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So What's Wrong with Dumping on Africa?

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In February 1992, *The Economist* published an excerpt of an internal World Bank memo written by Lawrence Summers in December 1991. This sparked a short-lived controversy in the print media and protests from environmentalists [Summers 1992]. Before *The Economist's* leak, Summers had issued a clarification, stating that his memo was intended as a "sardonic counterpoint" to an earlier draft text on environmental issues by another World Bank division [Anonymous 1992a; Weisskopf 1992]. Since the subject of this essay is the neoclassical logic expressed in Summers's December 1991 memo, for clarity of exposition, all references to Summers contained herein refer to the arguments expressed in that memo.[1] Whether the December 1991 memo reflects the "true Summers" or not, he did find the logic sufficiently compelling to distribute it. Further, the arguments that Summers offers do follow from neoclassical analysis even though they are usually stated in less obvious ways.

Summers's memo gave three reasons why the World Bank should encourage dirty industries to migrate to less developed countries (LDCs) [Summers].[2]

1. Since the cost of health-impairing pollution is measured by foregone earnings, cost will be lowest where wages are lowest.

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2. Since "initial increments of pollution probably have very low cost," overall costs of pollution would be reduced by transferring pollution from dirty to clean, "*under*-polluted" countries.
3. Since demand for a clean environment is highly income elastic, high-income countries' willingness to pay to export pollution should lead to "welfare-enhancing" trade.

Many thoughtful people, even some economists, find these arguments offensive to their moral sensibilities: there seems to be something quite repugnant in the notion that the wealthy enjoy the goods while dumping their bads on the world's poor. Yet, the poor would benefit if they were compensated sufficiently, wouldn't they? In some cases, the answer is yes, but in many cases this is the wrong question. What if the effect is to enrich the world's poor today while impoverishing them tomorrow? Are we willing to assume that LDCs will be so wealthy tomorrow that the legacy of today's hazardous wastes will be inconsequential? And what of the effects of rich-to-poor pollution trades on the development and implementation of cleaner technologies? Through the incentives they provide, are cheap dumps not likely to impede both the implementation of existing clean(er) technologies and the development of new ones? Even in those cases where pollution trades *could* result in "win-win" bargains, there are good reasons to regulate such trade. We will return to these reasons and suggest a policy approach after reviewing Summers's arguments more closely.

Summers's first argument is that the lowest wage country is the lowest cost country because "the measurement of the costs of health-impairing pollution depends on the foregone earnings from increased morbidity and mortality" [Summers]. This is somewhat like "measuring" an iceberg by guessing its height: while useful for casual, distant comparisons, it is dangerous for navigation. Summers's argument presumes two key relationships: one is between productivity and earnings; the other is between earnings and the value of health and life. Earnings would reflect productivity in a purely competitive world market system at full employment, free of all forms of market failure. Such conditions are so unworldly that we can summarily reject this application of marginal productivity theory on the grounds that it is an astounding leap of faith. Assume, however, that divine intervention or a freak

accident of nature aligned earnings and productivity. Then foregone earnings would indeed provide a measure of the costs of pollution, but how good a measure? The method of discounted future earnings is commonly used to help determine compensation for wrongful death or injury, but its grounding is weak in both ethics and economic theory [Rhoads 1980]. *The Economist* calls Summers's reasoning on this point "morally careless." "Mr. Summers . . . supposes that . . . an Englishman's life is worth more than the lives of a hundred Indians. This [argument] is so outlandish that even a distinguished economist should see that it provides no basis for World Bank policy" [Anonymous 1992b].

Summers's approach also assumes that pollution leaves unaffected (aside from human health) all processes and things of value, including, for instance, the health of ecosystems that provide direct and indirect services to humans and the health of children, retirees, and others outside the labor force, now and in the future. His focus is on narrow use values, and by omission he neglects non-use, far-future-use, and ecosystem values. In short, Summers's first argument boils down to this: Since wages are low in LDCs and foregone earnings provide a pecuniary measure of pollution costs, it follows that pollution costs are low in LDCs. Never mind that low LDC wages are in large part the product of extreme inequality in the global distribution of economic resources and power, because our otherworldly model of pure competition tells us that wages reflect productivity and measure value. Never mind that this measure is incomplete, grossly distorted, and rests on a very weak theoretical foundation. *It is a good measure because it is a pecuniary measure.* Summers writes, "The economic logic behind dumping a load of toxic waste in the lowest-wage country is impeccable" [Summers]. The premises are false, and the "logic" is flawed. Or, in the words of Jose Lutzenberger, Brazil's minister for the environment at the time, "Your reasoning is perfectly logical, but totally insane."[3]

To many practicing economists, and implicitly in Summers's memo, allocative efficiency is synonymous with overall efficiency. Since improvements in allocative efficiency are measured by increases in output, a rising real GDP becomes evidence of the "efficiency benefits" of a change in resource allocation. But overall efficiency requires equity as well as allocative efficiency. If allocative efficiency is improved while equity is diminished, overall efficiency has not improved. In welfare economics, equity is defined

by the Pareto principle: A change that increases the well-being of at least one person without making anyone worse off is an "improvement," whereas a change that leaves any person worse off is not an improvement. Hicks-Kaldor potential compensation provides a rationale for economists to approve of projects or policies that will leave some people worse off, so long as overall benefits are high enough that winners could compensate losers and still be ahead. This compensation principle is necessary for policy action because it is impractical to implement projects that leave no one worse off. But potential compensation does not excuse policies that leave the rich better off and the poor worse off; that is, it does not provide a rationale for any and every policy that promises to increase real GDP, and it does not mean that equity can be ignored.

Pareto improvement remains the equity criterion for overall efficiency. If allocative efficiency is improved but Pareto improvement is violated, overall efficiency has not improved. The Pareto principle is not usually compared to alternative value principles (such as Rawl's Difference Principle or Tool's Social Value Principle) and defended on its merits; rather, students are simply expected to accept the Pareto criterion. They are told, "Alternative equity values allow for some individuals to be left worse off, which is a normative judgment that is 'beyond the pale' for economic science," or, "Since most economists agree with the Pareto principle, you should too!" But of course, the Pareto criterion is a normative judgment as well, and adopting it based on its popularity within the profession is inappropriate.

When confronted with compensation problems, economists should look at distributional impacts of proposed actions and voice caution when benefits accrue largely to the rich or costs fall primarily on the poor. But there is an additional problem: It is difficult to escape the conclusion that the purported efficiency benefits of exporting pollution to poor countries may result not from efficiency gains at all, but rather from inequality in "initial" resource endowments. Poor in both financial and real capital, low productivity partially explains low LDC wages, but this is nothing more than a roundabout way of saying that LDC wages are low *because* these countries are poor. It follows that *the pecuniary cost of polluting in poor countries is low primarily because these countries are poor.* Health damages from lead poisoning, for instance, are just as physically debilitating to a child in Somalia as they are to a

child in France, if not more so. The marginal damage from a given dose of lead could be much higher for a malnourished Somalian child than for a healthier French child. This raises the possibility that the pecuniary measure is not only inaccurate, but that the "values" it provides carry the wrong algebraic sign.

Does Mr. Summers really believe that worker exposure to hazardous substances in poor countries, where behavior-modifying information and health care are both likely to be in short supply, carries lower real cost than in rich countries? Apparently the answer is yes, based on his argument that costs are lower in LDCs *because* life expectancy is short. "The concern over an agent that causes a one-in-a-million change in the odds of prostate cancer is obviously going to be much higher in a country where people survive to get prostate cancer than in a country where under-5 mortality is 200 per thousand" [Summers]. In other words, "There's nothing wrong with dumping poisons on poor people, since by the time the poisons take effect they will be dead anyway" [Cockburn 1992]. Using this logic, costs can be driven even lower by *increasing* mortality! The United States military once passed out smallpox-contaminated blankets to Native Americans. If an industry could get World Bank economists to pass out contaminated medicines in the LDCs, the "costs" of dumping there would be lower still. The point is that life expectancy should not be considered an exogenous variable. Where infant mortality is high, World Bank economists should be designing and implementing policies to reduce infant mortality, not using this fact to rationalize dumping on LDC children.

Many of nature's finest underdeveloped assets are in those very "underpopulated" LDCs that Summers considers "underpolluted." "I've always thought that under-populated countries in Africa are vastly *under*-polluted; their air quality is probably vastly inefficiently [high] compared to Los Angeles or Mexico City" [Summers]. It follows from Summers's logic that polar regions, deserts, and tropical rainforests are "underpolluted" simply because few people live in these areas. Many indigenous rainforest peoples have zero money incomes, so the cost of polluting there, measured by Summers's logic, is zero. Furthermore, some rainforests are open access, so a dumping permit may not even be necessary. If someone could only figure out how to escape transportation costs, polluting in the rainforest would be free.[4]

While obviously absurd, this application of economic "logic" demonstrates that the measurement inaccuracies of the economists' yardstick are multiplied thousands-fold when applied to LDCs. Information is very poor. Market outcomes seldom approximate the purely competitive. Many resources are not owned by anyone. Many goods (bads) are produced (discarded) outside the market. Many individuals enjoy little if any political or economic freedom. The "free" choices of many LDC people are between low wages and starvation or between relocation and death. In short, the notion that pecuniary values approximate actual consequences is entirely contrary to fact. That which is a "stretch" for modern market-oriented economies becomes entirely fictitious and imaginary in the LDCs.

Another aspect of polluting in LDCs is the familiar "tragedy of the commons," where open access pretty well guarantees resource degradation. Many factors, from population pressures, to government "development" schemes, to exploitation of lumber, oil, and minerals, to more general market pressures, have led to road building and other activities that convert rainforests from de facto common property into open access [Swaney and Olson 1992; Bromley 1992]. This process is destructive of resource and ecosystem values, degrading natural capital, and creating pollution. Whether the pollution is imported or produced locally, the absence of "markets for bads" is practically guaranteed. While individuals and groups have strong incentives to organize markets for goods or commodities, such "natural" incentives are largely absent for bads or "discommodities" [Coddington 1970]. As a producer of goods, if you can exclude nonpayers, you can profit from consumers' desire for your resource or product. As a producer of bads, you want to be free to avoid paying the costs, so you have a strong incentive to *develop* open access outlets so you can *shift* costs onto others [Kapp 1970; Swaney and Evers 1989]. And of course, "consumers" of bads find it very difficult to organize markets because the free rider problem means that benefits from pollution abatement are shared by everyone. It follows that the costs of pollution are often borne by future generations or the community at large. We can also predict that, when one country puts a lid on its trash can, those who have been using that receptacle to discard their discommodities will drive down the road to the nearest LDC, looking for another trash can.

A related problem for commerce in bads is the question of who is paid and who pays, which is often "bucks-stop-pass." In many LDCs, the people whose environments and health are degraded by pollution have no part in the negotiations or the compensation. A political elite negotiates and receives compensation–that is where the bucks stop, but the pollution is passed to the powerless poor.

Those proponents of instrumental value theory who stress "self-correcting value judgments" contend that people solve their own problems when given the chance (that is, when institutional resistance is sufficiently low) and suggest that the economic power of multinationals and the political power of governments are likely to inhibit instrumental valuing [Gordon 1990]. Applied to the problem of dumping our bads on the LDCs, this approach suggests that, somehow, "institutional resistance" should be reduced. Clearly, the people who pay the price are powerless in comparison to those who pocket the compensation, and they may be powerless in comparison to the multinationals "offering" compensation. More policy-activist proponents of instrumental value theory follow Marc Tool's social value principle, which states that progress is measured by the continuity of human life and the noninvidious recreation of community through the instrumental use of knowledge [Tool 1977]. This approach suggests that pollution trades with health consequences should be restricted.

But what if a polluting industry offers an LDC genuine employment prospects and therefore the opportunity to generate real income to relieve poverty? As Summers is fond of pointing out, higher real incomes often produce lower morbidity and mortality in poor countries.[5] Well-informed, sensible LDCs may want to trade environmental quality for income, either because they place a relatively low value on their environment or their health, or because their biophysical environment has greater assimilative capacity. If such trades involve no transboundary spillovers or threats to ecological or human health, trade negotiations should probably proceed. But when the pollution in question threatens the long-term viability of important ecosystems, such trades should be blocked, and multinational or global agreements such as the Montreal Protocol or Biodiversity Convention should be pursued. Just as we have international capital standards for banks to "level the playing field" in international finance, we should have international environmental standards for trade in bads wherever consequences spill over political borders. Otherwise public policy

encourages companies to continue to shift costs by finding open access dumping grounds overseas.

A complete ban on international pollution markets is ill-advised. On this point, Mr. Summers is correct. Political realities and equity considerations, however, dictate that the international community regulate all pollution export bargains. Undemocratic LDCs with highly unequal income distributions are very likely to negotiate bucks-stop-pass pollution agreements. The LDCs' poor, who most assuredly will bear the costs of pollution, will likely realize few compensating benefits unless institutionalized international intervention addresses these equity issues. By controlling the pollution export business, probably through an agency of the United Nations, such equity issues can be systematically addressed, helping to promote overall efficiency. I rather doubt that this is what Mr. Summers has in mind by "liberalization."

One approach to minimize inequitable and hence socially inefficient trades is to hold exporting companies responsible for improved health or other environmental outcomes in the LDCs where they want to do business. For example, suppose the United States, based on evidence of elevated risk of lung cancer, imposes stricter air quality standards inside pulp mills. If a paper company decides to move to an LDC to avoid higher operating costs, it should be allowed to move only if it educates its new employees regarding the health risks of their employment and supports public health program(s). Or, if a company wants to move to an LDC to avoid stringent water pollution standards, it should be required to implement watershed protection or public health programs. Companies should be required to post bond to demonstrate their commitment, with the money forfeited to an international agency should they fail. A descriptive term for this approach is "nonmaleficence-plus," because it extends the nearly universal responsibility of individuals and businesses to reduce risks whenever the potential benefits clearly outweigh the costs (the principle of nonmaleficence) [Cross and Winslett 1987]. The "plus" is to emphasize that pollution export agreements should contain specific environmental improvement goals as well as the financial means to insure the polluter's "good faith" effort not only to avoid harming people to the extent that is "reasonable," but also to direct resources to improve overall environmental quality in the receptor country. This approach reduces incentives to shift costs by holding the polluter responsible for improving overall environmental quality, while it also recog-

nizes that social pollution costs vary with the priorities of various communities and the assimilative capacities of their environments.

The bottom line is that there is plenty wrong with dumping on Africa. Earnings measure neither productivity nor the value of life and health. Pollution trading tends to encourage cost-shifting and discourage development and implementation of cleaner technologies. Political realities suggest that elites will pocket compensation and pass pollution to the poor. Pecuniary measures grossly distort real impacts because of extreme inequality between countries and a host of market failures, including transboundary impacts and extended cost streams. Nevertheless, genuine differences in priorities and assimilative capacities suggest that gains from appropriately regulated pollution trades may be possible when pollution damages are neither long-lived nor transboundary, so a universal ban may be ill-advised.

Notes

1. This essay does not attempt a holistic analysis of international pollution markets but rather reviews the neoclassical position so bluntly stated by Mr. Summers in his December 1991 memo. A holistic analysis would address valuation standards, social priorities, and many other issues including the definition of pollution. (For example, many "goods" produced by American culture and widely emulated around the world should probably be considered pollution.) Nor does this essay address global problems (global warming, ozone depletion) or transboundary problems (acid rain), which cannot be constructively addressed with partial equilibrium marginal analysis.
2. Although Summers did not use the "Since . . ., then . . ." language, this condensation of his reasons captures the spirit of his writing.
3. As quoted by Cockburn [1992].
4. Admittedly, this is unfair to neoclassical value theory, because for nonmarket goods, benefits and costs are assessed with market proxies. Maybe rainforest peoples would respond to contingent valuation surveys, which would measure their willingness to ac-

cept compensation (WTA) in exchange for living with some of our pollution. And then, of course, there are always "non-use values," where for different reasons some people are willing to pay to protect the rainforests even though they will never visit. The prospect of a completely costless dumping ground in rainforests, then, is not so promising after all.

5. If a polluting company increases employment in a poor country by moving a facility there, it probably reduced employment in the vacated rich country. Nevertheless, the net effect on human health (across these two countries) is likely to be positive since the rich country probably has better health care and a better social safety net for the unemployed.

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