Offsetting Costs of a Carbon Tax on Low-Income Households

Conference on the Economics of Carbon Taxes
Co-sponsored by AEI, Brookings, IMF and RFF

Terry M. Dinan
Senior Advisor

Overview

- Carbon tax tends to impose disproportionate burdens on low-income households
- Policymakers could use tax revenue in multiple ways
- Paper compares options with respect to
  - Targeting of low-income households
  - Ease of administration
  - Implications for economy-wide costs
- Individual options entail trade-offs between minimizing economy-wide costs and protecting low-income households
- Policymakers could achieve multiple objectives by using a combination of options
Findings of Burden on Low-Income Households

■ Most studies find low-income households bear a disproportionate burden, but results vary depending on whether:
  – Tax causes higher consumer prices or lower returns to workers and investors
  – Costs measured relative to annual income or alternative metrics, such as annual consumption

■ Accurately measuring burden is complicated by data problems
  – No good measure of “lifetime income”
  – Unexplained consumption by lower-income households

■ Automatic indexing of tax system and transfers lessens cost for some households
Estimated Cost of a $28 Tax per Ton of Carbon Dioxide, by Income Quintile

(Percentage of after-tax income)
Options Considered to Offset Costs

■ Broad-Based Compensation
  – Reduce Income Tax Rates
  – Provide Income Tax Rebates
  – Provide Payroll Tax Rebates
  – Provide Incentives for Energy-Saving Investments

■ Targeted Compensation
  – Expand EITC
  – Make Fixed Payments to SNAP Recipients
  – Increase LIHEAP
Broad-Based Option: Proportional Reduction in Income Tax Rates

- Large share of households in lowest quintiles would receive some benefit, but amount would be small
- Bulk of reductions would go to tax-payers in highest income tax brackets
- Would be easy to administer
- Could potentially reduce the economy-wide cost of carbon tax
  - Increase after-tax returns to working and investing
  - Decrease distortions in spending caused by tax preferences
Share of Low-Income Households Likely to Benefit From Alternative Policy Options

(Percentage of households)

- Lowest Quintile
- Second Quintile

Income Tax Rate Reduction

0 10 20 30 40 50 60 70 80 90 100
Broad-Based Option: Income Tax Rebate

- Refundable rebate would benefit much larger share of low-income households than reduction in tax rate
- Fixed rebate would be progressive; especially if it phased out at higher incomes
- Administering could be relatively costly
  - Challenging to get households with no tax liability to file
  - May not reach some of most vulnerable households
- Unlike reduction in income tax rates, rebates would provide no added incentive to work or invest
Share of Low-Income Households Likely to Benefit From Alternative Policy Options

(Percentage of households)
Broad-Based Option: Payroll Tax Rebate

- Fixed amount of earnings could be exempt from Social Security and Medicare taxes, e.g., Metcalf proposed first $3,660 be exempt = $560 maximum rebate
- Rebates progressive for those who receive maximum amount
  - Unequal treatment for similar households with different numbers of workers
- Nearly half of lowest income households have no earnings so would receive no rebate
- Administering payroll tax complicated by fact that some workers hold multiple jobs
- Could provide modest incentive for people to join workforce; no additional incentive to work for those already employed
Share of Low-Income Households Likely to Benefit From Alternative Policy Options

(Percentage of households)

- Income Tax Rate Reduction
- Income Tax Rebate
- Payroll Tax Rebate

Legend:
- Lowest Quintile
- Second Quintile
Broad-Based Option: Tax Incentives for Energy Saving Investments

- Could increase cost of reducing emissions by favoring certain investments
- Would favor higher-income households

<table>
<thead>
<tr>
<th>Income (Thousands of dollars)</th>
<th>Percentage of Total Tax Returns</th>
<th>Percentage Claiming Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 15</td>
<td>27.2</td>
<td>0.1</td>
</tr>
<tr>
<td>15 to 30</td>
<td>21.4</td>
<td>1.0</td>
</tr>
<tr>
<td>30 to 50</td>
<td>18.0</td>
<td>3.2</td>
</tr>
<tr>
<td>50 to 100</td>
<td>21.7</td>
<td>6.6</td>
</tr>
<tr>
<td>100 to 200</td>
<td>8.7</td>
<td>8.9</td>
</tr>
<tr>
<td>More than 200</td>
<td>3.0</td>
<td>6.9</td>
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</tbody>
</table>
Targeted Option: Supplement to SNAP

- Fixed payment to households eligible for SNAP (less than 130 percent of poverty guideline)
- All payments directed at low-income households; Could reach households less likely to file income taxes or to have earnings
- Administrative costs could be minimal if paid through same electronic benefit transfer system
- Would not provide any additional incentives to work or invest
Share of Low-Income Households Likely to Benefit From Alternative Policy Options

(Percentage of households)

- Income Tax Rate Reduction
- Income Tax Rebate
- Payroll Tax Rebate
- Supplement to SNAP

Lowest Quintile
Second Quintile
Targeted Option: Increased Funding for LIHEAP

- Households with income up to 150 percent of poverty guideline qualify for LIHEAP under current federal rules.
- Fewer households receive LIHEAP than SNAP even though more are eligible for LIHEAP under federal rules.
- Block grants limit federal funding. States can set lower income limits and eligibility varies among states.
- Expanding program to cover all low-income households would entail a significant increase in administrative costs.
- Expanded LIHEAP would provide no additional incentive to work and invest and could provide some modest increase in incentives to use energy.
Share of Low-Income Households Likely to Benefit From Alternative Policy Options

(Percentage of households)
Targeted Option: Increase EITC Payments

- EITC is a refundable credit available to low-income households, primarily those with children
  - Only available for households with earnings
  - Childless workers receive smaller credits and face lower-income limits

- EITC payments are available to households with incomes higher than LIHEAP or SNAP

- Increasing EITC payments based on existing eligibility would be easy to implement

- Increased payments could increase incentives for households to enter workforce
Share of Low-Income Households Likely to Benefit From Alternative Policy Options

(Percentage of households)
## Policy Options Entail Trade-Offs

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<td>Income tax rebate</td>
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<td>80</td>
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<td>Yes, if fully refundable</td>
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<tr>
<td>Payroll tax rebate</td>
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<td>82 b</td>
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<td>No</td>
<td>Small increase</td>
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<td>n.a.</td>
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<td>Targeted Measures</td>
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<tr>
<td>Fixed payments for SNAP-eligible households</td>
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<td>5</td>
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<td>LIHEAP</td>
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<td>No</td>
</tr>
<tr>
<td>Expand EITC</td>
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<td>30</td>
<td>Yes</td>
<td>No</td>
<td>Small increase</td>
<td>Yes</td>
</tr>
</tbody>
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a. Significant increase if credit was fully refundable, requiring outreach to households that would not otherwise file.

b. Preventing individuals with multiple jobs from receiving multiple rebates would considerably increase cost.