

## **A BROWNIAN MODEL OF DYNAMIC PRICING WITH DEMAND MODEL UNCERTAINTY**

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We propose a Brownian formulation to address the trade-off between learning and earning in a dynamic pricing problem that involves demand model uncertainty. Using stochastic control theory, we solve for the optimal policy of the Brownian model. We discuss how this optimal policy can be employed to design dynamic pricing policies in discrete time formulations, and demonstrate the performance of such policies via simulation. This approach provides general guidelines to implement successful price experimentation in practice.