



By Robert N. Stavins

## Tradable Permits: Fly in the Ointment?

For more than two decades, environmental law and regulation was dominated by command-and-control approaches — typically either mandated pollution control technologies or inflexible discharge standards on a smokestack-by-smokestack basis. But in the 1980s, policymakers increasingly explored market-based environmental policy instruments, mechanisms that provide economic incentives for firms and individuals to carry out cost-effective pollution control. Tradable emission permits continue today to be at the center of this action.

But the transition has not always been easy. In some cases, policy has outrun basic understanding, and the claims made for the cost-effectiveness of cap-and-trade systems have sometimes exceeded what can be reasonably anticipated. Among the factors that can adversely affect the performance of such systems are transaction costs.

In general, transaction costs — those costs that arise from the exchange, not the production, of goods and services — are ubiquitous in market economies. They can arise from any exchange: after all, parties to transactions must find one another, exchange information, consult with lawyers or other experts, transfer title, etc.

In tradable permit markets, there are three potential sources of transaction costs. The first source, searching and information-collection, arises because it

can take time for a potential buyer of a discharge permit to find a seller, though — for a fee — brokers can facilitate the process. Although less obvious, a second source of transaction costs — bargaining and deciding — is potentially as important. A firm entering into negotiations incurs real resource costs, including time and/or fees for brokerage, legal, and insurance services. Likewise, the third source — monitoring and enforcing — can be significant, although these costs are typically borne by the responsible governmental authority and not by trading partners.

The cost savings that may be realized through marketable permits depend upon active trading. But transaction costs are an impediment to trading, and such impediments thereby can limit savings. So, transaction costs reduce the overall economic benefits of permit trading, partly by absorbing resources directly and partly by suppressing exchanges that otherwise would have been mutually (indeed socially) beneficial. But when transaction costs can be kept to a minimum, high levels of trading — and significant cost savings — are the result.

Economists have long asserted that the post-trading allocation of control responsibility among sources and hence the aggregate costs of control are independent from the initial permit allocation. Does this still hold in the presence of transaction costs? The answer, sadly perhaps, is it depends. If incremental transaction costs are independent of the size of individual transactions, the initial allocation of permits has no effect on the post-trading allocation of control responsibility and aggregate control costs. But if incremental transaction costs decrease with the size of individual trades, then the initial allocation will affect the post-trading outcome.

This is of great political importance, because it means that in the presence of

transaction costs, the initial distribution of permits can matter not only in terms of equity, but in terms of efficiency. This can reduce the discretion of the environmental agency and the legislature to distribute permits as they please (in order to generate a constituency of support for the program), and may thereby reduce the political attractiveness and feasibility of a tradable permit system.

Choices between command-and-control policies and market-based instruments ought to reflect the imperfect world in which these instruments are applied. But such choices are not simple, because no policy panacea exists.

On the one hand, even if transaction costs prevent significant levels of trade from occurring, aggregate costs of control will most likely be less than those of a conventional command-and-control approach. A trading system with no trading taking

place will still likely be less costly than a technology standard (because the trading system provides flexibility to firms regarding their chosen means of control) and no more costly than a uniform performance standard.

But the existence of transaction costs may make the choice between conventional approaches and permits more difficult because of the ambiguities that are introduced. With transaction costs — as with other departures from frictionless markets — greater attention is required to the details of designing specific systems. This is the way to lessen the risk of over-selling such policy ideas and ultimately creating systems that stand the best chance of being implemented successfully.

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