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## The Effect of Vehicle Fuel Economy Standards on Technology Adoption

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Abstract

Many countries are tightening passenger vehicle fuel economy standards. This paper provides the first empirical evidence on the effects of fuel economy standards on technology adoption. We investigate changes in the rate and direction of technology adoption, that is, the extent to which technology is used to increase fuel economy at the expense of other vehicle attributes. We find that recent changes in U.S. and European standards have both increased the rate of technology adoption and affected the direction of technology adoption. Producers reduced horsepower and torque compared to a counterfactual in which fuel economy standards remained unchanged. We estimate opportunity costs from reduced horsepower and torque to be economically significant relative to the gains from fuel savings.

JEL codes: L62, Q4, Q5

Keywords: passenger vehicles, U.S. greenhouse gas emissions rate standards, European carbon dioxide emissions rate standards, technology adoption

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