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BACKGROUNDER

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Fuel Economy Standards Are a Costly Mistake

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Abstract

Corporate Average Fuel Economy (CAFE) standards are adding thousands of dollars to the prices of new cars. When the Obama Administration began implementing Congress's stricter CAFE standards in 2009, scholars predicted that the standards would cost consumers at least $3,800 per vehicle. Vehicle prices, which had been falling, began rising in 2009 and have not stopped. The average vehicle now costs $6,200 more than if prices had followed their previous trend. Prices will continue to rise, by at least $3,400 per car through 2025, unless this costly policy mistake is undone.

The Obama Administration's regulations intended to force very rapid increases in vehicle fuel economy are adding thousands of dollars to the prices of new cars. Vehicle prices are rising in ways that are consistent with the predictions of studies undertaken several years ago. It is likely that the regulations are adding at least $3,800 (perhaps much more) to the average price of new vehicles, thus pricing many Americans out of the new car market altogether.

The Corporate Average Fuel Economy (CAFE) standards were originally put in place in order to reduce America's dependence on foreign oil. Economists have roundly rejected the wisdom of that goal. Under the Obama Administration, CAFE standards have become a tool for combatting global warming, at which they are utterly ineffective. Americans are paying excessively for regulations that fail any reasonable cost-benefit test. The CAFE standards should be scrapped.

Rising Regulation

Originally implemented for Model Year 1978, the CAFE standards were developed at a time of massive disruptions in world oil

Key Points

- Scholars predicted that increased fuel economy standards would cost consumers $3,800 per vehicle or more.
- Vehicle prices, adjusted for quality, had been falling from the 1990s to 2008. Since 2009, the price of the average car has risen to $6,200 above the previous trend.
- Repealing CAFE standards would save consumers $3,800 or more on a new car. It would also make used cars more affordable.
- Freezing CAFE standards at their 2016 level would save 2025 car buyers $3,400 or more, and does not require an act of Congress.
- CAFE standards have a minimal impact on global warming—less than two hundredths of a degree Celsius in 2100 according to the Obama Administration's optimistic estimate. These standards fail a cost-benefit test by a huge margin.

This paper, in its entirety, can be found at **http://report.heritage.org/bg3096**

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markets, such as the Arab oil embargo of 1973, and widespread concern about what was believed to be America's excessive dependence on foreign oil. Rather than trusting the international market to clear with higher prices encouraging new exploration and greater and more diverse supply, the U.S. government enacted Byzantine standards that attempted to drive technological change directly, but whose main effect has been to thwart the market's ability to deliver products most preferred by consumers. The regulations require that each manufacturer's fleet of new cars have average fuel economy above a certain level, with extensive instructions for computing the average and exemptions for certain types of vehicles. Manufacturers have found workarounds to thwart the intent of the regulations. For example, the standards raised the price of large cars, such as station wagons, relative to light trucks. As a result, automakers created a new type of light truck—the sport utility vehicle (SUV)—which was covered by the lower standard and had low gas mileage but met consumers' needs.[1] Other automakers have simply chosen to miss the thresholds and pay fines on a sliding scale.

In 2009, the Obama Administration implemented regulations required by Congress under the Energy Independence and Security Act of 2007,[2] and consequently raised the CAFE standards by approximately 9 miles per gallon (mpg) through Model Year (MY) 2016.[3] In addition, starting with MY 2011, the average fleet economy calculation changed. Under the new standard, cars and trucks with larger footprints are allowed to operate less efficiently, giving an incentive to carmakers to spread out the wheels of their vehicles.

The regulatory push will not stop with MY 2016 vehicles. In 2012, the Administration finalized extremely rigid regulations for vehicles in MY 2017 and beyond.[4] These new regulations will require an average fleet efficiency of 49.6 mpg in MY 2025.[5]

Predictions

After the policy change in 2009, several economists and engineers modeled the likely effect of the tightening standards. All of them found that the CAFE standards are much more costly than their alternative, a direct gasoline tax that would reduce fuel use by the same amount.

Kate Whitefoot, Meredith Fowlie, and Steven Skerlos modeled the ways that car design could respond to the standards in effect for MY 2014. They found that the tightening of the regulations since 2009 would cost consumers an additional $59 billion per year.[6] Projected to MY 2016 and adjusted for inflation, the annual estimated cost to consumers is $82.5 billion.[7]

Thomas Klier and Joshua Linn compared automakers' reaction to higher fuel standards in the

1. Steven Thorpe, "Fuel Economy Standards, New Vehicle Sales, and Average Fuel Efficiency," *Journal of Regulatory Economics*, Vol. 11, No. 3 (May 1997), pp. 311–326.
2. Energy Independence and Security Act of 2007, P.L. 110-140, http://www.gpo.gov/fdsys/pkg/BILLS-110hr6enr/pdf/BILLS-110hr6enr.pdf (accessed November 3, 2015).
3. Due to the complexity of the standards, different agencies and scholars use different ways of expressing them. See, for example, Environmental Protection Agency, *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2014*, Table 9.1, http://www3.epa.gov/fueleconomy/fetrends/1975-2014/420r14023a.pdf (accessed November 6, 2015). Our nine-mile-per-gallon estimate of the increase due to the Energy Independence and Security Act matches the 40 percent figure used by Klier and Linn. Thomas Klier and Joshua Linn, "New-vehicle Characteristics and the Cost of the Corporate Average Fuel Economy Standard," *The RAND Journal of Economics*, Vol. 43, No. 1 (Spring 2012), pp. 186–213, http://www.jstor.org/stable/23209303 (accessed November 3, 2015).
4. Press Release, "Obama Administration Finalizes Historic 54.5 MPG Fuel Efficiency Standards," National Highway Traffic Safety Administration, August 28, 2012, http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards (accessed November 3, 2015).
5. This figure is usually reported as 54.5. However, the effective standard is lower when taking into account efficiencies achieved through means other than fuel economy, such as air conditioning. See discussion at TransportPolicy.net, *US: Light-duty: Fuel Economy and GHG*, http://www.transportpolicy.net/index.php?title=US:_Light-duty:_Fuel_Economy_and_GHG#2017-2025_CAFE.2FGHG (accessed November 24, 2015).
6. Kate Whitefoot, Meredith Fowlie, and Steven Skerlos, "Product Design Responses to Industrial Policy: Evaluating Fuel Economy Standards Using an Engineering Model of Endogenous Product Design," Table 10, Energy Institute at Haas *Working Paper* No. 214, February 2011, https://ei.haas.berkeley.edu/research/papers/WP214.pdf (accessed November 3, 2015).
7. This assumes that the consumer surplus cost is linear in gallons per mile. This is very likely an underestimate, since stricter regulations require more drastic and costly design changes. Dollar values are adjusted to June 2015 price levels using the personal consumption expenditure deflator.

short run (when they can change only prices) and the medium run (when they can change both prices and vehicle design).[8] They find that companies and consumers are worse off on account of the regulations in both scenarios, but the medium-run scenario is worse for consumers. They estimate that a 1 mpg tightening of the standard would cost consumers $7.81 billion annually.[9] Projecting the estimate to match a 9 mpg regulatory change and adjusting for inflation, the cost estimate grows to $61.2 billion per year.

Mark Jacobsen also modeled the CAFE standards increase, distinguishing between different automakers and including the used car market in his model.[10] He found that domestic automakers and consumers would bear almost all the costs of the regulations. Consumers' losses add up over time as the costs of the new regulations work their way through the used car market. After 10 years' adjustment, the burden of the regulations will fall most heavily on households with incomes below $25,000.[11] Jacobsen's estimate of the total consumer cost of a 1 mpg increase in CAFE standards after 5 years is $20.87 billion per year,[12] almost triple the comparable estimate of Klier and Linn. For the 9 mpg regulatory change through MY 2016, adjustments bring the annual consumer cost to $186.1 billion.

In all three papers, the consumer costs are measured as "consumer surplus" or "equivalent variation." These are important theoretical concepts that fail to translate directly into price changes.[13] Nonetheless, consumer surplus is strongly related to prices, and it is difficult to imagine that the price change could be substantially less than the consumer surplus loss per unit sold.[14] If demand is flexible, however, the price change could be quite a bit higher. All three papers take into account the value of fuel efficiency to consumers, which also tends to make consumer surplus loss per vehicle smaller than the average price change.

In the most modest of the estimates, the consumer surplus loss per new vehicle sale is over $3,800.[15]

Data

It is impossible to say exactly what automobile prices would have been in 2015 if CAFE standards had remained unchanged. Evidence from pre-2009 trends and international comparisons suggest that vehicle prices would have continued to fall relative to other prices in the economy.

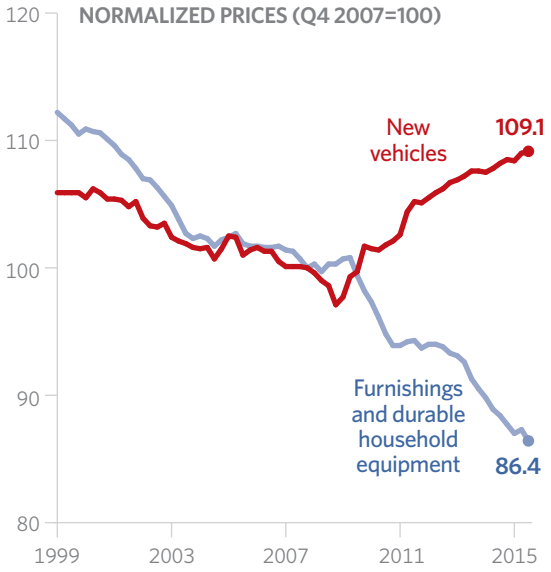
The Bureau of Labor Statistics measured the quality-adjusted average price of new vehicles and found that from the mid-1990s until 2008, when CAFE standards were mostly static, the average vehicle price fell steadily. CAFE standards for light trucks (but not cars) gradually rose from MY 2005 to MY 2010.[16] In 2007, Congress mandated large increases in fuel efficiency, and automakers may

8. Although new rules must be finalized 18 months before implementation, new vehicle design can take much longer. For instance, planning for the new Ford F-150, introduced in Model Year 2015, started in 2009. See Alex Taylor III, "Ford's Epic Gamble: The Inside Story," *Fortune*, July 24, 2014, http://fortune.com/2014/07/24/f-150-fords-epic-gamble/ (accessed November 16, 2015).
9. Klier and Linn, "New-vehicle Characteristics and the Cost of the Corporate Average Fuel Economy Standard."
10. Mark R. Jacobsen, "Evaluating U.S. Fuel Economy Standards in a Model with Producer and Household Heterogeneity," *American Economic Journal: Economic Policy*, Vol. 5, No. 2 (May 2013), pp. 1489–87.
11. Ibid., Table 8.
12. Ibid., Table 6.
13. We contacted all the authors and requested their models' predictions for vehicle prices. Although we received responses from authors of two of the papers, neither was able to provide price predictions.
14. Consider a market for an undifferentiated good. Assume that supply is perfectly elastic over the relevant quantity change and that the regulatory change is an additive cost. We know the aggregate loss in consumer surplus, but not the price or the shape of the demand curve. Initially, consider perfectly inelastic demand. In that case, the price change is exactly equal to the consumer surplus loss per unit of volume. If we allow demand to slope downward, the price change must be larger than the consumer surplus loss per unit volume. Obviously, this model does not describe the market for vehicles, where substitution between vehicle types is an important response to price changes and the supply side is better described by oligopolistic competition. Losses in consumer surplus at non-price margins would have to be very large, however, to make consumer surplus loss per unit significantly larger than the unit price change.
15. We used 16 million vehicles, following Klier and Linn's 2007 base year. In 2015, new vehicle sales are slightly higher, about 17 million at seasonally adjusted rates through the first seven months.
16. U.S. Department of Transportation, *Summary of Fuel Economy Performance (Public Version)*, April 28, 2011, http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/2011_Summary_Report.pdf (accessed November 18, 2015).

CHART 1

Car Prices Rise Since 2009

Nominal prices of vehicles and household durables, adjusted for quality, declined gradually from 1999 to 2008. Starting in 2009, vehicle prices began rising while household durables prices continued to drop.



Source: U.S. Department of Commerce, Bureau of Economic Analysis, "National Data: Section 2 – Personal Consumption Expenditures: Table 2.4.4U. Price Indexes for Personal Consumption Expenditures by Type of Product (A) (Q) (M)," http://www.bea.gov/iTable/iTable.cfm?ReqID=12&step=1#reqid=12&step=3&isuri=1&1203=2016 (accessed November 4, 2015).

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have begun to take the coming standards increases into account when making long-term design investments.[17]

Since 2009, the average vehicle price has risen steadily, as Chart 1 shows. Although one cannot prove that the price increase occurred because of the tightening of CAFE standards, the increase is consistent with researchers' earlier predictions of the effects of the new regulations.

Nominal prices continued to rise during the recovery. By the third quarter of 2015, prices were 8.7 percent above the pre-recession level.[18] If the 2001–2007 trend had continued, prices would have been 14.8 percent lower than they are.

Although nominal prices are simple to measure, it is even more revealing to look at how vehicle prices changed relative to the prices of other goods (i.e., the general inflation rate). Consumers do not buy cars in a vacuum; they need to know how many other products they could buy instead of a new car. Taking overall inflation into account, vehicle prices would have been 21.3 percent lower than they are if pre-recession trends had continued.[19]

Of course, relative prices can change for all sorts of reasons. If the sudden trend change in 2009 was because of tighter CAFE standards, we should not see a similar trend break in the prices of similar goods or of vehicle prices in other countries.[20]

The most similar category of goods to vehicles might be "Furnishings and Durable Household Equipment," also shown in Chart 1, which declined along with vehicle prices from the mid-1990s to 2009. At that point, the series diverged: vehicle prices began rising at the average rate of inflation while furniture and appliance prices continued to decline. If vehicle prices had tracked furniture and appliance prices since 2007, they would be 23.4 percent lower than they are today.

International evidence shows that vehicle price trends shifted in 2009 only in the U.S. and Canada,

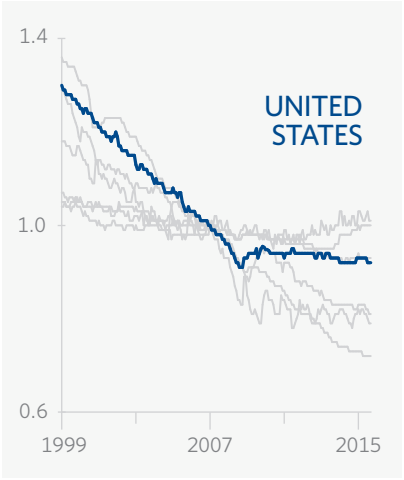
17. Average car fuel economy rose significantly from MY 2008 to MY 2010, even as standards remained constant. Environmental Protection Agency, *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2014*, Table 3.3.1, http://www3.epa.gov/fueleconomy/fetrends/1975-2015/420r15016.pdf (accessed January 4, 2015).
18. This paragraph relies on the personal consumption expenditure deflator for New Motor Vehicles and uses logarithmic changes. We use price data through September 2015. For background on price measurement, see Maria Bustinza, Daniel Chow, Thaddious Foster, Tod Reese, and David Yochum, "Price Measures of New Vehicles: A Comparison," Bureau of Labor Statistics *Monthly Labor Review*, July 2008, http://www.bls.gov/opub/mlr/2008/07/art2full.pdf (accessed November 21, 2015).
19. Selecting different dates can yield much larger results. For example, if one uses all data since 1999 (when the Bureau of Labor Statistics changed its methodology for calculating vehicle prices) and uses the end of 2008 as the breakpoint, current relative vehicle prices appear to be 36 percent above trend. However, that would attribute the severe price shifts of 2008 and 2009 to policy, when they are much more likely reflecting global commodity price movements linked to the Great Recession.
20. All the countries considered regulate fuel economy through some form of fleet average standards. The identifying assumption is that other countries' standards did not change drastically at the same time as those of the U.S.

CHART 2

International Trends in Relative Vehicle Prices

Automobile prices in developed countries have mostly continued to decline relative to other prices in their economy. The United States and Canada are the prominent outliers to that trend. Had tighter Corporate Average Fuel Economy (CAFE) standards not been implemented in 2009, car prices in the U.S. would likely have continued to follow the international decline. If the U.S. had continued to track with the United Kingdom after 2007, prices today would be 13 percent lower. Had it tracked with Australia, car prices would be 25 percent lower.

This chart shows relative vehicle prices. Relative prices, unlike nominal prices, adjust for overall inflation. They are calculated by dividing the vehicle price index by the consumer price index.



Note: Figures show consumer price indices (CPI) of new vehicles relative to all consumption for seven economies. Quarterly Australian data have been interpolated to monthly increments. This chart uses CPI data for the U.S. to match international series. For most applications, CPI is an inferior metric.

Sources: Please see Appendix.

which implemented a standard very similar to CAFE at the same time as the U.S.[21]

Chart 2 shows relative price trends in the U.S. and six other developed countries.[22] In three eurozone countries, the price of vehicles decreased slightly relative to the overall price level before 2007 and continued to decline through the recession. In France, relative vehicle prices began rising moderately in 2012; in Italy, the prices began rising in 2013. In four English-speaking countries, relative vehicle prices fell rapidly through 2008. The global commodity price swings of 2008 and 2009 led to large movements in relative prices. After those swings, Australian and British vehicle prices resumed their rapid decline relative to overall price levels. In the U.S. and Canada, the decline stopped outright.

If U.S. prices had continued to track U.K. prices since 2007, vehicle prices would be 13 percent lower than they are now.[23] U.S. prices would be 24.8 percent lower had they tracked Australian prices.

More importantly, international evidence fails to show any systematic trend shift circa 2009. If rising U.S. vehicle prices were due to material costs, technological changes, or global demand changes, similar trends would be occurring abroad. There is nothing to show that such is the case.

Price Impact

The quality-adjusted price of an average new vehicle sold in the U.S. is about $6,200 above trend. Price indices that followed comparable trends through 2007—vehicle prices in the U.K. and Australia, and the U.S. price of household durables—have continued to follow their trendlines. If vehicle prices in the U.S. had followed one of those trends, the average car would be $4,000 to $7,100 cheaper today.[24]

Table 1 shows the price deviations from the various trend comparisons.

The price impacts relative to trends and reasonable comparisons are in the same range as the per unit losses in consumer surplus in the scholarly predictions of the effects of the CAFE standard increase.

Climate Impact

Despite the original intent of the CAFE standards (to reduce dependence on foreign oil), it is clear that the Environmental Protection Agency's current goal for the standards is to decrease carbon-dioxide emissions. The Obama Administration has optimistically claimed that the change in the standards through 2016 will decrease global temperatures by 0.007 degrees to 0.018 degrees Celsius in 2100.[25]

Predictions of the economic cost or benefit of higher global temperatures vary widely.[26] In a widely read survey article, Richard Tol, a lead author of Intergovernmental Panel on Climate Change assessment reports, reviewed estimates of a 2.5 degree Celsius increase in average world temperature on world gross domestic product (GDP).[27] The estimates ranged from an increase of 2.3 percent to a reduction of 4.8 percent. The average of the reported studies was a loss of 0.91 percent of world GDP.

Using the central estimate, the CAFE standards' trivial moderation of warming would lead to a benefit equal to 0.0065 percent of world GDP in 2100. Any benefit in the same order of magnitude as this

21. Stacy Feldman, "Canada Adopts America's New Fuel Economy Standard, For Now," *Inside Climate News*, April 7, 2009, http://insideclimatenews.org/news/20090407/canada-adopts-americas-new-fuel-economy-standard-now (accessed November 18, 2015), and Environment Canada, "Current Regulation: Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations (SOR/2010-201)," http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailReg.cfm?intReg=192 (accessed November 18, 2015).
22. We also looked for data from Japan. We found Producer Price Index data, which show high volatility around 2008–2009, but no trend break.
23. This difference compares log change since December 2007, the last U.S. business cycle peak.
24. Estimates for the average price of a new vehicle differ slightly by source. National Income and Product Account (NIPA) data on expenditures imply that the average consumer vehicle cost $31,124 in July 2015. Kelley Blue Book estimated average new-car transaction prices at $33,560 a few months previously. The calculations in this paper use $32,500 as the average, a reasonable middle ground.
25. National Highway Traffic Safety Administration, *CAFE and GHG Emission Fact Sheet*, 2010, http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/CAFE-GHG_Fact_Sheet.pdf (accessed November 6, 2015).
26. For example, one of the most pessimistic recent predictions—that climate change would lower world income by 23 percent by 2100—also held out a 29 percent chance that global warming would raise world income. Marshall Burke, Solomon Hsiang, and Edward Miguel, "Global Non-linear Effect of Temperature on Economic Production," *Nature* Letter, October 21, 2015, http://www.nature.com/nature/journal/vaop/ncurrent/full/nature15725.html (accessed November 6, 2015).
27. Richard Tol, "The Economic Effects of Climate Change," *Journal of Economic Perspectives*, Vol. 23, No. 2 (Spring 2009), pp. 29–51, http://www.econ.yale.edu/~nordhaus/homepage/documents/Tol_impacts_JEP_2009.pdf (accessed November 9, 2015).

TABLE 1

U.S. Vehicle Prices Are Thousands of Dollars Above Trends

The average cost of a vehicle in the U.S. is $32,500. This current price is $6,242 above the relative price trend.

Cost of a vehicle in the U.S. as compared to:	Price Difference	Percentage Difference
Relative trend	+$6,242	+21.3%
Nominal trend	+$4,473	+14.8%
United Kingdom relative prices	+$3,975	+13.0%
Australia relative prices	+$7,140	+24.8%
Household durables price index	+$6,782	+23.4%

Sources: Please see Appendix.

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undiscounted, distant gain to GDP would be more than offset by the massive losses the strict CAFE standards are already imposing on U.S. consumers each year.

The $61.2 billion cost to U.S. consumers estimated by Klier and Linn represents 0.054 percent of 2015 global income.[28] The new CAFE standards thus fail a cost-benefit test by a large margin,[29] even using climate models that are favored by global warming hawks and ignoring the job losses, lower incomes, and lost lives that CAFE standards also cause.[30]

Unintended Consequences

The CAFE standards are not only an extremely inefficient way to reduce carbon dioxide emission but will also have a variety of unintended consequences.

For example, the post-2010 standards apply lower mileage requirements to vehicles with larger footprints.[31] Thus, Whitefoot and Skerlos argued that there is an incentive to increase the size of vehicles.[32]

Data from the first few years under the new standard confirm that the average footprint, weight, and horsepower of cars and trucks have indeed all increased since 2008, even as carbon emissions fell, reflecting the distorted incentives.[33]

Another well-known flaw in CAFE standards is the "rebound effect." When consumers are forced to buy more fuel-efficient vehicles, the cost per mile falls (since their cars use less gas) and they drive more. This offsets part of the fuel economy gain and adds congestion and road repair costs. Similarly, the rising price of new vehicles causes consumers to delay upgrades, leaving older vehicles on the road longer.

In addition, the higher purchase price of cars under a stricter CAFE standard is likely to force millions of households out of the new-car market altogether. Many households face credit constraints when borrowing money to purchase a car. David Wagner, Paulina Nusinovich, and Esteban Plaza-Jennings used Bureau of Labor Statistics data and typical finance industry debt-service-to-income ratios and estimated that 3.1 million to 14.9 million households would not have enough credit to purchase a new car under the 2025 CAFE standards.[34] This impact would fall disproportionately on poorer households and force the use of older cars with higher maintenance costs and with fuel economy that is generally lower than that of new cars.

28. International Monetary Fund, World Economic Outlook, October 2015.
29. A formal cost-benefit analysis would require detailed predictions of the economic costs and benefits over time, which would discount the distant and uncertain benefits of the regulation relative to its immediate and clear costs.
30. Diane Katz, "CAFE Standards: Fleet-Wide Regulations Costly and Unwarranted," Heritage Foundation *WebMemo* No. 3421, November 28, 2011, http://www.heritage.org/research/reports/2011/11/cafe-standards-fleet-wide-regulations-costly-and-unwarranted.
31. The footprint is the rectangle between the four wheels.
32. Kate Whitefoot and Steven Skerlos, "Design Incentives to Increase Vehicle Size Created from the U.S. Footprint-based Fuel Economy Standards," *Energy Policy*, Vol. 41 (February 2012), pp. 402–411.
33. Environmental Protection Agency, *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends*, Tables 3.3.1 and 3.3.2.
34. David Wagner, Paulina Nusinovich, and Esteban Plaza-Jennings, "The Effect of Proposed MY 2017–2025 Corporate Average Fuel Economy (CAFE) Standards on the New Vehicle Market Population," National Automobile Dealers Association, February 13, 2012, http://www.nadafrontpage.com/upload/wysiwyg/The%20Effect%20of%20Proposed%20MY%202017-2025%20CAFE%20Standards%20on%20New-Vehicle%20Market.pdf (accessed November 9, 2015).

CAFE standards may also have redistributed corporate profits to foreign automakers and away from Ford, General Motors (GM), and Chrysler (the Big Three), because foreign-headquartered firms tend to specialize in vehicles that are favored under the new standards.[35] Jacobsen predicted that after 10 years under the new standards, GM and Chrysler would each lose over 10 percent of their profits, Ford would lose 0.5 percent, and European and Asian automakers would increase their profits at least 3 percent.[36] He projected that the Big Three would reduce their production of "large, high-horsepower" vehicles to meet the standard while importers would increase their market share in that area, which further "harms the efficacy of CAFE in reducing gasoline use."[37]

Conclusion

CAFE standards are costly, inefficient, and ineffective regulations. They severely limit consumers' ability to make their own choices concerning safety, comfort, affordability, and efficiency. Originally based on the belief that consumers undervalued fuel economy, the standards have morphed into climate control mandates. Under any justification, regulation gives the desires of government regulators precedence over those of the Americans who actually pay for the cars. Since the regulators undervalue the well-being of American consumers, the policy outcomes are predictably harmful.

- Economists and engineers accurately predicted that the MY 2016 standards would hurt consumers by at least $3,800 per car;
- Since the Obama-era standards took effect, average new car prices have risen to $6,200 above trend;
- CAFE standards will continue to tighten, reaching 49.6 mpg in 2025;[38]
- The higher prices will force millions of lower-income households out of the new-car market;
- CAFE standards have a trivial impact on global warming—hundredths of a degree at most; and
- Regulation limits consumers' choices regarding safety, comfort, and affordability.

Congress should repeal the CAFE standards immediately, which would save 2025 car buyers at least $7,200 per vehicle. Failing that, this or any future Administration has the authority to rewrite the regulatory rule for future model years, taking consumer costs into account and easing the standards, potentially to 27.5 mpg, which would save 2025 car buyers at least $5,900 per vehicle.[39] Freezing the standards at the MY 2016 level would save future buyers at least $3,400 per vehicle.

The new CAFE standard is just one more example of the regulatory burden the government imposes on American households. From dishwashers with interminable cycle times[40] to requirements that gasoline be diluted with corn ethanol,[41] the mandates imposed by the federal government increase consumer costs and reduce consumer choices.

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35. The geographical dispersion of stock ownership and manufacturing facilities makes linking a specific manufacturer to a single country almost meaningless. However, we follow Jacobsen in labeling General Motors, Ford, and Chrysler as domestic companies and the rest as foreign. Chrysler was U.S.-headquartered when the standards came into effect.
36. Jacobsen, "Evaluating U.S. Fuel Economy Standards," Table 7.
37. Ibid., p. 150.
38. This figure is usually reported as 54.5 miles per gallon. See discussion at TransportPolicy.net, *US: Light-duty: Fuel Economy and GHG* for details.
39. These estimates are based on Klier and Linn's estimate discussed above. We chose the lowest available estimate and assumed that the impact is linear in gallons-per-mile.
40. David W. Kreutzer, "By Any Other Name, Energy Cuts Still Stink," Heritage Foundation *Backgrounder* No. 2542, April 7, 2011, http://www.heritage.org/research/reports/2011/04/by-any-other-name-energy-cuts-still-stink.
41. Salim Furth, "Costly Mistakes: How Bad Policies Raise the Cost of Living," Heritage Foundation *Backgrounder* No. 3081, November 23, 2015, http://www.heritage.org/research/reports/2015/11/costly-mistakes-how-bad-policies-raise-the-cost-of-living.

Appendix

Chart 2 Sources

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