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Smog For Sale

Are tradeable emissions permits a deal with the devil or good sense?

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Free markets are amazingly successful at producing the right goods and getting them to the people who want them. They also provide entrepreneurs with incentives to innovate, and by doing so create tremendous forces for rising living standards. But free markets sometimes screw up. An important lesson in any economics course is about “market failures,” an obvious example being pollution. Dirty air and fouled water impose costs on the rest of society, but these costs are external to those that produce the pollution and so in a free market the producers have no incentive to change their behaviour. The result is too much pollution. Adam Smith’s famous invisible hand fails to produce the best outcome.

In recent years there has been growing concern about global warming, and the possibility that man’s steadily rising production of greenhouse gases is the culprit. Concerned by the effects of this climatic trend, governments have been urged to do more to protect the environment and especially to pass legislation forcing a reduction in greenhouse-gas emissions. This was the entire motivation behind the major international summit in Kyoto, Japan, in December 1997. But what kind of government action is called for?

In one of the many wonderful ironies of economic logic, it turns out that one of the best ways to deal with the market failure of pollution is to harness the power of markets. In particular, tradable pollution permits are the most efficient known way of reducing pollution. At the Kyoto summit, the 38 countries that agreed to reduce their greenhouse-gas emissions also agreed to promote the use of tradable pollution permits. Environmentalists applauded the planned emissions reduction but were sceptical about the means. Their scepticism had not abated after a follow-up meeting in The Hague just a few months ago. How do tradable pollution permits work,

and why do economists like them? And if they're so good, why do the environmentalists complain?

There are three general types of pollution-control policies. *Direct controls* tells firms or consumers precisely what they must do, such as requiring all cars to have catalytic converters or all coal-fired electricity plants to install scrubbers in their smokestacks. *Emissions taxes* require polluters to pay a tax for each unit of pollution they produce. *Tradable emissions permits* are government-issued licences that allow its holder to produce a certain amount of a specified type of pollution per year. For example, a coal-burning steel mill might own permits allowing it to emit 1000 tons of sulphur dioxide into the air every year.

These three methods are not equally efficient at reducing pollution. For certain polluting products, like automobiles, it makes sense to use direct controls because to do otherwise would involve monitoring many millions of consumers, and this would be extremely costly. But in industrial settings with a relatively small number of large firms, tradable pollution permits really shine. Their main advantage is that they allow a given amount of pollution reduction to be achieved at the lowest possible cost. This cost advantage arises because polluting firms, even in similar industries, have different polluting “technologies”. Some firms have newer equipment that is less polluting whereas others use older equipment that is more polluting. Using direct pollution controls in this setting means imposing the same restrictions on all firms, independent of whether they can easily reduce their pollution or whether it is very costly to do so. This may seem fair, but it is a very expensive way to reduce pollution.

With tradable pollution permits, pollution will end up being reduced by those firms that can do so most cheaply. This is how it works. Once the government decides how many permits to issue, the market for permits determines their price. Facing this market price for permits, firms will be faced with a simple choice: buy a permit at the market price and be allowed to pollute, or sell their permit at the market price and be forced to reduce their pollution. Low-cost firms will choose to sell their permits, pocket the cash, and reduce their pollution. High-cost firms will choose to purchase the permits and not reduce their pollution. The result is that the reduction in pollution is accomplished at least cost.

Economists are often accused of being great at theory but missing the boat when it comes to reality. But tradable emissions permits really work in practise. The pioneer, as is often the case, was the United States. The 1990 Clean Air Act established targets for sulphur dioxide and allocated emissions permits to existing producers. There has been an active market for the trading of the permits since 1995, and ongoing improvements in abatement technology have led to steady declines in the market price for permits. By 2000, U.S. emissions of sulphur dioxide were less than half of their 1980 levels. That's success by almost any standard.

Despite society's benefits from using tradable pollution permits, there are two broad groups who oppose them—firms and environmentalists. Polluting firms obviously don't like having to pay for a right that they previously had for free, and so they naturally complain. But don't be misled—this is not a complaint just about tradable pollution permits, it is a complaint about *any* policy designed to reduce pollution, because any method of reducing pollution is costly for firms. But keep in mind that these costs are part of the benefit to society from reducing pollution. If the problem is excessive pollution, the solution must involve a reduction in economic activity by the polluting firms. The costs to some firms and workers do not negate the benefits to society as a whole.

Environmentalists don't like tradable pollution permits because they think it is morally wrong to issue “licences to pollute”. But this high-mindedness misses the point. Pollution is a fact of life—it occurs with any economic activity. We must recognize the benefits from reducing pollution, but the real challenge is to achieve any given amount of pollution reduction at the lowest possible cost. It is crazy to stubbornly insist that pollution is “wrong” and that firms must “do better”. It makes far more sense to recognise that firms are interested in profits and to design a system that harnesses this incentive in society's interests. Tradable pollution permits fit the bill.

If environmentalists really thought about it, they'd realize that they should actually be pushing for *greater* use of tradable pollution permits. Under any set of pollution policies, environmentalists can lobby the government to tighten pollution standards, but the lobbying may not be effective. With tradable pollution permits, however, environmentalists can act directly with *guaranteed* impact. If they believe that too much pollution is being produced, the

environmental groups can simply purchase some existing permits and “retire” them. In short, they can express their preferences for a cleaner environment by putting their money where their mouth is. In this sense, quite apart from being an efficient way to reduce pollution, tradable pollution permits are probably the most “democratic” of all available pollution policies.