

MARKETING COLLOQUIA

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OVERHAUL OVERDRAFT FEES: CREATING PRICING AND PRODUCT DESIGN STRATEGIES WITH BIG DATA

ABSTRACT: In 2012, consumers paid an enormous \$32 billion overdraft fees. Consumer attrition and potential government regulations to shut down the overdraft service urge banks to come up with financial innovations to overhaul the overdraft fees. However, no empirical research has been done to explain consumers' overdraft incentives and evaluate alternative pricing and product strategies. In this paper, we build a dynamic structural model with consumer monitoring cost and dissatisfaction. We find that on one hand, consumers heavily discount the future and overdraw because of impulsive spending. On the other hand, a high monitoring cost makes it hard for consumers to track their finances therefore they overdraw because of rational inattention. In addition, consumers are dissatisfied by the overly high overdraft fee and close their accounts. We apply the model to a big dataset of more than 500,000 accounts for a span of 450 days. Our policy simulations show that alternative pricing strategies may increase the bank's revenue. Sending targeted and dynamic alerts to consumers can not only help consumers avoid overdraft fees but improve bank profits from higher interchange fees and less consumer attrition. To alleviate the computational burden of solving dynamic programming problems on a large scale, we combine parallel computing techniques with a Bayesian Markov Chain Monte Carlo algorithm. The Big Data allow us to detect the rare event of overdraft and reduce the sampling error with minimal computational costs.