

**Journée du GERPISA n°223**  
**Thomas KLIER**  
**Vehicle fuel economy standards and technology adoption –  
comparing the U.S. and Europe**

Vendredi 8 janvier 2016, 14h-17h  
/ Friday January 8<sup>th</sup>, 2016, 2.00pm-5.00pm  
ENS Cachan (Salle des conférences – Pavillon des Jardins)<sup>1</sup>

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Presentation

How do the U.S. and Europe regulate fuel efficiency? Is there evidence that regulation leads to technology adoption?

The presentation will first give an overview of the different regulatory systems employed on both sides of the Atlantic to improve fuel efficiency of light vehicles. Then the seminar will focus specifically on the question of technology-inducing effects of regulation in the vehicle sector – many countries have been tightening passenger vehicle fuel economy standards.

The 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.

Keywords

Passenger vehicles – U.S. greenhouse gas emissions rate standards – European carbon dioxide emissions rate standards – Technology adoption

Reference

The discussed paper will be published in January 2016 in the *Journal of Public Economics*:

**Klier, T., Linn, J.**, (2016): “The effect of vehicle fuel economy standards on technology adoption” in *Journal of Public Economics*, vol.133, pp.41-63

It can already be accessed under the following link:

<http://www.sciencedirect.com/science/article/pii/S0047272715002030>

An earlier version (working paper) can be accessed on GERPISA’s website under the following address: <http://gerpisa.org/node/3213>

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<sup>1</sup> Plan d'accès de l'école : <http://www.ens-cachan.fr/version-francaise/outils/plan-d-acces/>; plan du campus [ens-cachan.fr/adminsite/objetspartages/liste\\_fichiergw.jsp?OBJET=DOCUMENT&CODE=1201255506974&LANGUE=0](http://www.ens-cachan.fr/adminsite/objetspartages/liste_fichiergw.jsp?OBJET=DOCUMENT&CODE=1201255506974&LANGUE=0)  
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