



A Roubini Global Economics (<http://www.roubini.com/>) Project

(/)

(<http://www.fritter.com/#/blog/edolan/196723228925>)



(<http://www.economonitor.com/dolanecon/>)

ABOUT

Economic commentary and teaching resources

Austrian Environmental Economics (Part 1): Air Pollution as a Coordination Problem

Author: [Ed Dolan \(/blog/author/edolan/\)](/blog/author/edolan/) · March 31st, 2014 · [Comments \(8\)](#)

(<http://www.economonitor.com/dolanecon/2014/03/31/austrian-environmental-economics-air-pollution-as-a-coordination-problem/#idc-container>)

PROFILE



(</blog/author/edolan/>)

Economist, educator, author

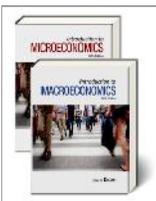
[More » \(/blog/author/edolan/\)](#)

The [Austrian school of economics \(http://www.econlib.org/library/Enc/AustrianSchoolofEconomics.html\)](http://www.econlib.org/library/Enc/AustrianSchoolofEconomics.html) has experienced a renaissance in recent decades. Its adherents have put their distinctive paradigm to work in nearly every field within their discipline. This post is the first of two that will examine the Austrian approach to environmental economics, with special emphasis on the problem of air pollution. ([Follow this link \(http://www.economonitor.com/dolanecon/2014/04/02/austrian-environmental-economics-part-2-the-case-for-emissions-trading/\) for Part 2.](#))

Pollution as a Coordination Problem

A distinctive feature of the Austrian approach is the idea that environmental issues are problems of coordination. As [Roy Cordato \(http://direct.mises.org/pdf/events/Terrell_QJAE_7-1Cordato.pdf\)](http://direct.mises.org/pdf/events/Terrell_QJAE_7-1Cordato.pdf) puts it, they are “not about harming the environment, but about human conflict over the use of physical resources.” The Austrian paradigm differs in that regard from that of the neoclassical school, which looks at environmental problems in terms of efficiency and maximization of social welfare, and from that of ecological economics, which frames the issues as conflicts between humans and nature.

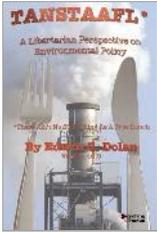
BOOKS



New! 5th ed. Introduction to Economics from BVT Publishing

(<http://tiny.cc/vptrqww>)

Your solution to overpriced textbooks



**TANSTAAFL: A
Libertarian
Perspective on
Environmental
Policy from
Searching
Finance**
(<http://tiny.cc/u2pb6>)

Just whose actions require coordination in the Austrian view? Consider a typical scenario, one in which emissions of SO₂ and NO_x from power plants in the American Midwest mix in the atmosphere to form acid rain, which harms people and property downwind, along the Eastern seaboard. Four groups of actors play central roles in this scenario:

The power plants themselves
The downwind victims of the pollution they emit
The suppliers of fuels and technology for the plants

- Customers who buy the electricity the plants generate

The actors in each group have their own plans, some of which are not consistent with others. Power plants want to use the atmosphere for waste disposal. Downwind residents want to breathe the air and to protect forests, lakes, buildings, and scenic vistas from the harmful effects of acid depositions. Suppliers to the power industry are competing with one another to persuade the plants to burn more coal, oil, or natural gas; to buy pollution abatement equipment; or to buy wind generators and solar panels. Customers, not all of whom live downwind from the power plants, want cheap, reliable electricity.

There are many fronts for coordination among these actors. Polluters need to take abatement measures that recognize the interests of those living downwind. They need to coordinate with one another so that cutbacks occur where abatement costs are lowest. Suppliers of fuel and generating equipment need to offer cleaner options. Customers need to contribute by conserving on electricity. Even after all appropriate abatement measures are in place, people living downwind may need to adapt to the remaining pollution. For example, farmers may need to consider what crops are best to plant, engineers may need to design buildings that resist damage from any remaining acid rain, and so on. Actions by these four groups will have secondary ripple effects that spread to other regions and other industries.

In short, the coordination needed to deal with a large-scale pollution problem like acid rain is inherently complex. What kind of mechanisms could facilitate it?

Property rights and tort law as coordinating mechanisms

Austrians identify one mechanism in particular as the key to promoting environmental coordination. Roy Cordato (http://mises.org/journals/qjae/pdf/qjae7_1_1.pdf) puts it this way: “It is logical that both the origin and the solution of the problem is to be found in a lack of clearly defined or enforced property rights.”

Cordato and other recent Austrian writers draw heavily on a seminal 1982 paper by Murray Rothbard (<http://mises.org/document/289>). Rothbard sees air pollution is an invasion of the rights of downwind property owners—in legal terms, a tort of trespass or nuisance. Pollution victims, he says, have the right to seek redress under common law.

That characterization of the problem might seem to place Rothbard firmly on the side of pollution victims, but not so fast. As he goes on, he enumerates a daunting list of procedural hurdles that plaintiffs would have to overcome to prevail in court.

The first is that, in Rothbard's view, not all emissions violate property rights. Specifically, people have a right to emit quantities of pollution that are small enough to do no perceptible harm, especially when the surrounding airspace is empty or sparsely populated. Once a person or company establishes a level of emissions, continuing that level becomes a permanent right under the principle of "first use" or "homesteading." People who later move to the area have no right to object to the first user's emissions, since they have "come to the nuisance." The price they pay for their property will reflect the existing level of pollution, so they have no grounds to claim further damages.

For example, imagine that a homesteader builds a cabin in an isolated mountain valley and heats it with a wood stove. Later, a ski resort brings in new residents and the valley becomes densely populated. Newcomers no longer have the right to install wood stoves, since the pollution would become intolerable, but they still have no legitimate grounds object to smoke from the first cabin, which was there when they arrived. The original homesteader, in effect, has a permanent emission easement.

The legal implication is that anyone who brings a lawsuit for trespass or nuisance must first prove that the polluter does not have a valid emission easement established by first use. But that is only the beginning of the plaintiff's difficulties.

Rothbard next introduces a set of stringent standards for proving causation. For example, if your crops are damaged by acid rain, you would have to show that they were harmed not just by acid rain in general, but by pollution from source A, not source B. You would also bear the burden of proving that the some other factor, say a fungus, did not cause or aggravate the damage. What is more, you would have to prove causation beyond a reasonable doubt, not just by the preponderance of evidence. Rothbard approvingly quotes a legal authority who acknowledges that where there are many sources of pollution and many remote victims, establishing causation "is almost always an impossible task."

Making it even harder to bring a successful suit, Rothbard sets strict standards for joinder of defendants and plaintiffs. You would have to sue each polluter separately unless you could prove that they acted in concert. Your ability to unite with other victims in a class action would be limited narrowly to cases where all plaintiffs suffered similar damage and actively joined the suit.

In short, as Rothbard himself acknowledges, there is no realistic chance that plaintiffs could prevail in a pollution suit where there are many sources and many victims. Even so, he says, it would be wrong to seek a solution “at the expense of throwing out proper standards of proof, and conferring unjust special privileges on plaintiffs and special burdens on defendants.” Instead, if pollution victims cannot surmount the legal obstacles, then victims of pollution “must assent uncomplainingly.”

None of this means that the property rights approach to environmental issues is never helpful. There are many cases in which it leads to just the kind of improved coordination that Austrians look for. As I have discussed elsewhere (http://www.amazon.com/TANSTAAFL-There-Aint-Thing-Lunch/product-reviews/190772026X/ref=dp_top_cm_cr_acr_txt?showViewpoints=1), organizations like the Nature Conservancy and Ducks Unlimited, as well as wealthy individuals like Ted Turner, use property rights to protect millions of acres. Their tools include not only outright purchases, but also conservation easements, mitigation banks, and more. Terry Anderson and Donald Leal (<http://www.amazon.com/Free-Market-Environmentalism-Terry-Anderson/dp/0312235038>) of the Political Economy Research Center show how the property rights approach has led to better coordination of the varying interests of ranchers, farmers, hunters, and conservationists in the American West. In an urban context, property developers use covenants, easements, and other devices to coordinate the conflicting interests of individual owners in condominiums and planned developments. David Zetland (<http://livingwithwaterscarcity.com/>) has detailed how markets and property rights can help coordinate the overlapping plans of farmers, homeowners, and industry for use of scarce water resources.

However, there are limits. The property rights approach works best when the number of parties involved in an environmental dispute are few and proximate, but in many of the most important environmental issues of our times, both sources and victims are many and remote from one another. In addition to acid rain, examples include urban smog, airborne mercury pollution, emissions of the chlorofluorocarbons that cause ozone depletion, acidification of oceans, and anthropogenic climate change. In those cases, enforcement of property rights under tort law, *à la* Rothbard, fails to provide an adequate coordinating mechanism. Something is missing.

The missing piece

We do not have to look outside the Austrian school to find the missing piece. As famously articulated in Friedrich Hayek’s 1945 essay on the use of knowledge in society (<http://www.econlib.org/library/Essays/hykKnw1.html>), the price system, not tort law, is the best mechanism for facilitating economic coordination among large numbers of widely scattered actors. Hayek uses the market for tin as an example. Sellers expand supply when the price is higher than their estimated costs of production. Costs are determined by the prices at which workers and resource owners are willing to supply inputs to tin producers. Consumers buy more when the price is below the maximum they are willing to pay for an additional unit. Coordination occurs without the need for face-to-face negotiation or even the knowledge of who your customers are or why they want your product. The law and property rights are there as a backstop, but only as a last resort in cases of fraud or breach of contract.

In the same way, a price for the right to emit pollution—for the right to use the atmosphere for waste disposal, if you prefer—would promote coordination of the many interested parties. In the acid rain scenario discussed earlier, such a price would encourage abatement by signaling polluters that their emissions interfere with the competing plans of downwind property owners. It would provide an incentive to concentrate abatement where its costs were lowest. The price of pollution would be passed backward along the supply chain in a way that gave a competitive advantage to cleaner fuels. It would be passed forward to customers in a way that encouraged energy conservation.

In contrast, in a system where the property rights of pollution victims are poorly defined, or where they are well defined but there is no practicable possibility of enforcement, no price for pollution rights will emerge. If polluters cannot be made to pay, they will view atmospheric waste disposal as a free good. There will be no coordination, no mutual adjustment of conflicting plans.

In Hayekian terms, then, we can restate the problem of air pollution as one of how to bring the price system to bear. In the second post in this series, I will show how that can be done in a way that would be more effective than tort law, and at the same time, fully consistent with Austrian concepts of property rights.

This post is based, in part, on a paper, “The Austrian Paradigm in Environmental Economics: Theory and Practice,” that I presented at the 2014 Austrian Economics Research Conference of the Ludwig von Mises Institute in Auburn Alabama, forthcoming in the Quarterly Journal of Austrian Economics. [Follow this link \(https://www.youtube.com/watch?v=yHsJHIWQJ00\)](https://www.youtube.com/watch?v=yHsJHIWQJ00) for a video of my presentation.

Filed under: [Austrian economics \(http://www.economonitor.com/dolanecon/category/austrian-economics/\)](http://www.economonitor.com/dolanecon/category/austrian-economics/), [Energy and environment \(http://www.economonitor.com/dolanecon/category/energy-and-environment/\)](http://www.economonitor.com/dolanecon/category/energy-and-environment/)

Recent Trackbacks

[The Austrian Paradigm in Environmental Economics - Citizens News \(http://www.citizens-news.com/2014/04/03/the-austrian-paradigm-in-environmental-economics/\)](http://www.citizens-news.com/2014/04/03/the-austrian-paradigm-in-environmental-economics/)

[...] of it controversial, and I would very much like to get a discussion going. Here are the links: Part 1 and Part 2 Prof. Dolan's AERC lecture is here: [Google+](#) [Liberty Bell](#) [Leave a Reply](#) [Cancel](#) [...]

[The Austrian Paradigm in Environmental Economics - Investing Video & Audio Jay Taylor Media \(http://jaytaylormedia.com/the-austrian-paradigm-in-environmental-economics/\)](http://jaytaylormedia.com/the-austrian-paradigm-in-environmental-economics/)

[...] of it controversial, and I would very much like to get a discussion going. Here are the links: Part 1 and Part [...]

Comments (8)



[architectcs \(http://intensedebate.com/profiles/architectcs\)](http://intensedebate.com/profiles/architectcs)

+2

[architectcs \(http://intensedebate.com/profiles/architectcs\)](http://intensedebate.com/profiles/architectcs)

25p · 14 weeks ago (#IDComment812348764)

so public health issues related to clean air and water and thermal pollution never enter the equation. thermal pollution and ozone depletion are global problems completely unrelated to particular property rights. what about each citizen's property right to a healthy environment for their own body? The austrian argument is bankrupt.

3 replies (javascript: collapseThread(812348764);) · active 14 weeks ago



(<http://www.economonitor.com/dolanecon/>) [EdDolan \(http://www.economonitor.com/dolanecon/\)](http://www.economonitor.com/dolanecon/) +2

75p ·

14 weeks ago (#IDComment812627449)
 Austrian economists do recognize "each citizen's property right to a healthy environment for their own body." In their terminology this is "self-ownership," that is, each person owns his or her own body, so pollution that directly harms people's health is seen as an assault or trespass against self-ownership.

However, on the larger point, you are right to question Austrians' sincerity about the cause of environmental protection in general. One form that their disregard for environmental issues takes, as explained in this post, is to formally recognize pollution as a violation of victims' rights, but then to pile up procedural barriers that, in practice, would prevent victims from every doing anything about it. In other cases, Austrian economists vent their hostility through amateurish attacks on the science behind climate change, acid rain, etc. I wrote at length about the attitudes of Austrian and some other free-market economists toward environmental science in this earlier article: <http://object.cato.org/sites/cato.org/files/seria...>

(<http://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2006/11/cj26n3-3.pdf>)



(<http://intensedebate.com/profiles/architectcs>) · 14 weeks ago (#IDComment812667082) +1

[architectcs \(http://intensedebate.com/profiles/architectcs\)](http://intensedebate.com/profiles/architectcs) 25p

but economists are talking about exchange, buying, selling and thus ownership or non-ownership. our bodies are not things we possess by exchange so they fall outside economics insofar as we're talking about health, i.e. working physiology. we can't "not own" our bodies, that would be death. or slavery - a place we cannot take this discussion. so the body's state of well being in absolute terms (not, say, strength, which is marketable) transcends the realm of economics. that's why the austrian (no capital a, because we're not talking about the country) argument falls apart.



(<http://www.economonitor.com/dolanecon/>) +1

[EdDolan \(http://www.economonitor.com/dolanecon/\)](http://www.economonitor.com/dolanecon/) ·

75p 14 weeks ago (#IDComment812672159)

Well, I think there are some weaknesses in the Austrian argument, but I think you would have to engage some Austrians themselves on this point. The only think I can say is that in one sense, my understanding is that Austrians do agree with you that self-ownership "lies outside economics" to the extent that they (and most other libertarians outside the Austrian school) generally do not see it as legitimate to sell one's self into slavery.

(<http://intensedebate.com/people/nmmaier72>)



+1

[nmmaier72 \(http://intensedebate.com/people/nmmaier72\)](http://intensedebate.com/people/nmmaier72) ·

8p · 14 weeks ago (#IDComment812736412)

Ed: Thanks for describing the Austrian approach, both in Tort Law and using the Price System, as it applies to pollution. It would seem under the tort law approach that using class action suits, where large numbers of persons are affected by pollution, could be used effectively here to prevent property rights violations. They were used successfully against asbestos manufacturers.

1 reply (javascript: collapseThread(812736412);) · active 14 weeks ago[\(http://www.economonitor.com/dolanecon/\)](http://www.economonitor.com/dolanecon/)[EdDolan \(http://www.economonitor.com/dolanecon/\)](http://www.economonitor.com/dolanecon/)

+1

75p ·

14 weeks ago (#IDComment812754450)

Details of law governing class actions suits is a little beyond my area of expertise. Rothbard's 1982 paper (linked in the post) has a long section discussing joint plaintiffs and joint defendants. My understanding is that his proposed version of the rules is less permissive than those applied in, for example, the asbestos case. I do not mean to endorse his version, but just to note that it seems to find favor among many Austrian writers.

[architectcs \(http://intensedebate.com/profiles/architectcs\)](http://intensedebate.com/profiles/architectcs)

0

25p · 14 weeks ago (#IDComment812874382)

I don't remember all the mechanisms by which the urban air pollution caused by auto emissions was drastically reduced during the seventies. But catalytic converters, non-leaded gasoline (elimination of leaded gas) and mandatory emissions testing (in some states) did not come about by plaintiffs chasing down every smoking field bomber or suing every gas station, distributor, refinery and driller. Back then my mother, a very competent environmentalist, worked closely with Sen Charles Mathias R-MD to clean the waters of Chesapeake Bay. Today, due to "libertarian" support from polluting corporations, one would be hard pressed to find a conservative supporting environmental protection.

1 reply (javascript: collapseThread(812874382);) · active 14 weeks ago[\(http://www.economonitor.com/dolanecon/\)](http://www.economonitor.com/dolanecon/)[EdDolan \(http://www.economonitor.com/dolanecon/\)](http://www.economonitor.com/dolanecon/)

+1

75p ·

14 weeks ago (#IDComment812878016)

You are right to put "libertarian" in quotes. All too many corporate rent seekers have appropriated the "libertarian" brand to the point it is becoming discredited.

Air pollution was reduced by a combination of command-and-control measures like catalytic converters, CAFE standards, and so on. These were effective but far more expensive than would have been needed to achieve the desired effect. (See this earlier post for a full discussion:

<http://www.economonitor.com/dolanecon/2011/07/15/...>[\(http://www.economonitor.com/dolanecon/2011/07/15/is-a-56-2-mpg-fuel-economy-standard-really-a-good-idea/\)](http://www.economonitor.com/dolanecon/2011/07/15/is-a-56-2-mpg-fuel-economy-standard-really-a-good-idea/)

The best way to achieve clean air and a healthy environment is to enlist the price system. Watch for the second part of this post, coming Wednesday April 2.