy 2002; Ackerman 2002). Lomborg then moved on to launch the so-called "Copenhagen Consensus," a lengthy discussion of the costs and benefits of development priorities, culminating in a May 2004 meeting in Copenhagen. *Global Crises, Global Solutions* is the story of the Copenhagen Consensus.

Despite the grand name, the process achieved a consensus among just eight like-minded senior economists, sitting in judgment on analyses and critiques offered by a few dozen other economists. Explaining the exclusive reliance on economists, Lomborg said

> the focus of the Copenhagen Consensus was economic prioritization. Just as you ask a climatologist about the climate, and a malaria expert about malaria, you ask an economist about prioritization. (p. 6)

In fact, six of the panel members are from U.S. universities, one from Switzerland, and one from Hong Kong. None represents views outside the

mainstream of the American economics profession, with the partial exception of Bruno Frey, the Swiss economist.

Choosing the Issues

The Copenhagen Consensus focused on ten key development "challenges," chosen largely by identifying the topics mentioned in United Nations documents about development. Two controversial framing decisions, though, reflected the views of the judges rather than the nature of the problem.

Worldwide military expenditures, totaling a trillion dollars each year, seem like an obvious target for realignment of priorities in support of development. But this topic was excluded because "we have no academic agreement on its benefits" (p. 3). That is, the assembled judges might disagree on the costs and benefits of, say, the war in Iraq. Although smaller military conflicts—such as African civil wars—made the list as one of the top ten issues for analysis, big-power military spending was taken off the table in advance.

Conversely, removal of barriers to free trade was added to the list of development priorities because so many economists *do* agree about it. Here the answers to the hard analytical questions were apparently known in advance:

> [P]romoting free trade is a classic win-win situation where first world nations can easily see trade as an almost free (or indeed a negative-cost) instrument to do good in the world. (p. 3)

Additional economists were recruited to analyze each of the ten "major challenges facing humanity": one wrote a major paper reviewing the literature and identifying one or more policy options for which benefits and costs could be estimated, whereas two others wrote critiques of the major paper. The eight judges then evaluated the multiple policy options emerging from the analyses of the challenges. For 17 policy options, the judges came up with a numerical ranking from best to worst. In other cases, they declined to rank proposed options due to lack of information.

Looking just at the top and bottom of the list, the winners were control of HIV/AIDS, combating malnutrition by providing micronutrients, and promoting worldwide growth through trade liberalization. The losers were the three proposals for climate change mitigation.

Why the Winners Win

Combating AIDS and malnutrition are on everybody's list of global priorities, based on obvious humanitarian standards. The selection of these as the top two priorities does not demonstrate the merits of economic analysis. And on the evidence presented here, there is not much value added to the discussion by cost-benefit techniques.

Whereas controlling AIDS was the top priority for the Copenhagen Consensus, control of malaria was ranked fourth. How do we know this is the right ranking? The chapter on communicable diseases estimates that a global package of AIDS prevention measures would have a benefit-cost ratio of 50, compared to a ratio of "only" 19 for a comparable malaria prevention program. But one critic pointed out that the malaria calculations are based on an actual large-scale program in South Africa, whereas the AIDS prevention program is based on optimistic projections from pilot project experience. An existing large-scale AIDS prevention program in Thailand, discussed (and praised) in the chapter, has a benefit-cost ratio of 14—lower than the malaria programs.

Yet seven of the eight judges ranked AIDS prevention higher than malaria prevention. Six of the eight referred uncritically to the very high benefit-cost ratio for AIDS programs and/or accepted the high priority of AIDS prevention as common knowledge.

The chapter on malnutrition and hunger makes a good case that addressing specific nutritional deficiencies is an important, cost-effective policy. But exactly *how* cost-effective? The standout among the nutrition initiatives is the use of food supplements to combat iron-deficiency anemia. The summary estimates at the end of the chapter suggest, without explanation, that a program to reduce iron deficiencies could have a benefit-cost ratio of 200 (p. 405). Yet the chapter never cites anyone finding a benefit-cost ratio above 84 for iron deficiency programs; one of the cited studies finds a ratio as low as 6.

None of the eight judges expressed any doubts about the enormous benefit-cost ratio reported

for this initiative. As one of them put it, "The benefit-cost ratio is perceived to be high . . ." (p. 624).

In the trade chapter, Kym Anderson compares estimates, derived from major computer models, of the gains from global trade liberalization. Most estimates, including Anderson's own model, show the bulk of the gains going to developed countries, with total gains to developing countries of $200 billion or less. Anderson is sure this is too little: "Those low estimated gains seem to fly in the face of casual empiricism" (p. 549).

Anderson's solution is to interpret the models as representing only the "static" or one-time benefit. He argues that there is also a dynamic benefit, a long-lasting increase in economic growth rates resulting from trade liberalization. Based on the experience of a few countries that have liberalized trade, he guesses that global GDP growth rates will increase from 3.2% to 3.8%. Moreover, he assumes that this accelerated worldwide growth will last until 2050—45 years into the future (p. 559). The costs of free trade, that is, the unemployment and other private-sector losses resulting from adjustment to increased trade, are assumed, completely arbitrarily, to amount to 30% of the static benefits of trade, and to last for only 5 years (p. 560). This creative tallying of imagined benefits and costs implies that the benefit-cost ratio could be as high as 29.

One critic gently points out that the effects of even the best policies do not always last for 45 years. But none of the eight judges questioned the assumption of 45 fat years following trade liberalization, which is essential to this policy's impressive benefit-cost ratio.

Why Climate Change Loses

In the climate change chapter, William Cline presents a new cost-benefit analysis of climate policy options, using a modified version of the widely discussed Nordhaus model of the economics of climate change. He finds that the benefit-cost ratio is just over 2 for applying a high and rising carbon tax, and just under 2 for compliance with the Kyoto protocol.

Cline's crucial innovation is his argument that for long-term policy analyses, the appropriate discount rate is 1.5%. At higher discount rates Cline's scenarios look much worse. At a discount rate of 2.5%, Cline's optimal tax scenario just breaks even, with a benefit-cost ratio of 1. At 3.5%, all of his scenarios have costs clearly exceeding benefits (p. 37).

The critics would have none of it. As one of them says, "My principal concern is that Cline has advocated a discounting strategy that is unduly alarmist" (p. 49). The judges were also unmoved by Cline's analysis: six voted to put all three climate change measures dead last among the 17 initiatives; all judges ranked them among the bottom five. One expressed his skepticism about the scientific consensus on climate change. None of the judges discussed Cline's argument for a low discount rate; those who mentioned specific discount rates generally assumed without explanation that 5% or more was appropriate.

After the Consensus

Less than a year after the Copenhagen Consensus, *The Economist* reported,

> several participants now say that there was confusion about how they were ranking ways to spend development aid, or ranking which general global problems should be tackled . . . Dr. Lomborg explains that the proposals on climate change fared poorly because they offer the lowest benefits for the costs incurred. Now, some members of the Consensus are dissenting. (Hotting up: Climate change and politics 2005)

One of the eight judges now "thinks that presenting climate change at the bottom of the list as 'bad' is misleading." One of the critics of Cline's paper now worries that "climate change was set up to fail" (Hotting up 2005).

The virtue of cost-benefit analysis is supposedly that it provides objective, transparent measures of the merits of policy proposals. But it normally requires monetary prices for many priceless values, forcing dependence on arbitrary guesses and approximations. Subjective personal judgment thus enters by the back door, and in this case has taken full possession of the premises. The collective efforts of dozens of economists, presented at the Copenhagen Consensus and recorded in the 600-plus pages of *Global Crises, Global Solutions*, have awarded implausibly high

numbers to policies that the participants favored, and dismissed an innovative analysis of climate change without commenting on its principal innovation.

Now that its political implications are all too clear, some of the participants feel that the results of the Copenhagen Consensus are misleading. On that point, finally, it is easy to agree with them.

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