

ENVIRONMENTAL TAXES, ENERGY DEPENDENCE AND THE CURRENT ACCOUNT

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Overview

Improving competitiveness is one of the key issues on the EU policy agenda. The EU has been a leader in environmental policy as well. Tackling both has been the aim of environmental tax reforms across several countries in the EU due to the potential for a double dividend (economic and environmental). However, environmental taxation has lost some of its popularity, as the double dividend has been shown to be inconclusive. There is however scarce panel data analysis on environmental taxes. This research aims to fill this gap by examining the effect of environmental taxes on energy dependence as an alternative channel to improve competitiveness and the current account in general. Namely, a possible channel is: environmental taxation leads to smaller consumption which leads to smaller imports and therefore an improvement in the current account balance. Another channel is through effects of changes in the structure of taxation.

Methods

We use data on the EU-28 countries from 1990-2014 on various economic indicators and environmental taxation. It is a panel data analysis which consists of estimating a static and a dynamic model. For the static model we use our preferred fixed effects model. For the dynamic model we use the system estimator. Due to high persistence in the data, the only reliable estimation procedure is the Bond-Blundell estimator, as the Anderson-Hsiao and the Arrelano-Bond estimators are not appropriate in this context. Sensitivity analysis consists of varying some of the variables, for energy taxes and competitiveness.

Results

The results show that the oil price, energy taxes and the real effective exchange rate have a negative effect on energy dependence, whereas GDP has a positive effect in the static model. The finding that energy taxes have a negative effect on energy dependence is not completely robust to using different indicators. All variables lose significance in the dynamic model and the estimated persistence is high, 0.971 and 0.944 depending on which variable we use.

The results on the determinants of the current account indicate that the real effective exchange rate, current FDI and the budget balance have a negative effect, whereas lagged exchange rate, energy taxes, past FDI and the old age dependency ratio have a positive effect in the static model. Extending the model to include persistence, we find a persistence parameter of 0.696 and 0.665 depending on which indicator we use. The findings on most variables are robust to the extension to a dynamic model. Specifically, energy taxes have a positive effect even when persistence is taken into account.

Conclusions

The results indicate several points. First of all, a high energy dependence persistence parameter means that tax reforms will have to be credible and long-lasting. On one hand, the high persistence parameter indicates that the change will have to be at least moderate and long-lasting. On the other hand, a high persistence parameter indicates that even a moderate shock will persist through time. Another implication follows from the inability to find robust evidence for the effect of environmental taxes on energy dependence and the evidence for the positive effect on the current account. Namely, even if environmental taxes do not affect the current account balance through energy dependence, finding a positive effect implies a double dividend nevertheless, as the improvement in the current account balance may be from a tax reform and changes in the structure of taxation.