

The relevance of the local context for assessing the welfare effect of transport decarbonization policies. A study for 5 Spanish metropolitan areas

A. Danesin, P. Linares

Abstract— The effectiveness and efficiency of policies that try to reduce carbon emissions in the transport sector may depend significantly, at least in the short term, on the availability of options to shift away from diesel and gasoline private cars. This paper uses a detailed model, and a carefully-constructed dataset, to show how a fuel tax reform affects differently Spanish metropolitan areas based on their fleet composition, share of public transport, and urban vs suburban distribution. We find that those areas with the largest share of diesel and with the highest penetration of public transport are able to reduce more their carbon emissions and energy use, at a lower welfare loss. We also find that the reductions obtained are not large, thus requiring additional measures.

Index Terms— Fuel tax reform; Metropolitan transport; Decarbonization; Welfare

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