# Durable-Goods Sales with Changing Values and Unobservable Arrival Dates

**Daniel Garrett**
Northwestern University

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**ABSTRACT**

We study the problem of a revenue-maximizing monopolist selling a durable good to a representative buyer who is forward-looking, whose value for the good changes stochastically, and for whom the value and arrival time are private information. Assuming the seller can fully commit, we consider the optimal path of posted prices and compare it with the unrestricted optimum (the fully-optimal mechanism). The reason for our focus on posted prices is that, presumably due to their simplicity, they are pervasive in retail markets. We show that it is often optimal for the path of prices to cycle, providing a possible explanation for the use of sales or periodic discounts. In contrast, the fully-optimal mechanism typically involves selling options with finite expiration dates; the associated payments can be chosen to evolve gradually and without cycles. We thereby shed light on how the seller's ability to price discriminate across time depends on the degree of contractual sophistication.