

THE BENEFITS OF ACTION ON IMPLEMENTING CARBON TAXATION IN IRELAND

MIGUEL A. TOVAR REAÑOS AND MUIREANN Á LYNCH



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*Miguel A. Tovar Reaños (ESRI) and Muireann Á. Lynch (ESRI)

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INTRODUCTION

Carbon taxation has emerged as an important tool in combatting climate change. To this end, the Irish Government has committed to increasing carbon tax year-on-year until it reaches €100 per tonne in 2030. Due to the fact that less wealthy households spend a greater proportion of their income on energy than more affluent households, carbon taxation imposes a disproportionate burden on these households. While this fact has been identified in the literature as a barrier to policy implementation, the distribution of the benefits of carbon taxation have not received any attention in this context.

Carbon taxation reduces demand for energy-intensive goods and brings about long-term benefits by reducing the impact of climate change and its associated costs. This research considers these benefits of carbon taxation and examines the net beneficiaries of carbon taxation and the households that lose out.

DATA AND ESTIMATION

The Paris Agreement aims to limit increases in global temperature to well below 2 degrees Celsius, compared to pre-industrial levels. Current trends indicate that we are already reaching one additional degree. The literature shows that carbon taxation is an important instrument to achieve this goal. International research also shows that climate change will impact households' income. There are many channels through which this can manifest such as losses in agricultural productivity, increases in crime, coastal storms and disruption in energy supply. In this research, we regard the monetary value of environmental damages that are avoided, such as those listed above, as a benefit of carbon taxation.

Economists estimate that each additional degree in global temperature will translate into an income loss of 1%. The exact incidence of the total costs of climate

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change on Irish households of different income levels are unknown, and so we allocate these costs across households under two scenarios. We calculate the distributional impacts of the costs of climate change assuming that they impact equally on all households and that they impact disproportionately on low-income households, as the literature suggests. We use these estimates to quantify the total benefit of carbon taxation, and therefore consider the net impact (both costs and benefits) of carbon taxation on Irish households.

The data used to model household consumption is the Household Budget Survey (HBS), collected by the CSO. The HBS contains detailed records of household spending for a representative sample of households. We use this dataset to determine how household spending responds to changes in energy prices, and from this, we are able to determine the impact of carbon taxation on households of differing income levels. We also simulate the changes in household carbon emissions that arise as a result of carbon taxation.

The results reveal that when carbon taxation is considered along with its benefits, the tax burden on vulnerable households reduces significantly.

POLICY IMPLICATIONS

This research underlines the importance of the costs of climate change and its distributional effects. Climate change will impact all households, by reducing living standards and increasing the cost of living via the channels listed above. The literature also suggests that the costs of climate change could accrue disproportionately to less affluent households.

Our results show that carbon taxes can reduce carbon emissions, and therefore avoid the costs of climate change. We also highlight the importance of including the benefits of introducing the carbon tax when computing the tax incidence. The results show that the benefits of avoiding the economic damages associated with climate change, as estimated in the international literature, are greater than the costs of carbon taxation for some households. This is particularly true when the costs of climate change accrue disproportionately to poorer households. In this case, the net carbon tax burden is no longer disproportionate to low-income households, and instead lower income households are net beneficiaries of climate policy.

Whitaker Square,
Sir John Rogerson's Quay,
Dublin 2
Telephone **+353 1 863 2000**
Email **admin@esri.ie**
Web **www.esri.ie**
Twitter **@ESRIDublin**