For years, Danish lawmakers have struggled with the question of how to make the country’s taxation regime on cars support the transition towards a low carbon economy, with radically reduced CO₂ emissions from private car ownership. A government committee has been tasked with the difficult mandate of creating a model in which the sale of conventional cars is eliminated entirely by 2030 without putting a strain on the public purse in the form of lost tax revenue from private car ownership.

Based on data from e.g. Statistics Denmark, econometric models from the Danish Ministry of Taxation and specially created models concerning for instance price- and substitution elasticities, this research offers a number of key insights into the effectiveness of various taxation models in terms of environmental impact, economic efficiency and redistributive effects. Specifically, the research looks at the impact of replacing the existing relatively high up-front and value-based taxation of cars in Denmark with a running tax based on technical criteria such as energy efficiency and weight. Though initially conducted to provide concrete answers in a Danish context, the research offers various insights which can be used in other contexts, specifically in relation to the efficacy of using up-front vs. running taxation, technical vs. value-based taxation and questions relating to the use of and weight given to specific technical criteria in relation to determining the optimal rates of taxation needed to ensure an increased sale of low-carbon cars. In relation to this discussion, the research also uses historic data from the Scandinavian countries to compare the respective effectiveness of placing the tax burden on the purchase, ownership or use of cars.

The research additionally offers insights into the relation between environmental taxation and concerns of economic redistribution and sustained growth and job creation – the latter of which has become particularly pertinent in light of the COVID-19 epidemic. The research thus shows, that a model in which conventional cars are taxed under the current regime of high up-front and value-based taxation while low-carbon alternatives are exempt from up-front taxation in exchange of higher, running taxation based on technical criteria can result in growth stimulus in the short run while offering redistribute effects very similar to that of the current system in the long run.

The research therefore also hopes to add to the literature considering the decoupling of economic growth and environmental degradation in the area of private transportation.

**Biographical note**

Morten Munch Jespersen graduated in 2015 with a MS.c. in Political Economy of the European Union from the London School of Economics (LSE). He has since worked as an economist and econometric researcher at the Danish Ministry of Taxation, as an economic advisor to the Danish Social Liberal Party and currently as a tax economist at the Confederation of Danish Industry.

During his studies Morten worked as a researcher at Institute for Social and Economic Research at the University of Essex and as a research assistant at the ResponsiveGov project at the University of Leicester. Mortens has published research at the conference on Elections, Public Opinion and Parties and has authored several publications by the Danish Ministry of Taxation and the Confederation of Danish Industry.