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## Another Look at Kleit

Andrew Kleit's article "CAFE Changes, by the Numbers" (Fall 2002) seems a reasonable presentation of the case against CAFE standards. However, it is not a balanced presentation of the pros and cons of such standards, as it ignores the substantive case for CAFE standards. Your readers deserve to hear the other side of the argument. Here are some points for that side:

■ **Gasoline externalities** Dr. Kleit argues that the externality costs of gasoline use are extremely low, robbing CAFE standards of their potential justification. It certainly is true that the National Academy of Sciences' (NAS) report on CAFE used a value of about 26¢ per gallon as a measure of gasoline externalities. However, the panel adopted that value without vigorous debate, possibly because it was not especially relevant to the question they had been asked to address. Dr. Kleit thinks the value is too high; others would disagree. For example, the costs of global warming are unknowable, but they could be astonishingly high (or quite low). Dr. Kleit characterizes the NAS's 12¢ per gallon estimate for global warming externality costs as an overestimate. That value, though high in terms of its likely impact on the electric utility industry (it would make coal-fired power generation much more expensive), may be too high or too low; in my view, it is not a reasonable upper bound.

■ **More driving** Dr. Kleit notes that fuel savings will be lowered by an increase in driving in response to the lower "per mile" gasoline costs associated with better fuel economy — the "rebound effect." The important question is, how big is that effect likely to be? The cost of gasoline as a percentage of the total and variable costs of driving has been declining over time. That is particularly striking if one includes in the calcu-

lation the dollar value of time used in driving; with incomes steadily rising, that cost is a dominant part of the variable cost of driving. And the growth in vehicle-miles traveled is beginning to slow, not surprising when one considers the rapid growth of congestion in the United States. Further, analysts have observed that people's time budget for travel appears to be, on average, a constant over time as well as across geographic boundaries. What that means is that the rebound effect will become less and less of a force — most people will not markedly increase their level of driving if gasoline costs decline. Dr. Kleit's estimate of a 20 percent driving "rebound" is much too high.

■ **Old cars** Dr. Kleit's arguments about vehicle owners keeping their old cars longer, and new vehicle sales slowing, are correct only if the owners perceive that new cars have lost significant value. That is, they must believe that the dollar savings associated with higher fuel economy is more than offset by higher vehicle purchase prices and degradation in other vehicle characteristics. That is certainly likely to be the case if fuel economy standards are set at a level that demands either or both very high costs and design changes that are unattractive to would-be purchasers. However, the NAS panel concluded that CAFE increases of about 30 percent could be achieved without either effect. We also have experience with expensive emission controls, which yield essentially no perceived individual value to vehicle purchasers yet cost about \$1,000 per vehicle. The lack of any unusual negative sales impact from the additional emission controls strongly suggests that there may be little, if any, negative impact from moderately higher fuel economy standards.

■ **Competitive impacts** Dr. Kleit argues that raising standards will hurt U.S. automakers like GM and Ford at the

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expense of foreign firms. He likely is correct if no changes are made in the basic structure of the standards, because the current structure disadvantages those automakers that focus on the larger, heavier market segments. However, that argues for a change in the regulatory structure, not a cessation of pressure to increase fleet fuel economy. An “attribute-based standard” that ties its mpg targets to vehicle attributes such as weight or size (in other words, larger, heavier vehicles get a lower mpg target) can tend to even out the regulatory burden of new standards across the industry and allow maximum flexibility to vehicle designers. In other words, the skewed competitive impacts are tied mostly to the current structure of the standards, not to anything inherent in requiring higher fleet fuel economy.

An additional point: It is excruciatingly difficult, if not impossible, to accurately project what the impacts of a new regulation will be, especially when those impacts involve both manufacturer and consumer behavior. Typically, estimates by the business community, the environmental or consumer community, and the regulatory body diverge wildly. Equally typically, they are all wrong because actors behave differently from what was predicted; the incentive associated with the new regulations yields new technologies and business practices, legal interveners ratchet up costs, etc. Some analyses are more robust than others, and I have not reviewed Dr. Kleit’s study. Modesty is demanded of the best of us analysts, however. I will take Dr. Kleit’s numbers — and all others — with a grain of salt.

■ **Safety impacts** Dr. Kleit accurately reported that the latest NAS fuel economy report “conceded” that stricter standards can mean more fatalities. However, that concession was accomplished by the majority of panel members acceding to the claims of two members of the panel (Adrian Lund of the Insurance Institute of Highway Safety and Michael Finkelstein, a former

National Highway Traffic Safety Administration official who now has his own safety consultancy) that a reduction in the average weight of the fleet would yield increased fatalities.

There are substantial reasons to doubt the likelihood of that outcome. Among them are (a) the conclusions of an earlier NAS panel devoted precisely to that question, which concluded that there was inadequate basis for such a projection; (b) a recent analysis that uses the exact methodology of the study that the current NAS panel relied on, with

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more recent highway accident data, that yielded a “null” result — a 100-pound decrease in the average weight of the current fleet would have essentially no net effect on fatalities; and (c) the issue generated the only split among the NAS panel members, with two members publishing a dissenting opinion. Dr. Kleit should read the dissent to the safety conclusion included in the final NAS report — it is a powerful one.

The United States has the cheapest gasoline in the industrialized world, and appears locked into a rigid anti-tax-increase mode. And the Bush administration appears dead set against raising fuel economy standards to any significant degree. Europe and Japan, in contrast, have much more expensive gasoline, considerably more efficient auto fleets — and yet both have recently established ambitious new fuel economy targets. Japan has initiated weight-class-based standards designed to increase its fleet fuel economy to about 35 mpg by 2010; Europe has “voluntary” standards (offered by the industry to head off even more stringent mandatory standards) that should yield a fleet average of about 41 mpg by 2008. It certainly is possible that we know something that the Japanese and Europeans do not. It would be wise to consider the alternative, however.

The views I have expressed above are strictly my own, and not those of the

Argonne National Laboratory or the Department of Energy.

STEVEN PLOTKIN  
Center for Transportation Research, Argonne  
National Laboratory

#### RESPONSE:

Dr. Plotkin raises several topics. I will attempt to respond to what seems to me the more important of these issues, with apologies for omitted issues to Dr. Plotkin.

First, in my original piece, I argued that both the National Academy of Sciences (NAS) estimate of the total externality of 24¢ per gallon of gasoline and the 12¢ global warming component of that are far too high. Dr. Plotkin takes issue with my critique of the global warming estimate. Specifically, he states that the NAS value “may be too high or too low; in my view, it

is not an unreasonable upper bound.” In estimates such as mine, one looks for the mean value and not the upper bound; hence, I am not entirely sure that Dr. Plotkin is disagreeing with me.

With respect to externalities, two other factors are worth noting. First, in the 2003 truck proceeding, the National Highway Traffic Safety Administration (NHTSA) adopted a total externality of 8.3¢ for a gallon of gasoline, well below the NAS estimate of 24¢. Second, NHTSA also recognized that Corporate Average Fuel Economy (CAFE) standards cause externalities through increased driving and congestion, and set that cost at 6.15¢ per mile driven. Indeed, NHTSA’s analysis in the 2003 truck proceedings implies that CAFE standards actually generate almost five times the externality costs that they save.

In his second point, Dr. Plotkin asserts that my “rebound effect” number of 20 percent “is much too high,” though why he says that is unclear. An excellent review article by Greening, Greene, and Difiglio, “Energy Efficiency and Consumption: The Rebound Effect - A Survey” (*Energy Policy*, Vol. 28, 2000), concludes that a 20 percent rebound rate is appropriate, though there is a wide range of estimates. NHTSA, in its 2003 truck CAFE proceedings, adopted the 20 percent number and cited the above authors. In addition, the Congressional Budget Office in its 2002 report used the 20 percent number. In general, the more

long-term in nature a particular study, the higher the estimated rebound effect. Thus, for a long-term event such as the imposition of CAFE standards several years in the future, a 20 percent rebound effect may well be an underestimate.

Third, Plotkin argues that higher new-car prices do not affect scrappage rates of old cars. The economic evidence, however, clearly indicates that the scrappage effect does exist. I would refer the interested

reader to articles by Howard Gruenspecht on this matter.

Finally, Plotkin appears to accept that the nature of CAFE standards penalizes American firms with respect to their foreign counterparts who have the ability to pay fines rather than meet the standards. (In this, he seems to agree with me in my debates in the letters section of the Spring 2003 issue of *Regulation*.) But then Plotkin comes up with the notion that fuel econ-

omy should be regulated on the basis of vehicle attributes. I would suggest that the less one thinks about such a regulatory scheme the better. Two obvious critiques of such a system are that it would give civil servants far too much regulatory power, and it would drive CAFE regulation even further away from its ostensible goal of reducing gasoline consumption.

ANDREW N. KLEIT

*The Pennsylvania State University*

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