Designing Monitoring Programs

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Abstract

I study the design of voluntary consumer monitoring programs at a large U.S. insurer using data from almost 8 million unique drivers. Monitoring technology tracks driver behaviors and provides performance incentives for improved driving, in the form of discounts on future premiums. The profitability and welfare of these programs depend on who participates (driver selection) and how much drivers respond to performance incentives by reducing risk (moral hazard). I am able to separate these two mechanisms by leveraging unique variation in both performance and participation discounts. Using regression-discontinuity designs, I document that drivers respond to performance incentives by reducing accident risk by an average of 10% of the mean accident risk in my sample. These results inform a structural model that accounts for selection and moral hazard. The model suggests modest welfare gains due to limited participation. I then use the model to examine counterfactual incentive designs that highlight a key trade-off for program design: increasing driver participation comes at the cost of stronger performance incentives. My results highlight how monitoring programs can be used by firms to screen risky consumers and incentivize risk reduction.

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