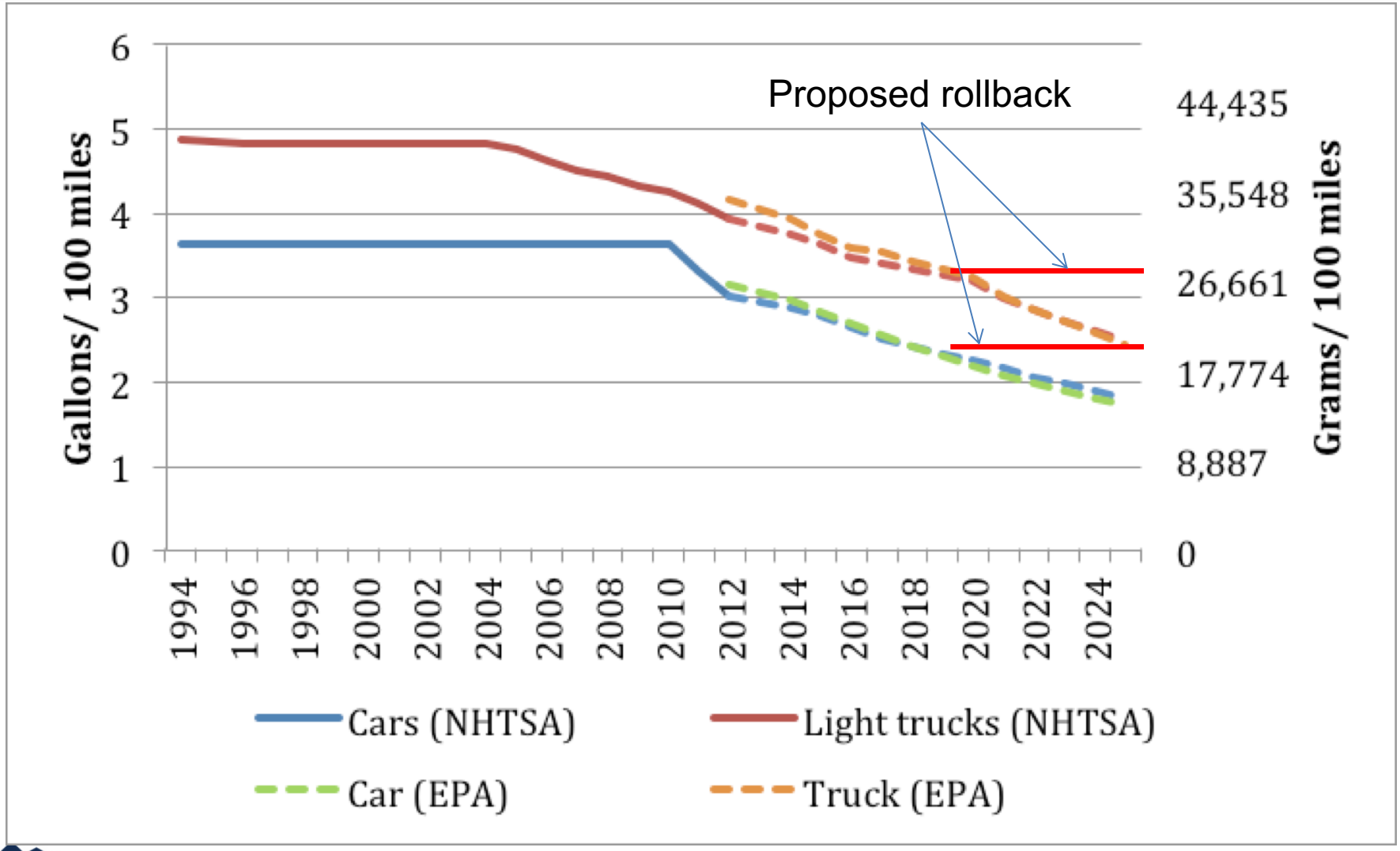
Is the Trump Administration's Proposal to Rollback CAFE Standards Justified?

Benjamin Leard

RESOURCES FOR THE FUTURE

Fuel economy and greenhouse gas standards, historical and projected



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Projected Effects of the Safer Affordable Fuel Efficient (SAFE) Vehicle Rule

Consumer Impacts

Increased vehicle affordability leading to increased driving of newer, safer, more efficient, and cleaner vehicles.

- **A $2,340 reduction** in overall average vehicle ownership costs for new vehicles
  - **$1,850 reduction** in the average required technology costs
  - **$490 reduction** in ownership costs for financing, insurance, and taxes
- **Over 12,000** fewer crash fatalities over the lifetimes of all vehicles built through MY 2029
  - **Up to 1,000** lives saved annually

Manufacturer Impacts

Reduced regulatory costs and burdens. Increased new vehicle sales.

- **$252.6 billion** reduction in regulatory costs through MY 2029.
- **1 million** additional new vehicle sales through MY 2029.
- **Reduction from 56% to 3%** in the percentage of hybrid vehicles needed to comply in MY 2030.
- **37.0 mpg** projected overall industry average required fuel economy in MYs 2021-2026, **compared to 46.7 mpg** projected requirement in MY 2025 under standards issued in 2012

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Source: Environmental Protection Agency (2018)

Fuel economy and greenhouse gas standards, historical and projected

The rollback appears to help consumers by lowering vehicle prices and reducing vehicle fatalities.

The rollback appears to help vehicle manufacturers by lowering compliance costs.

Society appears better off with the rollback.

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Independent Assessment of the Rollback Analysis

POLICY FORUM

ENVIRONMENTAL ECONOMICS

Flawed analyses of U.S. auto fuel economy standards

A 2018 analysis discarded at least $112 billion in benefits

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In addition to greenhouse gas emissions and fuel economy, analyses must also consider effects on pollution, safety, and traffic congestion.

Corporate Average Fuel Economy (CAFE) and greenhouse gas (GHG) emissions standards for passenger vehicles and light trucks have long been a centerpiece of the U.S. strategy to reduce energy use and GHG emissions and increase energy security. Under the authority of the Energy Independence and Security Act, the Environmental Protection Agency (EPA), and the National Highway Traffic Safety Administration (NHTSA) jointly set GHG and CAFE standards to reach 55 miles per gallon by 2025. A 2016 draft technical assessment report (TAR) affirmed by the EPA in January 2017 concluded that the 2022–2025 standards were technologically feasible and that benefits far exceeded costs. But under the current administration, those agencies are now chal-

that determine the relevant baseline against which the standards are compared.

Modeling consumer behavior should include the purchase of general goods and new or used vehicles. Consumers trade off vehicle prices for various vehicle attributes (for example, performance, safety features, seating capacity, and so on). They also decide how much to drive and whether to keep or scrap their older vehicles.

A comprehensive analysis would allow automakers to comply with standards by adjusting vehicle prices, improving fuel economy, and altering performance and other vehicle attributes (*2*–*5*). It would also recognize that technology is determined by automaker investments, while accounting for learning-by-doing and knowledge spillovers that, over time, may lower the compliance costs

Valuation parameters are critical for converting impacts into costs and benefits. The value of a statistical life is used to value fatalities, whereas the social cost of carbon is used for valuing the benefits of reduced gasoline use (*11*, *12*). Other valuation parameters reflect the value of energy security and the health costs of tailpipe emissions. A comprehensive protocol should also account for other factors, including changes in gasoline prices over time.

TWO FLAWED ANALYSES

Both the 2016 and 2018 analyses deviate from the comprehensive protocol outlined above because they do not explicitly model consumer choices and tend to miss important trade-offs between general consump-

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Results from the Assessment

Calculations of costs and benefits are based on ad-hoc assumptions meant to make the rollback appear attractive.

Predictions are inconsistent with basic economic theory:

- A rollback should lower new and used vehicle prices, increasing the size of the vehicle fleet, instead of reducing it as the analysis predicts.

Predictions are based on overly simplified correlation models relating prices and sales.

Rebound effect was doubled (from 10% to 20%) even though recent economics literature suggests that this effect is small (<= 10%).

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An Ideal Protocol for Estimating the Effects of Changes to Fuel Economy Standards

An ideal framework should be underpinned by a statistical model of consumer choice.

Consumers choose which new and used vehicles to own and how much they drive them.

Changes to CAFE standards alter choices made by consumers, which leads to changes in sales, oil consumption, consumer surplus, producer surplus, etc.

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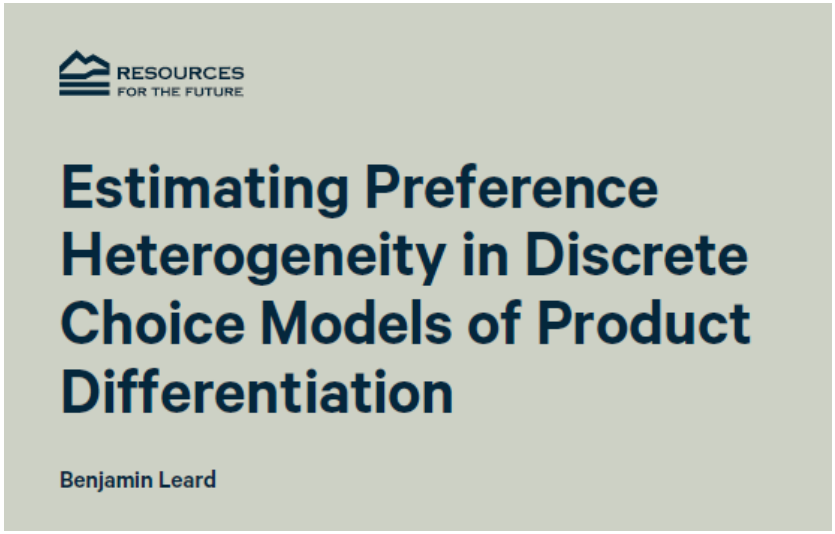
Recent Work at Resources for the Future on Consumer Choice Modeling with Applications to CAFE Standards



Pass-Through and Welfare Effects of Regulations that Affect Product Attributes

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Abstract

A key finding in the literature is that the greater the pass-through of an input cost shock or tax to product prices, the larger the welfare loss to consumers. We show that the relationship between pass-through and welfare changes does not hold for a regulation that affects production costs and product attributes. An analytical model shows that the larger the willingness to pay (WTP) for the product attribute, the greater the pass-through but the smaller the welfare loss (or the larger the welfare gain) for consumers. We confirm this intuition in the context of passenger vehicle fuel economy standards using new estimates of consumer demand and an equilibrium model. Pass-through and welfare changes are positively correlated with WTP for fuel economy across demographic groups and manufacturers. Accounting for WTP breaks the direct link between pass-through and welfare changes identified in prior literature.

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Thank you!

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