Marketing Colloquia
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Date: TUESDAY, October 09, 2018
Where: 741 JMHH
When: 12:00 PM to 1:20 PM

An Empirical Bargaining Model with Numbers Biases
– A Study on Auto Loan Monthly Payments

ABSTRACT: This paper studies price bargaining when both parties are subject to perception biases with numbers. The empirical analysis focuses on the auto finance market in the U.S., using a large data set of 35 million auto loans. I observe that the scheduled monthly payments of auto loans bunch at $9- and $0-ending digits, especially over $100 marks. The number of loans also increases from $1- to $8-ending digits. It is especially intriguing that $9-ending loans carry a higher interest rate and $0-ending loans have a lower interest rate than loans ended at other digits. Motivated by these observations, I develop and estimate a Nash bargaining model that allows for number biases from both consumers and finance managers of auto dealers. Results suggest that both parties perceive a discontinuity between payments ending at $99 and $00, and a steeper slope for larger ending digits, in their payoff functions. Low income and minority consumers have a lower bargaining power than the others. This model can explain the phenomena of payments bunching and differential interest rates for loans with different ending digits. I use counterfactual to show that, counter-intuitively, having number biases is beneficial in a bargaining setting. Consumers' payments are reduced by $203 million in total and the aggregate payments of finance managers increased by $102 million because of own number biases. Another counterfactual quantifies the economic impact of imposing non-discretionary markup compensation policies. I find that the payments of African American consumers will be lowered by $452-473 million and that of Hispanic consumers by $275-300 million in total.

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