# Why Electric Vehicles are driven less: selection or substitution?

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**Abstract**

Electric Vehicles (EVs) are advocated as an environmentally friendly substitute for traditional gasoline cars. The benefit of the subsidies in promoting EVs depends not only on the cost-effectiveness of the policy on adoption but also on how much mileage can be substituted away from traditional vehicles. Davis (2019) shows that EVs are driven much less than traditional cars nationwide, which suggests much smaller environmental benefits than expected. However, little is known about the underlying mechanism. It is unclear who select into owning EVs, how much they expect to use it before the purchase, as well as the relized mileage after their purchase decision. To provide more support for policy implication, this paper explores the underlying mechanism of EVs being less driven. For average households purchasing an EV, there is no significant change of mileage in the other cars. Households incentivized to adopt EVs substitute certain mileage away from other cars in their portfolio but not as much as when they buy another gasoline-powered vehicle.

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