

# **Challenges Field-testing Usage-based Insurance Products Incorporating Behavioral Economics Techniques**

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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
- Encourage those here to subsequently consult the PAYDAYS insurance chapter in ACEEE's "People Centered Initiatives for Increasing Energy Savings"
- Discuss Federally-funded PAYDAYS insurance pilots and the use of behavioral economics to design them

# 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, 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 (But Tools to Offer it Are New)**

- 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”

# Research Shows Actuarial Basis for PAYDAYS Pricing

- Research from Massachusetts that combines vehicle mileage and loss cost data shows a compelling relationship ( $R^2$  rises 0.15 to 0.72)
- 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

# 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., so-called 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 have a limited pilot of 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

# Federally-funded Pilots ("Insurance-led" Projects)

- King County, WA (Unigard Insurance, then PEMCO, now negotiating with MetroMile)
- Texas Transportation Institute with NuRide, Inc. incentives (MileMeter Insurance, then Infinity, then Ameriprise, and now...?)
- MassDOT with Plymouth Rock Assurance Corp. and Conservation Law Foundation Ventures

# Federally-funded Pilots (Insurance “Add-on” Projects)

- Portland, OR peer-to-peer carsharing with Getaround is supposed to include PAYDAYS insurance for renters and owners
- DriveSmart NYC, a test program to move toward mileage-based user fees (in response to declining fuel tax revenues), will include PAYDAYS insurance

# 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 test PAYDAYS pricing with and without a bundle of behavioral economics enhancements, 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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