

effective with the introduction of the MY 2006 vehicles during the latter half of 2005.

General Motors stated that its public announcement did not refer to its average fuel economy levels, but rather to its leadership in light truck fuel economy and its intent to remain the leader over the next five years. General Motors also made clear that its leadership relates to the manufacture and sale of more fuel-efficient light trucks as measured through model-to-model comparisons of comparable vehicles.

Finally, DaimlerChrysler stated that it is committed to improving the fuel efficiency of all of its vehicles and that its fleet will match or exceed those of other full-line manufacturers.

e. Fraction of Calendar Year

General Motors commented that our assumptions regarding the fraction of the calendar year that new model vehicles are on the road should be adjusted downward, apparently to reflect the fact that most new vehicles are not in service for the entire calendar year in which they are sold. We note that our previous analyses did adjust for the fact that new vehicles are typically in service for less than twelve months during the year in which they are sold, although we used a slightly different procedure than that suggested in General Motors' comments. Instead of adjusting the estimated sales of vehicles of each model year downward during the calendar years when they are available for sale, as General Motors seems to recommend, we adjusted our estimates of light truck usage (average annual miles driven per vehicle) downward for those ages corresponding to the years when each model year is on sale.⁸ We believe that this procedure is consistent with that recommended by General Motors in its comments, and we have also applied it to the revised

estimates of annual light truck use incorporated in our revised analyses.

f. Value of Externalities

The full economic cost of importing petroleum into the U.S. includes three components, or "externalities," in addition to the purchase price of petroleum itself. These externalities are: (1) Demand costs representing the higher costs for oil imports resulting from the combined effect of U.S. import demand and OPEC market power on the world oil price (also known as "monopsony" power), (2) disruption costs representing the risk of reductions in U.S. economic input and disruption of the domestic economy caused by sudden reductions in the supply of imported oil to the U.S., and (3) military security and strategic petroleum reserve costs representing the costs for maintaining a U.S. presence to secure imported oil supplies from unstable regions and for maintaining the Strategic Petroleum Reserve (SPR) to cushion against resulting price increases.

In the NPRM, we estimated that total value of externalities at 8.3 cents per gallon. This figure combined 4.8 cents per gallon in demand costs (monopsony effect) and 3.5 cents per gallon in supply disruption costs. Because the costs of maintaining a SPR have not varied in response to changes in oil import level, our analysis did not include any costs savings from maintaining a smaller SPR among the external benefits of reducing gasoline consumption and petroleum imports by means of a higher CAFE standard for light-duty trucks.

In response to our valuation of these externalities, the Alliance stated that an appropriate value for an oil import externality is zero because the sum of the externalities is exceedingly small. It argued that if the U.S. reduced oil consumption, it would, in theory, benefit from a reduction in oil price. The Alliance also pointed to studies by the Congressional Research Service and Bohi and Toman indicating that they question the existence of any significant externality associated with oil supply disruptions. Similarly, General Motors, citing to a study by Bohi and Toman of Resources for the Future, commented that NHTSA should not include monopsony power because U.S. monopsony pricing power has marginal benefits at best. Also, General Motors argues, citing to Bohi and Toman and a study by the Congressional Research Service, that disruption costs should not be included in the agency's analysis because the private sector uses hedges, inventories and the SPR to mitigate the

risks from any significant market failure. The Mercatus Center stated that the link between energy security and fuel economy is not well known, but likely close to zero, because energy security relates to the price of oil, not its origin.

NHTSA does not agree with commenters on the value of these externalities. The extent of monopsony power is dependent upon a complex set of factors including the relative importance of U.S. imports in the world oil market, and the sensitivity of petroleum supply and demand to its world price among other participants in the international oil market.

As discussed in Chapter VIII of the FEA, most evidence appears to suggest that variation in U.S. demand for imported petroleum continues to exert some influence on world oil prices. A detailed and careful analysis by Leiby *et al.* (1993) estimated a range of values for this cost corresponding to approximately \$1.00–\$3.00 per barrel in today's dollar terms. Using the midpoint of this range, reducing the level of U.S. oil imports by raising CAFE standard to lower future gasoline use by light trucks results in benefits to the U.S. economy of approximately \$0.48 per gallon of gasoline.

With regard to disruption costs, while the vulnerability of the U.S. to oil price shocks is widely thought to depend on total petroleum consumption rather than on the level of oil imports, variation in imports is still likely to have some effect on the magnitude of the price increase resulting from any disruption of import supply. In addition, changing the quantity of petroleum imported into the U.S. may also affect the probability that such a disruption will occur. If either the size of the resulting price increase or the probability that U.S. oil imports will be disrupted is affected by the pre-disruption level of oil imports, the expected value of the costs stemming from the supply disruptions will also vary in response to the level of oil imports.

Another detailed and exhaustive study by Leiby *et al.* (1997) estimates that, under reasonable assumptions about the probability that import supplies will be disrupted to varying degrees in the future, this component of the social costs of oil imports ranges from well under \$10.00 to approximately \$2.00 per additional barrel of oil imported by the U.S. The agency believes that an estimate of approximately \$1.50 per barrel (or 3.5 cents per gallon) is reasonable for the disruption costs component of imported petroleum and that reductions in the level of oil imports resulting from

⁸ Specifically, our analysis adjusted the estimated usage figure for "age zero" light trucks (those sold during the calendar year preceding their model year) to assume that they are in service for an average of two months of the calendar year in which the vehicles of each model year are introduced. This assumption is intended to reflect the typical dates on which the vehicles of a model year are introduced and monthly sales patterns for recent model years. Similarly, we adjusted the usage figure for "age 1" light trucks (those sold during the same calendar year as their model year) using the assumptions that one-quarter of those vehicles had been purchased during the previous calendar year and were thus in service for the entire calendar year, and that the remaining three-quarters were purchased throughout the first eight months of the following year (and were thus in service for, on average, two-thirds of that year). These assumptions are consistent with monthly sales patterns for recent model-year light trucks.