

Here's a simple game that makes a not-so-simple point.

Stand in a line, with several friends. Each of you hold your right index finger out in front of your body. Now balance a long stick across all of your fingers. Your collective goal is to lower the stick to the ground. There is only one rule. Each finger must remain in contact with the stick at all times. If anyone's finger loses contact with the stick, you must raise the stick back to the starting level and begin again.

According to Dennis Meadows and Linda Booth Sweeney, who include the game in their book, *The Systems Thinking Playbook*, groups of people following this rule almost always raise the stick instead of lowering it. As each player works to keep in contact with the stick the group as a whole pushes steadily in the direction opposite to its goal.

This might sound like a silly exercise, but it makes an important point. We can agree to rules that seem to make sense, we can follow those rules, and we can still have outcomes no one wants or even anticipates.

In commodity agriculture, for example, individual producers compete to stay in business by attempting to produce more commodity for less cost. As everyone produces more, the price per bushel falls, and to maintain the same income the producer must grow more or cut costs. Production goes up and costs go down, but since land stewardship or contribution to community does not count as a benefit in this equation, and since damage to the soil or to the watershed does not count as a cost, environmental and social indicators decline while "efficiency" rises.

The solution seems simple. Change the rules so that all the costs and benefits society cares about factor into the economic decision making. Charge for the destruction of biodiversity or the degradation of water quality. Reward good stewardship and contributions to local community.

The exact solutions will be different for soybeans than for corn, and different for codfish than for tuna. The knowledge of people living and working in these systems will be central to the design of policies that allow these systems to meet their environmental and social goals.


But even before we come to implement specific policies, there are challenges to overcome. For those commodities sold into global markets, it is not a simple matter to take into account new social and environmental goals. As long as the buyers are intent on buying the cheapest commodity, growers in one region cannot afford to improve the rules of their systems unless growers in other regions take a similar step. This sets up the system for what some have called a "race to the bottom," with no one able to improve the system rules on their own and everyone experiencing pressure to push costs onto the environment or workers and communities.

A system is primed for this problem when the reach of buyers is broader than the decision-making boundaries of producers. Solutions will require reducing this asymmetry either by limiting the reach of buyers or extending the solidarity of producers.

You hear more in the news about the first option. That is a part of what the "anti-globalization" movement is about—changing the rules of the largest economic system so that people are able to take steps to make their local economies serve them better. This is critical work. No system can be healthy if the rules at one level create pathology at another level.

But there are other possibilities that need our energy too. Governments from producing regions could commit to policies that incorporate social and economic goals on a multi-national scale. If all the corn producing regions of the world did this, it would no longer matter that multi-national commodity-buying corporations shop for the cheapest grain. Wherever they turned they would find local economies that were accounting for the full costs of grain production.

The corporations that buy and process commodities—corporations composed of people who don't set out to degrade resources or communities—could also come together to find solutions. Because a relatively small number of companies buy any one commodity, this is a practical possibility. Corporations could agree to raise minimum environmental and social standards and take the steps toward these standards together, paying the full costs together, with no one at a competitive disadvantage.

Can commodity producers, or governments, or competing corporations come together to end the race to the bottom? That is a huge dream that may seem to require more cooperation than our world can muster right now. On the other hand, it is a dream that is rooted in the reality of our planet. We are one people, living together on one small world. Sooner or later we are going to have to embrace this fact. Anything less means sitting back and waiting for the race to the bottom to reach its final destination. 

Elizabeth Sawin

ending the race to the bottom

commodity systems challenges

Elizabeth Sawin and the Sustainability Institute

The ability of commodity systems—agricultural products, harvested products and mined materials—to extract, sort, process, and allocate resources to a multitude of final demands is not only extraordinarily complex but also life-maintaining for millions of people.

Commodity systems are not without problems. These systems can overshoot the sustainable harvest of the resource they depend on, as in the collapse of a fishery. They can produce more waste than ecosystems can absorb, as in pollution from agriculture. They can push so far toward "efficiency" that communities of producers are pushed to the edge of economic survival. Insights about the behavior of commodity systems grew out of Sustainability Institute's multi-year "action-research" projects within specific commodities and communities.

Our focus was inspired by two questions:

Why, systemically, are places with rich natural resources so often on both the ecological and economic edge of survival?

How can commodity systems be transformed so they are stable, sustainable, and equitable?

The following is an outline of our insights, drawn from our 2003 paper *Commodity Systems Challenges: Moving Sustainability into the Mainstream of Natural Resource Economies*.

Commodity Systems Principles

STANDARDIZATION - Traders and buyers move commodities as an undifferentiated stream of goods.
THE LOWEST PRICE MAKES THE SALE - Producing the most undifferentiated product for the least cost is the secret to survival.
A DRIVE TO OPEN, EXTEND, AND LIBERALIZE MARKETS - With globalization, commodities can be produced wherever in the world the costs of production are lowest and sold to wherever people are willing to pay the highest price.

Commodity Systems Drivers

At the same time, three key drivers produce a trend toward higher and higher production and the trend toward lower and lower prices per unit of commodity.
REINVESTMENT - The most efficient producers reinvest profits, increasing capacity for production.

DEMAND - Rising production means that supplies can exceed demand and push the average price down. Low prices, in turn, can boost demand.

TECHNOLOGY ADOPTION - In times of falling prices individual producers try to maintain profits by reducing costs and expanding production volume.

Combined, these drivers contribute to the enormous growth seen in most commodity systems over time. In agriculture, this dynamic has been described as a "treadmill" where individual farmers must produce more and more to remain profitable.

Commodity Systems Traps

The growth drivers of commodity systems give rise to a tendency of these systems to fall into three traps of counter-productive behavior.

TRAP #1: THE TENDENCY OF COMMODITY SYSTEMS TO EXCEED THE PRODUCTIVE CAPACITY OF THEIR NATURAL RESOURCE SYSTEMS

Market signals, at best, do not prevent harvesting capacity from growing past the sustainable harvest limit.

TRAP #2: THE TENDENCY TO EXCEED THE ABILITY OF THE ENVIRONMENT TO ABSORB WASTES

Because the costs of pollutant accumulation are rarely felt by the producers who generate the wastes, commodity systems, on their own, are not able to avoid overshooting the waste-absorption limit of the ecosystems they depend upon.

TRAP #3: THE TENDENCY TO UNDERMINE PRODUCER INCOME AND THE HEALTH OF PRODUCER COMMUNITIES

The growth processes that drive rising productivity and falling prices tend to erode the incomes of commodity producers and the social capital of producing communities.

Escaping Commodity Traps

All over the world people are experimenting with changes to the structure of commodity systems in order to balance productivity with other goals. Each experiment gives us a window into possibilities for creating sustainability in commodity systems.

Collective agreements - Each of the commodity system traps arises when the system is structured so that individually rational producer decisions (to become more efficient and productive) add up to collective system behavior (overproduction or harvesting) that erodes valued environmental or social resources. If producers come together and agree on new rules, they can restructure a system so that individually rational choices are also collectively sustainable.


Certification - Familiar examples include organic and fair trade certifications. Certification strategies derive their momentum from consumers' willingness to pay more for fair and careful production practices.

Government taxes and payments - By paying for what it values—clean water, biodiversity, small farms—society can shift the goals of commodity systems to include more than high productivity and low costs.

Moving Forward

What will it take to reshape these commodity systems that lie at the heart of our economy and society? The research and stakeholder engagement described here leads us to suggest that solutions lie in the following:

- harvest and supply control agreements,
- global standards for environmental and social practices,
- certified commodities and increasing consumer demand for them, and
- subsidy programs for social and environmental goods rather than bulk commodity production.

Once we reach such a shared and broadened definition of the efficiency of natural resource economies, we will find that the policies, agreements, and programs to create sustainable commodity systems have been in plain sight all along. 

Social Costs of Production

**Veronica Dujon PhD -Associate Professor and Chair
Department of Sociology Portland State University**

Elizabeth Sawin's article identifies two fundamental problems with capitalist production: the failure to reflect environmental and social costs of production (also a shortcoming of centrally controlled economies) resulting in both degraded and unsustainable environments and societies; and the myopic drive for profits that can lead to dire social consequences, particularly in unregulated markets.

The author captures the difficulty in internalizing the external costs of production across national boundaries. Producers dispersed across different countries are driven to compete against each other and will resist the socially appropriate logic of internalizing costs unless they are all operating under the same rules. Buyers will exploit that rift to their advantage. The final result: a race to the bottom.

The author however, fails to articulate two of the key mechanisms in global markets that exacerbate the resistance to incorporating the social and environmental costs of production, particularly in the area of agriculture. Consequently, the solutions recommended fail to grasp the complex and uneven power relationships between trading partners that would render the implementation of the recommendations extremely difficult or unlikely.

The reality is that first world countries such as the United States, continue to heavily subsidize agricultural production even as they push for the removal of barriers to trade. Third world countries, faced with such steep obstacles to a level playing field, are not willing or able to produce goods in more socially and environmentally responsible ways and remain competitive in the global marketplace.

In addition, the persistent handicap of the consequences of the debt crisis of the 1980s leads them to pursue aggressive ways to boost exports to pay off debts. Many of these paths produce adverse social consequences. The combined net result is artificially high levels of export production that degrade the environment and simultaneously remove the options for more internally focused efforts at sustainable development.

Sawin's call for a united front among subgroups of producers in various countries or civic-minded corporations of buyers, to forge ahead with self-imposed efforts to internalize costs and thereby force the socially and environmentally irresponsible parties to toe the line is certainly worthy, but a huge dream, as Sawin notes.

Productivity is not a "Race to the Bottom"

Anthony M. Rufolo PhD

Professor of Urban Studies and Planning PSU

In general, Elizabeth Sawin's solution to what she refers to as "Commodity Traps" does not make sense to me. There are indeed problems with externalities in agriculture and overuse of "common" resources; but the solutions suggested here are much worse than the problem. The solution to the externalities problem is to internalize the cost to the producer through taxes or regulation. The US has seen substantial progress in environmental protection through these methods, but the trade-offs that people would be willing to make are different in different countries. In low-income countries, saving the environment has a much lower priority than in wealthy countries. Forcing them to maintain the same environmental standards as in wealthy countries would not make sense. The commons

problem is best addressed by government limiting use of the common resource, e.g., limiting the time period for fishing or selling a limited number of licenses.

Increasing productivity is not a "race to the bottom" it is the source of rising living standards. If we had not had these increases, we would still have a huge percentage of the population engaged in subsistence agriculture. Instead, the economy has allocated this labor to producing other goods and services. Eliminating competitive pressures and productivity improvements typically means accepting stagnant or declining living standards. Externalities are more likely to be addressed as income increases, so reducing the rate of increase in standard of living would also reduce the concern for environmental protection. The collective agreements that Sawin refers to are also often called cartels, and the negative consequences of cartels are well known. Any collective agreements that eliminate competition create their own incentives for waste and corruption, as the communist countries have clearly demonstrated.

Fair Trade Corn?

Jay Hutchins - Executive Editor Sockeye Magazine


At least one legitimate argument against Sawin's thesis goes like this:

One of the primary causes of downward pressure on agricultural prices is subsidies paid by the US and European countries to producers of agricultural commodities within their borders. These subsidies create surpluses, which are often dumped on developing countries—and these depress commodity prices all over the world, including the United States.

US subsidies also create unnatural competition in unsubsidized commodities such as coffee (which the US does not grow). For instance, third world producers aggressively compete with each other to sell coffee to the US because our tariffs and subsidies on cotton, sugar, and corn, force them to compete in US markets by selling only a narrow range of agricultural products. Fierce competition in the developing world to sell us the products we do not subsidize (or put tariffs on) has thwarted any attempt to create an international coffee cartel.

Hence the movement for Fair-Trade coffee that is supposed to compensate growers more favorably than supposedly unregulated markets—which (as for coffee) are distorted by the regulation of other commodities (such as sugar). Truly fair trade would level the playing field by abolishing farm subsidies (and tariffs) in the US allowing other countries to fairly compete with us in growing corn, cotton, sugar cane, and other commodities.

Without subsidies many US farmers would make the rational decision to leave the business of competing-to-sell more and cheaper commodities, whose "competitive" prices do not reflect their negative affects on the health of our ecosystem (or the world economy). US subsidies not only prevent developing countries from competing, they actually keep incomes, in the US, of small independent farmers and those that contract to large agribusinesses at a "subsistence level." In the US large agribusinesses are the major beneficiaries of subsidies and depend on them to compete internationally at well above "subsistence levels."

Without subsidies there would be much less momentum in what Elizabeth Sawin refers to as a "race to the bottom," and no sound argument for fair trade corn or for regulating the prices of commodities in the US. 

alternative views to elizabeth sawin's "race to the bottom" and "commodity traps"

Ecosystems and Communities

A Response to "Alternative Views"

Elizabeth Sawin and Hal Hamilton - Sustainability Institute

Thank you for the opportunity to respond to the alternative views to the article *Race to the Bottom*. If the world's people are to find ways to reshape commodity systems to better serve social and environmental goals, then the kind of rigorous questioning and passionate insistence on social justice that these reviews exemplify will be needed from all of us.

Several of the reviewers make valuable points about the impact of subsidies from first world countries on the commodity system. In our research on commodity system traps, we found that subsidies can powerfully exacerbate the race to the bottom, particularly because they mask feedback loops about the state of a resource or the state of a market. And, as Veronica Dujon points out, subsidies produce unfair pressure on producers in countries that do not offer subsidies. Although we are unaware of direct examples where subsidies for products like corn and sugar lead to enhanced competition to produce goods that are not subsidized in the first world, as Jay Hutchins suggests, we agree that such spillover would be yet another adverse consequence of subsidies.


At the same time, the pressure to externalize costs onto people and nature can be found in the production of commodities that are not typically subsidized, as well as those that are, leading us to conclude that other, more fundamental forces are at work, as we described in the accompanying summary, *Commodity System Challenges*. Whether subsidized or not, the logic of the current commodity system leads producers to do whatever they can to produce the most commodity for the least cost, and the collective sum of these individual decisions often has adverse consequences for ecosystems and communities. Large multi-national buyers and retailers are often caught up in their own competitive dynamics, feeling themselves forced to buy the lowest cost commodity regardless of other goals the people who work in these companies may hold.

As Anthony Rufolo argues, increases in productivity offer important benefits to society. However, a complex system, such as a commodity system, needs to be able to serve and balance multiple goals. The practice of optimizing for productivity without also prioritizing the health of the resource base and the human base of the any commodity system cannot continue over the long term. Productivity arises out of land and people. Therefore, commodity systems must ensure the health of these fundamental elements.

Regulations and controls on common resources can be effective ways to internalize costs and benefits in commodity systems, as Anthony Rufolo points out. However, given that many commons span the boundaries between nations, and that global markets make internalizing costs at the level of individual national policy very difficult, we continue to believe that lasting success in transforming commodity systems will also require agreements and standards that apply across such boundaries.

Finally, Veronica Dujon makes the point that the goal of coming together across national and sectoral boundaries to reshape the terrain of commodity systems is 'huge,' which is of course true. On the other hand, there are many inspiring collaborations currently underway and accomplishing pieces of this task. For example:

- Producers, traders, and food manufacturers are collaborating to set sustainability standards in the Sustainable Palm Oil Roundtable, a Sustainable Soy Roundtable and similar multi-stakeholder efforts for other commodities.
- Third party certifiers are verifying the production practices for many products, from tea to bananas to coffee, including organic, fair trade, and Rainforest Alliance.
- Fishery agreements limit catches through technology and other specifications.

We take great heart from these innovators who are showing what is possible, and pointing a way forward. None of these efforts is sufficient because of the power of competitive dynamics in commodity markets, but these efforts point the way toward a resilient food system, and they build practical experience among diverse leaders. 

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