

# Science for Environment Policy

## Green taxes can boost the economy

**Green taxes** could boost economic growth and reduce the 'cash-in-hand' untaxed shadow economy, according to new research. The study modelled green taxes' effects on Spain's economy and suggests the revenue from these taxes would increase economic activity and employment if it was used to reduce income tax.

**Environmental taxes**, such as carbon taxes on fossil fuels or waste disposal taxes, represent a relatively new revenue stream for governments and studies suggest that they can yield a 'double dividend'. For example, the revenue they produce can be used to reduce other taxes, thus providing both environmental improvements and positive economic outcomes. However, there are disagreements among researchers over the size of double dividends.

Prior to this study, there was no research which considered the link between environmental taxation reforms and the 'shadow' or informal [economy](#) – that is, goods and services paid for in cash and not declared for taxation or included in official economic calculations. Such informal markets account for significant and growing portions of GDP in many countries. In Spain, for example, where unemployment is high, the shadow economy may account for 20-25% of GDP, with a significant effect on the tax system.

In this study, the researchers take the novel approach of examining the impact of environmental tax reform on Spain's economy while taking into account the presence of a shadow economy. The analysis assumed budgetary neutrality, i.e. revenues from environmental taxes (in this case taxes on products and services that generate [CO<sub>2</sub> emissions](#)) are used to reduce taxes on income or capital or to make lump sum transfers. The model showed how variations of this policy would affect different aspects of the economy, including unemployment.

The researchers found that models used to assess the impacts of green taxes should not neglect the shadow economy. For example, under a scenario with green taxes aiming to achieve a 15% reduction in CO<sub>2</sub> emissions inclusion of the shadow economy increased levels of prosperity and living standards (welfare) to 3% higher than models which did not include the shadow economy. Official GDP was also 7% higher, and the unemployment rate was 3% lower. The authors also found that the size of the shadow economy directly affected the size of the welfare increase seen, i.e. the bigger the shadow economy, the greater the increase in welfare as a result of green taxes.

These effects were found to be driven, in part, by the increased tax paid by informal workers through consumption of services and products which included environmental taxes. Additionally, using green taxes to ease income tax meant that taxes were recovered more efficiently, lowering the strain on public finances. This translates to an overall increase in economic activity, reduced unemployment and reductions of the informal economy.

The results, combined with similar findings from other studies, led the authors to conclude that replacing a portion of income tax with green taxes is one of the best options for environmental fiscal reforms. However, they also mention that there are a number of issues arising from such an approach. For example, environmental taxes have the potential to affect the poorest members of society most, as they spend a greater proportion of their income on energy than wealthier members.



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