



EXPRESSION OF INTEREST 2016

Financial Services for the Poor Initiative
Financial Inclusion Program | Innovations for Poverty Action

Title	Country
Indicate title of proposed study	or countries
Using Lotteries to Encourage Saving	Kenya

Project Snapshot

In no more than 50 words describe what you are proposing to do.

This study aims to investigate the effect of lottery-linked deposit accounts (LLDA) on savings behavior among the urban poor in Nairobi, Kenya. Based on positive results from an earlier experiment, we will conduct a follow-up study to examine the mechanisms through which LLDA attract savings and fine-grained effects on background consumption and gambling activity.

Please fill in this form using Times New Roman 10 font, single spaced. Double-click on response boxes to mark your preference. Please email completed form to financialinclusion@poverty-action.org. Please refer to the [guidelines](#) for additional assistance in filling out the form.

RESEARCH TEAM

Each research team should be comprised of at least one researcher and at least one practitioner organization.

1. PRIMARY RESEARCHER

First and Last Name

Chaning Jang

Position and Affiliation What is your job title and institutional affiliation?

Postdoctoral Research Associate, Princeton University

Country of Residence	Contact Email	Contact Telephone
United States	cjang@princeton.edu	1 (310) 780-3560

Research Experience

Provide information about your experience directly managing and overseeing field-based research projects. If you have RCTs, provide details below.

How many field-based research projects have you overseen? ☐ None ☐ 1 ☐ 2 ☒ 3 or more

Have you conducted randomized controlled trials? ☒ Yes ☐ No

If yes, please provide information on your 3 most recent RCT projects:

study title -- co-authors -- location of implementation -- year -- resultant working papers or publications

“Behavioral Triggers to Agricultural Insurance adoption” with James Vancel (2015)

“Prize-Linked Savings: Further Evidence From Kenya” with Justin Abraham, Dan Ariely, and Merve Akbas (2014)

“Health Insurance Reduces Stress: Evidence From A Randomized Experiment In Kenya” with Matthieu Chemin and Johannes Haushofer (2013)

Other Researchers (if applicable)

Please add the name(s) and contact information of other researcher(s) collaborating on this proposal.

Co-Applicant Name First Name, Last Name	Affiliation Job Title, Institution, Country	Contact Email Address(es)
Justin Abraham	Research Associate, Princeton University, United States	justinra@princeton.edu

2. PRACTITIONER ORGANIZATION

The term “practitioner organization” refers to the practitioner carrying out the interventions that you propose to study. This organization is normally a financial service provider or a provider of training/services.

Name of Organization	The Busara Center for Behavioral Economics
Organization’s Website	https://busaracenter.org
Lead Contact Person First and Last Name and Title	James Vancel
Country of Operation	Kenya
Contact Email(s)	james.vancel@busaracenter.org
Contact Telephone	+254 725 066 428

Other Practitioner Organizations Involved in the Study (if applicable)

Please add the contact information of other practitioners that are carrying out interventions as part of your study design.

Organization Name	Applicant Name and Job Title First Name, Last Name, Job Title	Email(s) and Website

3. RESEARCH IMPLEMENTING ORGANIZATION

Proposal involving fieldwork will be required to have a local research organization operating in the country to run the field experiment.

Have you identified an implementing organization?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Not Yet	<input type="checkbox"/> Not Applicable
Has the organization ever conducted a randomized controlled trial?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Name of Organization	The Busara Center for Behavioral Economics		
Organization’s Website	https://www.busaracenter.org		
Lead Contact Person First and Last Name and Title	James Vancel, Managing Director		
Contact Email(s)	james.vancel@busaracenter.org		

PROPOSAL

Please make sure that you respect the word limits for each section.

Motivation (max. 150 words)

Briefly describe the context and the problem that your proposed study aims to address. Please reference any key relevant literature.

Literature on the potential demand for lottery-linked savings accounts is extensive, but empirical evidence as to its effect on savings behavior is scarce. Two recent experimental studies provide support for an extant benefit of stochastic returns on saving for the future (Atalay et al. 2014; Filiz-Ozbay et al. 2015). However, Loibl et al. (2016) conducted one of the first randomized evaluations of LLS and found no effect compared to standard matching programs. Research on the effect of other lottery-based incentive schemes relative to deterministic incentives remains inconclusive (Halpern et al. 2011; Gajic, Cameron, and Hurley 2011; Brune 2015). How might lotteries induce savings? Extensions of classical expected utility can explain why risk-averse individuals might prefer stochastic over fixed returns. These include the over-weighting of small probabilities, preferences for skewness, excitement from gambling. Disentangling the mechanisms behind lottery incentives will inform the optimal design of LLDAs geared towards financial inclusion.

Atalay, Kadir, Fayzan Bakhtiar, Stephen Cheung, and Robert Slonim. 2014. "Savings and prize-linked savings accounts." *Journal of Economic Behavior & Organization* 107, Part A (November): 86–106.

Brune, Lasse. 2015. "The Effect of Lottery-Incentives on Labor Supply: A Firm Experiment in Malawi."

Filiz-Ozbay, Emel, Jonathan Guryan, Kyle Hyndman, Melissa Kearney, and Erkut Y. Ozbay. 2015. "Do lottery payments induce savings behavior? Evidence from the lab." *Journal of Public Economics* 126 (June): 1–24.

Gajic, Aleksandra, David Cameron, and Jeremiah Hurley. 2011. "The cost-effectiveness of cash versus lottery incentives for a web-based, stated-preference community survey." *The European Journal of Health Economics* 13 (6): 789–799 (June).

Halpern, Scott D., Rachel Kohn, Aaron Dornbrand-Lo, Thomas Metkus, David A. Asch, and Kevin G. Volpp. 2011. "Lottery-Based versus Fixed Incentives to Increase Clinicians' Response to Surveys." *Health Services Research* 46 (5): 1663–1674 (October).

Loibl, Cazilia, Lauren Eden Jones, Emily Haisley, and George Loewenstein. 2016, February. "Testing Strategies to Increase Saving and Retention in Individual Development Account Programs." SSRN Scholarly Paper ID 2735625, Social Science Research Network, Rochester, NY.

Product / Intervention (max. 150 words)

Provide detailed information on the product(s), intervention(s), or issue(s) you would like to study. Do not discuss the study design here.

We implemented our lottery-linked savings program over Safaricom's Sambaza airtime sharing service. Using Sambaza, Safaricom users can send airtime to each other free of charge. Respondents can save into our program by sending airtime to a designated project phone that held the airtime in an account for each user. After saving a non-zero amount, respondents will earn a lottery ticket - transmitted via SMS, which could win a cash prize in proportion to the amount they saved. Each day, our administrative system will randomly generate a winning sequence of four numbers. Prizes will be awarded according to how well a respondent's lottery numbers matched the winning numbers. The earnings on this lottery ticket were equal in expectation to the 5% interest earned from a standard account. We test an additional feature that produces a non-redeemable lottery ticket for non-savers and informs them whether they *could* have won had they saved the previous day.

Pilot (max. 200 words)**Has a pilot of the intervention(s) been conducted?**

Below provide information from **ongoing or completed pilot(s)**, including data on uptake, usage, information in support of program feasibility, and on risks to the successful and timely roll-out of the program at scale. If a pilot has not been conducted, provide information on the timeline for any future piloting or why it might not be necessary.

☒ Yes

☐ No

In 2014, we conducted a randomized evaluation of a LLDA in Nairobi with a sample of 311 participants. The study leveraged Safaricom's Sambaza airtime sharing service to provide a mobile banking service to our participants. The service was customized to allow us to collect extremely detailed transaction data on the entire sample. Because of penetration of mobile services in Kenya and the ease of use of the platform, we were successfully able to enroll the entire sample into the program. At the end of the 60-day project period, we obtained endline surveys for all but 27 of the 311 subjects. We found that, compared to an interest-bearing account, the LLDA increased the total number of deposits during the project period but not the amount saved. The results are similar for the LLDA with information about retroactive lottery results. We additionally find that the program is especially effective for women, single households, those over 30 years old, those who completed std. 8, non-savers, poorer individuals, the unemployed, and risk-averse individuals. The proposed expansion of this study would require a pilot to test program usage over a longer time horizon, effects of altered incentives, and a survey of consumption, savings, and gambling outside the project.

Core Hypotheses / Research Questions (max. 100 words)

List the key research questions that you propose to study. Clearly state your hypotheses.

We are primarily interested in learning how the unique features of LLDAs change savings behaviors vis-à-vis conventional interest-bearing deposit accounts. We will test the following main hypotheses regarding the mechanisms behind LLDA benefits to savings:

- H1: Lottery-based returns induce greater take-up and future use of savings account compared to deterministic returns
- H2: High return, low probability lotteries induce greater take-up than low return, high probability lotteries
- H3: Increased program savings derive from reductions in current consumption and not from other savings accounts

Target Population (max. 75 words)

Briefly describe the study's location and population targeted.

The target population for this study will be residents of informal settlements in Nairobi. The study will recruit and offer LLDAs to workers from the Kibera and Viwandani slums. These workers are subject to highly variable income, are among the poorest residents in Nairobi, and have lower access to formal savings accounts.

Study Design (max. 300 words)

Describe the study design; outline the chosen randomization strategy.

Data collection will start with a census of randomly selected individuals within Kibera and Viwandani. We will then randomly assign respondents to participate in the study. Respondents will be randomly assigned into one of four treatment groups:

- 1) Interest-bearing savings (N= 200): Respondents in the control group will participate in a standard, interest-bearing savings program delivered through our mobile banking service. Respondents earned a 5% matching contribution on any amount that they saved in a particular day. Respondents will not be allowed to withdraw until the end of the project.
- 2) Lottery-linked savings (N= 200): After saving a non-zero amount, respondents earned a lottery ticket, which could win a cash prize in proportion to the amount they saved. Prizes were awarded according to how well a respondent's lottery numbers matched the winning numbers. The earnings on this lottery ticket were equal in expectation to the 5% match earned in the control group. Respondents could only earn one lottery ticket per day.
- 3) Lottery-linked savings with skewed returns (N= 200): This scheme is similar to the lottery treatment but respondents in this fourth group will play a lottery with a lower probability of higher returns, holding expected value equivalent to the other conditions.
- 4) Lottery-linked savings with regret framing (N= 200): This scheme is similar to the lottery treatment but respondents in this third group will be sent lottery tickets in their beginning-of-day text message. These tickets are only redeemable, however, after respondents had saved a non-zero amount that day. Respondents with winning lottery tickets who do not save that day do not win money from their lottery ticket but were informed of the amount they would have won in their end-of-day message the next morning.

We will collect baseline data on demographics, consumption, savings, income, and choice parameters. Respondents are then enrolled into the savings program for 90 days, during which we will collect ledger data on individual transactions.

A comparison of 1) and 2) will test whether LLDA's induce savings over interest-bearing accounts holding expected value constant. A comparison of 2) and 3) will test whether a preference for skewed returns drives the effect of LLDA's on behavior above and beyond utility from gambling. Similarly, a comparison of 2) and 4) will test whether regret aversion induces savings in addition to utility from gambling.

Research Implementation Plan and Timeline (max. 300 words)

Describe your measurement, data collection and data analysis plan. Provide information on how the intervention(s) will be rolled out and implemented as part of the randomized evaluation. Please include a timeline indicating expected dates for key project milestones.

Data collection will start with a census of randomly selected individuals within Kibera and Viwandani. Respondents will be sampled via phone surveys and will be entered into the study conditional on eligibility and consent. Project data will be collected at two points during the study period. We will collect baseline data on demographics, consumption, savings, income, and choice parameters before enrollment in the savings program. Baseline data collection will be conducted at the Busara Center's facilities in Nairobi. Respondents will then be randomized into one of the four treatment conditions outlined in the previous section (N = 1000). Enrollment and activation of the mobile savings program will begin at completion of baseline. For each respondent the mobile platform will automatically collect transaction data, generate lottery tickets, and disburse returns and lottery payoffs. We will collect endline data after the savings period on the following outcomes of interest:

- Savings portfolio outside of the project
- Consumption during the savings period
- Gambling expenditures
- Continued enrollment in mobile savings
- Self-selection into the treatment conditions
- Intended use of savings in the project
- Comprehension, trust, and general feedback on the mobile banking platform

The following is a tentative project timeline:

Program survey and mobile trackers – 1/01

Phone census – 2/01

Sampling and random assignment – 2/14

Baseline survey – 2/21

Complete baseline survey and begin mobile savings – 3/07

Complete 90-day savings period 6/14

Finish endline survey – 6/30

Policy Implications (max. 75 words)

Explain the expected policy relevance of the study's results.

This study will contribute in several ways to the evaluation of LLDAs as effective tools to promote financial inclusion. First, understanding the mechanisms underlying lottery-based incentives will inform the optimal design of lottery-linked savings products. Second, we will obtain a broad picture of our participants' finances that will provide more comprehensive insight into the welfare-increasing effects of LLDAs. Third, the study will allow us to rigorously measure the impacts of LLDAs on problematic gambling behavior.

Project Budget Provide a tentative budget for the study.	
Total Project Budget (estimate) * include activities that have been implemented or will be funded by other donors	USD 300,000
Funding Requested from the Financial Inclusion Program * if the project does not have other donors/funding sources, enter the total budget proposed	USD 300,000
If funding was secured from other sources, please list all donors and amounts:	

Project Timeline Please provide a tentative start and end date for the study.	
Is this project ongoing? Has the intervention implementation or data collection begun?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Tentative Project Start Date (DD / MM / YYYY) Studies considered under Round 1 (deadline April 29, 2016) should have a fieldwork start date no later than January 2017 (see guidelines for more information)	1/01/2017
Tentative Project End Date (DD / MM / YYYY)	7/30/2017

Proposal Checklist Please make sure that your application is complete and upload the documents requested.	
Upload curriculum vitae (CVs) of all applicant researchers. Please name each file: "ResearcherLastName_CV.pdf" Acceptable file formats are: .pdf .docx .doc	<input checked="" type="checkbox"/>
Upload a signed letter of support from the practitioner organization(s) collaborating in the study. The letter should briefly summarize the main operations and experience of the organization in the field and motivate the interest in collaborating in the study. Please name each file: "PractitionerOrgName_SupportLetter.pdf" - Acceptable file formats are: .pdf .docx .doc	<input checked="" type="checkbox"/>
Upload a letter of support from the research organization collaborating in the study. If applicable and if you have identified a research implementing partner, please attach an email or letter of support confirming their support for this application. Please name each file: "ResOrgName_SupportLetter.pdf" - Acceptable file formats are: .pdf .docx .doc	<input checked="" type="checkbox"/>
Read the Terms and Conditions below.	<input checked="" type="checkbox"/>

Rename this file: **"FIP EOI 2016 LeadResearcherLastName PractitionerOrgName."**

Acceptable file formats are: .pdf .docx .doc

Please email this form together with the relevant supporting documents in a .zip file to:

financialinclusion@poverty-action.org

Subject of email should be the same as the file name.

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3. Innovations for Poverty Action further reserves the right in its sole and exclusive discretion to waive irregularities or defects in any proposal, but in no event will IPA have any obligation to do so. Moreover, IPA will not be responsible for errors or omissions by anyone submitting a proposal, and IPA shall be the sole judge of the responsiveness, appropriateness and completeness of any and all proposals.
4. Innovations for Poverty Action reserves the sole and exclusive right in its discretion to modify the timeline for decision-making or otherwise modify or amend this RFP as it deems appropriate.
5. All responses to this EOI become the property of IPA. Regardless of any markings identifying the proposal or its content as proprietary or confidential, IPA reserves the right to disclose or use any information contained in the proposals and other presentations responsive to this EOI.
6. Innovations for Poverty Action is not responsible for and will not reimburse any costs incurred in submitting materials or information pursuant to this EOI or in otherwise responding to this EOI, including but not limited to evaluating, responding, providing follow-up, negotiating, and otherwise complying with it.
7. Those submitting a proposal(s) agree to be bound by the terms of their proposal for at least sixty days from the date such proposals are due, and they otherwise agree to negotiate in good faith any other terms for a definitive arrangement if selected by IPA to do so.
8. Those submitting a proposal(s) certify that the work product they propose to create or use if they are a grant recipient will not infringe on or violate the intellectual property rights (including but not limited to trademarks, copyrights, patents, trade secrets, moral rights) or privacy rights of any person or entity. Those submitting proposals, materials, or information further certify that they have or will have such ownership or use rights in such work product sufficient to allow IPA to achieve its purposes as generally provided for in this EOI.
9. Grant recipients agree that, if requested by IPA, they will provide additional information about any subcontractors, graduate students, research assistants, and other third parties engaged by the grant recipient to provide services. IPA reserves the right in good faith to approve any such persons in order to ensure consistency with IPA's expectations of quality and character.
10. Innovations for Poverty Action reserves the right to request additional information from any or all persons submitting proposals. Such persons agree to make themselves available for follow-up as reasonably requested by IPA.