**Titles**

The Link between of Fuel Price Differences and Car Fleet Composition: A spatial analysis of diesel ownership in Northern Ireland

Diesel Cars and Fuel Price Differences: A spatial analysis of diesel ownership in Northern Ireland

Spatial Arbitrage in Fuel Prices and the Ownership of Diesel Cars: A spatial analysis of diesel ownership in Northern Ireland

**Abstract**

This paper investigates whether the availability of cheaper diesel fuel in the Republic of Ireland effected the rate of diesel car ownership in Northern Ireland. Through a spatial analysis of car fleet composition, the association between nearness to the Republic of Ireland and the proportion of the local car stock that is fuelled by diesel is evaluated. A series of spatial regression models are specified to determine if this association persists after accounting for the effect of socioeconomic, travel, and household characteristics. The results of the analysis indicate that network distance to the closest fuel station in the Republic of Ireland is negatively associated with diesel car ownership, implying that as travel distance to cheaper diesel fuel increases, the rate of diesel car ownership tends to decrease. The findings reported in this paper demonstrate that the ability of a country to control the structure of the car fleet registered in their jurisdiction may not only depend on the domestic situation, but also the situation present in neighbouring countries.