Usage-Based Insurance (UBI) is a recent auto insurance innovation that enables insurance companies to collect individual consumer’s driving data and provide individually targeted price discounts based on each consumer’s driving behavior. In this paper, using detailed information on insurance premium, retention rates of customers and individual driving behavior (from sensor data) for the UBI adopters, we examine and estimate the effect of the UBI policy on changing the customers’ driving behavior, which is a potential source of profit improvement for the insurance company beyond better selection among customers and higher retention rates. The key results of our analysis show that after UBI adoption, drivers improve their driving behavior, resulting in lower risk of an accident, providing a meaningful benefit for both the driver and the insurance company. We find that not all components of the UBI measure appear to change over time. In particular, we find that customers decrease their daily average hard brake frequency by an average of 21% after using UBI for six months, but we cannot find any significant effects on the mileage driven by customers after UBI adoption. We also find heterogeneous effects across different demographic groups. For example, younger drivers are more likely to adopt UBI and they also improve their UBI scores faster than older drivers after the UBI adoption. We also find that economic incentives lead to higher adoption rates of UBI and greater improvements in driving behavior. Our results suggest that by sharing more consumer information with the insurance company, UBI is not only beneficial to the company, but also to consumers who become better drivers.

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All interested are welcome.