

# GATHERING SUPPORT FOR CARBON TAXATION BY COMBINING TRANSFERS WITH LOWER INCOME TAXES

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# Gathering support for carbon taxation by combining transfers with lower income taxes<sup>1</sup>

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## BACKGROUND AND CONTEXT

In the coming years, major reductions to carbon emissions are going to be required to meet Irish and European objectives on climate action. A key part of this strategy will be the use of carbon taxes, which increase the price of carbon-intensive commodities. However, this can be unpopular and lead to many households being “worse off” in an economic sense, in particular poorer households who spend a larger share of their budget on energy and other emissions intensive products. To offset this, in Ireland, a portion of carbon tax revenues is used to finance transfers. Existing literature suggests that recycling all revenues from the carbon tax as a visible and transparent lump-sum transfer can generate enough political support to make green tax reform politically acceptable. However, we demonstrate that this argument does not hold for Germany. We show that a mix of lump-sum transfers with a lower income tax can benefit a larger number of households. We assume that those that benefit financially will provide political support for the reform.

## DATA AND METHOD

We utilise the German Household Expenditure and Income Survey and data on the carbon embedded in different commodities. The data contain information on the household expenditure for different commodities, the number of hours worked, and income taxes paid. We propose a theoretical model and estimate the parameters using statistical techniques.

Under different scenarios of carbon taxation, lump-sum transfers, and cutting income taxes as compensatory measures to reduce the tax burden, we quantify the proportion of winners and losers. We interpret these metrics as indicators of political support for the reforms.

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<sup>1</sup> This Bulletin summaries the findings from: Frederick van der Ploeg, Armon Rezai, Miguel Tovar Reanos (2022). “GATHERING SUPPORT FOR GREEN TAX REFORM: Evidence from German Household Surveys”, European Economic Review. Available online: <https://doi.org/10.1016/j.euroecorev.2021.103966>

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## RESULTS

Our policy simulations show that while carbon taxes can reduce emissions associated with household spending, they can also increase income inequality and lower overall spending. The mechanism behind this finding is as follows: higher commodity prices lead households to curb consumption levels and change how many hours they want to work in the face of losses in purchasing power. Given that low-income households devote a larger proportion of their income to carbon intensive commodities (e.g., energy), the carbon tax burden is greater for this group.

The results show that a policy of allocating carbon tax revenues equally across households reduces income inequality, but it does not correct for the drop in purchasing power of wages, and thus it does not boost labour supply and household income. Lower household income means lower income tax revenues. To address the loss in government revenues, income tax rates must rise for the budget to remain balanced. This results in a further decline in economic activity. When all revenue from carbon taxation is used to lower income taxes, we find that employment and consumer spending in less carbon intensive commodities are boosted, albeit keeping emissions down. However, the problem with this set of policies is that the poorest people will still be worse off.

Our results show that with a revenue recycling policy mix of lump-sum transfers and lower income taxes, popular support can be mustered. In fact, we show that when carbon tax revenues are used to finance transfers for households at the bottom of the income distribution and cuts in income taxes, most households are better off and consequently could support this green fiscal policy.

## POLICY DISCUSSIONS

Against the literature recommendation of rebating all carbon revenue, we show that a mix of reducing income taxes and transfers can yield higher social support. In addition, our results show that the larger the population that is better off, the larger the popular support. This goes beyond being a mere theoretical exercise, this raises the need for a reform that jointly considers income and carbon taxation to create sociably acceptable policies for environmental protection.

In Ireland, like in other EU countries, the need for carbon reducing changes in behaviour is clear, but the optimal design of any mitigation strategy is still up for debate. While the effect of a mixed policy in the Irish context is unclear, we show the importance of considering the interaction between carbon taxes and labour supply when designing policies that aim at favouring most households in Germany. Policymakers designing measures to compensate for carbon taxes should consider the mix of options available to complement the use of transfers.

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