Pre-Analysis Plan:
Welfare Impacts of Micro-Loans in Nigeria

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Abstract

We are studying the impact of small loans on the welfare of loan applicants. Through a partnership with a financial institution operating in Nigeria, a subset of new loan applicants are randomly assigned to different groups, which creates random variation in the likelihood a borrower is approved for a loan, and the value of the loan they are approved for. Between 4-20 weeks after the initial loan application, a phone survey is conducted with each subject that measures several different aspects of welfare. We are interested in estimating average and heterogeneous treatment effects of these loans.

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1 Introduction

The importance of access to credit and its potential to improve welfare has been well documented. In particular, several studies have examined the impacts of access to micro-credit over the last decade (cf. Banerjee, 2013; Banerjee et al., 2015). Overall, these studies find low take-up, with small and uncertain average treatment effects (Meager, 2019).

In this context, "digital credit" is fast emerging as an alternate means to provide small loans to people historically excluded from formal financial services (Francis et al., 2017). Digital credit loans typically leverage existing mobile money infrastructure, enabling near-instant loan disbursal without requiring a borrower to visit a physical bank. The lending decision is typically made based on alternative credit scores that are constructed from digital trace data (Bjorkegren and Grissen, 2015). For some of the poorest segments of society, this represents an opportunity to build a credit history – providing a means to access credit and other financial services.

Despite the growing importance of digital credit, there is a paucity of rigorous evidence on its impacts. While there is a fast-growing body of literature on digital financial services (Karlan et al., 2016), the focus is mainly on digital payments and other services. The only rigorous causal evidence on the impacts of digital loans comes from a recent study in Kenya (Bharadwaj et al., 2019), which finds that digital loans improve access to finance, and improves resilience (in the event of a negative shock).

Our study adds to this body of literature. We conduct a randomized evaluation in partnership with a financial service provider in Nigeria, where we assess the impact of small digital loans on the welfare of loan applicants. This provider randomly assigns a subset of new loan applicants to several different treatment groups, which vary the minimum credit score required for a loan, and the value of loans available to applicants. We will conduct a phone survey with roughly 4,000 of these loan applicants, between 4-20 weeks after the initial loan application, to measure a range of welfare outcomes. Using these data, we will estimate the average and heterogeneous treatment effects of the loans on the welfare of the applicants.

1.1 Research Questions

Our primary research questions are:

- How does access to digital credit affect key social and economic outcomes, including:
  - Resilience to negative shocks
  - Women's economic empowerment
  - Financial well-being
  - Psychological well-being
  - Income and expenditures
- Are the effects heterogeneous across applicants, and can this heterogeneity be predicted ex ante from applicant characteristics?

2 Experiment Design

2.1 Intervention and Randomization

We have partnered with a financial service provider (henceforth referred to as the 'FSP') in Nigeria, which offers short term loans disbursed by mobile phone to Nigerian adults (above 18 years old). They use proprietary algorithms to develop a credit score for their customers and base loan approvals and loan amounts on this score, as well as repayment performance. Borrowers start at small loan amounts and can borrow progressively larger amounts if they repay their loans on time. Our study population is a subset of customers of the FSP's lending products.

Conveniently, the FSP already maintains an "experimental" sample of 4% of all its customers in order to test its credit scoring algorithm. Customers are selected into the experimental sample randomly by the FSP. These users are automatically approved for a first loan of a random amount of 1000, 2000, 5000, 10,000, or 13,000 Naira (between about $2.75 and $35.75). This is in contrast to the "control" group, who can only access loans if their credit score is sufficiently high. Customers eligible to borrow in control also do not have access to the 13,000NGN loan as a first loan.

After the first loan, customers have access to higher loans if they repay; control customers' access to loans depends on their repayment and credit score.

	Control	Treatment	Threshold
1,000	8,528	1,810	2,068
2,000	6,579	1,542	1,864
5,000	1,226	1,781	2,029
10,000	517	1,692	1,926
13,000	0	1,474	1,815

Table 1: Number of borrowers in each variation and amount of first loan amount taken

For the purposes of this study, the FSP will run another sample of 4% of its customers who will face the same conditions as the experimental group, except that if these customers have too low a credit score they will not be approved for any loans (as would occur if they were in the control group, and the research study did not occur). If on the other hand they cross the credit score threshold, they are randomly assigned a loan amount, just as in the experimental group. We will refer to these users as the "threshold" group.

Customers who download the FSP's app are currently automatically randomly sorted into either the experimental or the control group. As the threshold experiment launches and for the three to four months after, new customers will be sorted using the same randomization procedure in the the experimental, threshold or control groups. That is, any customer in Nigeria who downloads the app for the first time will have a 4% chance of being placed in the experimental group, a 4% chance of being put in the threshold group, and a 92% chance of being put in the control group. The FSP will sort customers according to its own randomization algorithm.

After a delay, the survey period will begin. During the survey period, each week the FSP will contact a sample of customers selected by the research team to achieve some level of balance in the length of time between entry into the sample and contact. Nearly all experimental and threshold groups will be contacted by the FSP to invite them to participate in the survey. Additionally, the FSP will also contact up to 8% of the control customers, selected at random from the overall control population. We expect around 50,000 customers to be enrolled into all groups across treatment and control, of whom around 4,000 will be surveyed. We expect survey respondents to be older than 18 years and to be of any gender, race, ethnicity, language and literacy.

We expect them to be generally more male, more urban, more literate, younger, and wealthier than the general Nigerian population.

2.2 Data Collection

The FSP began implementing the intervention as designed above in late August 2019. Survey data collection will begin in November 2019, close to 3 months after the earliest users had enrolled. We expect to complete surveys with roughly 4,000 users (across treatment, threshold and control groups). These are phone based surveys, and the respondents are invited to participate in the survey via a text message. Those respondents who opt in by responding to the message or clicking a link in the message will be contacted by the research team.

Upon making contact, enumerators will read an informed consent script that was approved by the U.C. Berkeley Committee for the Protection of Human Subjects, and included as Appendix A: Consent form to this document. The consent form makes clear that the FSP will not have access to individual responses and neither participation nor responses will have any impact on credit decisions.

The survey instrument (See Appendix B: Survey Instrument) consists of questions on demographics, household composition, financial behavior, subjective well-being and household decision making. We expect each survey to take roughly 25 minutes. Respondents will be compensated by transferring an incentive of 3600 NGN (airtime) upon completion of the survey. Data collection will continue until February 2020.

3 Primary Hypotheses and Outcomes

Access to digital credit could potentially influence a range of outcomes for customers in our sample. Broadly, we test the following families of outcomes: (i) resilience, (ii) financial outcomes, (iii) subjective well-being, (iv) women's economic empowerment, and (v) income, expenditure and occupations.

For each family of outcomes, we highlight the specific hypotheses (in bold text) along with the relevant questions from the survey instrument below (precise wording of each question in italics, and question number in parentheses). In several cases, we

have multiple outcomes of interest for each hypothesis. We pool these outcomes into a single test by constructing an "outcome index" that is the average of z-scores of all the outcome variables associated with that hypothesis. Thus, the primary variables of interest for each hypothesis will be the respective outcome indices. We discuss our empirical strategy in Section 5, with further details on our approach to account for multiple hypothesis testing in Section 5.6.

3.1 Resilience

In the **resilience** family of outcomes, we test two hypotheses.

1. Increased resilience to negative shocks

- *In response to adverse events in the last 3 months (i.e., the ones just named), has your household done any of the following* (Question 29, among people who responded 'yes' to Question 28 ("Have you experienced a shock?"))
- *If you had one week to pay 100,000 NGN for an emergency expense, such as a repair or medical bill, who would you turn to, to get the money (code binary if answer is "wouldn't be able to pay"?)* (Question 30)[1]

2. Changed perception of financial situation

- *God forbid, if your household stopped getting income from any source, how long could your household easily continue to meet your basic needs for food and housing?* (Question 26, winsorized at 95th percentile)

3.2 Financial outcomes

In the **financial outcomes** family, we have four hypotheses.

3. Increased access to formal credit

- Total number of loans taken out in last three months, inferred from Questions

[1] Included only if at least 5% of respondents indicate they wouldn't be able to pay.

19-21 (*In the last 3 months, have you or your spouse/ live-in partner taken out any loans from any of the following sources?*)

- Total amount borrowed in last three months, inferred from Questions 19-21 (*In the last 3 months, have you or your spouse/ live-in partner taken out any loans from any of the following sources?*)

4. Changed "financial health"

- Financial health index (constructed from question 27A - 27N). The questions are based on the financial well-being questionnaire created by Consumer Finance Protection Bureau (2017).

5. Changes in savings

- *How much money have you saved in the last 3 months?* (Question 25, inverse hyperbolic sine, fill with zero if answer to 24 is zero)

3.3 Subjective well-being

We have one hypothesis in the **subjective well-being** family.

6. Changes in levels of subjective well-being

We ask the following questions:

- *All things considered, how satisfied are you with your life as a whole these days?* (Question 39)
- The aggregate score (in the range 0-27) from the PHQ instrument (Kroenke et al., 2001) (Question 40)

3.4 Income and Expenditure

In the **income and expenditure** family we have two hypotheses to test.

7. Change in income

- *Which of the following best describes your total monthly household income in a typical month? Please include income from wages and salaries, remittances from family members living elsewhere, farming and all other sources.* (question 42, inverse hyperbolic sine)

8. Change in household expenditures

- *In the past 7 days, how much (NGN) did you spend on household expenditure in total?* (question 43, inverse hyperbolic sine)

9. Increased investment in productive activities

3.5 Women's Economic Empowerment

In the **women's economic empowerment** family, we have one hypothesis.

10. Increased empowerment for women (decision making, mobility, financial autonomy, and purchase)

- Decision Making Sub-index (Question 33 - sub questions 1, 2; omit people without partners)
  - *Who is responsible for making the following decisions in your household (options are "you exclusively", "mostly you", "both you and your spouse/partner evenly", "mostly your spouse/partner", "exclusively your spouse/partner", or "not applicable")*
    1. *how you spend your (your spouse/partner spends her) own earnings (meaning income you yourself earn/money you receive (she earns/money she receives) for benefits)*
    2. *whether you take (your spouse/partner takes) employment outside the household?*
- Mobility Sub-Index (Question 35)
  - *For each location, please tell me approximately how long ago you (your spouse/partner) last visited that location, in days. For instance, if you/she last visited the local market one week ago, you would say "7" when I ask you about the local market.*

- Purchase Sub-Index (Question 33 - sub questions 3-8), and Question 34
  - *Who is responsible for making the following decisions in your household: household spending on daily food, clothing, children's health, home improvement, festivals and celebrations, food and drink outside the home* (Question 33 - sub questions 3-8)
  - *When making these purchases do you (does she) usually use money provided by another household member?* (Question 34; coded as Yes = +1, No = -1, Don't know = 0)
- Financial autonomy sub-index (Question 38)
  - *Women should be able to make their own decision to do the following: (without needing the permission of their spouse/ live-in partner): Visit the bank alone, open a separate bank account, use bank accounts without taking any permission from their spouses/ live-in partners, take out a loan*

We broadly follow the approach of Field et al. (2019) and Kling et al. (2007) to construct each of the indices above. We will compute this (1) among women for their perception (primary outcome?), (2) among men to see if their perceptions are different; if they are similar, (3) pooled.

- For each component, we standardize with respect to the control mean (subtract the mean and divide by the standard deviation of the control group) by gender.
- The final value for each sub-index will be the average of the component z-scores.

4 Other hypotheses and control variables

4.1 Control Variables

Our survey allows us to collect data for a set of important control variables that we can use to improve the precision of our estimates. This set of control variables includes (survey question number in parentheses):

- Respondent gender (question 1)

- Respondent age (question 41)
- Respondent education (question 2)
- Household size (question 3, 4)
- Respondent ethnicity (question 5)
- Respondent location (question 6, 7)
- If respondent operates a business (question 13)
- Respondent industry (question 14)
- Aspiration to start a new business (question 16)
- Respondent is head of household
- Trace data from respondent's cellphone, prior to application of a loan, including:
  - Number of SMS messages incoming and outgoing
  - Number of incoming and outgoing SMS contacts
  - Number of late payments on all sources recorded in SMS logs
  - Number of instances of gambling recorded in SMS logs
  - Number of other loans and lenders recorded in SMS logs
  - Time between signup and survey

4.2 Behavioral outcomes

We will follow a procedure in recent paper (to be cited in final draft) to test behavioral features of the decision to use digital credit, for example:

- Whether people correctly anticipate taking out loans from FSP (by comparing Question 9 to actual loan applications in month following)
  - *What is the likelihood that you will try to take out another loan from FSP in the next month on a scale from 1 to 10 where 1 is definitely not and 10 is certainly?* (Question 9)

- Whether there is demand for commitment:
  - *How much would someone have to pay you right now, for you to commit to not taking out any other FSP loans for the next month?* (Question 10)
- Whether individuals regret taking out a loan:
  - *Have you ever regretted taking out a loan from FSP (i.e., do you wish you had not taken out that loan)?* (Second Question 7)

4.3 Other outcomes of interest

We also plan to see if and how the composition of responses to the following questions are impacted by treatment:

- *For what purpose have you used the money from the FSP?* (Question 19.5)
- *For what purpose have you used the money from SOURCE?* (Question 20.4)

5 Empirical Analysis

5.1 Balance Checks

We will verify balance prior to our experiment across all treatment groups and the control group on important covariates. Will use administrative data from the FSP for this analysis. We will report a balance table for the covariates, which will include the mean for the treatment conditions, differences relative to the control condition, and results from the t-tests of the null hypothesis of zero difference. We will also regress the treatment variable on all the covariates simultaneously, and report the F-statistic for joint significance.

5.2 Treatments of Interest

We expect our outcomes of interest to be influenced by the treatment assignment (assignment to treatment/ threshold / control group) through its influence on aspects of borrowing, including:

- A_1 = ever take a loan,
- A_2 = number of loans,
- A_3 = total amount of loans.

We measure these behaviors at two time points: in the first 4 weeks since sign-up; and from sign-up to the time of the survey (up to 20 weeks).

5.3 Primary Outcome Treatment Effects

Our general strategy to test each hypothesis will be to regress each outcome of interest on a variable indicating treatment status or a treatment of interest (see Section 5.2), and a panel of controls. We then estimate Intent to Treat (ITT), and Treatment on Treated (ToT) effects as outlined below.

5.3.1 Intent to Treat Effects

Our experiment allows us to estimate A) the effect of assignment to the treatment/ threshold group, and B) the effect of being assigned to a specific treatment bin. (In 2.1, we describe in the detail the 11 treatment bins to which a customer could be randomly assigned: 10 in treatment/ threshold group, and one control; see Table 1). We use the follow specifications in order to estimate intent to treat effects.

A. Assignment to the treatment/ threshold group:

$$Y_i = \beta_0 + \beta_1 T_i + \gamma X_i + \nu_{wofe} + \nu_{wofs} + \nu_{enumerator} + \varepsilon_i \tag{1}$$

Here, Y_i is an outcome of interest for individual i; T_i is the treatment dummy indicating whether a respondent is in the treatment or the threshold group (we exclude control in this setting); and X_i is a vector of individual level control variables. ν_{wofe} are *week of enrolment* fixed effects, ν_{wofs} *week of survey* fixed effects, and $\nu_{enumerator}$ enumerator fixed effects. The coefficient of interest here is β_1, the average treatment effect. This analysis compares treatment to threshold and therefore provides the causal impact of easier initial access to credit, since the distribution across credit amounts for the two groups is identical once a threshold user is approved for a loan.

B. Assignment to a specific treatment bin:

$$Y_i = \beta_0 + \boldsymbol{\beta}_1 \mathbf{B}_i + \gamma X_i + \nu_{wofe} + \nu_{wofs} + \nu_{enumerator} + \varepsilon_i \tag{2}$$

Here, Y_i is an outcome of interest for individual i; $\mathbf{B}_i$ is a vector of dummies indicating which of the 11 treatment bins i was assigned to; and X_i is a vector of individual level control variables. ν_{wofe} are *week of enrolment* fixed effects, ν_{wofs} *week of survey* fixed effects, and $\nu_{enumerator}$ enumerator fixed effects. The coefficient of interest here is $\boldsymbol{\beta}_1$.

It is possible that we will be under-powered to separately estimate 11 different treatment effects. Since we expect monotonicity in loan size, we will also use a specification that assumes the treatment effects are linear in loan size. Using V_i to denote the initial value of the loan for an individual assigned to bin B_i, we estimate the following specification on the full sample (including controls):

$$Y_i = \beta_0 + \beta_1 T_i + \boldsymbol{\delta T_i} * V_i + \gamma X_i + \nu_{wofe} + \nu_{wofs} + \nu_{enumerator} + \varepsilon_i \tag{3}$$

5.3.2 Treatment on Treated Effects

We examine the effects of 'credit access' - using the borrowing behaviors listed in Section 5.2. Our specifications for this analysis involve a two stage IV regression, where we instrument for the borrowing behaviors using A) assignment to treatment/ threshold group, and B) assignment to a specific treatment bin. We use the follow specifications in order to estimate ToT effects.

A. Assignment to Treatment or Threshold Group: We use assignment to either treatment or threshold (again ignoring control users) as an instrument for loan uptake. Thus in the first stage regression, we regress these variables on T_i (the treatment dummy) and other controls X_i (the same controls as those used in the ITT analysis). We then use the fitted values in the second stage.

$$P_i = \pi_0 + \pi_1 T_i + \pi_2 X_i + \varepsilon_i \tag{4}$$

$$Y_i = \beta_0 + \beta_1^{TOT} \hat{P}_i + \gamma X_i + \varepsilon_i \tag{5}$$

This gives the effect of, for example, borrowing vs. never borrowing on well-being, using treatment vs. threshold assignment as an instrument.

B. Assignment to a specific treatment bin: For this analysis, we use assignment to particular treatment bin/variation (we include control group respondents in this analysis as well) as an instrument for loan uptake. We instrument for the borrowing behaviors listed in Section 5.2. In the first stage regression, we regress these variables on B_i (a variable indicating which of the 11 treatment bins i was assigned to), and other controls X_i (the same controls as those used in the ITT analysis). We then use the fitted values in the second stage.

$$A_i = \pi_0 + \pi_1 B_i + \pi_2 X_i + \varepsilon_i \tag{6}$$

$$Y_i = \beta_0 + \beta_1^{TOT} \hat{A}_i + \gamma X_i + \varepsilon_i \tag{7}$$

This gives the effect of, for example, borrowing vs. never borrowing on well-being, using assigned treatment bin as an instrument.

5.3.3 Heterogeneous Treatment Effects

Lastly, we will examine treatment effect heterogeneity among various subgroups in our sample. We use two methods to do this – the first relying on standard regression based approaches, and the second based on machine learning techniques.

For the regression based approach, our modified ITT specification is presented below. For a sub-group defined by Z_i, β_3 is the coefficient of interest, which is the test for heterogeneity in treatment effects in the given subgroup. We will run this specification for each of the variables listed in 4.1.

$$Y_i = \beta_0 + \beta_1 T_i + \beta_2 Z_i + \beta_3^{ITT} Z_i * T_i + \gamma X_i + \varepsilon_i \tag{8}$$

Similarly, the modified ToT specification (second stage) is presented below. We will run this specification for each of the variables listed in 4.1.

$$Y_i = \beta_0 + \beta_1 \hat{A}_i + \beta_2 Z_i + \beta_3^{TOT} Z_i * \hat{A}_i + \gamma X_i + \varepsilon_i \tag{9}$$

The machine learning approaches use cross-validation to discover axes of heterogeneity. We will do this by applying two related techniques: (i) the sorted effects method of Chernozhukov et al. (2018), which calculates a collection of estimated partial effects sorted in increasing order and indexed by percentiles; and (ii) tree-based approaches (Wager and Athey, 2018; Athey and Imbens, 2016; Hahn et al., 2017), which provide non-linear approaches for estimating heterogeneity in causal effects in experimental and observational studies and for conducting hypothesis tests about the magnitude of differences in treatment effects across subsets of the population. With these methods, we intend to provide the full set of X_i from our survey/ administrative data to allow the unsupervised algorithms to discover the primary directions of heterogeneous effects in our data.

5.4 Non-parametric Methods

We will use nonparametric influence-function based estimators as a robustness check for the above-mentioned parametric models. These nonparametric models

do not require correctly specified functional forms to robustly estimate causal effects (Kennedy, 2016) and can therefore provide a robustness check on parametric models of causal impacts.

5.5 Analysis - Administrative Data

In addition to the survey data, we are able to analyze administrative data provided by the FSP for all enrolled borrowers. We will examine both repayment/ default behaviour for loans taken out from the FSP, and borrower sentiment based on text message data provided by enrolled customers. In addition, the FSP maintains a "feature vector" of characteristics about their borrowers derived largely from SMS messages. This vector may include characteristics that are related to well-being like gambling habits and the number of late payment notices a customer receives in a given time frame. We will use these features as alternate outcomes (Y variables in the above equations) in a speculative rather than formal analysis. Likewise, we will provide some descriptives as to how the passively-collected trace data relate to the survey outcomes to explore their value as formal outcomes in future analyses.

5.6 Corrections for Multiple Hypothesis Testing

As discussed in Section 3, we have multiple outcomes of interest within each hypothesis, and multiple hypotheses within each family of outcomes. We make the following adjustments to account for multiple hypothesis testing following the approach outlined in Anderson (2008):

- For each hypothesis, we will construct a "outcome index" - the average of the z-scores of the outcomes in that hypothesis. That index will then serve as our primary outcome of interest for the specifications mentioned above. As a robustness check, we will repeat this analysis using an outcome index constructed from a Principal Component Analysis (PCA).
- We will report the False Discovery Rate (FDR) adjusted p-values for each individual outcome in a hypothesis.
- We will report the Family Wise Error Rate (FWER) adjusted p-values for each "outcome index".

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Appendix A: Consent form

Effects of Digital Credit on Well-being: CPHS protocol ID # 2019-05-12181

UNIVERSITY OF CALIFORNIA BERKELEY

INFORMATION STATEMENT

MOBILE LOANS EFFECTS ON WELFARE

Researchers: Professor Joshua Blumenstock
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Researchers' statement

We are contacting you to ask you to be in a research study. Your participation in this study is voluntary. The purpose of this statement is to give you information to help you decide whether to be in the study or not. You may ask questions about the purpose of the research, the possible risks and benefits, your rights as a volunteer, and anything else about the research that is not clear. When we have answered all your questions, you can decide if you want to be in the study or not.

PURPOSE OF THE STUDY

The purpose of the research is to get a better understanding of the effects of mobile loans on people who use it or have considered using it.

PROCEDURES

If you agree to participate we will begin the survey, which will take 10 to 20 minutes. In the survey, we will ask you a series of questions about your general livelihood and well-being. We will not be collecting any additional personally identifying information beyond your name and phone number.

As part of the study, we will link your survey responses to data already collected by the FSP app, including your handset details, the FSP repayment history, and SMS logs, which in turn will be analyzed for keyword content and to calculate usage statistics. It will not include any identifiable data about anyone you are messaging with.

The data we collect in this survey will be used for research purposes only and will not be shared

with the FSP. No one besides the principal investigators on this study will have access to these data, and any personal information will be removed as soon as this survey has been completed and entered into the computer.

COMPENSATION

At the end of the survey, you will be compensated $3,600 naira by mobile airtime transfer.

BENEFITS

Aside from the compensation, you will receive no direct benefit from the survey. Your responses can help us better understand how digital credit affects people's lives.

RISKS

Some questions in the survey could make some people uncomfortable. For example, we may ask about your levels of debt. If you would prefer not to answer any individual question or group of questions, we will skip those questions. As with all research, there is a chance that confidentiality could be compromised; however, we are taking precautions to minimize this risk.

CONFIDENTIALITY

Your study data will be handled as confidentially as possible. No personally identifiable information will ever be shared with any third party, including the FSP. Your responses will not be used to make any decisions about loans for you. We will preserve your phone number in case we wish to conduct a follow-up survey with you in the future. Study data will be retained for 10 years.

SUBJECT'S RIGHTS

If you agree to participate in this project, please understand your participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. The alternative is not to participate. the FSP will not be informed of your decision to participate or not and will not have access to your individual answers. Your participation has no effect on your standing with the FSP. Refusing to participate in this survey does not affect how the FSP collects and uses data

from your cellphone. You have the right to refuse to answer particular questions.

If you agree to participate in this research study, please say so.

If you have any questions or concerns about this study, you may contact Joshua Blumenstock at +1-510-642-1464.

If you have any questions or concerns about your rights and treatment as a research subject, you may contact the office of UC Berkeley's Committee for the Protection of Human Subjects, at +1-510-642-7461 or subjects@berkeley.edu.

Appendix B: Survey Instrument

Instrument

Enumerator instructions:

Please confirm that you are speaking to the correct person listed. The survey should be administered to this person. If this person is not available, <enter Kantar's protocols>

Introduction + Consent

A. Demographics

1. Can I confirm I am speaking to a.. (observe)
    1. Female
    2. Male
    3. Other
    4. Refused
2. What is the highest educational qualification that you have obtained? Is it:
    1. Primary
    2. Secondary
    3. OND
    4. HND
    5. University or higher
    6. Others (Do not fill in)
    7. Don't know (Do not read)
    8. Refused (Do not read)
3. Including yourself, how many persons 15 and older live in your residence? Please include all persons who live in your house at least 3 days every week _____(Enter number, enter 999 if refused), (if 1, skip question 34)

4. How many persons under 15 years sleep in your residence? _____ (Enter number, enter 999 if refused) Allow up to 3digits on the script

5. Which tribe do you belong to?

    1. Hausa

    2. Igbo

    3. Yoruba

4. Otherf
5. Refused
6. Don’t know

6. What state do you live in? Include refused option in dropdown <dropdown>
7. What is the name of the town in which you live? _____ (Enter text, enter 999 if refused)

B. Mobile Phone Module

8. Are you the primary user of this phone? [OBJ]
    1. Yes
    2. No
    3. Don’t know
    4. Refused
9. (If yes to 8.) Does anyone else use your phone at least once a month?
    1. Yes
    2. No
    3. Don’t know
    4. Refused

C. Occupation/ Income/ Consumption

10. What is your current employment status? (Enumerator instructions: read all options select best option)
    1. Full time salary earner
    2. Part time salary earner
    3. Self Employed
    4. Unemployed /housewife/retired/pensioner
    5. Don’t know (Do not read)
    6. Decline to state (Do not read)
11. What is your primary occupation?(Enumerator Instruction: **do not read all options**. Choose the most appropriate option for the respondent’s answer)
    1. Agriculture/Farming
    2. Sales/Banking/Office worker/Civil Servant
    3. Health worker
    4. Household/Domestic services
    5. Trader/seller/driver
    6. Armed services
    7. Student
    8. Skilled and unskilled manual labor

9. Teacher
10. Housewife/domestic role
11. Unemployed
12. Other (Specify) Allow text input
13. Decline to state
14. Don't know

12. In the last week, how many days of work did you do? _____ (Enter days). Software constraint to prevent entry of more than 7 days)
13. Do you run a business? [If yes, go to 14. If no, go to 16] (Enumerator instructions: Each business consists of an activity you conduct to earn money, where you are not someone's employee. Include only those household businesses for which you are either the sole owner or for which you have the main responsibility. Include outside business for which you are the person in the household with the most responsibility)
    1. Yes
    2. No
    3. Don't know
    4. Refused
14. (If yes to 13) – What kind of business? (Enumerator instructions: **Do not read all options.** Choose the most appropriate option for the respondent's answer)
    1. Fashion/Make-up/Hair business
    2. Sale of shoes and bags
    3. Pure water/bottled water production/distribution/sale
    4. Sale of Provisions (food stuffs/groceries) and household items
    5. Books and stationaries
    6. Clothes (e.g. Ankara and ready-made wears)
    7. Sale of phone recharge cards
    8. Hospitality industry
    9. Farming (fish farming/crops)
    10. Transportation
    11. Teaching
    12. Sale of cooked food
    13. Sale of raw food stuff
    14. Sale of phone and phone accessories
    15. Other (specify) Allow text input
    16. Decline to state
    17. Don't know
15. How much did you spend to help grow your business (in the past month)_____ (Enter text, if refused, enter 999; if none/nothing/no enter 0)
16. Do you aspire to start a new business in the next year? [If yes, go to 17, if No, Dont know or Refused; skip to 19]
    1. Yes
    2. No
    3. Don't know
    4. Refused

17. How much did you spend to help start this new business (in the past month)?_____ (Enter text, If refused, enter 999; if none/nothing/no enter 0) Allow text input
18. If yes to 16 Do you need anything else to help start this new business? (check all that apply, **do not read out the options**)
    1. Money
    2. Time
    3. Shop
    4. Education/ Training
    5. Apprentices
    6. Others (specify- allow text input)
    7. Don't know
    8. Refused

D. Loan Section

Enumerator instructions: In this section, we ask specifically about loans taken out in the last 3 months (q19) from FSP– a digital credit provider. Later we will ask about loans from other sources (q20-21).

19. Now I want to ask a couple of questions specific to your experiences with FSP
    1. **In the last 3 months**, have you taken out a loan from FSP? [If yes, got to 19.2. Otherwise, go to 19.8]
        i. Yes
        ii. No
        iii. Don't know
        iv. Refused
    2. How many loans have you taken from FSP in the **last 3 months** (if refused, enter 999)
    3. How much total money did you borrow from FSP **in last 3 months** (if refused, enter 999
    4. Did any other HH members take out loans from FSP in **the last 3 months**
        i. Yes
        ii. No
        iii. Don't know
        iv. Refused
    5. For what purpose have you used the money from FSP (enumerator, check all that apply, **do not read out**) [allow multiple selections]
        i. Loan for Emergency
        ii. Loan for a Large Purchase

iii. Loan for Everyday Use
iv. Loan to Pay Off Other Debt
v. Loan for School Fees
vi. Loan for Medical Expenses
vii. Loan for Business
viii. Loan for house/shop rent
ix. To become eligible for a larger loan in the future Enumerator Instruction: this refers to climbing the loan ladder, ie borrowing a small amount now in order to be eligible for larger loans in the future)
x. Just to test the platform
xi. Other _____ (Enter text) Allow text input
xii. Don't know
xiii. Refused

6. Have you ever made a late payment on loans from FSP?
    i. Yes
    ii. No
    iii. Don't know
    iv. Refused
7. Have you ever defaulted (i.e., not repaid) a loan from FSP
    i. Yes
    ii. No
    iii. Don't know
    iv. Refused
8. If you could borrow any amount of money from FSP, how much would that be?_____ (Enter Amount) Allow text input
9. What is the likelihood that you will try to take out another loan from FSP in the next month on a scale from 1 to 10 where 1 is definitely not and 10 is certainly? _____ (Enter Number)
10. How much would someone have to pay you right now, for you to commit to not taking out any other FSP loans for the next month? _____ (Enter Amount)
11. Do you think the terms and fees of FSP loans are
    1. Very unfair,
    2. somewhat unfair,
    3. somewhat fair,
    4. very fair
    5. Don't know (Don't read)
    6. Refused (Don't read)
7. [If yes to 19.1] Have you ever regretted taking out a loan from FSP (i.e., do you wish you had not taken out that loan)?
    1. Yes
    2. No
    3. Never got a loan from FSP
    4. Don't know

5. Refused

8. If you could never use FSP again, do you think you would be
    1. Much worse off,
    2. somewhat worse off,
    3. somewhat better off,
    4. much better off
    5. Don't know (Don't read)
    6. Refused (Don't read)

20. **In the last 3 months**, have you or your spouse/ live-in partner taken out any loans from any of the following sources First, read out the main categories (that is,1-6) in question 22. Then, for each of the yes options in 22, ask question 23 for each source.:

    1. Quick Loans, fast loan, or instant loan other than FSP (Enumerator Instruction: This refers to Digital credit / airtime.)

        i. (If yes) Where from?(Enumerator Instruction: **Do not read out all options**, offer one or two examples if respondent is confused)

            1. Aella credit
            2. Paylater (Carbon)
            3. Renmoney
            4. Kwik Cash / KwikMoney (Mines)
            5. FINT Loan
            6. Rosabon Finance Quick Loan
            7. Zedvance
            8. Page Financials
            9. Other [specify- allow text input]
            10. Unspecified

    2. Bank
    3. Microfinance bank
    4. Cooperative/Esusu
    5. Friends and family

6. Money lender
7. Recharge card
8. Other [specify, allow text input

21. [For each of YES to options 1-7 on 20 **(not separately for the subcategories within quick loans)**

    1. How many loans have you taken from SOURCE in the **last 3 months** (if refused, enter 999)
    2. How much total money did you borrow from SOURCE **in last 3 months** (if refused, enter 999)
    3. Did any other HH member took out loans from SOURCE in **the last 3 months?**
        i. Yes
        ii. No
        iii. Don't know
        iv. Refused
    4. For what purpose have you used the money from SOURCE (enumerator, check all that apply, do not read out) [allow multiple selections]
        i. Loan for Emergency
        ii. Loan for a Large Purchase
        iii. Loan for Everyday Use
        iv. Loan to Pay Off Other Debt
        v. Loan for School Fees
        vi. Loan for Medical Expenses
        vii. Loan for Business
        viii. Loan for house/shop rent
        ix. To become eligible for a larger loan in the future
        x. Just to test the platform

xi. Other _____ (Enter text) Allow text input

xii. Don't know

xiii. Refused

5. Have you ever made a late payment on loans from SOURCE

    i. Yes

    ii. No

    iii. Don't know

    iv. Refused

6. Have you ever defaulted (i.e., not repaid) a loan from SOURCE

    i. Yes

    ii. No

    iii. Don't know

    iv. Refused

E. Financial Health

Enumerator Instructions: In this section, the aim is to gather information about the respondent's financial situation. **Please be sure to read out the questions exactly as they are phrased**.

22. Do you use a bank account (including mobile money)? [If yes, go to 23. Otherwise skip to 24]
    1. Yes
    2. No
    3. Don't know
    4. Refused to answer
23. Who owns that bank account?
    1. You
    2. Your spouse/live-in partner

3. A different family member
4. Someone else (fill in relationship to respondent _____ allow text)
5. Don't know
6. Refused

24. Have you saved any money in the last 3 months? (if No, or Refused to answer; skip 25, go to 26)
    1. Yes
    2. No
    3. Refused to answer
25. (If yes to 24) How much money have you saved in the last 3 months? _____ (Enter Amount)

26. God forbid, if your household stopped getting income from any source, how long could your household easily continue to meet your basic needs for food and housing?_____ (Enter duration in days) Allow text input of up to 4 digits

27. Enumerator Prompt (read out the following to respondent): Now I am going to read to you several statements. Please tell me how often you have felt the following way. You can say that you felt this way "always" (meaning at least once a month, i.e every month), "often" (meaning you feel this way in most months), "sometimes" (meaning occasionally but not regularly), or "never"

Enumerator Instruction: Please be sure to read out the questions exactly as they are phrased.

		Never	Sometimes	Often	Always
27 A	You are unable to make a purchase that was really essential for the household				
27 B	You or someone in your household has had to skip a meal because there was not enough money				
27 C	You are unable to pay a bill on time				
27 D	You are unable to repay a loan on time				

27 E	At the end of the month, you find yourself waiting until you are paid to go shopping				
27 F	You spent some money on something that you later regretted (i.e., you later wish you hadn't)				
27 G	You spent more than you earned				
27 H	A gift for a wedding, birthday or other (expected) occasion would put a strain on your finances for the month				
27 I	You would not be able to handle a major unexpected expense				
27 J	You feel behind with your finances				
27 K	You feel your finances control your life				
27 L	You feel like you will never get what you want in life, because your finances prevent you				
27 M	You feel you are just getting by financially				
27 N	You are concerned that the money you have or save won't last				

F. Shocks, Consumption Smoothing etc.

28. In the **last 3 months**, has your household experienced any of the following adverse social/ economic events: [If No shocks, skip to 30; otherwise go to 29] (Enumerator instruction: read all out one by one, check all that apply):

    1. Business shut down/ failed/ suffered losses
    2. Loss of employment
    3. Death of family member
    4. Family health emergency

5. Drought/ flood/ other natural disaster
6. Wedding/ Festival/ Large planned expense
7. Unexpected expenses
8. Other [fill in response) allow text input
9. No shocks (If this, skip 29. Do not allow this response if other responses are picked)

29. In response to adverse events in the **last 3 months** (i.e., the ones just named), has your household done any of the following (Enumerator instruction: read all out one by one, check all that apply): Allow multiple response

    1. Taken children out of school/ had children sent home from school due to outstanding school fee balance?

    2. Foregone meals, or changed food choice/patterns due to monetary constraints?

    3. Foregone a hospital/clinic visit when a household member was sick, or been unable to pay the full amount needed for some medical treatment?

    4. Reduced expenditure on non-food items?

    5. Had members leave the house to look for jobs?

    6. Sold household assets?

    7. Taken out a loan?

        i. (If yes) From where? (select all that apply) allow multiple response if yes

            1. Quick Loans, fast loan, or instant loan (Enumerator Note: This refers to Digital credit. Do not read all options)

                a. (If yes) from which sources?Enumerator Note: **Do not read all options)**

                    i. FSP

                    ii. Aella credit

                    iii. Paylater (Carbon)

                    iv. Renmoney

                    v. Kwik Cash / KwikMoney (Mines)

                    vi. FINT Loan

                    vii. Rosabon Finance Quick Loan

viii. Zedvance

ix. Page Financials

x. Other….(enter text, allow text input)

2. Bank
3. Recharge card
4. Microfinance bank
5. Cooperative/Esusu
6. Friends and family
7. Money lender
8. Other (allow text)
9. Did nothing

30. If you had one week to pay 100,000 NGN for an emergency expense, such as a repair or medical bill, who would you turn to, to get the money (read all out, check all that apply)? (allow multiple response)
    1. Money currently in your bank account
    2. Borrow from a friend or family
    3. Take out a loan?
        i. If yes, ask from where (select all that apply)
            1. Quick Loans, fast loan, or instant loan (Enumerator Note: This refers to Digital credit. Do not read all options)
                a. (If yes) From which sources?(Enumerator Note: Do not read all options)
                    i. FSP
                    ii. Aella credit
                    iii. Paylater (Carbon)
                    iv. Renmoney
                    v. Kwik Cash / KwikMoney (Mines)
                    vi. FINT Loan
                    vii. Rosabon Finance Quick Loan
                    viii. Zedvance
                    ix. Page Financials
                    x. Other….(enter text, allow text input)
            2. Bank
            3. Microfinance bank
            4. Cooperative/Esusu

5. Friends and family
6. Money lender
7. Other (specify) (allow text)

4. You wouldn't be able to pay for the expense right now [If selected, other answers not possible]
5. Don't know (Do not read)
6. Refused (Do not read)

G. Household Decision Making

Enumerator Instructions - Read out the following prompt: "Now we are going to ask you a few questions about how decisions are made in your household. These questions will help us understand how loans fit into household matters."

31. Please can you tell me your marital status?
    1. Married
    2. Unmarried, but have a live-in partner
    3. Single (if Single and Female in question 1, and responds 1 to question 3 (only adult in HH); skip 32)
    4. Divorced
    5. Refused

32. [If question 3 is 1 (only adult in HH), skip this question] What is your relationship to the head of household?
    1. I am the head of the household
    2. I am the spouse/live-in partner of the head of household
    3. I am the son/daughter of the head of household
    4. I live in shared/communal housing where there is no single head of household
    5. Other (Enter text) Allow text input
    6. Refused

If answer to 32 is (3) or (4), and respondent is male, skip to 38

If answer to 32 is (3) or (4) and respondent is female, skip to 35.

If respondent is female, ask questions 33-35 about the respondent (red text). If respondent is a male, ask questions 33-35 about the respondent's spouse/partner (blue text):

33. [Enter as a grid] Who is responsible for making the following decisions in your household (options are "you exclusively", "mostly you", "both you and your spouse/partner evenly", "mostly your spouse/partner", "exclusively your spouse/partner", or "not applicable")

    1. how you spend your (your spouse/partner spends her) own earnings (meaning income you yourself earn/money you receive (she earns/money she receives) for benefits)?
    2. whether you take (your spouse/partner takes) employment outside the household?
    3. household spending on daily food (which will be prepared and eaten within the home, not including special occasions),
    4. how much your household spends on clothing,
    5. how much your household spends on your children's health,
    6. how much your household spends on home improvement,
    7. how much your household spends on festivals and celebrations
    8. how much your household spends on food and drink outside the home.

34. When making these purchases do you (does she) usually use money provided by another household member?
    1. Yes
    2. No
    3. Don't know
    4. Refused

35. I will now ask you about a few different locations. For each location, please tell me approximately how long ago you (your spouse/partner) last visited that location, in days. For instance, if you/she last visited the local market one week ago, you would say "7" when I ask you about the local market. [If female, skip to 38 (if response is "never", enter special code for 999)

    1. A market outside of your neighborhood or village (Enter number-----)
    2. A relative's home outside of your neighborhood or village (Enter number-----)
    3. A friend's house for a social visit (Enter number-----)

36. (If male) Does your spouse/partner use a bank account? [If no/don't know/refused, skip to 38]

    1. Yes
    2. No
    3. Don't know

4. Refused to answer

37. [If yes to 36]: Who owns that bank account?

    1. You
    2. Your spouse/partner
    3. A different family member
    4. Someone else (fill in relationship to respondent _____ allow text)
    5. Don't know
    6. Refused

Enumerator Instructions: Read out the following "We will now read out some statements to you. Please tell us how much you agree with these statements, using a scale of 1-5, where 1= completely disagree, and 5=Strongly agree" [enumerator prompt currently missing for women]

38. Women should be able to make their own decision to do the following: (without needing the permission of their spouse/ live-in partner):
    1. Visit the bank alone [1-Completely disagree, 5-Strongly Agree]
    2. Open a separate bank account for themselves [1-Completely disagree, 5-Strongly Agree]
    3. Use bank accounts without taking any permission from their spouses/ live-in partners [1-Completely disagree, 5-Strongly Agree]
    4. Take out a loan [1-Completely disagree, 5-Strongly Agree]

H. Life satisfaction / subjective well-being

39. All things considered, how satisfied are you with your life as a whole these days? (Enumerator instruction: read all options)
    1. Very happy,
    2. quite happy,
    3. not very happy, or
    4. not at all happy
    5. Refused

40. **Over the last 2 weeks**, how often have you been bothered by any of the following? You can say that you felt this way “always” (meaning nearly every day), “often” (meaning you feel this way more than half the time), “sometimes” (meaning you felt this a few times over the last two weeks), or “never”

		Never	Sometimes	Often	Always
40 A	Little pleasure or interest in doing things				
40 B	Feeling down, depressed or hopeless				
40 C	Trouble falling asleep, or sleeping too much				
40 D	Feeling tired or having little energy				
40 E	Poor appetite or overeating				
40 F	Feeling bad about yourself--that is, feeling like you are a failure or you have let your family down				
40 G	Trouble concentrating on things, such as reading the newspaper or watching television				
40 H	Moving or speaking so slowly that other people could have noticed. Or the opposite, - being so fidgety or restless that you have been moving around a lot more than usual				
40 I	Thoughts that you would be better off dead, or hurting yourself.				

Sensitive Questions Module

41. Could you please tell me your age?_____ (Enter age) Allow text input

42. Which of the following best describes your total monthly household income in a typical month? Please include income from wages and salaries, remittances from family members living elsewhere, farming and all other sources (Select only 1 option)
    1. Less than 10,000
    2. Between N10,000- N49,999
    3. Between N50,000 and N99,999
    4. Between N100,000 and N250,000
    5. More than N250,000
    6. Don't know
    7. Decline to state
43. In the past 7 days, how much (NGN) did you spend on household expenditure in total?

    _____ (Enter amount) Allow text input

Payment details

44. Confirm phone number
45. Confirm network [drop down]

Enumerator debriefing Enumerator Instruction: Please answer the following questions after completing the phone survey.

46. What language was this interview conducted in? (Drop down)
47. How open and honest do you think the respondent was on this survey? Please use a scale from 1 (very dishonest) to 5 (very honest).
48. Were there any specific questions where you doubt the respondent's honesty? (check all that apply)
49. Note anything you found interesting in the course of speaking with the respondent that might be of help to the research team)

    _____- (enter text)