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DID THE ECO-CAR PROGRAM CHANGE THE CUSTOMER BASE OF HVS?

Abstract:

For the last several decades, governments have implemented various energy conservation measures aimed at reducing energy consumption and greenhouse gas emissions from the transportation sector. Among these measures, the spread of next-generation vehicles as an immediate policy goal has been particularly emphasized in recent years. By implementing subsidy programs for a limited period of time, governments try to influence the behavior of households that have not previously considered purchasing the products that have desirable properties. However, no literature has yet identified the households that switched from conventional gasoline vehicles to HVs. In this study, we compare the vehicle choice between three sampling periods (before/during/after the Eco-Car rebate program) and examine whether the rebate program changed the customer base of HVs.

For the empirical analysis, we use micro-level data from the Japanese National Survey of Family Income and Expenditure (NSFE), which was collected in 2009 and 2014. NSFE collects data on households' socioeconomic characteristics, such as income/expenditure, savings/liabilities, and ownership of durable goods, as well as information related to houses, such as dwelling characteristics and site area. In addition, NSFE also collects vehicle-related information such as the number of vehicles owned, the year of purchase of each vehicle, and the type of vehicle.

The empirical results by multinomial logit analysis demonstrate that the likelihood of HV selection increased substantially during the program period and remained at a high level after the program ended. We also find that households with large net wealth purchased HVs during the Eco-Car program period. Finally, we find that households having a higher income used to purchase HVs earlier. However, income has come to play a less important role in the choice between a HV and SGV after the end of the Eco-Car program.

Keywords:

Eco-Car rebate program, Hybrid Vehicle, Japanese National Survey of Family Income and Expenditure, Multinomial Logit Analysis

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