A Behavioral Economics Critique of Usage-Based Insurance Programs

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Presentation Goals

- Explain usage-based or pay-as-you-drive-and-you-save (PAYDAYS) insurance pricing and other usage-based vehicle pricing
- Summarize the benefits of such pricing, even absent product enhancements informed by behavioral economics
- Discuss additional benefits from PAYDAYS insurance products that are informed by behavioral economics
- Evaluate existing PAYDAYS insurance products based on expected behavior change
- Discuss Federally-funded PAYDAYS insurance pilots and the use of behavioral economics to design them
- Encourage those here to subsequently consult the PAYDAYS insurance chapter in ACEEE’s “People Centered Initiatives for Increasing Energy Savings”
What is Usage-Based Pricing and PAYDAYS Insurance?

- Usage-based or PAYDAYS pricing converts hidden and lump-sum costs of auto ownership and usage to transparent, variable costs.
- Such costs may relate to insurance, but also to parking, vehicle taxes and fees, or to the car itself through car sharing.
Why PAYDAYS Pricing?

- Most of the costs of owning and operating a vehicle are fixed.
- The financial incentive not to use personal vehicles heavily is relatively small.
- Many households, especially low-income ones that have experienced a job loss, would prefer variable costs to fixed ones.
- Various studies project substantial driving reductions, public policy benefits, and consumer savings resulting from PAYDAYS pricing.
PAYDAYS Insurance Is Not a New Concept

- As early as 1929, virtues of charging for car insurance by the mile were recognized.
- Concept promoted by Nobel economist William Vickery in his 1968 work: “Automobile Accidents, Tort Law, Externalities and Insurance”
Growing Body of Research Supports PAYDAYS Pricing

- New research from Massachusetts that combines vehicle mileage and loss costs data shows a compelling relationship.
- Host of mostly small instrumented vehicle studies consistently shows a strong linkage between certain driving habits and crashes.
- Actions of insurance companies also suggest actuarial underpinnings for PAYDAYS pricing.
Instrumented Vehicle Studies Support Risk-adjusted PAYDAYS Pricing

- “100-Car Naturalistic Study” in No. VA found that the 12.5% most dangerous drivers had over 100X the crash risk of the 12.5% safest drivers.

- An Israeli 103-vehicle monitoring study found that aggressive drivers were responsible for 16.6X the crash costs of the safest drivers.

- A 95-driver test of incentives to reduce speeding in Sweden led to a decline in speeding frequency from 15% to 8% of driving time.
Results of PAYDAYS Insurance (mostly modeled)

- Cuts vehicle miles traveled
- Curtails crash claims in excess of driving reductions
- Relieves congestion at a rate greatly exceeding driving reductions
- Diminishes air pollution and carbon emissions
- Lowers infrastructure costs
- Strengthens cities and lessens urban sprawl
- Provides substantial consumer savings
- Increases insurance company profits
What Does Behavioral Economics Teach Us?

- General consumer decision making
- Consumer responses to financial gains and losses
- Immediacy of consequences and transparency of cost
- Price bundling
- “Graduate level” approaches—e.g., regret lotteries
Using Behavioral Economics to Maximize Benefits

- Choose customer targets
- Market to attract customers
- Encourage PAYDAYS insurance product customers to limit mileage
Using Behavioral Economics to Choose Customer Targets

- Low mileage
- High premiums
- Low income
- Urban
- Environmentalists
- Carpoolers, non-car commuters, and teleworkers
Using Behavioral Economics to Attract Customers

- Emphasize likely total savings
- Cap the maximum monthly bills
- Provide individualized price comparisons
- Appeal to personal values
- Bundle a small number of free miles of insurance with transit passes
- Sell in small price buckets (e.g., $49 or $99)
Using Behavioral Economics to Encourage Reduced Driving

- Direct and transparent per-mile or per-minute-of-driving pricing—avoid rebates
- In-vehicle graphic displays of “insurance pricing meter” with e-mail and Web summaries
- Frequent billing without automatic bill payment
- Transit pass discounts (instead of bundling with a few free miles of insurance)
- Individualized assistance to identify alternatives
- “Regret lotteries” and peer comparisons to encourage continuous mileage reductions
Challenges in Offering PAYDAYS Insurance

- Regulatory agencies
- Other challenges
Challenges with Regulatory Agencies

- Regulatory approval needed in most states, typically requiring demonstration of proposed pricing’s actuarial basis (and precluding unrelated rewards-based pricing)

- Rate filing data and the substantial research behind it must be shared with the state and in some cases made public (regardless of company research costs)

- Ample cancellation notice must be provided, which could be problematic if charging per mile but customers are not regularly having their mileage data transmitted

- Companies would normally like to pilot a new product, but some states, including MD and CA, prohibit excluding any residents from a product offering
Other Challenges

- Many insurance companies have antiquated billing and other systems that cannot easily be modified to accommodate PAYDAYS pricing.

- A lack of a standardized pricing protocol for PAYDAYS insurance (comparable, for example, to the typical six-month auto insurance policy quote) makes comparison shopping difficult.
Implementation Status of PAYDAYS Insurance (not Federally funded)

- Progressive I (Autograph), II (TripSense), III (MyRate), and IV (SnapShot, in 40 states)
- GMAC Insurance with OnStar (in about 35 states)
- State Farm (Drive Safe & Save in 7 states)
- Allstate Drive Wise
- Norwich Union in the U.K. (no longer offered)
- Other foreign examples
- U.S. honorable mention—American Family/DriveCAM
Implementation Status of Federally-funded Pilots

- MileMeter (TX—winding down; pulled out of Federal pilot)
- Infinity with IVOX (taking over from MileMeter)
- Unigard Insurance (pulled out of Federal pilot in Washington State; substitute should soon be named)
- Plymouth Rock with Conservation Law Foundation Ventures (MA)
Comparing Federally-funded Pilots with Other PAYDAYS Insurance Products

- Only Federal pilots include control conditions to enable before-after comparisons
- Smaller companies won funding for their pilots in part by demonstrating greater flexibility than larger companies, but launches sometimes failed
- Federal pilots have required premiums to vary a minimum of 70% based on mileage, which is larger than for other products in the marketplace
Comparing Federally-funded Pilots with Other PAYDAYS Insurance Products (cont.)

- Federal pilots require the mileage and pricing relationship to be transparent to the customer, which is not consistently so with other products.

- Federal pilots generally test more than one pricing protocol, while other products do not.

- Federal pilots are unique in also testing add-on incentives (e.g., transit passes in Washington State and NuRide incentives in Texas).
Thank you!

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