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Comment

Arik Levinson

Goulder and Stavins have provided a clear and useful framework for thinking about the complex interactions between comprehensive climate bills under consideration by the US Congress and existing state regulations already in place, planned, or contemplated. In this note I make four brief points, some new, some adding emphasis to points in their chapter: (a) the core of their analysis lends itself to a simple, two-by-two diagrammatic exposition; (b) their analysis is more general than their chapter suggests; (c) the justifications they explore for continued coexistence of overlapping state and federal regulations are exceptions that prove the rule; and (d) as they note, many of the problems caused by those overlapping regulations would be avoided by a federal pollution tax in lieu of cap and trade.

A Two-By-Two Diagram

Goulder and Stavins identify the two key criteria for whether and how state and federal climate laws would interact: how much abatement is required (stringency) and how many polluting sectors are covered by the legislation (comprehensiveness). That yields four possible outcomes, depicted in figure 7C.1.[1]

The upper left-hand corner (box [A]) of figure 7C.1 depicts the simplest case, where the federal policy covers more of the economy with more stringent legislation. For example, the northeastern states' RGGI requires a 10 percent emissions reduction by 2018 from the utility sector alone, while the Waxman-Markey bill that passed the US House of Representatives in 2009 would require a 17 percent reduction by 2020 from numerous sources including utilities, large manufacturers, refiners, and natural gas sales. The federal law, if enacted, would cover more sources more stringently than RGGI. The state-level regulation's environmental effects would effectively be made irrelevant by the federal law.

Box (B) of figure 7C.1 depicts the hypothetical case where the federal law covers more sectors, but the state law is more stringent. Suppose, for example, that a version of Waxman-Markey passed into law but required less than a 10 percent reduction. In that case, utilities in the Northeast could use the greater abatement mandated by state law to sell federal allowances to other states or sectors. This interaction between state and federal laws can be

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1. Stavins, in comments on this note, pointed out that the state and federal policies could also be equally stringent or equally comprehensive, leading to a 3-by-3 diagram. For simplicity and brevity, I have left that unexplored here.

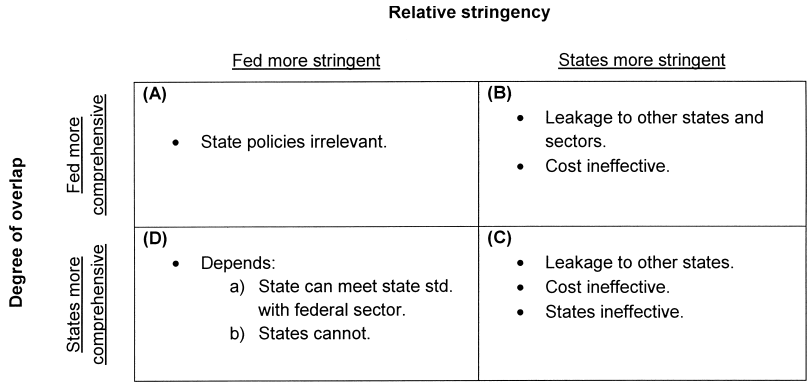

Fig. 7C.1 Goulder and Stavins in a diagram

seen in two ways: the federal law enables leakage of GHG emissions from the Northeast utility sector to other states and sectors, and the state law distorts the cost-effectiveness of the federal cap-and-trade system.

Box (C) depicts the hypothetical case where the state law is both more stringent *and* more comprehensive. Imagine a weak federal law covering only the utility sector, and a strict state law covering multiple sectors. Here the state's utilities could sell federal emissions allowances they accumulate as a consequence of meeting the strict state standard to sources in other states, but not to other sectors within the state. Like box (B), there is leakage here, but only across state lines, not across sectors within the state. Also like box (B), the interaction can be seen in two ways: the federal law enables leakage of GHG emissions from the utility sector, and the state law distorts the cost-effectiveness of the federal cap-and-trade system.

The most complex case is depicted in box (D), where the federal law is more stringent, but the state law is more comprehensive. Imagine a strict federal law governing only utilities, combined with a weaker state law covering more sectors. If we presume that the state standard cannot be met entirely by abatement within the federal sector (utilities), then this case reverses the outcome in the other boxes. The federal policy undermines the cost-effectiveness of the broader state cap-and-trade policy. And the state policy undermines the emissions reductions mandated by the federal policy, by enabling leakage across sectors within the state.

Although all of this is hypothetical given the current state of climate legislation in the US Congress, it illustrates how complex the potential interactions can be.

Goulder and Stavins Generalized

The analysis in Goulder and Stavins is in some ways more general than they describe. In chapter 8 of this volume, I discuss interactions between

cap-and-trade climate legislation and other more traditional, non-market-based regulations that either predate the cap-and-trade rules or may be enacted alongside them. Retitle figure 7.1 in Goulder and Stavins so that the left graph is labeled "Renewable Energy Standards" instead of "Greener States," and the right graph is labeled "Energy Efficiency Standards" instead of "Other States." A cap-and-trade system will equalize marginal abatement costs between the two sources of abatement, renewable energy and efficiency, just as it would between greener and other states. But if a renewable energy standard coexists alongside the cap and trade, then its effect depends on whether the standard mandates less renewable energy than would be incentivized by the cap-and-trade permit price, or more. If the renewable energy standard is less stringent, it is effectively irrelevant in the same way that a less stringent, less comprehensive state regulation is irrelevant. Given the cap-and-trade permit price, utilities will opt to exceed the renewable standard. On the other hand, if the renewable energy standard is more stringent, it raises abatement from renewable energy, allowing allowances to be sold to energy efficiency sources (leakage), and raises the cost of abating GHG emissions without generating any more abatement—similar to the effects of a more stringent state regulation.

Justifications for Coexisting Federal and State Laws

The overarching conclusion of Goulder and Stavins's chapter and my chapter in this volume is that the coexistence of the two sets of regulations (federal and state, cap and trade and traditional mandate) is either irrelevant or costly. As I do in my chapter, Goulder and Stavins also devote space to identifying cases where that coexistence may be justified. My own impression of those justifications is that in both cases they appear more as exceptions that prove the rule rather than general reasons to enact both types of policies.

Goulder and Stavins provide three general justifications. First, states may address other market failures, such as the fact that landlords and tenants have incomplete incentives to conserve energy. If states have a local-knowledge advantage, regulations addressing building construction or appliance standards may be best set and administered by the states rather than the federal government. Of course, as they note, that argument does not apply to large-scale GHG abatement programs such as RGGI. Second, states are often described as laboratories of regulatory experimentation. Perhaps state-level experimentation will eventually lead to a better-designed federal climate policy. And third, state policies like RGGI and California's AB 32 may provide the political pressure that leads to comprehensive federal policy. Again, as Goulder and Stavins note, these justifications provide reasons for state policies eventually to be replaced by federal policy, not to coexist.

Conclusion and an Advantage of Emissions Taxes over Cap and Trade

Finally, the discussions in Goulder and Stavins and in my chapter illustrate an important advantage a GHG emissions tax would have over a cap-and-trade system. Economists have long argued that social problems like GHG emissions can most cost-effectively be solved by internalizing the externalities—placing a "price on carbon" in common parlance. That price can arise from two possible mechanisms: an emissions tax or a cap-and-trade system. The two share common advantages. Both would internalize externalities. Both would motivate research and development into alternative energy, conservation, and carbon sequestration. And most importantly, both would level the playing field across potential sources of GHG reduction, ensuring that market forces determine that whatever reduction occurs comes at the lowest possible total cost.

One important difference, however, between an emissions tax and cap and trade involves the logistical difficulty of introducing the policy in the first place. Policymakers considering a new, comprehensive, federal GHG cap-and-trade system face a dilemma with respect to sources already covered by other regulations—state regulations or other traditional regulatory mandates. If the federal policy excludes those sources, they lose the cost-effectiveness—the level playing field—of the comprehensive cap and trade. But federal policy covers those already-abating sources, and unless 100 percent of the allowances are auctioned, policymakers must decide how much credit to give sources for abatement that has already occurred, whether voluntary or mandated, raising issues of fairness with respect to sources that may have postponed abatement knowing the comprehensive federal system was coming.

As Goulder and Stavins note, an emissions tax would avoid some of this dilemma. A federal GHG tax could in theory be levied without concern about preexisting state or federal regulations. Those sources that have already abated GHG emissions would simply have an early lead on reacting to the new tax. Where the other state or federal policies result in more abatement than the federal tax would have generated, that excess abatement cannot leak to other states or sectors, because all sources must pay the federal emissions tax rate.[2]

In sum, Goulder and Stavins have cleverly and clearly framed the key issues in thinking about how proposed federal climate legislation may interact with existing state regulations, and that framework illustrates one of the key advantages held by emissions taxes over cap and trade in the contest to become America's preferred greenhouse gas regulatory instrument.

2. Of course, a comprehensive federal tax could interact in problematic ways with state and local or sector-specific emissions taxes.