

Distributional Effects of Vehicle Emission Standards between Cities

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Abstract

Vehicle emissions standards, including fuel economy standards and zero-emission vehicle (ZEV) standards, can increase the adoption of more fuel-efficient vehicles and electric vehicles. This study explores how they influence the welfare of different cities. Using rich nationwide data at the zip code level across the United States, we estimate a structural model of the city size and the vehicle market, including the household choice of fuel economy and vehicle type. Counterfactual simulations show that fuel economy and ZEV standards place a higher welfare cost on small, low-income, and low-amenity cities than larger, wealthier cities. Carbon taxes have the opposite effect.

JEL codes: H23, L9, Q48, R4

Keywords: CAFE standards, fuel economy standards, monocentric city, carbon emissions.

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