

## Behavioral Themes

Savings behavior, risk preferences, regret aversion

## Sector

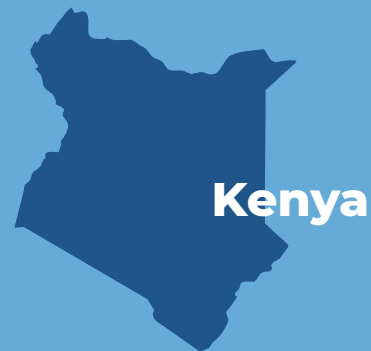
Financial inclusion

## Project Type

Lab experiment

## Sample Size

311 participants



# Using lotteries to encourage saving in low income households





Photo credit: Belle Maluf

## Context

### Can prize-linked savings gamify savings and build stronger habits?

In Kenya, 27.5% of low income households own an account but only 9.9% save with a financial institution<sup>1</sup>. Though saving is one of the most important avenues toward economic development, there are numerous obstacles that prevent poor households from accruing savings to their advantage. Knowledge gaps, mistrust of financial institutions and behavioral biases contribute to preventing the poor from saving as much as they would like. Product designs that target behavioral barriers have been shown to be extremely cost effective, especially compared to direct subsidies<sup>2</sup>.

One such product design is prize-linked savings (PLS)<sup>3</sup>, which is a savings mechanism dating back to the 15th century that bundles interest payments and pays out larger sums probabilistically. PLS interventions can leverage the rapid rise of mobile betting among Kenyans, where high mobile phone penetration has given rise to some of the highest rates of mobile sports betting in Africa. Indeed Kenya has the highest number of betting youth (76% have tried gambling), with 79% of bets placed on football matches<sup>4</sup>.

1 Demirgüç-Kunt et al. 2015

2 Alessie and Teppa 2009

3 Murphy, Anne L. 2005. "Lotteries in the 1690s: Investment or Gamble?" *FinancialHistory Review* 12 (02): 227–246.

4 <https://www.geopoll.com/blog/mobile-gambling-among-youth-in-sub-saharan-africa/>

## Prize-linked savings (PLS)



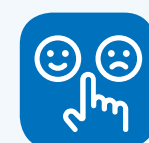
### Control

(mobile savings account with fixed incentives)



### Lottery Group

(PLS with incentives in a lottery format for those that saved)



### Regret Group

(PLS accounts with daily feedback on lottery outcomes, regardless of whether savings were made or not)

# Design and Results

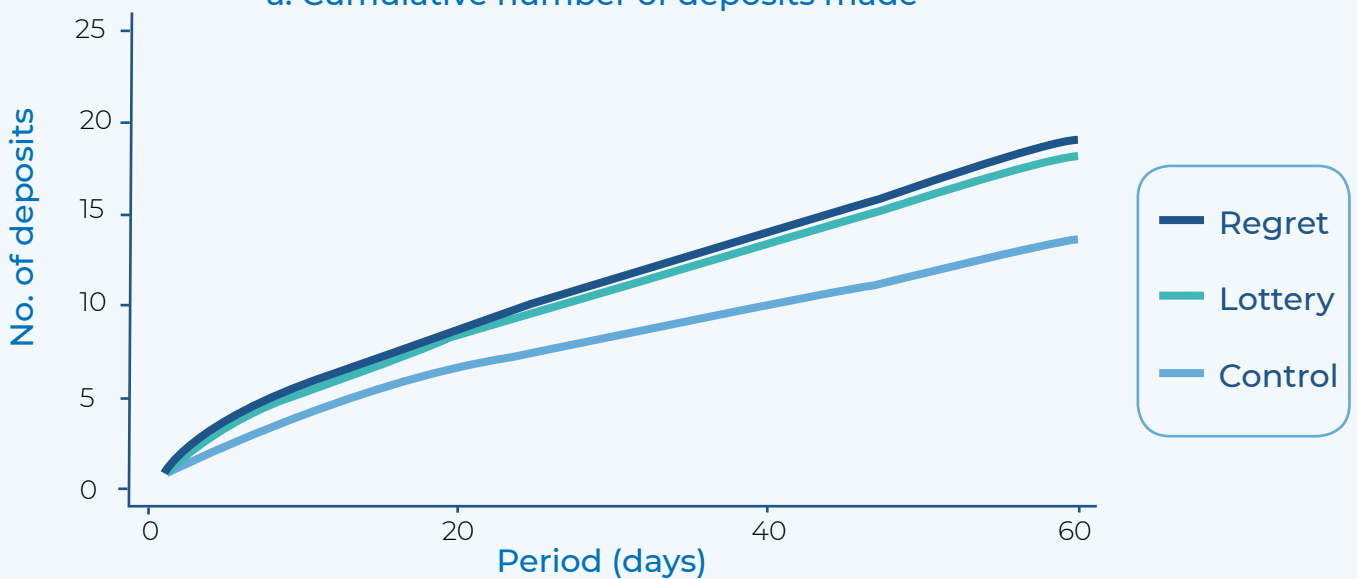
## Intervention



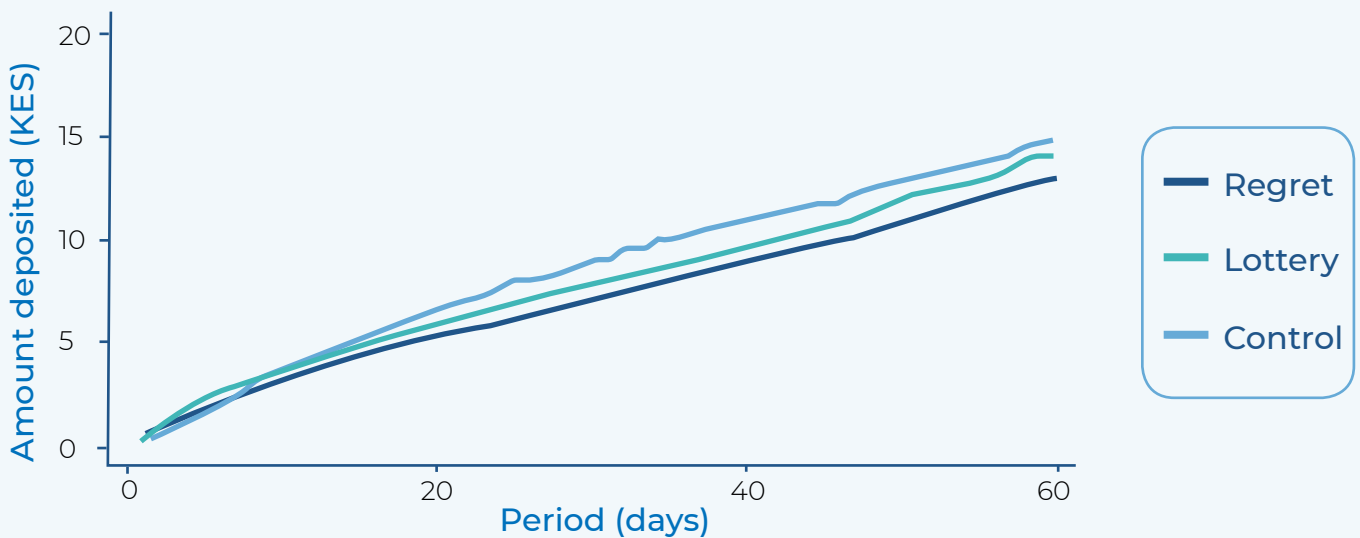
In collaboration with academics from Duke University and the University of California, San Diego, we conducted a study examining the potential of PLS accounts in improving financial inclusion among informal residents of Kibera, one of the largest informal settlements in Nairobi county.

We conducted a laboratory and field experiment to analyze the effects of PLS on savings behavior over time. We randomly provided 3 variations of a mobile savings product to 311 residents of Kibera and observed savings behavior over a period of 60 days.

a: Cumulative number of deposits made



b: Cumulative amount deposited





## Discussion

### Saving habits are malleable

Although the total savings did not differ between variations, both the PLS and the PLS with regret generated significantly more deposits than the standard savings product. This suggests that PLS may have promise in creating a more frequent savings habit over time.

### Regret aversion is prominent in influencing savings behavior

We found that the feeling of avoiding regret was a more powerful motivator than the lottery alone. Why? People hated the feeling of “winning” but not being able to claim a prize. In fact we saw a significant increase in deposits following a “winning-but-unclaimable” lottery, suggesting that these regretful winners saved to avoid regret on future days.

### The pitfalls of product design

Though the regret group saved more than 40% more often than the control group, they were also 15% more likely to report they had gambled. Attractive product features can crowd-in good behavior, but also crowd-in vices which share these desirable properties.