

WWZ Research Seminar  
Faculty of Business and Economics, University of Basel

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## "The Rise of a Nudge: Field Experiment and Machine Learning on Minimum and Full Credit Card Payments"

### **Abstract**

The minimum payment warning, a notice that informs credit cardholders of the downside of making the minimum payment, has been described as a perverse nudge because it negatively affects those who would pay more than the minimum, presumably due to the anchoring bias. This issue is tackled in a massive field experiment by introducing a novel "statement balance warning." The experiment used email payment reminders that randomly added minimum payment or statement balance warnings. Results indicate that the messages shifted actual payment distribution depending on the warning and that payments increased when the statement balance warning was added. The analysis is combined with causal random forests to examine heterogeneous treatment effects, underlying mechanisms, and the optimum policy in different scenarios, and with an online experiment to further examine conditions in which the warnings affect payment behavior. The statement balance warning makes debtors prioritize paying a higher amount, which significantly increases payments by cardholders who are more likely to make deliberate decisions every billing cycle and improves the understanding of the consequences of not paying the statement balance. Furthermore, the optimal policy to decrease interest charges or debt delinquency indicates that cardholders should receive a combination of warning messages depending on their payment history. The results provide evidence that the statement balance warning offers a new element for financial market regulation to improve the decision-making of indebted households.

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