

Bootleggers and Baptists in American Fuel Economy Regulation

- A qualitative content analysis of American automakers' attitudes towards CAFE-standards



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Abstract

This thesis aims to explain the American automaker's drastic shift in opinion regarding Corporate Average Fuel Economy (CAFE)-standards. After years of lobbying for weaker standards, the automakers suddenly dropped their support for President Trump's deregulatory attempts and sided with California, the state Trump had an ongoing legal fight with over fuel economy regulation. The thesis intends to outline the carmakers' motives behind the sudden shift, based on the theory of bootleggers and Baptists, a theory which highlights situations where otherwise conflicting groups form coalitions to support a certain regulation, but for totally different reasons (economic and ethical). A method of qualitative content analysis is applied in order to determine if the automakers changed their position on the issue for economic or ethical (environmental) reasons. By analyzing official statements, protocols from shareholder meetings as well as media sources, I find that both arguments occur frequently but that the economic arguments for keeping strict CAFE-standards are used predominantly. In addition, I distinguish two groups within the automakers: the early adopters and the later followers. I conclude that the automakers are bootleggers for using primarily economic arguments for supporting strict CAFE-standards, while also expanding the theory to explaining differences within the bootlegger camp.

Key words: Corporate Average Fuel Economy standards, CAFE-standards, fuel economy regulation, bootleggers and Baptists

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1 Introduction

1.1 Introducing the Topic

As the urging threat of the climate crisis gets closer, successful and accurate *environmental governance* has never been more important. Environmental governance refers to the promotion of environmental sustainability as the overarching goal in managing social, political, and economic human activities. Governments work together with other actors such as business, international organizations, non-governmental organizations, and civil society to achieve sustainable development (Carter 2007, p. 292). Carmen and Agrawal (2006) define environmental governance as “a set of regulatory processes, mechanisms and organizations through which political actors influence environmental actions and outcomes” (p. 298). While this definition may be slightly narrower than my own, it suits well for this thesis which will focus on the role of environmental regulation and legislation.

Regulation is a common tool used to improve environmental quality. While the purpose of environmental regulation may be accepted by the broad majority – especially in times when public awareness of climate change is growing, regulation also entails costs on certain businesses and actors. When designing environmental regulation to address a particular environmental issue, it is therefore essential to consider and evaluate the projected costs and benefits. Many forms of regulation impact the market and can therefore be seen as market regulations. A regulated market is a market where a certain government body or organization exerts oversight and control, which affects prices and determines who can enter the market. In terms of environmental policy instruments, the discussion is often centered around so-called sticks and carrots. An example of a regulatory stick is a traditional command-and-control regulation, intended to

discourage a certain behavior. These regulations are measures taken by governmental units to influence people and actors through rules and directives, and where sanctions or fines might be imposed if the rules are not followed. In contrast, carrot-based solutions like economic policy instruments create economic incentives for individuals to take environmental actions, such as a deposit and refund system for plastic bottles or an emission trading scheme for companies (Pacheco-Vega 2020).

An example of classic stick-based regulations are the federal *Corporate Average Fuel Economy standards*, so-called *CAFE-standards*, which will be the main subject of this thesis. The standards are fleet-wide rules for how many miles per gallon of fuel a vehicle must be able to travel, with the purpose of forcing the automakers to progressively improve the fuel economy of cars and light trucks. The requirements get more stringent each year, requiring automakers to create more fuel-efficient cars. If the automakers do not comply with the rules, fines are imposed (NHTSA 2021).

During the last decade, ever since President Obama enforced stricter CAFE-standards in 2011, automakers have lobbied for a weakening of the fuel economy rules. During Donald Trump's presidency, a chance to weaken the standards presented itself, but the automakers were suddenly no longer interested (The Atlantic 2018). In this thesis, I intend to explain why the American car industry suddenly shifted their opinion on CAFE-standards. This will be done through a qualitative content analysis of media and statements from the automakers. Furthermore, I intend to apply and test the explanatory power of Bruce Yandle's theory of bootleggers and Baptists to the case of CAFE-standards and American automakers.

1.2 Disposition

Before analyzing the material and applying the theory, a brief background to the current situation on CAFE-standards is suitable. The background is followed by a framing of the research question and a theory section. After relevant theories and

a literature review has been presented and connected to the case, I argue for the relevance of my study. This is in turn followed by a presentation of the methodological approach to the case, an assessment of my own role in interpreting the material and my epistemological view. Subsequent sections consist of a presentation of my results and analysis, followed by a discussion where I interpret my results and relate them to the theory. Finally, I present conclusions to be drawn from my work.

1.3 Background

The Corporate Average Fuel Economy standards were introduced in 1975 as part of the Energy Policy and Conservation Act, with the purpose of reducing energy consumption by increasing the fuel economy of cars and light trucks. The standards were imposed partly in response to the energy crisis and oil embargo of 1973, which exposed U.S. vulnerabilities such as reliance on imported oil (ASE). The CAFE-standards set fleet-wide fuel economy averages that must be met by each automaker for its car and truck fleet. More specifically, they consist of standard requirements for how far a concerned vehicle must be able to travel on one gallon (3.78 liters) of fuel. These laws regulate the miles-per-gallon number of “light-duty vehicles”, which includes sedans, minivans and any vehicle that is street-legal and weighs less than 10,000 pounds (approx. 4500 kg) (The Atlantic 2018). When these standards are raised, automakers respond by creating more fuel-efficient car fleets (NHTSA 2021).

The standards were raised during Barack Obama’s presidency, from a requirement of 24.1 miles per gallon in 2011, to a goal of 54.5 miles per gallon by 2025. While automakers initially were willing to accept the stricter rules, they quickly started complaining. Carmakers argued that the requirements were unrealistic and that they only made cars more expensive – both for them to produce and for people to buy (The Atlantic 2018). In 2009, Obama strengthened the Environmental Protection Agency (EPA), and modified the CAFE-standards to also regulate greenhouse gas emissions. It was also decided that the new standards would be

issued by the EPA, the Department of Transportation, and the state of California (The Atlantic 2018).

California was given its own right to regulate toxic air pollutants from car tailpipes under the Clean Air Act of 1970. Even though the law generally prevents states from setting fuel economy standards that are stricter than the federal standards, California was given a special exemption due to its past issues with smog pollution in the larger cities. Under Section 177 of the Clean Air Act, other states can choose to adopt California's motor vehicle emission standards (California Air Resources Board, 2021). In 2005, California requested to extend this ability to also include the right to regulate greenhouse gases. President George W. Bush denied California's request with the motivation that it would be troublesome for the car companies to develop one set of cars for California, and another set for the rest of the country. However, as mentioned, President Obama later granted California's request while also including greenhouse gas regulation in the CAFE-standards (The Atlantic 2018).

After Obama implemented the stricter fuel economy rules, car companies complained and asked for an alleviation. When Donald J. Trump was elected president in 2016, the auto lobbying groups pressured even harder. Eventually, they received what they wanted. After years of lobbying and pressure from the car industry, the Trump administration attempted to remove and weaken the fuel-economy standards as part of Trump's deregulatory agenda. In 2018, the Trump administration announced that they would be freezing the CAFE-standards at 2020 levels. However, by this time several market-leading automakers had changed their minds. The announcement of the freezing received criticism from environmentalist groups and also, somewhat surprisingly, from the automakers themselves. They suddenly claimed that they wanted to keep the current, stricter standards. Chevrolet cancelled an event where EPA-chief Scott Pruitt was going to announce the freezing of CAFE and Bill Ford, executive chairman of Ford, wrote "We support increasing clean car standards through 2025 and are not asking for a rollback" (ibid.). Mitch Bainwol, at the time CEO of the auto lobbying group Alliance of Automobile Manufacturers, now wanted the government to continue to raise the standards. As recently as 2017, the Auto Alliance had criticized and

questioned basic scientific findings regarding climate change and asked the EPA for a withdrawal of the standards. After Trump's rollback, several automakers wrote a letter to the White House, stating that "climate change is real, and we have a continuing role in reducing greenhouse gases and improving fuel efficiency" (ibid.). While these carmakers suddenly turned their back on Trump, a few market-leading car companies still supported his deregulatory agenda, such as General Motors, Toyota, Fiat Chrysler and 10 other companies all represented by the Coalition for Sustainable Automotive Regulation (Fox News 1, 2020).

When Trump announced the rollback of the standards, California managed to reach a separate deal with five automakers; Honda, Ford, Volkswagen, BMW, and Volvo, in which the parties agreed on a fuel economy of 51 miles per gallon by 2026. This was slightly less stringent than the Obama-era standards but significantly higher than Trump's rollback. These car companies were consequently put directly at odds with the major automakers who sided with the Trump administration. After the controversy following the Trump administration's attempt to freeze the standards, they proposed a new rule called the Safer Affordable Fuel-Efficient, (SAFE) vehicles rules. The SAFE rules, also referred to as One National Program, were proposed in 2019 and included the revocation of California's authority to set its own auto emissions rules, while also considerably rolling back the Obama-era standards of 54.5 miles per gallon by 2025 to 40 miles per gallon. The administration called the new rules "tough but feasible" fuel economy rules, which increase 1.5 % in stringency each year for model years 2021-2026. This can be put in contrast to the previous Obama-era standards which increased 5% in stringency every year (National Post 2021). The state of California, backed up by 18 other states, responded by challenging the Trump administration in a legal fight, maintaining the right to set their own stricter standards. Meanwhile, several large car companies such as Toyota, Fiat Chrysler and General Motors (GM) were still supporting Trump and backed the administration's effort to strip California of the power to set its own fuel economy standards (LA Times 2020).

However, in November 2020, a few weeks after the election of Joe Biden, General Motors announced that they too would be dropping their support for the Trump-

era lawsuit against California. Mary Barra, the General Motors chief executive, wrote in a letter to leaders of some of America's largest environmental groups, that GM agrees with President Biden's outspoken ambition to transition the car market to electric vehicles. She also sent a signal to Toyota and Fiat-Chrysler, the two major automakers that had sided with the Trump administration, by saying "we invite other automakers to join us" (NYT 1 2020). In February 2021, Toyota and Fiat Chrysler followed GM by also dropping their support for the Trump-era lawsuit that sought to block California from setting its own fuel-economy standards. Suddenly, almost all larger car companies had changed their minds and were now in favor of keeping the stricter, California-based standards (NYT 2 2021).

1.4 Problem Formulation and Research Question

Remarkably, the automakers who for many years lobbied against fuel economy regulation, now seem to be aligned with the environmentalist organizations and the state of California in support of heavier regulation. Automakers have historically been notorious for opposing environmentalist policies and emissions regulation, for the obvious reason that their business has been reliant on fossil fuels and pollutant emissions. The recent and drastic shift from the major car companies marks a new era of automakers and may indicate that they are ready to cooperate with President Biden on his agenda to reduce climate-warming emissions. However, the mystery of why this shift happened now, after years of lobbying for more lenient rules, remains.

I find the sudden positional change from the American car industry altogether remarkable and intriguing. Therefore, I intend to investigate what may have caused this sudden shift. I aim to analyze if the recent move signals that the automakers now in fact recognize their responsibility in reducing greenhouse gas emissions, or if there are other reasons for this prompt shift in opinion. Potentially, the automakers do not wish to be associated with Donald Trump. Or perhaps there are economic incentives to keep the stricter standards, since they already invested in cleaner and fuel-efficient technology. These are speculations

that I intend to verify or falsify by analyzing and outlining the motives behind the car companies' sudden shift.

After outlining the motives behind the carmakers' swift change in opinion, I will test if Bruce Yandle's regulation theory of bootleggers and Baptists might be able to explain this newly formed coalition of environmentalists and automakers. Basically, the theory highlights situations where two normally opposing groups, come together and support a certain policy or regulation but for totally different reasons. The Baptists, support regulation for ethical reasons and the bootleggers for economic reasons. My ambition is to draw parallels to the theory using the case of CAFE-standards in the U.S, where the car industry may be representing the bootleggers while the environmentalists and the environmentally ambitious state of California represent the Baptists. I also intend to investigate if some automakers may have more Baptist features, while others might be seen as mainly bootleggers. Therefore, I want to delve deeper into the differences *within* the automakers and investigate if some of the car companies use more Baptist-related (ethical) arguments and others more bootlegger-inspired (economic) arguments. In other words, I aim to investigate if the automakers changed their position for mainly ethical (environmental) reasons or for economic (self-interest, profit) reasons.

Research question: *Why have the major automakers in America suddenly changed their position on fuel-economy standards, from supporting Donald Trump's attempt to weaken fuel-economy standards and revoke California's authority to set its own standards, to now wanting to keep the stricter Californian standards?* **Sub-question:** *How can the automakers' positions and changes thereof towards CAFE be understood from the theory of bootleggers and Baptists?*

1.5 Theory

Bruce Yandle first presented his theory of bootleggers and Baptists in his publication “Bootleggers and Baptists - The Education of Regulatory Economists”, in 1983. As stated, he uses the metaphor of bootleggers and Baptists to explain rare coalitions of two normally conflicting interest groups. More particularly, when they come together and support a certain policy or regulation - but for totally different reasons. The Baptists, support regulation for ethical reasons and the bootleggers for economic reasons. The theory originates from the Prohibition of alcohol in the U.S. which was supported by the Baptists (the Protestant Church) for ethical and religious reasons, while the bootleggers (people profiting from smuggling and selling alcohol illegally) supported the regulation for pure economic reasons. Both parties gain while the regulators are content because the law is easy to administer. In his paper, Yandle lists examples of failed regulations where the imposed rules resulted in tremendous costs while delivering little benefit. He asserts that the government rarely accomplishes its stated goals at lowest cost and that regulators often seem to choose the approach with the highest costs (Yandle 1983).

In more modern interpretations of the theory, Baptists represent those who give vital endorsement of praiseworthy public benefits promised by a desired regulation. Bootleggers are less visible but not less important. They expect to profit from the regulatory restriction desired by the Baptists and thus support it, which enables the regulation to be imposed. For bootleggers, it is the details of a regulation that make them endorse it, not the broader principle that usually matter most for Baptists. (Yandle 1999).

Apart from explaining rare coalitions on regulation policy, Yandle’s theory also argues that regulations which can be supported by opposed groups, like bootleggers and Baptists, are more effective (from the regulators point of view) than regulation supported by one-sided groups. “The most successful regulations occur when there is an overarching public concern to be addressed (like alcohol, or pollution) whose “solution” redistributes resources from the public purse to

particular groups or from one group to another (as from bartenders to bootleggers)” (Yandle 1983, p.14).

According to Yandle, as long as bootleggers and Baptists vote together, full-scale deregulation will not happen. However, Yandle points out a few factors which may shift the demand for regulation. One of them is *technological change*. As technology develops, the technology embedded in the regulation can become obsolete and prevent businesses from absorbing new technology. Another is *new information*, as the emergence of new knowledge may shift the demand among voters, taxpayers and consumers. With new information on the agenda, they may discover that their benefits from regulation are less than their costs or vice versa. Factors that may shift the supply of regulation, are congressional oversight and shifts in chairmanship, as a change in congress or president from Democratic to Republican and vice versa can influence the behavior of agencies and businesses.

1.6 Previous Research

In 2009, Bruce Yandle published an article regarding the new fuel economy rules imposed by President Obama during the same year. Present at the announcement of the new CAFE-standards, were what Yandle calls “perhaps one of the largest gatherings of bootleggers and Baptists ever to assemble for a presidential announcement” (Yandle 2009, p.6). Executives from major car companies such as Ford, GM, Chrysler were joined by United Auto Workers’ president and leaders of Sierra Club, Environmental Defense Fund and Concerned Scientists. Yandle assigns the Baptist-title to the environmentalist groups which makes the automakers bootleggers for seeing the uniform national rules as a more profitable alternative than a set of separate state regulations that was already brewing. The presence of California governor Arnold Schwarzenegger assured that California would not set stricter emission standards than the national rules. While Yandle recognizes and acknowledges this remarkable accomplishment by Obama, he also highlights a few key events leading up to the announcement which made the coalition possible. First, former President Bush already proposed fuel economy standards almost as strict as Obama’s, to break the U.S. “gasoline addiction”.

Second, the important case of *EPA v. Massachusetts* where it was ruled that carbon dioxide is a pollutant under the Clean Air Act and that the EPA has the authority to regulate greenhouse gases. In 2009, the EPA identified that carbon emissions are harmful to human life. Ultimately, he brings up the Great Recession of 2007-2009 which affected gasoline prices and pushed major automakers like General Motors and Chrysler to bankruptcy. Eventually, the two car companies received a financial bailout from the government. Yandle argues that the government bailout of the automakers was crucial for Obama's implementation of the new CAFE-standards. After the bailout, government had leverage on the automakers and the "Big Three" (GM, FCA, Ford) were eager to cooperate. Therefore, Yandle concludes that the automakers at the time did not have much of a choice than to go along with the new fuel economy rules, considering the government bailout and the double Democratic majority in Congress (Yandle 2009).

In the broader research within political science and environmental regulation, Judith A. Layzer's book "Open for business: Conservatives' Opposition to Environmental Regulation" presents a summary of the most common arguments against environmental regulation. According to Layzer, corporate leaders and conservatives claim that environmentalists exaggerate problems and are alarmistic, shaping public policy to their liking. The conservatives assert that many laws and regulations are excessively burdensome and costly for those that it is imposed upon, while the environmental benefits are inconsiderable. Layzer describes how antiregulatory conservative ideas and institutional incentives has driven US environmental policy from the 1980s and onwards. She argues that conservatives have successfully blocked new environmental legislation proposed to address new challenges such as climate change. Layzer also implies that the role of business in shaping environmental policy, has been somewhat overstated and that business rather relies on conservative ideas embedded in the policymaking process and institutions (Layzer 2012).

1.7 Relevance, Research Gap and Contribution

Layzer's findings suggest that there is an embedded environmental conservatism in American institutions and policymaking. Her implication that the role of business has been overstated when it comes to blocking environmental policy, is very relevant and interesting for my case. That would suggest that the conservatism embodied in the Trump administration was the main reason for the proposed weakening of the CAFE standards and the revocation of California's authority, not the automakers' lobbying groups. Since the political landscape has changed a lot since Layzer's publication, it is interesting to investigate if her findings are accurate for Trump's environmental policymaking (or lack thereof) and deregulatory agenda.

Since Yandle applied his theory of bootleggers and Baptists to describe the situation of fuel economy standards in 2009, there has been a major shift in the political landscape. Moreover, the bootleggers, i.e., the automakers, have changed their opinion on the matter over time. With Trump, the automakers had their chance to escape fuel economy standards, but they decided they were better off keeping them. In 2009, as Yandle points out, they did not have much of a choice than to tolerate the standards. The fact that automakers lobbied Trump into attempting to freeze the standards is also contradictory to Layzer's finding that business has had a limited impact on environmental regulation and policy. The story of CAFE-standards rather tells us that business – the automakers, have a large influence on environmental regulation.

In my opinion, the fact that Yandle has applied his theory of bootleggers and Baptists to the case of fuel economy standards before, only strengthens my case selection and choice of theory. It confirms that his original theory related to the Prohibition also is applicable to interest groups in environmental regulation. Since American politics have changed fundamentally since 2009, I believe an updated analysis on the current situation is desirable. Although there have been speculations on why automakers switched sides, academic research on automakers' drastic and recent shift in opinion has not been done. By studying the

case of the automakers' relationship to the fuel economy regulation, further insight can be brought to different cases of opposition to environmental regulation in other industries. Building onto Yandle's theory of bootleggers and Baptists, perhaps we can also learn something about how fragile coalitions can be when it comes to environmental regulation, and how they can quickly switch positions when other factors such as party in government, new information or technology changes.

In a broader view, it is highly relevant to analyze the environmental position of a large GHG-emitter and powerful business such as the car industry. In 2019, the transportation sector amounted to 29 % of the USA's total greenhouse gas emissions and thereby generated the largest share of GHG-emissions in the country (EPA 2019). Needless to say, the car industry plays a huge part in climate change, and it will be crucial to get the automakers onboard the agenda of achieving carbon neutrality. Moreover, tailpipe pollution is the largest source of greenhouse gas emissions in the United States (NYT 3, 2019), which makes the case of the federal and nation-wide CAFE-standards especially relevant in terms of environmental governance. Furthermore, it is also relevant to investigate if the car companies are in it for the money or for the environment – either answer will give us greater insight for future environmental and fuel economy regulation, both in the U.S. and elsewhere.

On a theoretical plan, achieving successful environmental policy or regulation generally requires cooperation between distinctly different, opposing groups. To reduce global warming and mitigate climate change, all groups must contribute to shape a sustainable society. Yandle's theory is particularly suitable as it identifies the potential and effectiveness of creating a policy which can be supported by fundamentally opposing factions, so be it for different reasons. Getting completely contrasting societal groups, especially in today's increasingly polarized society, to cooperate and converge on environmental regulation policy, is crucial if we are to achieve any progress in reducing GHG-emissions.

2 Method and Material

To answer my research question, I must outline the car companies' motives behind their positional change on CAFE-standards. To distinguish the automakers' motives, I analyze official statements from the concerned car companies, accessed through their websites and from different media sources. In addition, I consider the car companies communication with the shareholders, by looking at public protocols from annual shareholder meetings. This is done through a qualitative, descriptive content analysis where the motives found in the material are coded into several categories. The created categories are based on what is found in the material.

2.1 Method, Coding, and Material

A qualitative content analysis is a strategic method to systematically analyze and describe textual content, for example by coding statements to different categories. (Boréus & Kohl, 2018, p.50). In my analysis, I consider the manifest content, i.e., I stay close to the text and describe only what is literally present, not the latent content between the lines. I use a conventional content analysis where codes are defined during the data analysis (Hsieh & Shannon 2005). However, based on Yandle's theory of bootleggers and Baptists, I already have two predetermined overarching codes based on the theory, which are *economic* arguments and *ethical (environmental)* arguments for supporting stricter or weaker CAFE-standards. These are the only predetermined codes, the rest are defined and created in the coding process.

By gathering statements from automakers' websites and pressrooms, along with different newspaper articles where the car companies' statements on CAFE-standards are mentioned, I create a rich basis for my analysis. Since the car industry might not be the most honest line of business when it comes to the

environment, I do not only look at their official statements but also at their communication with their shareholders. By examining public annual shareholder meeting protocols, shareholder proposals and company resolutions, I ensure that also the economic consequences of CAFE-standards are included in the analysis. More particularly, I look for episodes in the protocols where shareholders and company discuss CAFE-standards and the proposed weakening or strengthening of them, and the potential consequences thereof. In addition to identifying arguments made by the automakers, I also search for differences among the car companies – for example if some companies tend to use more environmental arguments and others economic.

The coding and categorization of motives has been done in the qualitative content analysis-program Nvivo, which helps organize the material and the coding. During the coding process, codes and sub-codes have been developed continuously as new arguments and motives have been found while going through the material. In the process, a few major overarching codes have been created, such as *Economic incentives to weaken* respectively *keep stricter CAFE-standards*, *Environmental incentives to keep CAFE-standards* and *Opposition to several different standards*. Within these broader themes, several sub-codes have been created to more accurately and in further detail describe the arguments made. For example, a passage where an automaker argues that strict CAFE-standards lead to excessive costs, has been coded to a sub-code of *Standards make cars too expensive...* within the larger code of *Economic incentives to weaken CAFE-standards*. For the code *Economic incentives to keep strict CAFE-standards*, any text or statement in the material which refers to economic benefits of keeping stricter standards has been counted into this category. In the codebook, located in the Appendix, all codes and sub-codes are listed together with a description of what kind of arguments and sections of text have been coded to each category. While I have used a qualitative content analysis, I still consider it valuable to present some quantitative numbers on the occurrence of the codes, to provide the reader with an overall view. In the table of coding, the number of files and references for each code are listed, as well as their percentual share of the total number of files and references.

2.2 Assessing My Own Role

I am aware that my own role in interpreting the material may affect the coding. However, I have done my utmost to not let my preconceptions and prior knowledge affect the coding, and to not interpret anything between the lines but rather only read the manifest content of what is explicitly written.

In terms of my epistemological approach, I have assumed that it is possible to find the answer to my research questions by observing and collecting evidence based on materialistic ontology (Hollis 2002, p. 42). To limit any misconceptions and biases, as many neutral sources as possible have been included in the material. Apart from the car companies themselves, which obviously are biased, articles from newspapers such as New York Times (NYT), Los Angeles Times (LAT), The Atlantic and Fox News have been included. I have deliberately chosen to include the same number of files from NYT, The Atlantic and LAT as I have from Fox News, to minimize any political inclination or biases. In my thought process, I have relied on the assumption that NYT, The Atlantic and LAT are Democratic and left-leaning newspapers, while Fox News leans to the political right and the Republican party. In addition, I have been source critical and fact-checked the material against each other. If a certain statement, quote, or event is mentioned in several sources, I have assumed that it has higher validity. Regarding the richness and adequacy of the material, I considered the material to be sufficient when another source did not add any new information. That is, when the created codes seem to have covered all the occurring arguments and when there was enough codes and references to form a picture of the overall pattern and main themes. Ultimately, the material amounted to a total of 28 files. To ensure that the coding has been consistent, all the material has been double-coded, meaning that after coding all the files, the material was coded once more. In the double coding a few minor changes were made, such as clarifications in the code-names and descriptions. Also, a few references were expanded to several codes or sub-codes. When reading the material and looking for arguments made regarding CAFE-standards, the following search words have been used:

Search words: CAFE, Corporate Average Fuel Economy, CAFE-standards, standards, fuel economy, fuel, One National Program,

3 Results and Analysis

3.1 Main Themes

The results of my coding can be found in the codebook and the table of coding, both located in the Appendix. From just a brief overview of the codes, it is clear that the most common themes referred to in the material are *Economic incentives to keep strict CAFE-standards*, found in 18 files and amounted to a total of 77 references, *Economic incentives to weaken or remove CAFE-standards* (19 files, 55 references), *Environmental incentives/ambition to reduce greenhouse gas emissions* (22 files, 60 references) and *Opposed to several different standards* (20 files, 47 references). The total number of files analyzed amount to 28 files, and so the four most common codes are found in approximately 64, 68, 79 respectively 71 percent of the total files. To clarify, the codes refer to the incentives and opinions of the concerned automakers.

These four most common themes make up my main codes. Within these four codes are several sub-codes, created to more precisely describe the exact argument used. In the following section, I present the main codes and their associated sub-codes and describe the automakers' positions based on the material.

The most common arguments within the main code of "*Economic incentives to keep strict CAFE-standards*" are that standards encourage innovation and improvement in technologies. Some companies also mention that since the previously established standards have encouraged investments in new technology, a weakening or removal would mean that these investments have been made in vain. The car companies plan several years ahead and have thus already invested

in technology and research to achieve the future fuel economy targets and comply with the requirements.

This relates to another common theme within the main code, which is that a weakening or removal of standards would give the compliant companies a market disadvantage. The car companies put a lot of effort and money into complying with the standards and if the rules suddenly were to be removed, other careless and non-compliant companies could simply outlive them on the market. Therefore, advocates of keeping the standards argue that they are important for maintaining the companies' market advantage. Some also stress that the global market or a specific market such as the Chinese auto market, is increasing its requirements for fuel economy and that the U.S. would fall behind if there no longer was a nationwide standard for fuel-efficiency. Other common arguments within the main theme of economic incentives for keeping the standards are stability and insurance – knowing that the standards and their increased stringency will be around lets the automakers plan ahead and make investments for the future. Several car companies also mention the need to meet the increased consumer demand for cleaner vehicles as an argument for keeping the standards. Among the automakers who previously supported Trump, their recently made argument for keeping the standards is primarily that Trump's rollback was too aggressive and that weakening the standards, i.e. siding with Trump, could hurt their reputation. Below are citations from Ford Motor's shareholders:

“Coupled with lobbying to weaken CAFE standards, this new plan raises serious questions about whether the company will retreat in reducing fleetwide GHG emissions, especially through 2025, a critical window of opportunity for the industry to meet climate goals. This uncertainty exposes the company to reputational harm, public controversy, and the potential to quickly lose global competitiveness.” (Ford Proxy statement & Shareholder meeting 2018, p. 89)

The most frequent occurring arguments within the code “*Economic incentives to weaken or remove CAFE-standards*” are that the standards are unrealistic and untenable and that there currently is no strong demand for fuel efficient vehicles among consumers. Rather, automakers insist that they have seen a recent increase in the demand for larger cars, SUVs, and crossovers, which are high-emitting and less fuel-efficient (Fox News 2020). Even if companies produce smaller, more

fuel-efficient cars, the consumers do not wish to buy them. This leads to unprofitable expenses while the environmental benefit is marginal since consumers seem to value things like safety and storage space higher than fuel-efficiency. Some companies also remark that Americans are driving relatively old cars which are less fuel efficient. Hence, they suggest that a weakening of the standards would make new cars cheaper (due to less advanced technology required for fuel efficiency) which would encourage consumers to buy newer, cleaner cars. The low demand for fuel efficient cars also contributes to the difficulty of complying with the requirements. Automakers advocating for weaker standards argue that the current rules are inefficient and badly designed, or that there are other better ways to improve fuel economy. Several companies defending weaker standards, mention that they have other goals and ways of reducing emissions, regardless of the federal standards. Overall, automakers within this code argue that the standards make cars too expensive both for producers and consumers due to the required investments in new technology. Below is an exemplary citation in this category from Toyota.

“We can do more to reduce greenhouse gases by focusing on the 250 million vehicles already on the road today. We need to encourage consumers to trade in older, less efficient vehicles for newer vehicles that have higher fuel economy and therefore emit fewer greenhouse gases. We won’t be able to do that if prices are beyond what people are willing to or can afford.” (Toyota’s Statement Regarding Uniform National Fuel Economy and Greenhouse Gas Standards, 2019)

Similar arguments have been made by other companies or networks, such as the Auto Alliance, nowadays Alliance for Automotive Innovation (merged with Association of Global Automakers in 2019), a trade group for automobile manufacturers, representing companies such as Ford, GM, and Fiat Chrysler.

Within the code “*Environmental incentives/ambition to reduce greenhouse gas emissions*” the arguments are relatively straight forward and logical. This argument is used by both sides and often combined with either code for economic incentives and hence the same text passages have sometimes been coded to both economic and environmental incentives.

“Automakers remain committed more than ever to deploying ever-efficient vehicles on U.S. roads to maximize our energy security and environmental objectives.” (Auto Alliance 2017, p. 20).

On one side, arguments often include a combination of mentioning the environmental benefits of keeping the standards together with the economic incentives. On the contrary, environmental arguments have also been used by companies who have argued for weakening the standards, for example by listing the company’s other environmental commitments, regardless of CAFE-standards. Several files, especially those from car companies reluctant to strict CAFE-standards, include statements about taking other actions to reduce tailpipe pollution and GHG emissions, which are equally or even more effective than CAFE-standards.

“We are committed to continued reductions in emissions from our vehicles around the world, and every day we work toward this goal. Reducing greenhouse gas emissions from our products and facilities has many benefits, and the Company has funded many projects that have made our products and facilities more efficient. Importantly, regardless of CAFE standards, we are driving carbon reductions with more hybrids, plug-in hybrids, and battery electric vehicles in our portfolio.” (Ford Proxy Statement 2018, p. 90).

Within the main theme, a few files mention that government regulation is needed to reduce greenhouse gas emissions from vehicles, suggesting that the car companies would not seek to reduce their emissions voluntarily in the absence of a federally enforced standard.

“The United States should continue to be a leader in automotive innovation. One national standard allows for continued investments to be made efficiently to improve environmental quality. This shift needs to be supported by smart environmental regulations that provide the widest range of fuel savings for all consumers without unnecessary costs, help sustain manufacturers’ ongoing product and manufacturing investments, and protect American jobs” (Global Automakers 2019)

As mentioned, environmental arguments are often combined with economic, as in the example above.

3.2 Mutual Arguments

The code “*Opposed to several different standards*” is perhaps the most interesting one, as it is used by both sides to make their case of either keeping stricter or weakening the standards. It seems like both sides argue that the uncertainty followed by the Trump versus California litigation is bad for the auto industry, and that they would rather have one set of goals to follow – whether they are stricter or weaker than the previous ones. This argument is made by the automakers who initially supported Trump, maintaining that the Trump administration’s proposed rule of One National Program with a national uniform fuel economy standard would be beneficial for the car industry.

“One National Program – created to align the conflicting federal and state requirements and provide automakers with long-term regulatory certainty and compliance flexibility.” “Why waste taxpayer resources to have two regulatory agencies model essentially the exact same thing using as a basis the same emissions tests and vehicle fleet?” (Auto Alliance 2017, p.4).

The same argument is made by those who sided with California early on, arguing that the Californian standard should become the national rule. Eventually, the automakers such as GM and Toyota who only switched sides recently, also remark that one uniform national standard is better than developing one set of rules for California and the supporting states, and one set of rules for the rest of the nation. Establishing two different standards would split the U.S. auto market and lead to market challenges such as pricing differences and distribution as well as compliance challenges.

“Likewise, a federal standard that causes a split with California and the 13 other states, breaking up One National Program, will create a bifurcated market, not to mention prolonged litigation – adding uncertainty as well as additional costs to automakers and consumers, possibly limiting consumer choice in some areas, and effectively providing less environmental benefit than a single national standard.” (Auto Alliance 2019).

In addition to the mutual opposition to several standards, there are other overarching arguments used by both sides. Both sides mention what can be

referred to as peer pressure – coded as “*pressure from other automakers*”. Several automakers mention following other major car companies and indicate that they were influenced by their actions. This is mostly used by the later followers, for example Toyota reconsidering after GM’s announcement to drop their support for Trump:

“We are immediately withdrawing from the pre-emption litigation and inviting other automakers to join us,” a signal to Toyota and Fiat-Chrysler, the other two major automakers that have sided with the Trump administration against California in the ongoing legal fight.” (General Motors, quoted in New York Times 2020)

“Given the changing circumstances, we are assessing the situation, but remain committed to our goal of a consistent, unitary set of fuel economy standards applicable in all 50 states” (Toyota, quoted in Fox News after GM flipped to California’s side)

Shift in government is another common theme which often is mentioned in conjunction with passages coded to *uncertainty among producers, shareholders, or consumers*. The latter code refers to when automakers or shareholders mention the uncertainty caused by the litigation. In some cases, they mention uncertainty regarding the outcome of the 2020 presidential election and bring up the possibility of a Democratic government reenforcing Obama-era-like standards. This indicates that the automakers might have been worried about the connection to Trump even before the election of President Biden. Nonetheless, companies who switched sides after the election, such as GM and Toyota, do mention the shift in government as a reason for the positional change. In other sections the shift in government is indirectly referred to as “the new situation” or “considering the new circumstances” such as in the citation from Toyota above.

3.3 Summary of Results

To summarize, most automakers mention their concern for the environment and their commitments made to reduce greenhouse gas emissions, regardless of if they support stricter or weaker CAFE-standards. Within the automakers, the companies supporting stricter standards argue for the environmental benefits of the standards, while those supporting weaker standards highlight their other environmental commitments regardless of CAFE-standards. Regarding economic arguments, varieties are used by both those who support weaker respectively stronger standards. Advocates for keeping strict standards mention factors like maintaining market advantage, the entailing encouragement to invest in new technology and meeting the increased consumer demand for cleaner vehicles. Promoters of weaker standards, argue that the current standards are designed badly, hard to comply with, and impose excessive costs both on automakers and consumers. Overall, there is a clear divide within the automakers and the arguments they use, into those who supported California and stricter standards early on, and those who sided with Trump and only recently swapped sides. However, one main theme that seems to unite both parties, are that they both are opposed to the end result of several sets of standards in different states, since this would split the auto market and create great challenges for the industry.

4 Discussion

4.1 Interpreting the Coding

Considering that the code *environmental incentives* is very common and can be found in 22 of the 28 files, it cannot be ruled out that the car companies have sided with California and dropped their support for Trump for environmental (ethical) reasons. However, when the environmental benefits of the standards are mentioned, they are only mentioned briefly in a sentence or two, and often in conjunction with or adjacent to economic arguments. In addition, the environmental argument is used both by those who sided with California early on and those who followed later. The pro-stricter CAFE group addresses the environmental benefits of the standards while the advocates for weakening CAFE stress other company commitments to reduce greenhouse gas emissions that exist with or without fuel economy standards. In addition, the quantitative number of this code might be misleading and not representative since it includes every passage where automakers mention their concern for the environment and commitments to reducing emissions and not necessarily with regards to CAFE-standards. Also, one must recognize that it is reputationally favorable for the car companies to mention the environmental benefits of the standards, rather than the economic incentives. Therefore, it is more interesting to look closer at the companies' communication with shareholders. In the sections which address CAFE-standards, it is quite clear that the main concern over the fuel-economy outcome among both shareholders and the companies, is economic. This indicates that while the auto industry might have gotten more inclined to address environmental issues, they are still primarily driven by economic interests, which implies that the costs of environmental regulation still must be taken into careful consideration.

Moreover, perhaps the shift in government played a vital role in influencing the car companies' stance on the issue. I do not think it is a coincidence that General Motors decided to drop their support for the Trump-era lawsuit only weeks after Biden was elected president. Perhaps the auto industry did not want to be affiliated with Donald Trump and therefore trimmed their sails to the wind. For the later followers, the ideal situation might have been that Trump won the election and that his more lenient standards became the uniform national rule. However, as they might have ultimately realized, this outcome was highly unlikely since California expressed early on that they would fight every attempt from the Trump administration to revoke their authority to set tailpipe pollution standards. Even if Trump won the election, there would still be a lengthy litigation process which only causes uncertainty for the automakers and inability to plan ahead for future investments in technology etc.

The automakers desire certainty and stability, an argument for retaining the CAFE standards and not fundamentally change them so close to a presidential election. Besides, even if Trump would have succeeded in weakening the standards, car companies probably realized that they would be restrengthened under a Democratic president. A combination of realizing that the Trump administration with its deregulatory agenda would soon be gone and that the legal fight and uncertainty would only harm the industry, forced the major automakers to finally side with California and accept to probable outcome that the stricter standards would remain.

With that said, a few automakers abandoned their support for Trump over a year before the election, prior to the Democratic primaries, the corona crisis, and the fall in Trump's approval ratings. At this time, it was certainly not clear that Trump would lose the election and there was a good chance there would be four more years with a Republican administration. Therefore, I find it necessary to distinguish between the *early adopters* who signed a voluntary agreement with California in 2019, and the *later followers* who only after the election in 2020 decided to drop their support for Trump. Based on the results, there is a distinct divide between these two groups and difference in what kinds of arguments they use.

The early adopters consist of the five companies who signed a voluntary agreement with California in 2019 in which they agreed to standards slightly weaker than Obama's but significantly higher than Trump's proposed rollback. Those five companies are Honda, Ford, BMW, Volkswagen, and Volvo. The later followers consist of General Motors, Fiat Chrysler, and Toyota, who only dropped their support for Trump and sided with California after the 2020 presidential election.

Based on the material, there has been a major shift in opinion from the later followers. In shareholder meeting documents and official statements from 2018 and 2019, they advocate for the economic incentives to weaken CAFE-standards. After the presidential election in 2020, they suddenly argue for both the economic and environmental benefits of having stricter rules on fuel economy. Meanwhile, the early adopters, i.e., the companies who signed a voluntary agreement with California in 2019, have been more consistent in their statements regarding CAFE-standards, pointing at both economic and environmental reasons for keeping them at strict levels. Therefore, I find it likely that the later followers (GM, Toyota, FCA), eventually realized that California would not go along with Trump's rollback and revocation of the state's authority to set more stringent standards, and therefore had to swap positions. They recognized that a prolonged litigation would only cause uncertainty and inability for the automakers to plan their investments. Considering the overarching and mutual theme of being opposed to several different standards, they might also have feared that the litigation would result in two different sets of standards. This main theme may indicate that the car industry overall prefers a more stringent standard become the national rule than there being two separate standards for different states. A bifurcated market would split the auto industry into those who abide by California and the Section 177-states' rules, and those who follow the federal standards. Two sets of standards would require automakers to create one fleet of vehicles for some states, and another for the rest, which could entail market and distribution challenges as well as differences in price and difficulty to comply. From analyzing the material, it is clear that almost all automakers, both before and after the positional shift, have been very reluctant towards accustoming to two separate standards with different levels of stringency, splitting the nation and the industry.

4.2 Relating the Case to the Theory

First of all, Layzer's suggestion that businesses have had an overstated role in blocking environmental policy, does not seem to be accurate when it comes to the case of CAFE-standards. This story rather illustrates how powerful and impactful the automakers' opinions and desires are in environmental policymaking, as Trump was forced to reconsider his freezing of the standards when the industry turned its back on him.

To draw back on Yandle's theory of bootleggers and Baptists, the theory has explanatory power both in the wider conflict of environmentalists vs. automakers but also for the differences within the car industry. In the broader view, the environmentalists and the state of California (plus the Section 177 states) represent the Baptists since they support strict CAFE-standards for ethical and environmental principles. On the other hand, the automakers, who are now accepting California's standards, constitute the bootleggers. Since they both support or tolerate stricter CAFE-standards and given their otherwise conflicting interests, they make up two normally opposing groups who form a coalition for supporting a regulation. Since the automakers seem to mainly support it for economic reasons, they are entitled bootleggers. However, they do also use environmental arguments for keeping the stricter standards, although the honesty of these statements can be questioned. It is likely that also the original bootleggers would have used ethical arguments if they were to be held accountable for their support of the Prohibition, while they de facto have economic incentives. Since the bootleggers in the original theory engage in illegal activities, their reasoning is not entirely applicable to current, legal interest groups and their relation to regulation.

The current situation is in many ways similar to the constellation of bootleggers and Baptists described by Yandle in 2009. Like then, automakers are bootleggers for seeing the uniform national rules as a more profitable alternative than a set of separate state regulations that was already brewing. The difference is that in 2009, the automakers might not have had much of a choice due to the government

bailout during the great recession and the Democratic majority in congress. In today's case, the carmakers were not pressured from owing debts to the government and instead cooperated with the Baptists on their own initiative.

Another difference is that there seems to be more disagreements between the automakers today compared to 2009, at least prior to the election of President Biden. However, I argue that the theory of bootleggers and Baptists has explanatory power also for the disunity within the car industry. Looking at the differences *within* the car industry, there is an essential deviation from the original example of bootleggers and Baptists, namely that both groups (the early adopters and the later followers) have economic interests. Within the automakers, I distinguish two groups who both have incentives to gain or maintain market advantages and gain financial profit. Therefore, they are essentially bootleggers. However, if I were to differentiate the automakers' arguments into Baptist-like and bootlegger-like, the later followers would represent the bootlegger-like while the early adopters represent the Baptists-like. Essentially, we have two groups from the same industry who now both support or tolerate CAFE standards. Based on the results, the early adopters seem to use more Baptist-like arguments such as the environmental benefits of keeping the standards, while the later followers primarily use economic, bootlegger-like arguments such as maintaining market advantage.

Nonetheless, there is one mutual element which unites the two groups of early adopters and later followers: that they both are opposed to having several sets of standards. Despite different takes on the environment and opinions on how the standards should be designed or how strict they should be, they both support a national uniform regulation. In that sense, this is a case where two groups with conflicting interests can agree and converge on a regulatory issue, much like in the original theory.

According to Yandle, full-scale deregulation will not happen as long as the Baptists and the bootleggers vote together. This assumption seems to be accurate, as Trump's proposed freezing of the standards was unsuccessful due to the criticism received from both Baptists (environmentalists) and bootleggers

(automakers). Furthermore, Trump's attempt to revoke California's authority has also most likely been stopped because the Baptist-like early adopters and the bootlegger-like later followers voted together. Overall, Yandle's factors that might shift the demand for regulation may have some explanatory power, especially the factors of *new information* and *change in technology*. As the awareness of climate change grows and new information regarding greenhouse gases impact on the atmosphere arises, society, including government and business must address the problem by developing sustainable products and enacting successful environmental legislation and regulation. As new fuel-efficient technology develops and the transition to electric and hybrid-cars accelerates, there may be a greater demand for strict fuel economy rules among both consumers and producers. As Yandle's theory suggests, a shift in chairmanship may alter the supply for regulation. This is confirmed by my results as automakers seem to be aware of the possibility for a shift in government, which in turn affects the demand for regulation since they desire stability.

4.3 Adjustments to the Theory

By dividing the automakers into early adopters and later followers, a modified version of bootleggers and Baptists emerges. What unites them is that in the end, neither of them desires several separate sets of standards, which is a potential outcome of the current litigation. They both support uniform regulation but have different opinions on how it should be designed. The Baptist-like automakers want stricter standards for environmental and economic reasons, while the bootlegger-like companies would prefer having weaker standards. However, they can still tolerate the current standards in front of the alternative of several sets of standards for different states. The bootlegger-companies are in this sense much alike those in the original theory. They too argue that the environment is important, but they do not actually want standards. Still, considering the alternatives, they rather have one set of standards than two. In the original theory, bootleggers argue that the prohibition is good (for their financial profits), but they do not want to prohibit consumption of alcohol. They are not in support of the broader principle, but rather the details. Similarly, the bootlegger-like automakers

(later followers) could tolerate CAFE-standards based on the details – that they would be slightly weaker than Obama’s and that there would not be two different sets of fuel economy standards, rather than the broader principle of mitigating tailpipe emissions.

With that said, it is important to recognize that whether they were early adopters or later followers, car companies are economic actors whose main goal is to make profit. Considering their primarily economic interests, even the early adopters with some Baptist-tendencies, may just be bootleggers in disguise.

4.4 Potential and Limitations

By not only looking at the coalition of environmentalists and automakers, representing Baptists respectively bootleggers, but also investigating the differences within the automakers, I have expanded and tested the explanatory power of Yandle’s theory also *within* the bootlegger camp. By doing so, I presume that all groups within the bootlegger camp have economic interests – which makes it distinctly different from the original theory. After discovering differences within the group of automakers, I identify Baptist-like and bootlegger-like arguments and distinguish one Baptist-leaning group and one bootlegger-inspired group. Expanding the scope of the theory to not only explain rare coalitions of normally opposing groups, but to also distinguish differences within one of the groups, brings further insight to the discussion of environmental regulation. Potentially, this modified version of Yandle’s theory can help identify pioneers within industries when it comes to environmental innovation and ambition. This will also allow legislators and regulators to focus on the environmental front figures (the Baptists) within the industry, as they can rely on the bootleggers to support them. Perhaps this adjusted theory of bootleggers and Baptists, can be useful for environmental regulation in other fossil-fuel industries similar to the automaker business, such as in the energy sector. In the energy sector, there is a wide range of clean and dirty actors who all have economic incentives where it would be relatively easy to assign Baptist-like and bootlegger-

like companies. The adjusted theory may not be entirely applicable as there are unanswered questions such as exactly what role the shift in government played and how that would be expanded to other cases. Nonetheless, the overall explanatory power of the theory can bring clarity on how to create efficient environmental regulation by identifying the bootleggers and Baptists within the industry.

By analyzing the case of CAFE-standards and the automakers' attitude towards the fuel economy rules, I have found that economic interests still are crucial in shaping environmental regulation. Yet, this case study still brings hope as it highlights the possibilities of getting conflicting societal groups to collaborate on environmental regulations, which is essential if we want to achieve any progress in mitigating greenhouse gas emissions. Essentially, does it matter for what reason an actor supports an environmental policy, as long as it gains sufficient support to get enacted and fulfill its purpose?

5 Conclusion

Based on the material, I cannot rule out that the automakers ultimately sided with California for environmental reasons. I find that the main arguments for keeping stricter CAFE-standards are primarily economic as they overshadow the environmental arguments. In that sense, the car industry represents the bootleggers, who can tolerate a regulation based on the details and since it may be financially beneficial for them to support the regulation. The bootleggers (automakers) tolerate the stricter standards pushed for by the Baptist environmentalists and California, thus creating a coalition of bootleggers and Baptists. While the auto industry as a whole has primarily economic reasons for keeping stricter standards, such as: not being affiliated with Trump, meeting consumer demand for cleaner vehicles, and maintaining market advantages, I also find differences within the auto industry. I distinguish two groups among the automakers; the *early adopters* who signed a voluntary agreement with California (Ford, BMW, Honda, Volkswagen, Volvo), and the *later followers* who switched sides and dropped support for Trump only after the election of President Biden (General Motors, Fiat Chrysler and Toyota). Among the early followers, I identify more Baptist-like arguments such as pointing out the environmental benefits of stricter CAFE-standards, while the later followers use more bootlegger arguments such as highlighting financial benefits from keeping the stricter fuel economy standards. By doing so, I extend the explanatory power of Bruce Yandle's theory to not only explain rare coalitions of conflicting groups, but also to identify differences within the industry representing the bootlegger camp. For future research, it would be interesting to study if the theory of bootleggers and Baptists, both the original and my adjusted version, could help explain conflicts between business and environmental regulation within other industries, such as the energy sector.

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Appendix

Codebook from Nvivo

Codes

Name	Description	Files	References
Bootleggers and Baptists	A coalition of for example industry, labor and government and environmentalist groups have been mentioned.	2	2
Economic incentives to keep strict CAFE standards	Economic benefits of keeping CAFE standards, for the automakers. Whenever general economic incentives or any of the following sub-nodes are mentioned.	18	77
Electric vehicles becoming cheaper than fossil-fueled vehicles	When argument is made that fuel-efficient vehicles are becoming more profitable than older, high-emitting vehicles.	3	3
Encourages improvement in technology (company already invested in cleaner technology)	Whenever automakers argue that CAFE standards incentivize investments into new technology or when they argue that such investments already have been done due to the standards, and that a weakening would undermine these investments.	13	38
Gain or maintain market advantage (globally)	Similar to the previous code, argument is made that CAFE standards must be kept so the concerned (compliant) company maintains its market advantage. Also, when argument is made that the U.S. needs standards to keep up with the global market as fuel-efficiency is improving on an international level.	14	37
Meet consumer demand for cleaner vehicles	Arguments for keeping CAFE standards because consumers are demanding cleaner vehicles.	11	25

Name	Description	Files	References
Stability and insurance	Keeping CAFE standards provides stability, insurance and the ability to plan future investments.	10	29
Trump's rollback is too aggressive	Automakers who wanted a weakening of the standards, but not as far as Trump went when he suggested freezing the standards.	4	10
Weakening standards might hurt reputation	Companies mentioning potential reputational harm as a risk if they maintain support for Trump and a weakening of the standards (and the economic consequences).	6	18
Economic incentives to weaken or remove CAFE standards	Overall economic benefits of weakening or removing the standards. Whenever general economic incentives or any of the following sub-nodes are mentioned.	19	55
CAFE standards are inefficient, designed badly or unnecessary - there are other ways to improve fuel economy	Whenever automakers mention flaws of the current standards, i.e., that they do not account for stop-start mechanisms. This code has also been used when companies reject strict standards and instead emphasize other ways of improving fuel economy or reducing emissions.	8	13
CAFE-standards are unmaintainable (non-compliance leads to costly penalties and bad reputation)	Automakers argue that standards are too strict or unrealistic, which leads to difficulties of achieving the requirements and risk of non-compliance fines.	9	20
Competitors may be more capable of responding to increased regulation	Automakers argue that they have a unique disadvantage or difficulty to achieve strict standards (because they produce larger cars etc.) and that others are more capable of complying with the regulation.	1	1
Increased consumer demand for crossovers - low demand for fuel economy	Automakers point to the fact that there has been an increased demand and purchase of larger cars such as SUVs and crossovers, while consumers have not been asking for more fuel-efficient vehicles. Consumers value safety and size higher.	8	24
Gas price fall	Automakers mention the fall in price of gasoline as a reason to why consumers demand larger	5	5

Name	Description	Files	References
	and less fuel-efficient cars.		
Protecting jobs	Companies argue that weakening standards will protect American jobs within the auto industry.	5	7
Standards make cars too expensive due to new technology (both for producers and consumers)	Automakers argue that the standards lead to more expensive cars due to the required technology and fuel-efficiency. These costs are imposed both on producers and consumers who cannot afford to buy newer cars.	10	19
Weakening standards will make new cars cheaper which is better than consumers buying old high emitting cars	Argument is made that weakening standards will alleviate these costs since less advanced technology is required, which will lead to consumers being able to buy new and cleaner cars. Automakers point out that Americans on average are driving very old cars.	7	10
Environmental incentives - Ambition to reduce emissions or move to cleaner technology	Whenever automakers point out the environmental benefits with CAFE standards (both weak and strict) or state their other environmental actions/commitments to reduce greenhouse gas emissions.	22	60
Government regulation is needed	Whenever automakers emphasize their environmental ambitions and recognize that government regulation such as CAFE standards are necessary for the car industry.	3	4
Environmental incentives to weaken standards	Argument is made that fuel efficiency (caused by standards) /a better fuel economy leads to increased driving	1	1
Rebound effect - stringent standards might cause consumers to drive more	The "rebound effect" predicts consumers will drive more when the cost of driving declines. More stringent CAFE standards reduce vehicle operating costs, and in response, some consumers may choose to drive more	1	1
Leverage	The government has leverage on automakers, such as the government bailout of automakers from the 2007-2009 recession.	2	2
Midway between Trump and Obama	Argument is made that CAFE standards should be set at a midway between Obama's stricter standards and Trump's rollback.	3	6

Name	Description	Files	References
Opposed to several different standards	Automakers argue that regardless of if CAFE standards remain strict or are weakened, they do not desire several different standards, for example one stricter Californian standard followed by a few states and a federal standard for the rest of the country.	20	47
Leads to market challenges, pricing differences, distribution challenges and compliance challenges	Two or more different standards with different requirements would create a split in the American auto market and entail differences in pricing, distribution challenges and difficulties to maintain compliance.	6	6
Pressure from other automakers	Automakers refer to other car companies who have taken a stance on the issue of CAFE standards or implying that they were affected by other companies.	10	23
Shareholders demand on company	Arguments and proposals made by shareholders in protocols from shareholder meetings where they demand clarity from the company regarding CAFE standards.	3	11
Shift in government	Car companies refer to a shift in government such as President or political party, as a reason for choosing a certain position. Text mentioning that they desire stability regardless of election outcomes has also been coded to this category.	10	17
Uncertainty among producers, shareholders and consumers	Whenever automakers or shareholders have referred to uncertainty as a negative side effect of the debate over CAFE standards.	13	34
Unifying the auto industry	Automakers argue that they choose either side (weakening or keeping) in order to unify the industry, implying that they are joining other companies or want others to join them.	6	10

Name	Files	References	Found in percentage of total files	Found in percentage of total references
Bootleggers and Baptists	2	2	7.14	0.33
Economic incentives to keep strict CAFE standards	18	77	64.29	12.52
Electric vehicles becoming cheaper than fossil-fueled	3	3	10.71	0.49
Encourages improvement in technology (company already invested in cleaner technology)	13	38	46.43	6.18
Gain or maintain market advantage (globally)	14	37	50	6.02
Meet consumer demand for cleaner vehicles	11	25	39.29	4.07
Stability and insurance	10	29	35.71	4.72
Trump's rollback is too aggressive	4	10	14.29	1.63
Weakening standards might hurt reputation	6	18	21.43	2.93
Economic incentives to weaken or remove CAFE standards	19	55	67.86	8.94
CAFE standards are inefficient, designed badly or unnecessary, there are other ways to improve fuel economy	8	13	28.57	2.11
CAFE-standards are unmaintainable (non-compliance leads to costly penalties and bad reputation)	9	20	32.14	3.25
Competitors may be more capable of responding to increased regulation	1	1	3.57	0.16
Increased consumer demand for crossovers - low demand for fuel economy	8	24	28.57	3.9
Gas price fall	5	5	17.86	0.81
Protecting jobs	5	7	17.86	1.14
Standards make cars too expensive due to new technology (both for producers and consumers)	10	19	35.71	3.09
Weakening standards will make new cars cheaper which is better than consumers buying old high emitting cars	7	10	25	1.63
Environmental incentives - Ambition to reduce emissions or move to cleaner technology	22	60	78.57	9.76
Government regulation is needed	3	4	10.71	0.65
Environmental incentives to weaken standards	1	1	3.57	0.16
Rebound effect - stringent standards might cause consumers to drive more	1	1	3.57	0.16
Leverage	2	2	7.14	0.33
Midway between Trump and Obama	3	6	10.71	0.98
Opposed to several different standards	20	47	71.43	7.64
Leads to market challenges, pricing differences, distribution challenges and compliance challenges	6	6	21.43	0.98
Pressure from other automakers	10	23	35.71	3.74
Shareholders demand on company	3	11	10.71	1.79
Shift in government	10	17	35.71	2.76
Uncertainty among producers, shareholders and consumers	13	34	46.43	5.53
Unifying the auto industry	6	10	21.43	1.63
Total files analyzed and number of references:	28	615		