<https://www.econlib.org/library/Enc/Externalities.html>

# Externalities

##### By Bryan Caplan

Positive externalities are benefits that are infeasible to charge to provide; negative externalities are costs that are infeasible to charge to not provide. Ordinarily, as [**Adam Smith**](https://www.econlib.org/library/Enc/bios/Smith.html) explained, selfishness leads markets to produce whatever people want; to get rich, you have to sell what the public is eager to buy. Externalities undermine the social benefits of individual selfishness. If selfish consumers do not *have* to pay producers for benefits, they will not pay; and if selfish producers are not paid, they will not produce. A valuable product fails to appear. The problem, as David Friedman aptly explains, “is not that one person pays for what someone else gets but that nobody pays and nobody gets, even though the good is worth more than it would cost to produce” (Friedman 1996, p. 278).

Admittedly, the real world is rarely so stark. Most people are not perfectly selfish, and it is usually feasible to charge consumers for a fraction of the benefit they receive. Due to piracy, for example, many people who enjoy a CD fail to pay the artist, which reduces the incentive to record new CDs. But *some* incentive to record remains, because many find piracy inconvenient and others refrain from piracy because they believe it is wrong. The problem, then, is that externalities lead to what economists call *underproduction* of CDs rather than the nonexistence of CDs.

Research and development is a standard example of a positive externality, air pollution of a negative externality. Ultimately, however, the distinction is semantic. It is equivalent to say “clean air has positive externalities and so clean air is underproduced” or “dirty air has negative externalities and so dirty air is overproduced.”

Economists measure externalities the same way they measure everything else: according to human beings’ willingness to pay. If one thousand people would pay ten dollars each for cleaner air, there is a ten-thousand-dollar externality of pollution. If no one *minds* dirty air, conversely, no externality exists. If someone likes dirty air, this unusual person’s willingness to pay for smog must be subtracted from the rest of the [**population**](https://www.econlib.org/library/Enc/Population.html)’s willingness to pay to curtail it.

Externalities are probably the argument for government intervention that economists most respect. Externalities are frequently used to justify the government’s ownership of industries with positive externalities and prohibition of products with negative externalities. Economically speaking, however, this is overkill. If laissez-faire—that is, no government intervention—provides too little [**education**](https://www.econlib.org/library/Enc/Education.html), the straightforward solution is some form of subsidy to schooling, not government production of education. Similarly, if laissez-faire provides too much cocaine, a measured response is to tax it, not ban it completely.

Especially when faced with environmental externalities, economists have almost universally objected to government regulations that mandate specific technologies (especially “best-available technology”) or business practices. These approaches make environmental cleanup much more expensive than it has to be because the cost of reducing pollution varies widely from firm to firm and from industry to industry. A more efficient solution is to issue tradable “pollution permits” that add up to the target level of emissions. Sources able to cheaply curtail their negative externalities would drastically cut back, selling their permits to less flexible polluters (Blinder 1987).[**1**](https://www.econlib.org/library/Enc/Externalities.html#lfHendersonCEE2-056_footnote_nt186)

While the concept of externalities is not very controversial in economics, its application is. Defenders of free markets usually argue that externalities are manageably small; critics of free markets see externalities as widespread, even ubiquitous. The most accepted examples of activities with large externalities are probably air pollution, violent and property crimes, and national [**defense**](https://www.econlib.org/library/Enc/Defense.html).[**2**](https://www.econlib.org/library/Enc/Externalities.html#lfHendersonCEE2-056_footnote_nt187)

Other common candidates include [**health care**](https://www.econlib.org/library/Enc/HealthCare.html), education, and the environment, but claims that these are externalities are much less tenable. Prevention and treatment of contagious disease has clear externalities, but most health care does not. Educated workers are more productive, but this benefit is hardly “external”; markets reward education with higher wages. The externalities of many environmentalist measures, including national parks, recycling, and conservation, are hard to discern. The people who enjoy national parks are visitors, who can easily be charged for admission. If the price of aluminum cans fails to spark [**recycling**](https://www.econlib.org/library/Enc/Recycling.html), that suggests that the cost of recycling—including human effort—is more than the benefit. Similarly, as long as resources are privately owned, firms balance their current [**profits**](https://www.econlib.org/library/Enc/Profits.html) of logging and drilling against their future profits. If an oil driller knows that the price of oil will rise sharply in ten years, he has an incentive to conserve oil instead of selling it today.

Externalities are often blamed for “market failure,” but they are also a source of government failure. Many economists who study politics decry the large negative externalities of voter ignorance. An economic illiterate who votes for [**protectionism**](https://www.econlib.org/library/Enc/Protectionism.html) hurts not just himself but also his fellow citizens (Caplan 2003; Downs 1957). Other economists believe externalities in the budget process lead to wasteful spending. A congressman who lobbies for federal funds for his district improves his chances of reelection but hurts the financial health of the rest of the nation.

Putative externalities have been found in unlikely places. Some argue that wealth itself has an externality: inflaming envy. Others maintain that there are externalities of altruism—when I give money to help the poor, everyone else who cares about the needy is better off. Defenders of Prohibition and the war on drugs emphasize the externalities of drunkenness and drug addiction, though they typically lump private costs, such as low earnings and [**unemployment**](https://www.econlib.org/library/Enc/Unemployment.html), in with the external costs of drunk driving and violent [**crime**](https://www.econlib.org/library/Enc/Crime.html). In the Big Tobacco class action suit, one of the plaintiffs’ main arguments was that, given government’s role in medical care, smoking costs taxpayers money.[**3**](https://www.econlib.org/library/Enc/Externalities.html#lfHendersonCEE2-056_footnote_nt188)

In principle, externalities could be used to rationalize censorship, persecution of religious minorities, forced veiling of women, and even South Africa’s [**apartheid**](https://www.econlib.org/library/Enc/Apartheid.html). If most people were to find Darwinism offensive, the logic of externalities would recommend a tax on Darwinian expression. Few economists have pursued such possibilities, probably out of a tacit sense that, in extreme cases, individual rights override economic [**efficiency**](https://www.econlib.org/library/Enc/Efficiency.html).

Even from a strictly economic point of view, however, some externalities are not worth correcting. One reason is that many activities have positive and negative externalities that roughly cancel out. For example, mowing your lawn has the positive externality of improving the appearance of your neighborhood and the negative externality of creating a loud noise. A subsidy or a tax would alleviate one problem but amplify the other. To take a more controversial example, some economists question efforts to prevent [**global warming**](https://www.econlib.org/library/Enc/GlobalWarmingABalanceSheet.html), calculating that the benefits for people in cold climates more than balance out the costs for people in warm climates.

Another economic rationale for government inaction is as follows: sometimes an externality is large at low levels of production but rapidly fades out as the quantity increases. As long as output is high enough, such externalities can be safely ignored. For example, during a famine, doubling the [**supply**](https://www.econlib.org/library/Enc/Supply.html) of food has large positive externalities because starvation leads to robbery, hunger riots, and even cannibalism. During times of plenty, however, doubling the food supply would probably have no noticeable effect on crime.

Yet, it is to Nobel laureate [**Ronald Coase**](https://www.econlib.org/library/Enc/bios/Coase.html) that we owe the most influential argument for letting externalities solve themselves. In “The Problem of Social Cost” (1960), Coase bypasses the earlier view that it is literally impossible to charge for some benefits. Instead, he observes that every exchange has some *transactions costs,* which vary from negligible—such as putting coins into a vending machine—to enormous—such as negotiating a contract with six billion signatories to improve air quality.

Coase drew strong implications from his commonsense observation. Instead of arguing about whether or not something is an “externality,” it is more productive to ask about transactions costs. If transactions costs are reasonably low, then the affected parties negotiate tolerably efficient solutions without government intervention.

To take Coase’s classic example, suppose that a railroad emits sparks on a farmer’s crops. As long as transactions costs are low, the railroad and the farmer will work out a solution. Coase was particularly clever to emphasize that, in terms of economic efficiency, it does not matter whether the law sides with the railroad or the farmer. Suppose that it costs one thousand dollars to control the sparks and the lost crops are worth two thousand dollars. Even if the law sides with the railroad, the farmer will pay the railroad to control the sparks. Alternately, suppose that it costs two thousand dollars to control the sparks, the lost crops are worth only one thousand, and the law sides with the farmer. Then the railroad pays the farmer for permission to continue sparking.

Coase’s argument was initially controversial. As [**George Stigler**](https://www.econlib.org/library/Enc/bios/Stigler.html) recounts in his autobiography, when Coase first presented his idea to a group of twenty-one colleagues, none agreed. After an evening’s argument, however, Coase convinced them all. Coase’s approach subsequently spread widely in both economics and law. Faced with externalities, modern analysts almost immediately inquire about transactions costs. For example, in the early 1950s, J. E. Meade advocated subsidizing apple orchards to correct for the positive externalities they provide to beekeepers. Inspired by Coase, however, Steven Cheung (1973) wrote a careful case study of the bee-apple nexus. In the real world, beekeepers and apple orchard owners do not wait for government to solve their problem. They can and do negotiate detailed contracts to deal with externalities.

Coase’s approach is probably the main reason economists are skeptical of antismoking legislation. While it is costly for smokers and nonsmokers to directly negotiate with each other, the owners of bars, restaurants, and workplaces can cheaply balance their conflicting interests. If nonsmokers are willing to pay more to avoid the smell of tobacco than smokers are willing to pay to smoke, restaurants will disallow smoking—and charge a premium for their smoke-free atmosphere. If unregulated markets fail to deliver a smoke-free world, Coasean logic suggests that smokers value smoking more than nonsmokers value not being subjected to cigarette smoke.

## About the Author

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## Further Reading

## Introductory

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## Footnotes

[**1.**](https://www.econlib.org/library/Enc/Externalities.html#c_lfHendersonCEE2-056_footnote_nt186)

In principle, you could get the same results from pollution taxes, though these are usually more objectionable to industry than tradable permits.

[**2.**](https://www.econlib.org/library/Enc/Externalities.html#c_lfHendersonCEE2-056_footnote_nt187)

Despite its popularity, even the national defense example can be criticized for failing to count the negative externalities of military spending on foreigners.

[**3.**](https://www.econlib.org/library/Enc/Externalities.html#c_lfHendersonCEE2-056_footnote_nt188)

Some economists calculated, however, that the cost of treating smoking-related disorders was less than the savings attributable to smokers’ shorter life spans. In other words, it is *non*smoking that has negative externalities! (Viscusi 1994).