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 8th, 2016, 2.00pm-5.00pm
ENS Cachan (Salle des conférences – Pavillon des Jardins)

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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:
Journal of Public Economics, vol.133, pp.41-63
It can already be accessed under the following link:

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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1 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_fichiersgw.jsp?OBJET=DOCUMENT&CODE=1201255506974&LANGUE=0
Pour des raisons évidentes, pensez à vous munir d'une pièce d'identité. Ceux qui souhaiteraient venir en voiture
et stationner leur véhicule dans l'enceinte de l'ENS Cachan sont avisés de se manifester au moins 48h à l'avance,
afin que leur plaque d'immatriculation soit enregistrée à l'accueil... Écrivez à gery.defontaines@ens-cachan.fr
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