Does Mobile Money Improve Livelihoods for Households in Poor and Remote Areas?
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Digital financial services have spread rapidly in developing countries, enabling mobile phone users to make financial transactions on their phone, such as transferring money, buying airtime, and paying bills.

Recent evidence suggests that mobile money has helped households receive more remittances, smooth consumption in the face of shocks, and escape poverty in the long-run. This evidence comes from areas where about 70 percent of households have mobile phones and almost half or more receive remittances.

We designed a field experiment to study whether mobile money can also improve livelihoods in poorer and more remote areas. The experiment took place in rural areas of Northern Uganda, where only 28 percent of households owned a mobile phone and 15 percent received remittances. Areas in our sample also had low access to financial services, with the median distance to a bank branch being 25.2km.

The Agent Rollout

We collaborated with Airtel to roll-out Airtel Money agents in Northern Uganda in locations not yet served by Airtel Money. Areas in our sample also had limited access to mobile money agents from other providers (mostly MTN), with an average distance of 8km to the closest agent.

A professional services firm was hired to assist with identifying potential agents for the rollout. This firm helped agents with the logistics of signing-up to become Airtel Money agents and provided them with the necessary equipment, training, and marketing materials.

During the roll-out, the professional services firm activated 320 agents in areas in our study who undertook a successful first transaction.

Airtel Money agents offer a variety of services including cash withdrawals, cash deposits, purchase of airtime, sending and receiving money, bill payment (such as school fees and utilities), and payment for goods and services.

Study Design and Data

With help from the Uganda Bureau of Statistics (UBOS), a sample of enumeration areas (EAs) was drawn from sub-counties in Northern Uganda that did not have an Airtel Money agent in 2015. To minimize potential spillovers of agents to control group EAs, the selected EAs were mapped and grouped into clusters. A 0.5km buffer was drawn around the boundary of each EA and EAs whose buffers overlapped were grouped. Clusters were thus at least 1km apart from each other.

We randomly assigned 334 clusters of enumeration areas (EAs) to a treatment or a control group, stratified by distance to a bank branch. The Airtel Money agent rollout took place in treatment clusters between January and June 2017. The professional services firm did not identify or activate agents in all treatment clusters, but close to half of these clusters received at least one agent.

To analyze the impact of the agent rollout, we use data on about nine randomly selected households in each EA, from a January 2016 baseline survey and a January 2018 follow-up survey. We also received administrative data on mobile money transactions from Airtel.
Results
We analyze the effects of the agent rollout separately for areas close to a bank branch (less than 25.2km) and areas far from a bank branch. All statistically significant effects come from areas far from a bank branch.

- Here, the agent rollout led to cost-savings for remittance transactions. About 31 percent of remittance receivers in control areas paid transportation costs for the transaction (motorcycle or mini-bus taxis). This number decreased to 18 percent in the treatment group.
- Similarly, thanks to the agent rollout, survey respondents were less likely to report high prices for remittance transactions or that the agent was far (figure 1).

Figure 1: Problems with Sending or Receiving Money

- Administrative data show an increase in the likelihood of receiving peer-to-peer transfers due to the agent rollout.
- The agent rollout doubled the fraction of survey respondents who work in non-farm self-employment (figure 2).
- The agent rollout changed the way in which households respond to negative shocks, such as a drought or flood, increasing the probability of taking work and reducing the probability of changing the household’s diet.
- The agent rollout lowered the fraction of households with a very low food security index from 63 percent to 47 percent.

Figure 2: Fraction of Households Working in Non-Farm Self-Employment

Policy Implications
We conclude that mobile money can improve livelihoods even in very poor and remote areas. In line with previous studies, we find that mobile money increases remittance receipts. Moreover, in remote areas, mobile money also leads to non-negligible cost savings. In our sample, households who received remittances typically paid 4,000 Ugandan shillings (US$1) per transaction in transportation costs, which represents about 10 percent of monthly per capita household expenditures.

We do not find an effect of the agent rollout on poverty. However, we measure follow-up outcomes only about six months after the agent rollout ended, whereas the previous literature finds a decrease in poverty four years later.


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