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REPLACING FUEL-ECONOMY RULES WITH CLEAN TAX CUTS

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EXECUTIVE SUMMARY

The federal approach to fuel-economy regulation is a bad deal for Americans.[1] Consumers pay for costlier vehicles, but receive few discernable benefits. Making the situation worse is that fuel-economy rules have become a mess of shifting administrative responsibilities among opportunistic regulators. We need a new approach.

Federal fuel-economy standards have been around since 1975. The Corporate Average Fuel Economy (CAFE) regime, originally introduced to limit reliance on foreign oil, has grown more demanding over time. Current targets require automakers to field fleets with average fuel economy of 54.5 miles per-gallon by 2025.[2]

However, today's fuel-economy requirements extend beyond CAFE standards. Most notably, in 2007, the U.S. Supreme Court ruled that the Environmental Protection Agency must regulate CO_2 and other greenhouse-gas (GHG) emissions if the agency found they endanger human health and welfare. Given the link between carbon emissions and fuel economy, efforts to adjust automotive technologies to address one unavoidably influences the other. When combined with longstanding efforts by the State of California to address auto emissions, where automakers once had only a single regulator for fuel-economy matters, there now are three: the EPA, the California Air Resources Board (CARB) and the National Highway Traffic Safety Administration (NHTSA), which oversees CAFE.

While current law requires each of these three rulemaking bodies to coordinate—in an effort to avoid imposing divergent standards on the auto industry—this "trilateral" approach to regulation creates uncertainty. In recent years, the EPA and CARB, in particular, both developed and promulgated emissions standards to compel levels of fuel-economy performance beyond those detailed in authorizing legislation. Moreover, the EPA took certain brazen actions in the closing days of the Obama administration that left a pressing need to address both the substance and structure of the automotive industry's CAFE and emissions standards.

The Trump administration took some steps in its early days to roll back the EPA's action, but we clearly have reached an inflection point.[3] Assuming that fuel-economy standards are here to stay, we need a better approach. Toward that end, this paper evaluates the current trilateral regulatory structure and proposes a supply-side alternative called "clean tax cuts" (CTCs). Administered by a single body, CTCs would achieve meaningful reductions in GHG emissions, while limiting the current standards' distortionary effects.

1. Special thanks to Daniel Oglesby, without whose help this work would not have been possible.

2. Office of the Press Secretary, "Obama Administration Finalizes Historic 54.5 MPG Fuel Efficiency Standards," White House, Aug. 28, 2012. https://obamawhitehouse.archives.gov/the-press-office/2012/08/28/obama-administration-finalizes-historic-545-mpg-fuel-efficiency-standard

3. Office of the Press Secretary, "President Donald J. Trump: Buy American and Hire American for the United States Automobile Industry," White House, March 15, 2017. https://www.whitehouse.gov/the-press-office/2017/03/15/president-donald-j-trump-buy-american-and-hire-american-united-states

The proposal is to offer tax relief to automakers, tied to the degree to which those manufacturers develop less carbon-intensive fleets. The system would provide for cuts in the marginal rates assessed for taxes on capital, including the corporate income tax paid by the automaker and the dividend, capital gains, estate and earned interest taxes paid by its shareholders and bondholders.

This paper posits CTCs are a more flexible and efficient approach to limit problematic emissions. It would allow manufacturers to consider the degree to which investments in a cleaner fleet are efficient, given the tax incentives, and would align manufacturers' incentives to innovate more effectively than the current CAFE and GHG metrics do.

It is time to go from three regulators to one, and from the crisis-borne policies of prescription to one focused on innovation.

EMISSIONS AND FUEL-ECONOMY REGULATION

It has been nearly 50 years since Congress first chose to regulate passenger vehicles' tailpipe emissions in a meaningful way.[4] Congress passed the Clean Air Act in 1970, against the backdrop of a bourgeoning environmental movement that was keen to reduce the visible smog blighting many of the nation's largest cities.[5] The Environmental Protection Agency, created that same year, oversees the act's requirements, including monitoring and enforcing emissions levels and standards.[6] Among the EPA's first tasks was to implement dramatic reductions in auto emissions of certain pollutants, like carbon monoxide and nitrogen oxide.

While the first regulations of vehicle efficiency focused on emissions, a geopolitical crisis subsequently led to creation of a parallel mileage-based regulatory system. The 1973 Arab Oil Embargo radically curtailed the nation's oil imports, as the price of fuel spiked.[7] Faced with a desperate scenario that would contribute significantly to a 6 percent drop in the nation's gross domestic product between 1973 and 1975,[8] Congress ultimately responded to the crisis by passing the Energy Policy and Conservation Act of 1975, which first established efficiency guidelines known as the Combined Average Fuel Economy standards.[9]

The CAFE standards' original intent was to reduce the amount of fuel the nation's passenger automobile fleet used.[10] In creating the standards, Congress dismissed a number of proposed alternative approaches, including limiting the number of vehicles on the roads or the number of miles driven.[11] Statutory limits dictated the new standards be economically practical and technologically feasible. The first standards, enforced by the U.S. Department of Transportation, were set for vehicles produced in model year 1978, at which point the average fuel economy for a passenger vehicle was 19.9 miles per gallon. The first long-term target was 27.5 mpg, with a requirement that manufacturers reach that target by the 1985 model year.[12] Since their creation, CAFE standards have held manufacturers to increasingly stringent efficiency requirements, with a 30 mpg standard as of 2011.[13]

Despite that greater efficiency, there remains ongoing debate about how well CAFE standards have fared in practice.[14] In part, this is because the objectives associated with greater fuel economy have evolved to encompass new goals, like combating climate change. CAFE standards have a mixed legacy on the original goal of using greater fuel economy to reduce American dependence on foreign oil. Though average vehicle efficiency has improved since the standards went into effect, it remains unclear whether the standards or market preferences are primarily responsible for that improvement. When fuel is inexpensive, larger and less fuel-efficient vehicles tend to sell well, while smaller, lighter and more fuel-efficient vehicles sell better when fuel is costly.

In fact, Congress' decision to raise CAFE standards aggressively with passage of the Energy Independence and Security Act of 2007 corresponded with yet another period of serious

4. The first national legislation related to air quality was the Air Pollution Control Act, passed in 1955. Subsequent legislation, the 1963 Clean Air Act, tasked the U.S. Public Health Service to oversee research of air pollution and methods to control it. In 1967, the Air Quality Act added oversight of interstate air pollution and saw the expansion of air-pollutant monitoring activities.

5. Environmental Protection Agency, "EPA History: Clean Air Act of 1970/1977," Oct. 18, 2016. https://www.epa.gov/history/epa-history-clean-air-act-19701977

6. Environmental Protection Agency, "EPA Order 1110.2 -- Initial Organization of the EPA," Dec. 4, 1970. https://archive.epa.gov/epa/aboutepa/epa-order-11102-initial-organization-epa.html

7. Leslie Hayward, "The Oil Weapon: 42 Years after the OPEC Oil Embargo," *The Fuse*, Oct. 16, 2015. http://energyfuse.org/the-oil-weapon-42-years-after-the-opec-oil-embargo/

8. Ibid.

9. 94th Congress, "S. 622: Energy Policy and Conservation Act," Dec 22, 1975. https://www.govtrack.us/congress/bills/94/s622/text

10. U.S. Department of Transportation, "Corporate Average Fuel Economy (CAFE) Standards," Aug. 27, 2014. https://www.transportation.gov/mission/sustainability/corporate-average-fuel-economy-cafe-standards

11. Allan R. Hoffman, "The Origins of CAFE," *Forum on Physics & Society of the American Physical Society*, Vol. 36, No. 4, October 2007. https://www.aps.org/units/fps/newsletters/2007/october/hoffman.html

12. National Highway Traffic Safety Administration, "Fuel Economy and Annual Travel for Passenger Cars and Light Trucks: National On-Road Survey," U.S. Department of Transportation, May 1986. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/806971

13. National Highway Traffic Safety Administration, "SUMMARY OF FUEL ECONOMY PERFORMANCE," U.S. Department of Transportation, April 28, 2011. http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/2011_Summary_Report.pdf

14. Charli Coon, "Why the Government's CAFE Standards for Fuel Efficiency Should Be Repealed, not Increased," The Heritage Foundation, July 11, 2001. http://www.heritage.org/environment/report/why-the-governments-cafe-standards-fuel-efficiency-should-berepealed-not

distress in the oil market.[15] In inflation-adjusted dollars, the period of persistent oil-price increases of the early 2000s matched the increases of the 1970s.[16],[17] Thus, CAFE standards essentially are the product of desperation at moments of limited oil supply. It is difficult to separate how auto manufacturers responded to the standards from their response to consumers' desire during those periods to avoid pain at the pump.

In light of what we know about the standards' performance over four decades, it is appropriate to consider their costs and trade-offs relative to alternative approaches to fuel-economy regulation. For example, CAFE standards have made new vehicles more expensive.[18] In turn, consumers who otherwise would have adopted newer and cleaner vehicles instead retained older, dirtier vehicles for longer periods.[19] By some estimates, raising standards leads to a "leakage effect" equal to about 15 percent of emissions reductions, as older vehicles remain on the road longer.[20] There also is considerable evidence that, by driving down vehicle weight, CAFE standards at times have made vehicles less safe than they otherwise would have been.[21] Finally, CAFE has proven remarkably inefficient in discouraging fossil-fuel consumption.[22]

The NHTSA and EPA estimate the most recent standards' benefits will exceed their implementation costs within just three years. However, there is no doubt that the standards' compliance costs will be large and that consumers will feel the pinch.[23]

A TRILATERAL SYSTEM OF REGULATORS

Fuel-economy regulation originally was the sole province of the Department of Transportation. The interaction between emissions standards and fuel-economy standards has led to a tangle of regulatory authority. Regulating emissions in effect leads to regulating fuel economy, as automakers use the same technologies to achieve each goal. When the EPA seeks to reduce vehicles' CO_2 emissions to address climate change, its focus necessarily is on reducing how much fossil fuel the vehicles burn. To reduce the amount of fuel burned, automakers must improve the rate at which motors consume fuel, which stems directly from combustion motors' per-mile fuel efficiency.[24]

CAFE standards' significance thus changed dramatically in 2007, when the U.S. Supreme Court ruled the EPA must regulate greenhouse-gas emissions if they determined they are harmful to human health or welfare.[25] The court's 5-4 decision in Massachusetts v. EPA held that Section 202 of the Clean Air Act compels the EPA to regulate "air pollutants" from any new motor vehicle and, for its part, the EPA officially declared in 2009 that greenhouse gases qualified as pollutants that endanger human health and welfare.[26] This endangerment finding set the stage for the EPA to regulate greenhouse gases and serves as the basis for agency oversight of fuel-efficiency standards.[27]

The EPA and the NHTSA subsequently have had to coordinate their respective rules to avoid imposing conflicting standards on the auto industry. Under a "grandfather" exemption not extended to any other state, the California Air Resources Board, created in 1967, also sets its own emissions standards. This unique quirk is due to the state's early regulation of tailpipe emissions, and arguably its unique geographical susceptibility to smog. This trilateral regulatory system persists today.

Unlike the NHTSA, whose 1975 authorizing statute explicitly charges it with regulating fuel economy, both the EPA and CARB now regulate fuel-economy standards as a byproduct of their regulation of emissions. For that reason, these two agencies' approaches to regulation differ from the NHTSA's, and the ways in which all three interact is not at all

15. Office of the Press Secretary, "Fact Sheet: Energy Independence and Security Act of 2007," White House, Dec. 19, 2007. https://georgewbush-whitehouse.archives.gov/news/releases/2007/12/20071219-1.html

16. The inflation-adjusted price for a barrel of oil increased from $38.29 in 2000 to $74.44 in 2007. The price per-barrel peaked in 2008 at a staggering $102. In 2016, the inflation-adjusted price per-barrel was $34.13.

17. Tim McMahon, "Historical Crude Oil Prices (Table)," InflationData.com, May 1, 2015. http://inflationdata.com/Inflation/Inflation_Rate/Historical_Oil_Prices_Table.asp

18. Salim Furth and David W. Kreutzer, "Fuel Economy Standards Are a Costly Mistake," Heritage Foundation Backgrounder No. 3096, March 4, 2016. https://www.heartland.org/_template-assets/documents/publications/heritage_-_fuel_economy_rules.pdf

19. Knowledge@Wharton, "The Unintended Consequences of Ambitious Fuel-economy Standards," University of Pennsylvania, Feb. 3, 2015. http://knowledge.wharton.upenn.edu/article/unintended-consequences-ambitious-fuel-economy-standards/

20. Ibid.

21. J.R. Dunn, "Death by CAFE Standards," *American Thinker*, April 13, 2010. http://www.americanthinker.com/articles/2010/04/death_by_cafe_standards.html

22. Jerry Taylor and Peter Van Doren, "Don't Raise CAFE Standards," *National Review*, Aug. 1, 2007. https://www.cato.org/publications/commentary/dont-raise-cafe-standards

23. Brent D. Yacobucci, Bill Canis and Richard K. Lattanzio, "Automobile and Truck Fuel Economy (CAFE) and Greenhouse Gas Standards," Congressional Research Service, Sept. 11, 2012. https://fas.org/sgp/crs/misc/R42721.pdf

24. Marlo Lewis Jr., "Why Obama Officials Had to Lie to Congress About Fuel Economy Standards," *Breitbart*, Nov. 8, 2011. http://www.breitbart.com/big-government/2011/11/08/why-obama-officials-had-to-lie-to-congress-about-fuel-economy-standards/

25. Oyez, "Massachusetts v. Environmental Protection Agency," IIT-Chicago Kent College of Law, accessed March 25, 2017. https://www.oyez.org/cases/2006/05-1120

26. H. Josef Hebert and Dina Cappiello, "Historic EPA finding: Greenhouse gases harm humans," Associated Press, Dec. 7, 2009. http://www.sandiegouniontribune.com/sdut-historic-epa-finding-greenhouse-gases-harm-humans-2009dec07-story.html

27. Environmental Protection Agency, "Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act," Jan. 29, 2017. https://www.epa.gov/climatechange/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a

straightforward. Below is a summary of the various systems employed by regulators to comply with the "One National Program" plan, which strives to harmonize the regulatory impact of various statutory objectives.

NHTSA

The CAFE system requires the NHTSA to create fuel-economy targets that achieve the "maximum feasible level," given current technology; are economically practicable; consider the effects of other fuel-economy standards; and satisfy the nation's need to conserve energy.[28],[29] Targets are set based on the average distance traveled per-gallon of fuel consumed, using a "harmonic mean" approach to calculate averages.[30]

Since 2007, manufacturers have been able to trade credits to meet their CAFE obligations, introducing some flexibility to the system. If a manufacturer exceeds their obligations under CAFE, they earn credits based on the extent of their "overcompliance." If a manufacturer fails to meet their obligation under CAFE, they may choose to pay a civil penalty, trade credits with another manufacturer, transfer credits between their fleets, use credits they previously saved or provide the NHTSA with a course of remedial action.[31]

The CAFE program also provides for electric and alternative-fuel vehicles by measuring the petroleum equivalent energy consumed by a given vehicle, though it uses different formulas to calculate the impact of each into the larger fleet average.[32]

EPA

Like the NHTSA's CAFE standards, the EPA uses a "footprint" model to evaluate vehicles' emissions.[33] This is an attribute-based model that judges different classes of vehicles by different standards, based on their weight class and other factors. The system's intent is to allow leeway while keeping a basic weight/emissions standard that does not favor the production of small and light vehicles.

Notably, the high-end mpg targets set during the Obama administration were not actually a function of the CAFE standard, but a proxy for emissions standards. The EPA therefore in effect established a 54.5 mpg standard when it created a per-mile emissions target of 163 grams of CO_2.[34]

The EPA also has a credit system, managed and measured differently than the CAFE credit system. A CAFE system credit is equal to a 0.1 mpg of difference between the standard and actual mileage for each vehicle in the fleet. By contrast, each EPA system credit is equal to 1 gram of CO_2. Interestingly, though the CAFE system provides for fines at a rate of $5.50 per 0.1 mpg for each vehicle sold that fails to meet the standard—thereby setting a ceiling on an automaker's compliance costs–the EPA's CO_2-based standard has no such option. If an out-of-compliance firm cannot come into compliance via production or credit trading, they must stop selling a given vehicle or face a fine of up to $37,500 per-vehicle sold.[35] In effect, this makes the EPA's rules far more onerous than the NHTSA's rules.

The EPA's GHG-based evaluation of electric and alternative-fuel vehicles also differs from the CAFE approach. Instead of converting energy into a fuel equivalent per-gallon, the EPA simply assigns a zero value (0 g/mi) to plug-in hybrid vehicles, fuel-cell electric vehicles and battery electric vehicles. In fact, in some cases, manufacturers may count some of these vehicles more than once in their compliance calculation, using a multiplier designed to promote adoption of advanced technologies. To prevent serious distortion of the fleet GHG calculation, the rules cap how many vehicles may be assigned a zero value.[36]

CARB

The Energy Policy and Conservation Act of 1975 explicitly preempted states from setting their own fuel-economy standards. However, the State of California continues to regulate vehicle emissions under a waiver it received from the federal government when the Clean Air Act passed in 1970.[37] California regulates vehicle emissions using methodology similar to the EPA's, but with more stringent standards than any enacted by the federal government.[38] However, as part of a 2012 agreement, vehicles that comply with the EPA's GHG standards are "deemed to comply" with California's standards. California's power to create emissions targets, and

28. See 49 U.S.C. 32902 (f).

29. Legal Information Institute, "49 U.S. Code § 32902 - Average fuel economy standards," Dec. 19, 2007. https://www.law.cornell.edu/uscode/text/49/32902

30. See 40 CFR 600.510-12 for a complete explanation of how fleet economy is calculated.

31. Hui He, "Credit Trading in the US Corporate Average Fuel Economy (CAFE) Standard," The International Council on Clean Transportation, March 7, 2014. http://www.theicct.org/credit-trading-us-cafe-standard

32. National Research Council, *Cost, Effectiveness and Deployment of Fuel Economy Technologies for Light-Duty Vehicles*, p. 354, 2015. https://www.nap.edu/read/21744/chapter/12#354

33. Environmental Protection Agency, "Overview of Certification and Compliance for Vehicles and Engines," Oct. 13, 2016. https://www.epa.gov/vehicle-and-engine-certification/overview-certification-and-compliance-vehicles-and-engines

34. Yacobucci, 2012.

35. National Research Council, p. 345.

36. National Research Council, p. 354.

37. Legal Information Institute, "42 U.S. Code § 7543 - State standards," Nov. 15, 1990. https://www.law.cornell.edu/uscode/text/42/7543

38. California Environmental Protection Agency, "California's Advanced Clean Cars Midterm Review," Jan. 18, 2017. https://www.arb.ca.gov/msprog/acc/mtr/acc_mtr_finalreport_full.pdf

thus fuel-economy standards, nonetheless remains substantial.[39]

ONE NATIONAL PROGRAM

In the wake of the financial crisis that nearly led to the failure of major U.S. auto manufacturers, the auto industry agreed in 2009 to creation of the "One National Program."[40] The agreement forestalled creation of separate state emissions standards—which would act as de facto fuel-economy standards—in exchange for the industry's agreement to adhere to more aggressive CAFE requirements.[41]

For 2011 to 2015 model-year vehicles, fuel-efficiency targets were set at 31.8 MPG. To develop that target, the NHTSA used economic assumptions about fuel prices and efficiency-standard savings to estimate how long it would take automakers to recoup the cost of deploying these new technologies.[42] The targets grew even more challenging for subsequent model years, requiring efficiency increases of 8 percent per-year.

In 2012, the NHTSA and the EPA jointly developed standards for fuel economy and emissions for model years 2017 through 2025. The standards included a mandate to review the model years 2022 and 2025 before the requirements for each went into effect, as current rules bar the NHTSA from creating binding fuel-economy standards for more than five consecutive years.[43] The intent of this so-called "midterm review," like the standards themselves, is to allow for ongoing consultation with the NHTSA and the CARB. In mid-2016, all three regulators released a "draft technical assessment report" on the forthcoming midterm review.[44] Included in that assessment was the EPA's estimate that it would issue its final assessment of the midterm review by April 2018.

In the final days of the Obama administration in January 2017, the EPA saw a narrow window of opportunity to lock in emissions standards that could force the NHTSA's hand. A mere seven days before the start of the Trump administration, the EPA finalized its midterm review of light-duty-vehicle emissions.[45] The agency's decision to accelerate its final determination on the standards' viability was bold, not only because of the pending change in executive authority, but because it came a full 14 months ahead of schedule.

The costs associated with implementing the EPA's determination are large. In fact, current projections hold that fuel-economy and emissions regulations will combine to add $3,200 (on a weighted-average basis across different powertrains) to vehicles in component costs alone.[46] Despite large increases in recent years to the costs of raw materials and other inputs, automakers effectively have insulated consumers from meaningful increases in vehicle prices.[47] The EPA's determination, if upheld, would see that trend reverse. For its part, the NHTSA now is in the awkward position of having to conform to the EPA's standards or risk the uncertainty that would come from pursuing a conflicting set of rules. This untenable situation resists easy resolution, given how important predictability is to the automotive sector. With long product lead times and huge investments in new technologies, automakers must make assumptions about what the regulatory landscape will look like years into the future.

The Trump administration moved in March 2017 to resolve this confusion by having the EPA restart its midterm review process, but that decision already is garnering resistance and legal challenges.[48] Regardless of the outcome, regulatory confusion about fuel-economy and emissions standards is likely to persist, to the detriment of American consumers. Because each of the three regulators have missions guided by differing statutory authorities and divergent practical requirements, they will struggle to achieve harmony even in the best of times. The One National Program is complex and costly and the trilateral regulatory system is needlessly intricate. We need a simpler and more effective process to regulate vehicle fuel economy and emissions.[49] That alternative should aspire to ensure regulation accords with what is technologically possible, financially practicable, environmentally sustainable and administratively feasible.

39. Marlo Lewis Jr., "Will Trump EPA Challenge California's De Facto Authority to Regulate Fuel Economy?" Competitive Enterprise Institute, Feb. 17, 2017. https://cei.org/blog/will-trump-epa-challenge-californias-de-facto-authority-regulate-fuel-economy

40. Global Automakers, "One National Program, 3 Years Later," May 22, 2012. https://www.globalautomakers.org/media/industry-news/2012/05/one-national-program-3-years-later

41. Marlo Lewis Jr., "EPA Rushes to Lock in Obama Administration Fuel Economy Standards," Competitive Enterprise Institute, Dec. 5, 2016. https://cei.org/blog/epa-rushes-lock-obama-administration-fuel-economy-standards

42. National Highway Traffic Safety Administration, "49 CFR Parts 523, 531, 533, 534, 536 and 537," U.S. Department of Transportation, Jan. 19, 2008. http://instituteforenergyresearch.org/wp-content/uploads/2009/05/nhtsa_analysis.pdf

43. Yacobucci, 2012.

44. Office of Transportation and Air Quality, National Highway Traffic Safety Administration and California Air Resources Board, "Draft Technical Assessment Report: Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards for Model Years," July 2016. 2022-2025 https://nepis.epa.gov/Exe/ZyPDF.cgi/P100OYFR.PDF?Dockey=P100OYFR.PDF

45. Environmental Protection Agency, "Midterm Evaluation of Light-Duty Vehicle Greenhouse Gas (GHG) Emissions Standards for Model Years 2022-2025," March 23, 2017. https://www.epa.gov/regulations-emissions-vehicles-and-engines/midterm-evaluation-light-duty-vehicle-greenhouse-gas-ghg

46. McKinsey & Co., "The Future of the North American Automotive Supplier Industry: Evolution of Component Costs, Penetration, and Value Creation Potential through 2020," March 2012. http://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/automotive%20and%20assembly/pdfs/the_future_of_the_north_american_automotive_supplier.ashx

47. Ibid.

48. *Alliance of Automobile Manufacturers v. Environmental Protection Agency*, March 15, 2017. http://documents.latimes.com/california-files-motion-defend-federal-vehicle-emission-rules/

49. Nancy Homeister, "Ford's Perspective: Light Duty Fuel Economy Regulations," Ford Motor Co., Jan. 30, 2013. http://www.sae.org/events/gim/presentations/2013/homeister_nancy.pdf

The best way to attain those goals is to move to a single, unified metric and pare down from three regulators to one. That single regulator would oversee both vehicle emissions and fuel economy by enforcing a single vehicle-efficiency target that achieves both. The target should create the right mix of incentives for automakers to create vehicles that consumers demand while being sensitive to the environmental impact they cause. "Clean tax cuts" may be one such approach.

CLEAN TAX CUTS FOR THE AUTOMOTIVE SECTOR

In 2016, the Grace Richardson Fund convened a "charrette" meeting of stakeholders at Columbia University[50] to discuss how to enact supply-side approaches to curb emissions in various sectors of the economy, including the automotive sector.[51] The clean tax cut (CTC) model favored by several charrette participants essentially calls for offering incentives to reduce GHG emissions by lowering the taxes of firms that find cleaner ways to operate their businesses.

The goal is to increase both the supply of, and demand for, cleaner products by lowering the cost to pursue activities that result in fewer harmful emissions.[52] CTCs could serve as positive incentives to undertake activities that avoid negative climate-related externalities, establishing positive feedback loops that help the market for cleaner activities become more attractive.[53] To accomplish this goal, the approach would replace costly regulatory structures and overly complex subsidies and credits with a flexible and streamlined system. It would remove punitive regulations that punish problematic behavior and instead erect a system to reward favorable behavior, which offers the additional benefit of encouraging "overcompliance" as a competitive advantage.

The report that came out of the Columbia charrette flagged fuel-economy standards as an area ripe to apply the CTC concept.[54] Unlike many industries, there already are established accounting standards and measurement systems available for vehicle efficiency. Charrette participants noted their sense that existing efficiency metrics in the fuel-economy space rendered the marginal cost to develop additional CTC measurements minimal.[55] In the automotive context, a CTC-centered approach would require four elements:

1. A clear definition of an "automaker";
2. A method to measure vehicle efficiency (several of which already exist);
3. Targets based on the efficiency metric; and
4. A system to assign tax cuts based on how well a fleet performs compared to the target.

The definition of automaker likely would need to set a floor of minimum number of vehicles sold, to avoid gaming by non-automakers or the creation of spinoff entities simply to exploit favorable tax treatment. A single regulator would promulgate a vehicle-efficiency target against which automakers' vehicle fleets are measured. Like CAFE, the target would reflect what is technologically feasible and financially realistic, in addition to what is environmentally desirable.

Unlike the current system, which combines different metrics, a CTC efficiency target would choose to target either emissions or fuel economy, given that the same technologies are used to achieve either.[56] In the context of CTCs, cleaner vehicle fleets are those that are "free of, or significantly reducing waste, inefficiency and negative externalities harming health, environment and general well-being."[57] Setting a CTC target that adheres to that definition means reducing waste and inefficiency in the automotive context. The best way to do that is to set a target that will give automakers maximum room to compete.

The regulator would evaluate firms' fleet performance relative to the target, an assessment that would be keyed to cuts in marginal rates assessed for taxes on capital, including the corporate income tax paid by the automaker and the dividend, capital gains, estate and earned interest taxes paid by its shareholders and bondholders. Fleets that are more efficient would receive larger tax cuts. The cleaner the fleet, the lower the tax burden associated with the firm. Existing CAFE penalty provisions may offer an adoptable system that could translate existing metrics into actionable tax rates.[58]

50. National Charrette Institute, "Tools and Techniques for Collaboration by Design," Michigan State University, accessed March 25, 2017. http://charretteinstitute.org/charrette/

51. The R Street Institute, which participated in the charrette, continues to evaluate the concept.

52. Id., p. 8.

53. Charrette Design Workshop, "Applying Clean Tax Cuts to Green Bonds," March 6, 2017. http://gracerichardsonfund.org/wp-content/uploads/2017/03/170306-char-greenbonds-outline.pdf

54. The Grace Richardson Fund, "GRF Report on the Clean Tax Cuts Working Group Charrette," Sept. 23, 2016. http://gracerichardsonfund.org/wp-content/uploads/2016/10/grf-charrette-report-161029.pdf

55. It is established that there have long been enforcement mechanisms under both the NHTSA and the EPA.

56. The EPA's authority under Section 202 of the Clean Air Act may make it the most straightforward home to develop and oversee such a target, but the onerous nature of its rules would require reevaluation in light of the more flexible and market-friendly approach taken by the NHTSA.

57. Charrette Design Workshop, 2017.

58. For instance, under current CAFE rules, a "civil penalty of $5.50 for each tenth of a mile below the required fuel efficiency level for each vehicle sold in the model year (49 U.S.C. 32912(b))." The existing fine metrics would allow a CTC framework to be established quickly, with taxes reduced at a similar rate.

The chief advantage of clean tax cuts over the existing rules governing fuel economy and emissions is the flexibility they offer automakers to determine which emissions reductions strategies are efficient, given competitive market pressures. Each firm would determine the appropriate balance between developing a greener fleet and catering to consumer demand. A supply-side approach to regulating fuel economy and emissions would, rather than setting a regulatory benchmark that functions as a de facto ceiling, offer concrete advantages to firms that opt to excel beyond the target.

Firms that opted for fleets that are more efficient could see the cost of developing platforms, powertrains and the "hard" parts of vehicles drop, thanks to their lower tax rates. This would allow them to add more high-margin discretionary content to their vehicles.[59] On the showroom floor, vehicles from manufacturers with efficient fleets would be better equipped than similarly priced vehicles from manufacturers with less-efficient fleets and higher tax rates. Alternatively, firms with more efficient fleets could simply offer similarly equipped vehicles to consumers at a lower price. Manufacturers with more efficient fleets also likely would enjoy better margins, offering them greater flexibility about how they choose to position themselves in the market.

Other automakers could make the rational decision to pursue a higher volume or niche-market approach that eschewed reliance on CTCs. Those firms could simply ignore the targets, likely remaining roughly where they are now in terms of fuel economy.[60] Many firms likely would settle on an arrangement somewhere in the middle, producing a fleet that enjoyed some CTC benefits while continuing to serve customers who prefer less fuel-efficient vehicles. Given the global nature of the auto industry, the more prescriptive approaches taken by other national regulators likely would serve as something of a floor below which manufacturers would not fall.[61]

There is consensus within the automotive industry that the fuel-economy and emissions targets set by the EPA's January 2017 final determination are too costly. The Trump administration has echoed that concern by having the EPA restart its midterm review process. However, if CTC standards adhere closely to the CAFE model—requiring that standards cannot be set more than five years into the future and that the target must to be set at the "maximum feasible level"—aggressive standards might make sense. If set too low, a nonprescriptive target will fail to distinguish automakers that have invested in efficiency from those that have not. Setting the standard high and creating a large range of tax reductions allows granular distinctions between manufacturers.

Of course, while CTC efficiency targets would leave us with more efficient—and thus greener—vehicle fleets, they will not reduce the incentive to drive. The two factors most responsible for limiting miles driven are the state of the economy and the price of oil. In fact, the net impact of increased efficiency generally is to encourage consumers to drive more.[62]

CONCLUSION

Encouraging automakers to explore greater fuel efficiency through a supply-side approach that reduces taxes on capital is an attractive approach. The impact on automakers would be to lower their cost of capital by increasing returns for investors. This, in turn, provides incentives for investment in more fuel-efficient firms, particularly because the United States has among the highest corporate income and capital gains tax rates in the world.[63],[64] If they operate as designed, and spur more growth and investment in the affected firms, CTCs could even pay for themselves.[65]

The Trump administration's obvious interest in evaluating fuel-economy policy should not be limited to tinkering with metrics. The prescriptive approach to emissions regulation and fuel-economy standards has served to misplace incentives, while distorting the nation's automotive marketplace. The struggle to harmonize NHTSA, EPA and CARB objectives and implementation efforts should give way to a unified regulator with consistent and transparent rules.

An alternative like CTCs could reduce emissions while freeing up capital for innovation. A CTC approach could allow the market to determine appropriate fuel-efficiency levels based on costs and consumer demand. Crucially, by focusing on supply, CTCs could prevent price from being a barrier to the adoption of newer and more efficient vehicles – a critical step toward a more efficient fleet and better environmental outcomes than we see today.

59. The impact of the discretionary content will vary by brand. Given that supplier prices have held steady and that discretionary content is relatively inexpensive, vehicles that are part of a greener fleet likely would offer more content that is discretionary for less money.

60. Given that automotive development timelines extend well into the future, the baseline to adopt a CTC approach would see fleet averages of more than 30 mpg.

61. Some automakers would feel the impact of this floor more acutely than others, based on the extent of their exposure to prescriptive regulatory regimes.

62. This is a classic case of what economists call Jevons Paradox, which postulates that increased efficiency from technological improvements result in increased consumption, as demand increases when prices fall.

63. Chairman Jim Saxton, "The Economic Effects of Capital Gains Taxation," Joint Economic Committee, June 1997. https://www.jec.senate.gov/public/_cache/files/b3116098-c577-4e64-8b3f-b95263d38c0e/the-economic-effects-of-capital-gains-taxation-june-1997.pdf

64. Kyle Pomerleau, "U.S. Taxpayers Face the 6th Highest Top Marginal Capital Gains Tax Rate in the OECD," Tax Foundation, March 24, 2015. https://taxfoundation.org/us-taxpayers-face-6th-highest-top-marginal-capital-gains-tax-rate-oecd/

65. Roderic Randolph Richardson, "Clean Tax Cuts & Deregulation," The Grace Richardson Fund, September 2016. http://gracerichardsonfund.org/wp-content/uploads/2016/11/GRF-CTCwhitepaper-160919.pdf

As in other sectors, simplicity and competition, rather than central planning, are the best ways forward when it comes to vehicle-efficiency regulation.

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