

# Comments on Heuristic Thinking and Limited Attention in the Car Market

Kory Kroft  
Yale School of Management

November 18 2010

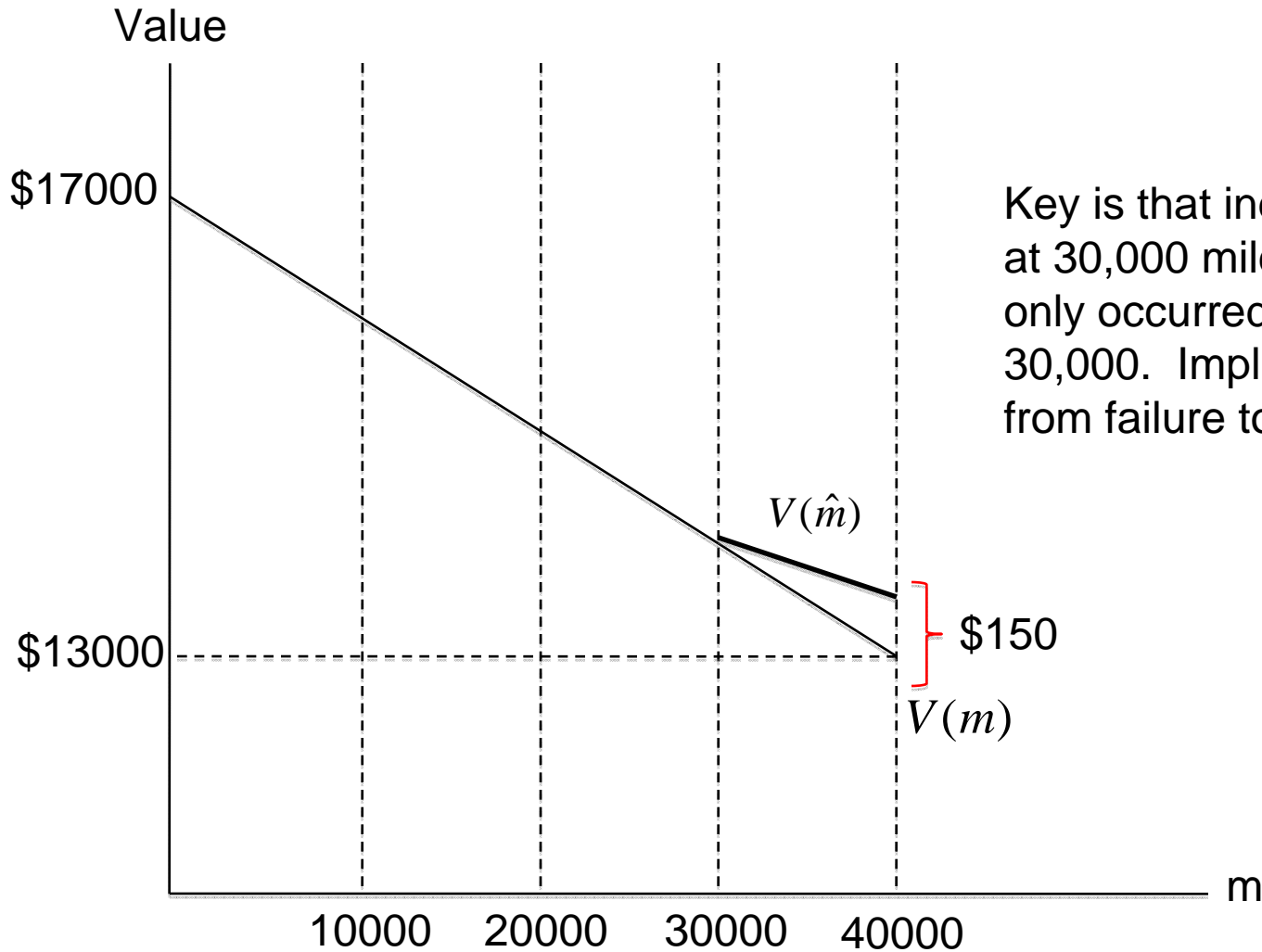
# Comments

- Excellent paper, extremely well written and very well executed.
- 3 things that I really liked about this paper:
  1. Extremely credible empirical evidence
  2. Important market setting – “large stakes”, information not shrouded.
  3. Really nice simple and intuitive behavioral model delivering a parameter with nice interpretation
- Topics for discussion:
  - Interpretation of inattention estimate, welfare, quantity response, empirical test of final consumers vs. used-car dealers,
- Related research ideas

## Interpretation of $\theta$

- Claim:  $\hat{\theta} \approx 0.30$   $\rightarrow$  “30% of the depreciation that a car experiences due to mileage increases occurs discontinuously at 10,000-mile thresholds”.
- Several caveats:
  1. This parameter is estimated off of the *residuals*. Less depreciation when the age of the car is held fixed. Slope of *residuals* plot as a function of mileage roughly  $-.05$ , but slope of *raw price* plot seems to be about  $-.10$ , based on figure 2. Implies  $\hat{\theta} \approx 0.15$  .
  2. 30% seems to be heavily model-dependent. Imagine a model where a consumer buys a car, plans to own for fixed period of time (e.g., 5 years) and then optimizes over selling decision later on (39000 miles vs. 40000 miles). In this case, inattention is much more of a “local” phenomena in explaining depreciation due to mileage. Can explain a much smaller fraction of the depreciation that a car experiences.

# Welfare



Key is that individual reoptimizes at 30,000 miles, so cost to individual only occurred on miles exceeding 30,000. Implies small welfare costs from failure to optimize (3.75%).

## Volume discontinuity

- Uncover evidence that relatively more “dealer only” cars brought to auction immediately before mileage threshold.
- Does increased supply before threshold lower equilibrium price? Perhaps inattention is even greater if price is attenuated by volume response?
- Volume discontinuity of dealers could be an interesting behavioral outcome rather than a “selection problem”. Response should be a function of

$$V(\hat{m}) - V(m)$$

## Final Consumers vs. Used-car Dealers

- Assume final consumers who have bias, not used-car dealers. Hypothesis is that *inexperienced* dealers locate more to right of threshold than to left since unaware of salience effects and respond to lower price.
- Current empirical test uses *share* of cars purchased by experienced dealers. A more direct test would focus exclusively on cars purchased by inexperienced dealers.

## Related Research

- Miles vs. kilometers
  - compare price of a 2000 Honda Civic with 1000 miles on odometer to price of 2000 Honda Civic with 1610 kilometers
- Price depends on age in calendar years rather than months
  - Compare price of same car bought in December 2004 versus January 2005
- Very nice work!