

Ethics and Economics: The Common Good

Economics began as a discipline of moral philosophy concerned with using natural resources to produce and allocate goods and services for the common good. Moral philosophers reasoned that economics should be devoted not to the most efficient means of producing material goods, but to the most efficient means of producing human well-being.¹

What has gone wrong? The short answer is that our economic accounting has hidden the real costs of economic growth, including the enormous damage to our natural environment. It has always been true that economic decisions have environmental consequences, just as environmental decisions have economic consequences.² Yet economists have ignored the devastating environmental impact of economic growth.

John Cobb argues that the principles governing the global economy inherently lead to increasing injustice and unsustainability. Policies based on these principles concentrate wealth in fewer hands and leave the poor more destitute. They transfer wealth from poorer to richer countries and accelerate the destruction of natural resources, especially in the poorer countries.³

To understand why our environmental crisis is an economic as well as an ethical crisis, we look at how the real economy differs from the idealized economy of neoclassical economic theory. Then we consider how the globalization of trade exacerbates the degradation of the environment and the depletion of natural resources. Finally, we suggest revisions to economic theory and practice that may make our global economy environmentally sustainable and more just.

Invisible Hand?

Modern economics began in 1776 with the publication of *The Wealth of Nations* by the Scottish moral philosopher Adam Smith.⁴ He argued that free trade would foster civil and political freedom, and that laws encouraging the pursuit of individual self-interest would result in the greater good. Smith offered two ethical arguments in support of his economic theory: that human dignity requires political and economic freedom, and that the consequences of free markets are generally beneficial.

According to Smith, every person “endeavors as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labors to render the annual value of society as great as he can.”⁵ In the pursuit of self-interest, Smith believed, each individual is “led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it.”⁶

Smith’s economic philosophy reflects the worldview of eighteenth-century Newtonian mechanics, because Smith saw the economy as a closed system in which interactions between consumers, producers, distributors, and so forth are controlled by external forces

1 | Text from Chapter 3 of *Doing Environmental Ethics* by Robert Traer (Westview Press, 2013).

(supply and demand).⁷ His belief that an “invisible hand” ensures the common good is an analogy to Newton’s law of gravity.

Certainly there are dynamic relationships among supply, demand, and market prices, but there is no “invisible hand” that ensures the common good and prevents economic growth from damaging the environment. Smith believed the “invisible hand” would bring about “a distribution of the necessities of life that is ‘nearly the same’ as it would have been if the world had been divided up equally among all its inhabitants.”⁸ The vast economic and social inequities in today’s world confirm that his faith in “the invisible hand” was misplaced.

“Market fundamentalists claim that human governance is always an impediment to markets, but in fact human governance is what makes markets possible.”⁹ Governments need to regulate markets to ensure that they are environmentally as well as socially sustainable. By themselves, markets will not protect nonrenewable resources, nor will they provide the social justice needed for a stable political order.

Before the Industrial Revolution natural resources were plentiful, there were fewer people, and they were materially less well off. The Industrial Revolution transformed natural resources into factories, cities, and consumer goods. The lives of many were greatly improved, but at the expense of the environment. Today, industry extracts, burns, and disposes of over four million pounds of material each year to meet the needs and desires of a middle-class American family. This excessive use of natural resources is unsustainable and endangers our prosperity.

Fifteen hundred leading scientists have confirmed this conclusion: “The earth is finite. Its ability to absorb wastes and destructive effluents is finite. Its ability to provide food and energy is finite. Its ability to provide for growing numbers of people is finite. And we are fast approaching many of the earth’s limits.”¹⁰

Therefore, we must address the following economic and ethical issues:

- Many natural resources are nonrenewable and cannot be fully recycled.
- Renewable resources are being harvested beyond their optimal scale.
- The waste absorption capacity of the environment has been exceeded.
- The loss of ecosystem benefits due to economic exploitation is a real cost.

Economic and Ethical Issues

First, *many natural resources are nonrenewable and cannot be fully recycled*. This includes metals and fossil fuels that are extracted from the earth.¹¹ The supply of these natural resources is finite and in some cases is rapidly diminishing. Yet in neoclassical economics, companies mining these nonrenewable resources are not required to include in their costs any calculation of the investment required to find or create replacements.

Both ethics and economics hold that we have a duty to allocate and use resources to ensure the common good. Chapter 4 argues that in using natural resources we also have a duty to give moral consideration to future generations. If we accept these duties, we must ensure that those who profit from using nonrenewable resources at least fund investment in developing replacements. Markets do not impose this cost on producers, so it must be assessed by law.

Second, *renewable resources are being harvested beyond their optimal scale*. Renewable resources (such as fish and forests) will not be used up as long as these organisms are harvested below an optimal scale that allows populations to replenish. Yet nothing in an unregulated market prevents those seeking a profit from decimating these renewable resources. In fact, as renewable resources become scarce, companies harvesting these natural resources compete to maximize their short-term profit before a resource is depleted.

For example, because industry is the sector of the economy that is capable of continuing growth, policies emphasize the export of whatever is available to bring in the capital needed for industrialization. In many countries the resource the global market most desires is lumber. Therefore the earth is being rapidly deforested.¹²

Harvesting renewable resources at greater than the optimal scale is wasteful, because it depletes a natural resource that otherwise is self-sustaining. This waste cannot be morally justified when there is scarcity, and the loss of resources will unnecessarily raise costs for others. Therefore, governments need to restrict the harvesting of renewable resources to less than optimal scale.

Third, *the waste absorption capacity of the environment has been exceeded*. In neoclassical economics, waste left in the environment is treated as an *externality*—a consequence external to the market economy that does not need to be included as a cost in determining the market value of an economic activity.¹³ The decisions of firms that compete with each other in the free market are not guided by environmental considerations. They can produce more cheaply when they dispose of wastes in the cheapest way, such as in the nearest river.¹⁴

Nature has evolved many ways of recycling waste, but the natural processes that purify air and water and reconstitute the soil take time and have limits. To protect these natural processes, we must support laws that require the effective treatment of waste before it is emitted into the environment. This not only makes economic sense, but reflects our ethical duty to one another and to other species.

Fourth, *the loss of ecosystem benefits due to economic exploitation is a real cost*. Neoclassical economic theory has failed to recognize that renewable resources provide not merely *stock-flow resources*, but also *fund-service resources* that have significant ecological benefits.

Stock-flow resources are “materially transformed into what they produce (material cause); can be used at virtually any rate desired (subject to the availability of fund-service resources required for their transformation); [have] productivity . . . measured by the number of physical units of the product into which they are transformed; can be stock-piled; [and] are used up, rather than worn out.”¹⁵ For example, trees are a stock-flow resource, when logged for timber.

Fund-service resources are “not materially transformed into what they produce (efficient cause); . . . can only be used at a given rate; . . . [have] productivity . . . measured as output per unit of time; cannot be stockpiled; and are worn out, rather than used up.”¹⁶ As ecosystems, forests provide many fund-service resources such as absorbing carbon

dioxide and releasing oxygen into the atmosphere, providing habitats for other organisms, regulating rainfall, and preventing soil erosion.

The loss of these ecological benefits¹⁷ when forests are cut is presently contributing to global warming through increased carbon dioxide levels in the atmosphere. This has significant economic costs. Yet neoclassical economic theory ignores the loss of ecosystem benefits (by identifying these costs as externalities) in calculating the costs used to set the price of lumber.

Unintended Consequences

Since World War II the richest and most powerful nations have been collaborating to increase economic growth by granting greater power to transnational corporations—affirming that this would secure the greatest good for the world's peoples. Emphasizing economic growth, however, “while on balance quite useful in a world with empty land, shoals of undisturbed fish, vast forests, and a robust ozone shield, helped create a more crowded and stressed one.”¹⁸

Economists ignored the massive damage being done to the environment or rationalized it as necessary for achieving the economic growth that is best for society. Democratic institutions have been unable to protect the environment, because they have been weakened by decades of market fundamentalism, the ideology of privatization, and people's resentment of government.¹⁹

In the last third of the twentieth century, an environmental movement in the United States began to fight back in Congress and the courts. Yet in the first eight years of the twenty-first century the George W. Bush administration “engineered a reversal of a generation of progress on environmentalism that threatens to leave the [hazardous wastes cleanup] Superfund program underfunded, air-quality standards compromised and global warming unchecked. These politics can be traced directly to that proud disdain for the public realm that is common to all market fundamentalists, Republican and Democratic alike.”²⁰

The ethical measure of an economic policy is its contribution to the common good. This requires not only political decisions that protect the environment, but also economic policies that ensure a fair distribution of the economic benefits that are realized. Adam Smith argued that political freedom requires economic freedom, and this seems to be true. Protecting political freedom, however, requires laws that constrain economic freedom.

Wealth Disparity

Has the common good been realized by our growth economy? Increasing disparity in wealth is evidence to the contrary. The United Nations Human Development Report in 1999 showed that the income differential between the fifth of the world's population in the wealthiest countries and the fifth in the poorest countries was 30 to 1 in 1960, 60 to 1 in 1990, and 74 to 1 in 1995.²¹ In 2006 the wealth of the world's 475 billionaires exceeded the income of the poorest three billion people on earth, and this disparity is growing.²²

Economic inequity is also rising in the United States. A report released in October 2011 by the Congressional Budget Office reveals that in 2007 the top 20 percent of earners in the United States made more in after-tax income than the remaining 80 percent, a disparity not seen since just before the Great Depression of the 1930s. Moreover, the top 1 percent of earners' after-tax income rose 275 percent between 1979 and 2007. One reason for this

growing inequality is a tax code that increasingly favors the wealthy. Investment income is taxed at lower rates than earned income, lower-income households pay more in payroll taxes, and those with more money are more able to take advantage of tax loopholes.²³

Some inequality is necessary in a capitalist economy to create incentives, but “excessive inequality can have two perverse consequences: first, the very wealthy lobby for favors, contracts and bailouts that distort markets; and, second, growing inequality undermines the ability of the poorest to invest in their own education.”²⁴

Great wealth also means immense power, which fosters corruption. The continuing economic crisis that began at the end of 2008 offers ample evidence. In late 2011 Citibank agreed to pay a \$285 million fine to the Securities and Exchange Commission rather than defend itself in court for committing fraud by selling to unknowing customers mortgage-backed securities it knew were likely to go bust, even as it bet millions of dollars against these securities.²⁵ Noting that Citibank was a repeat offender, a judge rejected the proposed settlement as “neither fair, nor reasonable, nor adequate, nor in the public interest.”²⁶

Gary Burtless, an economist at the Brookings Institution, argues that investment funds that bet on rising prices for oil and other commodities, and on currency exchange rates, have turned the economy into “a very gigantic version of Las Vegas.”²⁷ Even fund manager William H. Gross, who benefits from this speculation, warns “that the widening divide among the richest and everyone else” is a problem: “We are clearly in a period of excess, and we have to swing back to the middle or the center cannot hold.”²⁸

Robert J. Samuelson agrees that “productivity gains (improvements in efficiency) are going disproportionately to those at the top,” and that this growing inequality “threatens America’s social compact.”²⁹ By “social compact” Samuelson means the implicit agreement among Americans to accept the authority of government and its lawfully imposed restrictions on individual freedom—an agreement expressed by individuals who obey the law, pay taxes, and participate in the political process.

In short, excessive wealth is corrupting our democratic institutions. “Our Congress today,” Thomas Friedman claims, “is a forum for legalized bribery.”³⁰

Two centuries ago Thomas Jefferson and Benjamin Franklin were so concerned about economic disparity weakening democratic government that they opposed legislation protecting inheritance rights.³¹ Now economic globalization is increasing the disparity in wealth and threatening democracy, as well as undermining efforts to protect the natural environment.

What might be done? The Occupy movement has demanded that governments end fraudulent and speculative trading by big banks. “This casino Wall Street economy increased inequality, corrupted our politics and politicians, and provoked the economic crash in 2008—a crash that left tens of millions unemployed, homeless, mired in debt, and vulnerable.”³² Yet the issue of growing wealth disparity is global; therefore, only political changes that address globalization will succeed in reducing economic disparity and environmental devastation.

Globalization and Economic Growth

The neoclassical economic theory of *comparative advantage* holds that trade between two countries should not be restricted by government tariffs (taxes) or other restraints because, in general, “free trade” will benefit both societies. “If our country can produce some set of goods at lower cost than a foreign country, and if the foreign country can produce some other set of goods at a lower cost than we can produce them, then clearly it would be best for us to trade our relatively cheaper goods for their relatively cheaper goods. In this way both countries may gain from trade.”³³ This argument asserts that unregulated markets yield the common good.

Absolute Advantage

Today, however, goods are not produced by countries, as the theory of comparative advantage assumes, but by corporations that are often transnational. The theory of comparative advantage also assumes that capital will be invested at home in the country of the investor, but now capital goes wherever there is *absolute advantage* for profit.

“A country has absolute advantage if it can produce the good in question at a lower absolute cost than its trading partners.”³⁴ To maximize profits, financial capital is invested where production costs are lowest. When trade takes place between two countries and one country has an absolute advantage in the goods traded, the other country will likely lose both income and jobs as financial capital is shifted to the country with absolute advantage in order to yield a higher return.

Claiming to support “free-trade” and efforts to alleviate poverty, the World Trade Organization (WTO), the International Monetary Fund (IMF), and the World Bank impose a development model that seems designed to benefit transnational corporations rather than workers, foreign investors rather than local businesses, and wealthy countries rather than developing nations.³⁵

Why is this relevant for environmental ethics? First, achieving absolute advantage usually involves minimizing the costs of extracting or processing natural resources and disposing of waste. Therefore, investors seeking absolute advantage in their pursuit of short-term profits avoid countries with strong environmental protection policies or use their influence to weaken the enforcement of laws intended to protect the environment. We should not be surprised, therefore, that many of the world’s polluting industries have shifted their work to China because of its low wages, or that this has resulted in toxic levels of pollution in many parts of the country.³⁶

Second, the theory of comparative advantage promises mutual benefits for countries involved in trade, but absolute advantage offers economic gain largely for investors. The pursuit of absolute advantage moves financial capital from one country to another when there is greater profit to be realized, causing a loss of jobs and income in the first country that makes it even harder to protect or clean up the environment in both countries.

The reduction of barriers to trade between the United States and Mexico during the 1980s is an example of the problem. As tariffs were reduced, many US companies found it more economical to relocate production in Mexico. They could produce more cheaply there because they did not have to spend money on expensive waste disposal; they could dump their wastes into the Rio Grande. The costs of the cleanup are being borne mainly by the taxpayers and concerned citizens of Mexico and the United States, not by the polluters.³⁷

Economic globalization is the pursuit of absolute advantage everywhere. “Globalization is the effective erasure of national boundaries for economic purposes. National boundaries become totally porous with respect to goods and capital, and increasingly porous with respect to people, viewed in this context as cheap labor, or in some cases cheap human capital.”³⁸ The main beneficiaries of economic globalization are multinational corporations, which gain power over economic decision-making as national governments lose control over their economies.

Neoclassical economists defend economic globalization by arguing that it has many benefits, including:

- Greater efficiency in using resources and more rapid economic growth.
- More national specialization on the basis of competitive advantage.
- Global enforcement of “trade-related intellectual property rights.”
- Control by international organizations over local and national decisions.³⁹

Some of these claims, however, actually contradict the principles of neoclassical economics.

Contradictions

Consider the following three arguments concerning efficiency. First, neoclassical theory holds that *economic efficiency requires market competition* involving a large number of companies. The moral justification offered in support of market competition makes sense because, if competition is fair to all, the consequences are likely to be more beneficial than not. Yet *economic globalization reduces competition*, because only large businesses have the resources to compete in foreign markets. Moreover, these giant firms can lower their prices until small firms are forced into bankruptcy or accepting a buyout.

“As a rule of thumb, many economists agree that if 40 percent of a given market is controlled by four firms, the market is no longer competitive. Such concentration is not at all unusual in the agricultural sector: in the US Midwest, four firms control well over 40 percent of the trade in most major agricultural commodities, and the top four agrochemical corporations reportedly control over 55 percent of the global market.”⁴⁰ In 1995, with unusual candor, the chairman of one of these firms admitted: “There is not one grain of anything in the world that is sold in the free market.”⁴¹

Second, neoclassical economists rail against *central planning* by governments as being inefficient. Why then should we assume that an economy dominated by the *corporate planning* of larger multinationals will be more efficient? Nobel laureate economist Ronald Coase argues that “firms are islands of central planning in a sea of market relationships.”⁴² We should not expect larger, global corporations to increase economic efficiency.

Third, neoclassical theory *opposes regulatory controls over the market*, claiming that government intervention is inefficient. Yet *globalization relies on regulations by international institutions*, which undercut local and national decision-making. Three of these institutions now wield enormous power over international trade: the IMF, the World Bank, and the WTO.

Why are these ethical issues? Transnational corporations may not only be less efficient, but they may use their vast financial resources to resist environmental regulations imposed

by national governments—by threatening to curtail investment in a nation, or by appealing to international institutions, like the WTO, to override a nation’s laws. Economic globalization, therefore, is not only unsustainable, but often unjust.⁴³

Intergovernmental Institutions

In the last half of the twentieth century international institutions were created by the most powerful national governments to promote human welfare through economic development. The purposes of the IMF include facilitating international trade, promoting high employment and sustainable economic growth, and reducing poverty. The World Bank was charged with the duty “by wise and prudent lending, to promote a policy of expansion of the world’s economy.”⁴⁴ The WTO was created to reduce tariffs and other barriers to multinational trade.⁴⁵

These institutions, however, have uncritically promoted neoclassical economics. In 1991 Lawrence Summers, as chief economist at the World Bank, suggested that “the bank should encourage the world’s dirty industries to move to developing countries. The forgone earnings of workers sickened or killed by pollution would be lower in low-wage countries, he noted, while people in poor countries also cared less about a clean environment. ‘The economic logic of dumping a load of toxic waste in the lowest-wage country is impeccable,’ he wrote.”⁴⁶

A 2007 report on the World Bank concluded that: “The World Bank, financed by rich nations to reduce poverty in poor ones, has long neglected agriculture in impoverished sub-Saharan Africa, where most people depend on the farm economy for their livelihoods.”⁴⁷ Imposing neoclassical economics via international intervention and regulation has not, in fact, contributed to the common good of the people in sub-Saharan Africa.⁴⁸

What are the ethical issues here? Actions of the IMF, the World Bank, and the WTO have undercut the authority of national governments and strengthened transnational corporations, which has made it harder for countries to protect their natural environments. Also, the economic policies of these institutions have not alleviated the chronic poverty of hundreds of millions of people and have increased the disparity between rich and poor.

Even when an economic development project increases a nation’s revenue, the benefits may not aid the poor. In Chad, for instance, the corrupt government has benefited the most from World Bank investment in an oil pipeline.⁴⁹

The total number of people in the world living on less than a dollar a day declined between 1990 and 2002 to under 1 billion, but has increased more recently to about 1.4 billion.⁵⁰ Many of those who lived in poverty in China in 1990 are no longer destitute. Poor countries, however, that have relied on World Bank loans—and accepted conditions promoting free trade and requiring cuts in public spending for health and education—have generally not made progress in alleviating poverty.

An internal report prepared by the World Bank in 2006 verifies the criticism of activists, “who accuse it of an ideological bias toward market reforms and a callous disregard for the people bearing the brunt of such policies.”⁵¹

The consequences of WTO regulation are also discouraging. WTO rules prohibit national trade policies that promote small businesses, if the effect of such national policies may be

interpreted as discriminating against foreign companies—even though such policies are needed for small businesses to compete with transnational corporations. The WTO also requires participating nations to protect intellectual property rights for twenty years, which puts domestic firms at a disadvantage in competing with foreign corporations that own most of these patents.

The trade promoted by the WTO is “free” insofar as the companies engaged in it are free from regulations by governments. “But the people of each region are *not* free not to trade. They cannot live without importing the necessities for their livelihood, however unfavorable the terms of trade may be.”⁵² This makes them vulnerable to price increases, especially for the food they need.

So what is the answer? Cobb suggests a global system “in which relatively small regions are relatively self-sufficient economically. People of such regions can then make basic decisions about themselves and about the rules by which they are governed. They are free to trade or not according to the terms of trade that are attractive to them. Not to trade means to deny themselves many desirable goods, but it does not threaten their healthy survival.”⁵³

Environmental Consequences

Neoclassical economic theory affirms the utilitarian goal of producing the greatest good for the greatest number of people. Do the consequences of economic globalization and the decisions of international institutions that support globalization meet this ethical standard?

Continuing poverty has a direct impact on the environment, because the poorest of the poor may destroy their environment to survive when they are desperate. In many countries the poor have been pushed to marginal lands, and they have cut trees for wood and planted crops that can only be grown inefficiently. This unsustainable economic activity damages the local environment and reduces the capacity of the earth’s ecosystems to replenish and recover.

Also, WTO policies promoting economic growth and trade have required national governments to set aside laws intended to limit environmental damage. Although countries are allowed to pass environmental legislation, the WTO frequently declares those laws barriers to trade.⁵⁴ For example, “Challenged by Venezuela, the United States was forced to allow the import of gasoline that does not comply with US Clean Air Act regulations.” Also, the WTO ruled against the US Endangered Species Act, “which prohibits the import of shrimp from countries that do not mandate turtle excluder devices.”⁵⁵

By supporting competition for market share among transnational corporations, intergovernmental institutions reduce “national incentives to legislate against externalities in what is known as standards-lowering competition (a race to the bottom). The country that does the poorest job of internalizing all social and environmental costs of production into its prices gets a competitive advantage in international trade. More of world production shifts to countries that do the poor job of counting costs—a sure recipe for reducing the efficiency of global production.”⁵⁶

Peter Singer argues that the WTO is undemocratic in theory and practice, because (1) it requires unanimous consent to change a procedure; 2) the appellate body and dispute

panels are not accountable to WTO members or to the planet's adult population; and (3) the WTO is disproportionately influenced by developed nations.⁵⁷

To sum up, support for economic globalization and neoclassical economics by the IMF, the World Bank, and the WTO has exacerbated environmental problems by:

- Stimulating environmentally destructive economic development.
- Decreasing the ability of national governments to protect the environment.
- Undermining local control over the use of natural resources.
- Supporting corporate power and the ideology of economic growth.⁵⁸

To address these environmental issues, we have to change our global economic system.

Green Economics

Economist Duncan K. Foley argues that simply promoting self-interest will not lead to the best world for the greatest number of persons, and that globalized trade will not resolve the problems of poverty and inequality.⁵⁹ He wrote *A Guide to Economic Theory* “to give people more confidence in their own moral judgments,”⁶⁰ including skepticism that an unregulated economy rewarding selfish behavior will maximize social welfare and preserve the natural environment.

Economist Paul Krugman quotes Franklin D. Roosevelt to make the point: “We have always known that heedless self-interest was bad morals. We know now that it is bad economics.”⁶¹ This judgment also applies to climate change, Krugman says. “It’s in the interest of most people (and especially their descendants) that somebody do something to reduce emissions of carbon dioxide and other greenhouse gases, but each individual would like that somebody to be somebody else. Leave it up to the free market, and in a few generations Florida will be underwater.”⁶²

Ethical and Economic Presumptions

What, then, should we do?

First, *our goal should be an environmentally sustainable economy*. We have a duty to protect our habitat, whether we understand this only as a duty to other people or also as a duty to other species. In addition, using a variation of the Golden Rule, I argue that we have a duty to give our descendants moral consideration, because we believe our ancestors had a duty to consider our well-being in making decisions about the environment.

Therefore, we must ensure economic policies that value ecosystem functions and biodiversity, as well as efficiency, by supporting laws that effectively regulate our use of finite natural resources. The harvest of renewable resources (such as fish and forests) should be limited to less than the optimal scale, so these populations may replenish. The extraction of nonrenewable natural resources that are being depleted (such as oil) should be taxed to fund the development of alternative ways, utilizing other material, of meeting the same needs.

Second, *we should pay as we go for the costs of environmental externalities*. We cannot rely on an “invisible hand” to repair the environmental damage caused by economic development. Also, if we accept that our moral community includes future generations as well as those currently living, we have a duty to these future generations to limit the

adverse impact of our economy on the environment. John C. Bogle, founder of the Vanguard Mutual Fund, condemns the “shocking misuse of our world’s natural resources, as if they were ours to waste rather than ours to preserve as a social trust for future generations.”⁶³ We, too, should be outraged.

We have to stop simply using up what economists call our “natural capital,” by which they mean: “Stocks or funds provided by nature (biotic or abiotic) that yield a valuable flow into the future of either natural resources or natural services.”⁶⁴ To protect this “natural capital” we should (1) include in our economic accounting the investment needed to develop substitutes for nonrenewable resources being depleted, (2) treat waste that exceeds the environment’s absorption capacity, and (3) restore degraded environments.

The loss of natural capital may be captured by severance and waste disposal fees on producers, and these funds should be dedicated to seeking substitute resources and more efficient ways of absorbing and recycling waste. Environmental costs should be assessed by law to the business that generates them or, if this is not feasible, to the country under whose jurisdiction the business is operating.

Third, *environmental policies should affirm the precautionary principle*, “which states that when a practice or product raises potentially significant threats of harm to human health or the environment, precautionary action should be taken to restrict or eliminate it.”⁶⁵ This ethical principle puts the burden of proof for an action that may likely harm the environment or human life on those who propose to take the action, rather than on those who caution against it. Reasoning on the basis of the precautionary principle involves rejecting the claim that environmental issues should be decided simply by predicting likely consequences.

Because ecosystems are not well understood and thus are unpredictable, to be on the safe side economic policies should leave a margin for error. For instance, harvesting a renewable resource, such as fish or trees, should be limited to less than the predicted optimal scale, because this estimate is inherently imprecise.

Acting on the precautionary principle also requires *protecting ecosystem processes from market pricing*. The emergent properties of ecosystems (fund-services resources) are of great value for life, and the consequences of damaging these processes are unpredictable. Although market pricing is efficient for manufactured goods, it does not adequately protect ecosystem benefits.

The value of a forest, for example, is not simply the market value of its cut lumber. “Recognizing the social and ecological value of [such] a resource leads to its equitable and sustainable use. In contrast, assessing [such] a resource only in terms of market price creates patterns of nonsustainable and inequitable use.”⁶⁶ Therefore, governments have a duty to protect the integrity of ecosystems.

Fourth, *economic power should be constrained by the rule of law*. Both economic freedom and political freedom require decision-making with checks and balances, so that power is distributed and limited. This basic principle of civics is an ethical imperative as well.

At the global level this will likely require new international treaties under the political control of the United Nations that cover the activities of international economic institutions, such as the IMF, the World Bank, and the WTO. This change would also strengthen national

governments, so it might foster a political process with greater checks and balances, which is the only effective way to promote economic trade and also protect the natural environment.

“The primacy of the political over the economic, combined with weakening global economic institutions [such as the IMF, the World Bank, and the WTO], would make possible economic decentralization. It would be possible for nations and even regions within nations to develop relatively self-sufficient economies. They would then trade with one another only as this did not weaken their capacity to meet their own basic needs. They would cooperate in establishing larger markets for goods that cannot be efficiently produced for smaller ones.”⁶⁷

Under this new political and economic order, environmental problems would be the responsibility of those making decisions on the same scale as the problem. Garbage collection takes place in municipalities and thus should be managed by local authorities. Global warming is fundamentally a global problem, because emissions anywhere affect the climate everywhere, so it requires global policy.⁶⁸ The idea of dealing with problems at the lowest level of decision-making that can solve them is called the *principle of subsidiarity*. The European Union has adopted this principle for implementing policy decisions.⁶⁹

Growing disparity in wealth should be checked at all levels of the economy, and this means replacing the rhetoric of “free trade” with procedures that ensure *fair trade*.⁷⁰ Both employees and the environment should be protected by laws that are effective and fair. Workers ought to be guaranteed a living wage and safe working conditions, and producing and trading goods should be subject to regulations that ensure environmental sustainability.⁷¹ This means international as well as national constraints on economic markets.

Our primary focus, however, should be local. Seeing the world as a global economy through the lens of neoclassical economics has hidden for too long an alternative view of the world as a biosphere of diverse political and economic communities. Embracing this new view now matters.

“For example, most of the rapid deforestation of the planet is for the sake of export, either of lumber or of beef that can be raised on formerly forested land. If the focus of attention is on the local economy, the value of the standing forest counts for more. In this and other ways, in regions which were not heavily oriented to export, the people would often be concerned that their region continue to provide a habitable home to their children, and they would be more likely to adopt sustainable relations to the environment.”⁷²

Steady-State Economy

Unfortunately, rather than recognizing that the human economy is a dependent subset of the biosphere, many economists assume that economic growth and liberalization, with wealth creation, is the key to adequate environmental management. They believe that environmental quality can be most effectively achieved through market forces, even as social and environmental costs are “externalized.”⁷³

To ensure economic development is ecologically sustainable, perhaps our long-term goal should be a *steady-state economy*—an economic system that would “maintain constant stocks of wealth and people at levels that are sufficient for a long and good life.”⁷⁴ John

Stuart Mill, who in the nineteenth century supported both political and economic freedom, argued that “a stationary condition of capital and population implies no stationary state of human improvement. There would be as much scope as ever for all kinds of mental culture, and moral and social progress . . . when minds cease to be engrossed by the art of getting on.”⁷⁵

What might such an economy be like? “Material well-being would almost certainly be indexed by the quality of the existing inventory of goods, rather than by the rate of physical turnover. Planned obsolescence would be eliminated. Excessive consumption and waste would become causes of embarrassment, rather than symbols of prestige.”⁷⁶

This would mean discarding the gross national product (GNP) and gross domestic product (GDP) indices⁷⁷ used to measure economic growth, because they do not measure economic well-being but only the quantity of economic activity. GNP reflects all expenditures, including prisons, hospital services, lawsuits, and dealing with pollution and waste. A rising GNP does not mean people are happier, only that they are spending more.

The genuine progress indicator (GPI) and the index of sustainable economic welfare (ISEW) offer alternative ways of measuring economic success:

Computation of the ISEW begins with personal consumption, but then adjusts this in relation to income distribution. (Our assumption is that the well-being of the society as a whole is affected by the condition of the poorest.) The index then adds for household services, chiefly the contribution of housewives. It subtracts for “defensive costs,” that is, costs that result from economic growth and the social changes, such as urbanization, that accompany it. (For example, the cost of commuting to work should not be viewed as an addition to welfare just because it adds to the GNP.) This applies also to the cost of pollution. Since it is an index of *sustainable* welfare, it subtracts for the reduction of natural capital, and adds or subtracts for change in the net international position.⁷⁸

The state of Kerala in India has been able to meet many social needs without significant economic growth. The per capita income is not much different than for India as a whole. Yet infant mortality and life expectancy are comparable to highly industrialized nations. Kerala has reduced its rate of population growth without imposing authoritarian measures on the population, by educating women, providing inexpensive health care for everyone, and stimulating small-scale economic development.⁷⁹

Becoming a Green Economy

Given the complexity of the economy, “the task of developing new economic models must be an intensely interdisciplinary activity. Any realistic evaluation of the costs of doing business in this economy will require the use of models in which economic systems, or parts, are treated as open systems that mutually interact within the single system of the whole biosphere.”⁸⁰

We must *transform our growth economy into a green economy*. Only a joint effort by business and government leaders, at the prodding of citizens, will lead to the economic and political changes needed to make our industrial society environmentally sustainable. William McDonough and Michael Braungart, who make their living by creating sustainable products, buildings, and communities, are convinced that this is our future: “We believe that humans can incorporate the best of technology and culture so that our civilized places

reflect a new view. Buildings, systems, neighborhoods, and even whole cities can be entwined with surrounding ecosystems in ways that are mutually enriching. We agree that it is important to leave some natural places to thrive on their own, without undue human interference or habitation. But we also believe that industry can be so safe, effective, enriching, and intelligent that it need not be fenced off from other human activity.”⁸¹

McDonough and Braungart affirm that we will have an environmentally sustainable and productive economy when people and industries are committed to creating:

- buildings that, like trees, produce more energy than they consume and purify their own waste water
- factories that produce effluents that are drinking water
- products that, when their useful life is over, do not become useless waste but can be tossed onto the ground to decompose and become food for plants and animals and nutrients for soil; or, alternately, that can return to industrial cycles to supply high-quality raw materials for new products
- billions, even trillions, of dollars’ worth of materials accrued for human and natural purposes each year
- transportation that improves the quality of life while delivering goods and services.⁸²

Chapter 14 considers this commitment to building green and recycling waste in an urban ecology.

NOTES

1. Herman E. Daly and Joshua Farley, *Ecological Economics*, 396.
2. Jim MacNeill, quoted in Norman Myers and Jennifer Kent, *Perverse Subsidies: How Tax Dollars Can Undercut the Environment and the Economy*, 26.
3. John B. Cobb, Jr., “Toward a Just and sustainable Economic Order,” in Andrew Light and Holmes Rolston III, eds., *Environmental Ethics*, 359.
4. The full title is *An Inquiry into the Nature and Causes of the Wealth of Nations*.
5. Adam Smith, *The Wealth of Nations*, http://en.wikipedia.org/wiki/Adam_Smith.
6. Ibid.
7. Robert Nadeau and Menas Kafatos, *The Non-Local Universe*, 199. Smith thought that “forces external to the individual units function as an invisible hand . . . [that] frees the units to pursue their best interests, moves the economy forward, and in general legislates the behavior of parts in the best interests of the whole.”
8. Peter Singer, *One World: The Ethics of Globalization*, 30.
9. Ted Nordhaus and Michael Shellenberger, *Break Through*, 234.
10. The statement is reprinted in *Renewable Resource Journal* (Summer 2001): 169, in James Gustave Speth, *Red Sky at Morning*, 17. Italics added.
11. Most “recycling” is actually better identified as “downcycling,” because it “reduces the quality of a material over time” and may even “increase contamination of the biosphere.” For recycling to be effective, products must be designed to be reused, which is generally not the case today. William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the Way We Make Things*, 56–57.

12. Cobb, "Toward a Just and Sustainable Economic Order," 362. See Juliet Eilperin, "Study Suggests Sharing the Catch Could Save Fisheries," *Washington Post*, September 22, 2008, A07, <http://www.washingtonpost.com/wp-dyn/content/article/2008/09/21/AR2008092102417.html>.
13. An externality is defined formally as "[a]n unintended and uncompensated loss or gain in the welfare of one party resulting from an activity by another party." Daly and Farley, *Ecological Economics*, 433.
14. Cobb, "Toward a Just and Sustainable Economic Order," 361.
15. Daly and Farley, *Ecological Economics*, 440.
16. *Ibid.*, 433.
17. I agree with William McDonough and Michael Braungart that it is best not to call ecological benefits "fund-service resources," because it is misleading to think of these natural processes as "services" for human beings. McDonough and Braungart, *Cradle to Cradle*, 80.
18. J. R. McNeill, *Something New Under the Sun*, 334–336, in Daly and Farley, *Ecological Economics*, xx.
19. Benjamin Barber, "A Failure of Democracy, Not Capitalism," *New York Times*, July 29, 2002, A23.
20. *Ibid.*
21. Edward O. Wilson, *The Future of Life*, 150.
22. The International Forum on Globalization (IFG), <http://www.ifg.org/about.htm>. For more information see the United Nations Development Programme's *1999 Human Development Report*, <http://hdr.undp.org/en/reports/global/hdr1999>. In contrast, Peter Singer concludes: "No evidence that I have found enables me to form a clear view about the overall impact of economic globalization on the poor." *One World*, 89.
23. John Wasick, "Five Ways Income Inequality Happened, and Will Continue," *Reuters*, October 28, 2011, <http://www.reuters.com/article/2011/10/28/us-usa-wallstreet-cboreport-idUSTRE79R3XR20111028>.
24. This statement is attributed to Lawrence Katz, a Harvard economist. Nicholas D. Kristof, "Crony Capitalism Comes Home," *New York Times*, October 26, 2011, <http://www.nytimes.com/2011/10/27/opinion/kristof-crony-capitalism-comes-homes.html>.
25. Thomas L. Friedman, "Did You Hear the One About the Bankers?" *New York Times*, October 29, 2011, <http://www.nytimes.com/2011/10/30/opinion/sunday/friedman-did-you-hear-the-one-about-the-bankers.html>.
26. Edward Wyatt, "Judge Blocks Citigroup Settlement With S.E.C.," *New York Times*, November 28, 2011, <http://www.nytimes.com/2011/11/29/business/judge-rejects-sec-accord-with-citi.html>.
27. Quoted in Jenny Anderson, "Wall Street Winners Get Billion-Dollar Paydays," *New York Times*, April 16, 2008, <http://www.nytimes.com/2008/04/16/business/16wall.html>.
28. William H. Gross, chief investment officer of the Pimco bond fund. Quoted in Anderson, "Wall Street Winners Get Billion-Dollar Paydays."
29. Robert J. Samuelson, "Trickle-Up Economics?" *Newsweek*, October 2, 2006, 40.
30. Thomas L. Friedman, "Did You Hear the One About the Bankers?" *New York Times*, October 29, 2011.
31. Chapter 4 considers their reasoning.
32. Robin Broad and John Cavanagh, "Occupy vs. the Global Race to the Bottom," *Common Dreams*, February 22, 2012, <http://www.commondreams.org/view/2012/02/22-11>.
33. Steven M. Suranovic, "The Theory of Comparative Advantage—Overview," *International Trade Theory and Policy*, <http://internationalecon.com/Trade/Tch40/T40-0.php>. Economist Paul Krugman has observed: "If there were an Economist's Creed it would surely contain the affirmations 'I believe in the Principle of Comparative Advantage,' and 'I believe in free trade.'" "Is Free Trade Passé?" *Journal of Economic Perspectives* 1, no. 2 (1987): 131.
34. Daly and Farley, *Ecological Economics*, 429.

35. The International Forum on Globalization (IFG), <http://www.ifg.org/about.htm>.
36. Editorial, "Cleaning Up China," *New York Times*, September 24, 2007, <http://www.nytimes.com/2007/09/24/opinion/24mon1.html>.
37. Cobb, "Toward a Just and Sustainable Economic Order," 361–362.
38. Daly and Farley, *Ecological Economics*, 317.
39. *Ibid.*, 323.
40. "Nonetheless, in 1999 the US government approved the merger of the two largest international grain trading corporations, Cargill and Continental Grain . . . [even though] over 80 percent of international trade [in grain] is controlled by ten firms." *Ibid.*, 324.
41. Dwayne Andreas, chairman of Archer Daniels Midland (ADM), quoted by Dan Carney in "Dwayne's World," *Mother Jones* (January 1995), in Francis Moore Lappé and Anna Lappé, *Hope's Edge: The Next Diet for a Small Planet*, 300.
42. Daly and Farley, *Ecological Economics*, 325. See Ronald Coase, "The Nature of the Firm," *Economics* 4, no. 16 (1937): 386–405.
43. Cobb, "Toward a Just and Sustainable Economic Order," 359.
44. John Maynard Keynes, quoted in Daly and Farley, *Environmental Ethics*, 318.
45. The WTO was constituted in 1995 to take the place of the General Agreement on Tariffs and Trade (GATT), which was set up in 1948. "What Is the World Trade Organization?," The World Trade Organization, http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact1_e.htm.
46. "Cleaning Up China," *New York Times*. "Mr. Summers later apologized, saying his words were 'sardonic counterpoint,' meant to spur new thinking about the environment and development."
47. Celia W. Dugger, "World Bank Neglects African Farming, Report Says," *New York Times*, October 15, 2007, <http://www.nytimes.com/2007/10/15/world/africa/15worldbank.html>.
48. See "Trade Negotiations Cannot Solve Food Crisis Created by WTO and World Bank: Report Shows Export-Oriented Model Eroded Africa's Food Self-Sufficiency," *CommonDreams.org News Center*, July 24, 2008, <http://www.commondreams.org/news2008/0724-12.htm>.
49. Lydia Polgreen, "World Bank Ends Effort to Help Chad Ease Poverty," *New York Times*, September 10, 2008, <http://www.nytimes.com/2008/09/11/world/africa/11chad.html>.
50. "2011 World Hunger and Poverty Facts and Statistics," World Hunger and Education Service, <http://www.worldhunger.org/articles/Learn/world%20hunger%20facts%202002.htm>.
51. Peter S. Goodman, "World Bank Reports Poverty Programs Ineffective," *Washington Post*, December 7, 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/12/07/AR2006120700427.html>.
52. Cobb, "Toward a Just and Sustainable Economic Order," 366.
53. *Ibid.*
54. Daly and Farley, *Ecological Economics*, 328.
55. *Ibid.*
56. *Ibid.*, 329.
57. Singer does not conclude that the WTO has made "the rich richer and the poor poorer," but argues that the operations of the WTO "in practice reduce the scope of national sovereignty." Singer, *One World*, 90.
58. Speth, *Red Sky at Morning*, 145. Speth also argues that economic globalization stimulates transportation and energy development, contributes to the commodification of natural resources, and spreads invasive species, resulting in greater biological homogenization.
59. *Ibid.*

60. Peter Steinfels, "Economics: The Invisible Hand of the Market," *New York Times*, November 25, 2006, A11.
61. Paul Krugman, "Gore's Derangement Syndrome," *New York Times*, October 15, 2007, <http://www.nytimes.com/2007/10/15/opinion/15krugman.html>.
62. "The solution to such conflicts between self-interest and the common good is to provide individuals with an incentive to do the right thing." Ibid.
63. John C. Bogle, *The Battle for the Soul of Capitalism*, xvi.
64. Daly and Farley, *Ecological Economics*, 437.
65. The International Forum on Globalization (IFG), <http://www.ifg.org/about.htm>.
66. Vandana Shiva, *Water Wars: Privatization, Pollution, and Profit*, 6.
67. "Since much of the unsustainability of the present economy stems from the appropriation of the resources of the poor countries by the richer ones, the ending of the present global economic system would counter this." Cobb, "Toward a Just and Sustainable Economic Order," 367.
68. Daly and Farley, *Ecological Economics*, 363.
69. Singer, *One World*, 199–200.
70. For a brief account of the fair trade movement, see Robert Traer and Harlan Stelmach, *Doing Ethics in a Diverse World*, 254–256. See also <http://www.globalexchange.org> and Sharon Cullars, "Fair Trade: Spreading the Wealth," *OneWorld.net*, May 27, 2008, <http://us.oneworld.net/article/view/160684/1>.
71. Treaties, such as the North American Free Trade Agreement (NAFTA), should be evaluated using these criteria. Trade is on balance beneficial, if it is fair and subject to political constraints that protect the natural environment.
72. Cobb, "Toward a Just and Sustainable Economic Order," 367.
73. Anthony J. McMichael, Colin D. Butler, and Carl Folke, "New Visions for Addressing Sustainability," in Donald Kennedy, ed., *Science Magazine's State of the Planet: 2006–2007*, 164.
74. Daly and Farley, *Ecological Economics*, 55.
75. John S. Mill, *Principles of Political Economy*, Book IV, Chapter VI (1848), in Daly and Farley, *Ecological Economics*, 54.
76. D. Hayes, *Repairs, Reuse, Recycling—First Steps to a Sustainable Society*, cited in Charles J. Kibert, Jan Sendzimir, and G. Bradley Guy, "Defining an Ecology of Construction," in *Construction Ecology*, 16.
77. "In December 1991, the Bureau of Economic Analysis (BEA), an agency within the Department of Commerce, began to emphasize gross domestic product (GDP) over gross national product (GNP) as the most comprehensive measure of production in the United States. The difference between GNP and GDP lies in the treatment of income from foreign sources. GNP measures the value of goods and services produced by US nationals, whereas GDP measures the value of goods and services produced within the boundaries of the United States. "The Difference between GNP and GDP," <http://www.cals.ncsu.edu/course/are012/readings/gdp&lead.html>.
78. Cobb, "Toward a Just and Sustainable Economic Order," 365. "The United States' per capita GNP registered an increase of 38 percent during the period 1980–1998, yet a decline in GPI of 25 percent." Myers and Kent, *Perverse Subsidies*, 15.
79. Cobb, "Toward a Just and Sustainable Economic Order," 365.
80. Ibid., 206.
81. McDonough and Braungart, *Cradle to Cradle*, 87.
82. Ibid., 90–91.