Stimulating E-Payment Adoption by Retailers: Evidence from a Field Experiment

Across emerging markets, cash is the ubiquitous means of transaction for small-scale retailers and the customers they serve. Policymakers, multinational product manufacturers and marketers of electronic payment systems are interested in understanding how to bridge this gap and stimulate the growth of electronic payments in emerging markets. They broadly view usage of electronic payments as a tool for small, traditional retailers in developing countries to scale-up, improve their performance and raise their transparency. However, no prior study has rigorously analyzed the impact of using electronic payments on the performance of small-scale retailers – nor the different drivers that may be hindering adoption of e-payment solutions such as technological, information or budgetary constraints. Our study proposes to do so via a randomized control trial. The RCT takes place in Guadalajara, Mexico and promotes adoption of an electronic payment technology for randomly selected retailers, with the goal of studying the eventual impact on retailer performance. More precisely, 1200 small-scale retailers are randomized into four equal-sized groups:

- **Control (N=300 firms):** No intervention offered to participants.
- **Technology (N=300 firms):** This intervention aims to address the technological constraint. Retailers in this treatment group are given a smartphone that is enabled with: (i) technology for electronic payments, including an attachable dongle to read credit/debit cards and the software to process payments, and (ii) a six-month data plan. In addition, retailers receive 4 hours (two visits) of IT support from a technical consultant. The hours are focused on installing the technology, ensuring the entire system is functioning correctly and on helping the focal retailer effectively process electronic payment transactions.
- **Technology + Marketing (N=300 firms):** This intervention aims to address the technological constraint, as well as informational constraints pertaining to both customers and retailers. In addition to receiving everything from the first treatment, retailers in this group also receive assistance with understanding and marketing the benefits of e-payment technology to customers. This is delivered through “E-payment Agents” (i.e. top university students majoring in business, economics or related disciplines) who visit treated retailers eight times, for two-hour long sessions. They help the business owner develop a strategy to: (i) reach out to new customer segments who would find the payment option attractive; (ii) install the provided marketing materials such as posters, stickers, outdoor pop-up stands; and (iii) to communicate the existence and benefits of paying by card at the business.
- **Technology + Marketing + Commissions (N=300 firms):** This intervention aims to address technological and informational constraints, as well as budgetary constraints. In addition to receiving the intervention components from the previous two treatments, these retailers receive a four-month waiver for the commission normally paid on each e-payment transaction.

This experiment is underway, with the intervention completed for N = 400 firms, though currently on pause due to the outbreak of COVID-19. To measure the impact of our interventions, we plan to collect detailed information on e-payment adoption and usage in the 6-month post-intervention survey of the full study sample. By comparing the adoption and usage rates of the different treatment groups, we will be able to cleanly analyze which barriers are critical to adoption and usage. We will also collect firm performance measures (sales, costs, and profits) in this survey round to answer how e-payment adoption by small-scale retailers impacts performance. Additionally, we complement this survey data with corresponding data from the e-payment service provider, so that for every treated business we can objectively measure how much they sold through the technology. The e-payment application records each transaction made through the dongle, allowing us to calculate total monthly sales through e-payments. Using this type of data for measuring firm sales would solve the problem of accurately measuring activities of firms in developing economies, something most researchers struggle with. We have also secured funding to survey retail businesses neighboring our sample to measure the spillover effects of the intervention on e-payment adoption. From a policy standpoint, quantifying the extent of spillovers is important for conducting cost-benefit evaluations of policies such as subsidizing e-payment technology for a subset of businesses. Thus, this study has the potential to make substantial academic and policy contributions through new knowledge on the adoption, spread, and impact of e-payment technology in developing economies.

1 In emerging market cities, small retail businesses tend to locate in densely-packed ‘retail areas’ of each neighbourhood, ensuring that geographical neighbors are an important peer group to study when it comes to spillovers.