Financial impacts of 'cap and trade'

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Graphic: Christine Daniloff

So-called "cap and trade" legislation has often been portrayed as a regressive policy -- one that would hit poor people the hardest. A new MIT study concluded that this is not the case.

The U.S. House of Representatives passed a cap-and-trade bill last year, and different versions of that bill had been working their way through the Senate until being yanked from consideration last month.

The study, co-authored by researchers at the MIT Joint Program on the Science and Policy of Global Change and at Tufts University, found that under all three versions of the bill submitted so far, the costs would fall hardest on wealthier households, and that lower-income households would see no change or a net benefit.

The basic concept of cap and trade is that greenhouse-gas emissions would be capped at some level (usually about the present level, or the level from a past year), and companies that produce those emissions, such as electric utilities, would receive permits for a given amount. If they choose to install lower-emissions plants, they would end up with extra permits, which could then be freely traded — that is, sold to companies that are unable to stay within their allotted limits.

The MIT study assumed that a cap-and-trade measure would take effect in 2012, and it estimated the legislation's financial effects on U.S. households beginning in 2015 and continuing every five years through 2050. It found that incomes of the poorest Americans — households that earn less than $10,000 a year — would show a net increase of up to 1.5 percent in 2015, depending on the particular bill. Households earning less than $50,000 a year — about 45 percent of all households — would see some gains, or at worst no change. Those in the very highest income bracket would pay more, with total additional costs in 2015 amounting to less than 0.5 percent of their incomes. According to the study, these effects would become more pronounced over time.

The research, published this last month in the *Berkeley Electronic Journal of Economic Analysis and Policy*, was unique in its analysis of both the income and expense impacts of the legislation, and of regional differences on a scale that in some cases went down to the level of individual states.

Older computer models used to analyze the impacts of cap-and-trade legislation just looked at one or two typical households, explains John Reilly, co-director of the MIT Joint Program and one of the authors of the new study. "We decided to look at how carbon policies are going to affect different people," Reilly says. "Conventional wisdom holds that by raising the cost of energy, policies to price carbon will have a negative effect on everyone," he says. "Our research concludes that, by

itself, pricing carbon tends to be progressive, rather than regressive."

The database developed by the team, which also included researchers Sebastian Rausch and Sergey Paltsev of the MIT Joint Program and Gilbert Metcalf of Tufts, breaks the information down regionally, as well as by income level.

Overall, for all the different regions and income levels, the results were quite consistent: Those with the lowest incomes came out ahead, while those with higher incomes bore most of the additional costs. Reilly calls this finding "really unexpected," and attributes it primarily to the fact that the study looked at both households' incomes and expenses.

To understand why poorer households may fare better than richer ones, consider that those in the lowest income echelons tend to derive a larger portion of their incomes from government programs such as welfare or Social Security. These programs are all indexed to inflation, and because the cap-and-trade measures are expected to add to the cost-of-living index, those increases would be compensated by the adjustments.

The impacts of the additional costs would also be mitigated by mechanisms built into the bills. Among these provisions is one that would distribute dividends to households or regions likely to feel the greatest impacts of the carbon charges. "One way or the other," Reilly says, "all of the proposals actually benefit low-income households, because the allowance allocation they receive is greater than their increases in energy costs and effects on income."

Laurie Johnson, chief economist for the Natural Resources Defense Council, says that "it's not at all surprising that the authors find the legislation [in its various specific forms] to be progressive, because some of the proceeds from the sale of pollution permits are redistributed back to households on a per-capita basis." In fact, she says, if anything, the

economic impacts on most people will be even less than this study suggests (or actually beneficial), because it doesn't include the environmental benefits to be gained from the reductions in emissions. "Were these included," she wrote in a blog post about the new findings, "the discussion of 'costs' of climate legislation would likely turn on its head, and instead be about benefits and savings."

The researchers note that their analysis could help fine-tune cap-and-trade proposals: Policymakers, they say, could use the findings to revise legislation and mitigate the negative effects on particular regions or income levels. By using the computer model they developed, Rausch says, it's now possible to take any specific proposal or modification of the existing bills and "run it through the model and see the effects, taking into account all the complex interactions."

Although they have not yet analyzed the scaled-back legislation now being offered in place of cap and trade, Reilly says it contains provisions that would add to energy costs without generating revenue to offset these costs for lower-income households. Thus it might bring higher costs than the original legislation, while achieving much less reduction in emissions.

Provided by Massachusetts Institute of Technology

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