

## Summary

**Car drivers do not drive significantly less when fuel prices at the pump rise. If fuel prices increase by approximately 12.5 percent, the long-term decrease in passenger car kilometres travelled is 2.5 percent. Higher fuel prices have also not resulted in a more fuel-efficient 'car fleet'. The car-fleet specific fuel consumption remained relatively constant from the late 1980s to 2009.**

During 2011, fuel prices at the pump surpassed the record highs set in 2008. The question arises as to what extent high fuel prices influence the number of car kilometres travelled. This study revealed that automobility, in economic terms, is an 'inelastic' product. That is to say that a change in fuel price has a relatively minor effect on the number of car kilometres travelled. This study is based on data derived from the period 1980 to 2009.

Consumers usually react more strongly to luxury good price changes than they do to the price changes of necessary products. The slight price elasticity clearly reveals that for many people car use is deemed a necessary product.

### **Slight reduction in number of kilometres**

What are the long term consequences of a sharp rise in the price of crude oil? In the first instance, if the price of a barrel of crude oil increases from \$70 to \$100 USD dollars, the price of gasoline will increase by approximately 12.5 percent. Based on this study's findings, the price increase over the long term (5 to 10 years) will result in a 2.5 percent reduction in the number of car kilometres travelled.

A price rise has a greater impact on the long-term than the short-term. In the short-term, car drivers will travel fewer kilometres or alter their driving style ('foot off the gas pedal'). In the long-term, people can also reduce their home-to-work travel by more often working from home or by residing closer to their workplaces or purchasing more fuel-efficient cars.

### **Car fleet not more fuel-efficient, owing to increased power and luxury cars**

This study not only examined the impact higher fuel prices have on the number of car kilometres travelled, but also the effect this has on the fuel-efficiency of the 'car fleet'. For car drivers, the specific fuel cost is dependent on the price of fuel and the specific fuel consumption. If the price of fuel increases, this does not, by definition, result in higher specific fuel costs. By driving more fuel-efficient cars, car drivers can mitigate part of the price increase.

The analysis does not point toward a more car-fleet specific fuel consumption emerging as a consequence of higher fuel prices at the pump. The trend for larger cars (increased power) and more comfort (electric windows, airconditioning) has offset improvements in fuel efficiency technology. The result is that from the late 1980s to 2009 the specific fuel consumption has remained virtually constant, recent years have seen a marked improvement in the specific fuel consumption, as measured in new-car specific CO2 emission. Additional research into the underlying

factors for development of fuel-efficient passenger cars therefore also seems pertinent.

**Effects less pronounced than previously indicated**

The majority of the definite effects of higher fuel prices revealed in the study were less pronounced than the effects previously cited in the available literature, especially with regard to the long-term effects.

An analysis of the annual figures compiled for the period 1980 to 2009, including figures pertaining to fuel prices and costs, further indicate that economic growth and the supply of new road capacity present a satisfactory explanation for the total number of gasoline-fuelled passenger car kilometres travelled.