2

PAGE

policy analysis on growth and employment

Revised Proposal Title

Can discounted withdrawal fees catalyze mobile money usage? Field experimental Evidence from Gambia

Presented to

Partnership for Economic Policy (PEP)

By

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FIELD EXPERIMENT PROJECT

SECTION A – PROJECT OVERVIEW AND OBJECTIVES

1. Abstract (300 words max.)

The abstract should state the main research question, the context and its relevance in terms of policy issues/needs in relation to PAGE thematic focus, complete with a brief description of the field experiment that will be designed.

In this project, we intend to work with a private mobile money service provider in Gambia (Qodoo mobile money) to study the responsiveness of mobile money usage to changes in monetary cost in the form of withdrawal fees. Gambia is one of the poorest countries in Sub-Saharan Africa (SSA) and significant portion of her population (particularly the poor) continue to be financial excluded. In recognition of this fact, the government of the Gambia considers the reduction of the financially excluded as one of her main goals for inclusive economic growth and development. This has culminated to promotion of mobile money financial services as means to include a bigger proportion of the population into the mainstream financial services. However, the ability of mobile money to catalyze financial inclusion in Gambia would be limited if uptake and use of the services is constraint by high monetary cost such as withdrawals fees. For this reason, studying whether subsidizing withdrawal fees could stimulate the adoption and use of the service is an important research undertaking. Thus, to study this issue, we intend to use a randomized field experiment where we randomly vary the cost of withdrawal charges among some randomly selected clients of Qodoo and then study how their adoption of the new offer and usage of their mobile money accounts varies across different withdrawal fees subsidy. The clients will be randomly assigned to one of three different withdrawals fees discount: 0%, 15% and 30%. After six months, we evaluate the impact of our intervention on account usage by looking at indicators such as total deposits, account balance, and monthly average transactions.

2. Motivation (300 words max.)

In lay words, summarize your motivation for conducting the research the team proposes to undertake, including reference to general relevance for policy needs in terms of evidence base.

Mobile money banking as a tool for financial inclusion is increasingly becoming popular in the developing world, particularly in Sub-Saharan Africa. Due to easy access to mobile phones than bank branches by the poor and low transaction cost, mobile money (or digital finance in general) is heralded as a sound tool that can substantially increase access to financial services by the poor (Kendall & Voorhies, 2014). Initially it used to be popular only in East African countries such as Kenya where the revolution started with M-pesa, but now it is also becoming ubiquitous in Western Africa. In Gambia, the first mobile money service was launched in 2016 by Qcell - one of the largest GSM operators in the

country.

Due to low levels of financial inclusion in Gambia and the huge poverty levels in the country (GBOS, 2011), mobile money banking is seen as a potential game changer in terms of stimulating financial inclusion and consequently catalyzing economic growth and development in the country. For instance, while the banking penetration rate is about 25% (Jaabi, 2017), the mobile phone penetration rate is about 67% (GSMA, 2017), which is among the highest in western Africa. This indicates that offering financial services via mobile technology offers an opportunity for broader financial inclusion in Gambia.

But despite its promise, the revolutionary potentials of mobile money could be limited by high marginal cost like high cash-out or transaction fees usually associated with service. In the case of Gambia's biggest mobile money provider, Qodoo, the cash-out fees currently charge are on average higher than what similar providers like Mpesa charges for withdrawals fees. These high cash-out fees could be a reason why the gains of mobile money in terms of revolutionizing financial access in Gambia have been modest. Moreover, evidence, (see Karlan et al., 2014), has shown that high monetary cost has the potential to deter the poor from using financial services. In this regard, it is important to understand how responsive to price of cash-outs demand and use of mobile money is. This has important policy implication as it will highlight whether subsidizing withdrawal fees could be a viable tool to increase financial service access and use in Gambia via mobile money.

3. Main research questions (200 words max.)

Clearly lay out the research questions that you aim to address with the field experiment. Explain why the questions are relevant ones in the context in which your study will take place.

Given our research objectives, we ask the following questions:

1. What is the impact of withdrawal fee discounts on usage of e-money accounts? Given that high monetary cost such as high cash-out fees can be a limitation to mobile money usage; it's important to examine whether the use of mobile money changes due to reduction in monetary cost.
2. What is the elasticity of mobile money usage to changes in price of cash-outs? The impact of cash-out pricing on demand and usage will depend on the elasticity of demand and usage. Thus, knowing the nature of the elasticity of mobile money account usage to variation in price of cash-outs will help to uncover the specific roles cash out fees play in the usage of mobile money accounts.

4. Priority theme (200 words max.)

Explain how the project fits PAGE priorities. Descriptions of PAGE priorities are available for consultation at https://www.pep-net.org/pep-call-proposals-page-ii

As the aim of our project is monetary cost and the adoption and use of financial services, it falls under the broad topic of financial inclusion. Using financial inclusion as a tool to approach the problem of poverty in developing is certainly among the priority areas of PAGE. The aspect of financial inclusion that is of interest to us is elasticity of e-money usage to changes in price of withdrawal fees. In other words, whether changing the cash-our pricing feature of an e-money can be a useful tool to boost the usage of service. This is in line with one of the research issues highlighted in PAGE: product development for financial inclusion. For this reason, we are convinced that our project fits well into the priority themes of PAGE. In particular, our project will attempt to provide answers to some of the research issues raised under this theme such as what of kind of changes in the design of offering financial services can lead to more usage of digital financial services.

SECTION B – RESEARCH

1. Experiment description (1.500 words max.)

A good reference for this section can be found in Chapter 13 of the book "Field Experiments: Design, Analysis and Implementation", by A. Gerber and D. Green, Norton, (2012). The main steps are summarized below.

- Describe in a single sentence the causal parameter you try to estimate. Example: "This experiment gauges the extent to which state legislators are less likely to respond to request from constituents with Hispanic surnames than to requests from constituents with Anglo surnames" (Gerber and Green, 2012)
- Explain if you expect the causal parameter of interest to have a specific sign or magnitude.
- Briefly explain the research hypothesis, the main outcomes of interests and how they will be measured.
- Describe the experiment and context in detail, including what you expect to find and why

In this experiment we study the elasticity of mobile money account usage to changes in price of withdrawal fees. Despite mobile money (in general) allows for financial services to be offered at lower transaction cost than standard financial products like basic savings account (e.g. do not require any minimum balance and users can save on transportation cost), making it an attractive financial product for the poor, it do also come with other marginal costs like withdrawal fees that can sometimes be even higher than what commercial banks charge for similar services. For this reason, it is not farfetched that high marginal cost such as withdrawal charges can be a constraint for using mobile money services; more so for the poor who are usual the target of providers of such services.

Therefore, when withdrawal fees constraints are binding in that they affect the optimal choices of an individual in the decision to use mobile money services, then, our expectation is that the easing of such constraints via subsidies should motivate more mobile money account usage. That is we should expect to see a positive responsiveness

of mobile account usage to a positive change in withdrawal fees. In other words, the elasticity parameter we are after should be greater than one and significant. Having said that, it is worth highlighting that even though our hypothesis that the elasticity parameter of interest should be elastic is reasonable, it is nonetheless possible to still get zero elasticity as related studies such as (Karlan & Zinman, 2018) have found for saving yields. This will be the case if withdrawal fees constraints do not bind, which will mean other features of mobile money rather than withdrawal fees are more important influencers of account usage or that they are more salient that they render withdrawal fee discounts ineffective. Hence, our expectation regarding the sign of our elasticity estimand of interest at this stage is an agnostic one.

Accordingly, the main research hypothesis of interest in this study is that mobile money usage can be sensitive to changes in price of withdrawal or cash-out fees. As a result, the main outcomes we expect our intervention to impact in the short run are outcomes related to account usage such number of deposits made by the client, withdrawals, and account balance. Other outcomes that can be indirectly impacted are frequency of using accounts for other payments such as P2P transfers or bill payments. Despite services such as P2P transfers come with no additional cost, they can be made unattractive if high cash-out fees render the entire product unattractive. For this reason, these variables can also be impacted by a change in cash-out charges. The source of the outcome variables will be the administrative data of the mobile money provider; that is from m-wallet platform of Qodoo.

Our experiment targets clients of a mobile money provider in Gambia who do not actively use their e-money accounts. In Gambia, there are currently two GSM operators providing mobile money services, Qcell with Qodoo and Africell with Africellmoney. But due to outreach and service reliability, we partner with Qodoo mobile money for the experiment. The Qodoo mobile money account offers all the basic services associated with a standard financial account such as a basic savings account with a commercial bank. In particular, it enable users to deposit and withdraw funds from their account and use the account to send or receive transfers from others including bill payments. Like any electronic wallet, the Qodoo mobile money account provides access to electronic money that is exchangeable (at a rate of one to one) to physical money at any time. It doesn't cost anything to exchange cash into e-money (i.e. cash-ins) but it cost something to exchange e-money into cash (be it cash-out or bill payments). Among the fundamental features of the product are cash-ins and cash-outs; hence, the pricing of these features should also affect the desirability and usage of the technology. In this experiment, we focus on cash-out charges for two reasons: first, for Qodoo users it is currently the most expensive aspect of the product; thus, it has direct impacts on usage – our main outcome of interest. Second, cash-outs also affect the attractiveness of the entire product as it affects liquidity. Specifically, high cash-out fees mean higher price for liquidity and for users that care about this feature of the product it might limit their usage of the technology. Therefore, by subsidizing withdrawal fees, we expect the use of accounts by beneficiaries to increase.

In implementing the experiment, we will first identify inactive clients from Qodoo mobile wallet platform and assign them to three experimental arms: a control arm to be consisting of participants that will not receive a withdrawal discount and two treatment arms where participants will receive one of two withdrawal fee discounts; a withdrawal

fee discount of 15% or 30%. The withdrawal fees discounts will be offered for just 6 months and this will be communicated to all participants. The randomization of participants to each arm will be done at the individual client level. Hence, after we get a list of inactive clients (i.e. clients that have not used their account more than three times in the six months before our intervention) from the Qodoo platform, we will select our experimental sample (based on results from power calculation) from that list via a computer random number generator. Then, using a similar procedure 40% of participants in the experimental sample will be assign to the control arm and the rest to treatment arm at the rate of 1/2.

But before the randomized assignments are done, eligible participants selected for the experiment will be first contacted for a baseline survey. The baseline survey will collect information on the client's socio-economic characteristics plus some basic financial information such as whether they own other financial products like credit or savings with a commercial bank and their savings habits. In addition, we also want to include a hypothetical time discounting module for time preference elicitation. When the baseline survey and the randomized assignments are completed, selected participants will be notified of their selection via telephone call or SMS and will be invited to accept the new offers they received; either by going to a Qcell branch to confirm their participation or confirming via an SMS reply. Upon acceptance of the offer, i.e. reveal their willingness to take up, the discounted withdrawals on their accounts will apply immediately. When this is done, the client will receive a voucher that indicates their withdrawal discount and when the discount will expire. They need to show this voucher to the mobile money agent each time they want to make a withdrawal for the discount to apply.

After the interventions have been rolled out, we plan to carry out our first follow-up in 6 months; if additional funding is available, then, further rounds of follow-ups could also be carried out to study whether our intervention affect household welfare of participants. The first follow-up survey will collect information on household characteristics and their perception about the withdrawal discounts. This survey will complement the information on the usage of the accounts that will come from the administrative data of Qodoo. This information will allow us to make a deeper analysis of the usage of the accounts.

Therefore, by randomly assigning eligible participants or clients to any of these experimental groups with equal probability, we will generate an exogenous variation in withdrawal or cash-out fees that we can use to identify how usage response to such account subsidize price of withdrawals.

2. Related literature (300 words max.)

2.1. Describe how the research fits into the existing literature. Explain how it contributes to existing research.

- Cite key references, i.e. references offering literature reviews on similar research questions as well as references to similar field experiments in other contexts.
- You full list or references should be included at the end of this document

2.2. How will your proposal contribute to closing any remaining knowledge gap and how does it complement previous research conducted on similar issues (experimental and non-experimental)?

Given that pricing and design are paramount for the success of any privately offered product, especially a product that target the poor in developing countries, there has recently been a growing interest to understand the responsiveness to price and design of various products usage or demand by the poor. For instance, in the context of health related products like bednets and chlorine, studies on demand or usage responsiveness to price or "cost sharing" were carried out by (Cohen & Dupas, 2010) in Kenya and (Ashraf, Berry, & Shapiro, 2010) in Zambia; respectively. As among the first field experimental studies on this topic, these studies have been able to provide rigorous evidence on how pricing of these products affect their demand and usage.

Similarly, in the financial inclusion literature there has been mounting number of studies in recent years to understand how pricing of financial products affect their demand and usage. This started with studies by (Duflo et al., 2006), (Mills et al., 2008), and (Grinstein-Weiss et al., 2013) in the USA that looked at the impact of matching contributions on retirement saving and individual development accounts. Recently, there has been increasing number of studies in developing countries context as well. Specifically, studies by (Schaner, 2015) in Kenya, (Kast, Meier, & Pomeranz, 2016) in Chile and recently (Karlan & Zinman, 2018) in Philippines, all looked at impact of increased in savings yield on demand and usage of commitment saving accounts. However, despite studying similar financial products these studies find mixed results on elasticity to yields of saving accounts. In particular, while (Schaner, 2015) finds positive effect of saving yields on account usage by well-matched couples, (Karlan & Zinman, 2018) and (Kast, Meier, & Pomeranz, 2016) didn't find a statistical significant effect of savings yield on demand and usage of savings accounts. In other words, they find that price elasticity of the saving accounts studied were not different from zero. In fact, in the study by (Karlan & Zinman, 2016), which unlike in the other studies used "market-viable rates" in their experiment, they find that even the upper bound of elasticity estimate is less than 0.5. Therefore, it is fair to say that the emerging evidence thus far on this topic is inconclusive. This implies that more studies are required in this front. Our study, even though not on savings yields, is one of those attempts.

Particularly, our project will contribute to the growing literature from two stand points: first, currently evidence is focused on the elasticity of savings yields and not much evidence on other aspect of saving such as transaction fees. Second, almost all the evidence that exist currently is based on commitment savings products. Thus, no evidence exists on the elasticity of usage of digital products like mobile money, which are now very popular in developing countries.

Experiment implementation

3. Targeted population (200 words max.)

Explain which individuals are the targets of the experiment. Justify your choice.

For our experiment, we target current users of mobile money services in the Gambia who own only mobile money accounts but do not actively use their accounts. To this effect,

we focus on the existing users of Qodoo mobile money, one of the largest mobile service providers in Gambia, who do not make active use of their mobile money accounts. The motivations for our choice are twofold: first, since we are hypothesizing that monetary cost is one of the reasons why people do not actively use their mobile money accounts, we expect high transaction cost as a constraint for account usage to be more prevalent among non-active users than active users. Accordingly, we expect the adoption of our intervention to be higher among the latter group. Second, we focus on Qodoo clients for the simple reason that Qodoo mobile money is more popular in the country and they also have a higher outreach than the other mobile money service provider. Hence, by selecting our sample from their e-money platform we are more likely to have a sample of e-money non-active users that is representative nationally. Indeed, this will also support the scalability of our results nationally.

4. Recruitment protocol and sample size (1.000 words max.)

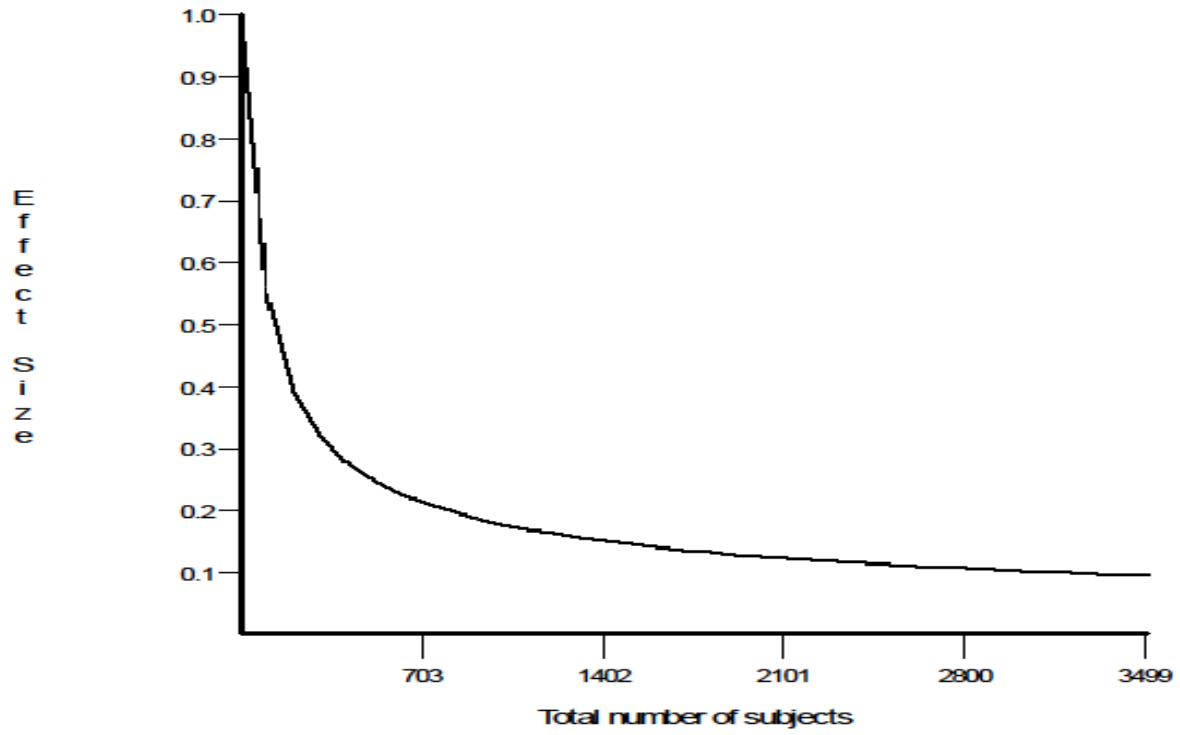
Explain how individuals will be recruited. Describe the criteria by which individuals will be included in the experiment. Where will the experiment take place? How large is the subject pool from which you intend to select participants?

The experiment will be conducted with Qodoo mobile money clients. Among the two providers of mobile money services in Gambia, Qodoo has the biggest customer outreach; this was made possible by the fact that they have been able, within a short time period, to successfully build a wide network of mobile money agents nationwide. This ensures that people can access the service in most places in Gambia.

For this study, we focus on registered Qodoo clients that do not actively use their mobile money accounts. Particularly on those who didn't make more than three transactions with their account three months before our intervention. This group of clients will form the basis of our sampling frame.

To find the appropriate sample size for the experiment we use power calculation with the following assumptions: (1) level of significance of 5%; (2) Beta of 0.20; (3) minimum detectable effect (MDE) of 0.135 standard deviations to be based on the proportion of inactive users. With these assumptions, we used the optimal design software to get an estimate of the minimum sample size required to get enough power in testing our null hypothesis. The results from this exercise and assuming a take-up rate of about 54% indicate that we will require a sample of at least 2545. The average take-up rate in the literature ranges from 8.7% in (Karlan & Zinman, 2009) to about 54.7% in (Kast et al., 2016). Thus, our estimate of take-up lies somewhere in the upper bound of this range. This is motivated by the fact that we targeting already users of mobile money services who, if selected to be treated, will receive subsidies for some elements of the service. Hence, there are strong incentives to participate; in fact, nonparticipation would mean opting to continue to pay the Qodoo normal fees. Indeed, this will mean giving-up a potential gain, which is sub-optimal. Thus, participation should be inferior to nonparticipation. Being aware that it is possible for people to make sub-optimal decisions, we allow for 46% of no take-up.

Below is a graph of the output of the power calculation using the OD software by Raudenbush, S. W., et al. (2011).



5. Experimental protocol (1.500 words max.)

Describe in detail the experimental design:

- What is/are the treatment(s) and the incentives embedded in this (these) treatment(s)?
- Are agents' decisions subject to strategic interactions?
- Will you exploit within- or between- subject variations?
- How close is the proposed experimental protocol to other designs used in the literature?

In this experiment, we create exogenous variation in withdrawal fees to identify the effect of withdrawal subsidies on usage of mobile money services. To this effect, our experiment will consist of three experimental arms; one control arm and 2 treatment arms. The three arms will be one of three withdrawal fee discounts: 0%, 15%, and 30%. The control group will consist of 60% of clients in the experimental sample who will be randomly assigned to the 0% withdrawal discount. The two treatment arms will be based on random assignment

of the remaining 40% to either the 10% or 20% withdrawal discount treatment. In all treatments, the cash-out discount will involve the discounting of the current Qodoo cash-out schedule by the withdrawal discount of the respective treatment and applicable for transaction amounts not more than 5,000; we will see shortly why this cap.

The Qodoo cash-out schedule, which can be found here, consist of 17 cash-out transaction ranges or brackets. It starts from a lowest cash-out bracket of 10-25 with a withdrawal fee of 6 (i.e. 60%-24% of cash-outs) to a highest cash-out bracket of 22,501-25,000 with a withdrawal fee of 450 (i.e. about 2%-1.8% of cash-outs). The upper bound of the highest cash-out bracket gives the maximum amount allowed per transaction and the daily limit is 50,000.[1] Thus, the cash-out fees range from 60% for 10 dalasis cash-outs to 1.8% for 25,000 dalasis cash-outs. But generally, the withdrawal fees are higher for lower cash-out amounts than higher cash-out amounts. In fact, from the 3,001-5,000 cash-out bracket, the withdrawal fees are less 3% for each amount withdrawn. In this regard, our withdrawal discounts will apply to just transactions of not more than 5,000.

Therefore, for participants in the first treatment arm, the withdrawal fee discounts will be a 15% discount on the current Qodoo cash-out fee for all transactions not more than 5,000. For transaction above this amount, the Qodoo normal fees will apply. The motivation for this is that above 5,000 the cash-out fees become quite normal in that they are not more 3% of the transaction amount. For participants that will be assign to the second treatment, they will get withdrawal fee discounts of 30% on all cash-outs of up to again a maximum of 5,000 and for cash-outs above this value the Qodoo normal fee will apply. Once participants accept to be included in the experiment, the discounts will start to apply on their respective accounts. So that any time the client makes a withdrawal (during the period for which the discounts will be in effect) at any agent they will get the discounts on their accounts by showing their withdrawal vouchers that will provided to them during the experiment.

Apart from the cash-out discount, all other aspects of the mobile money service will remain unchanged. In particular, cash-out related features such as daily transaction limit of 50,000 and a single transaction limit of 25,000 will remain unchanged. Meaning also for clients that will take part in the experiment, their single and daily cash-out limits will be as they are with the normal Qodoo account that the control group will receive. In this regard, the only source of variation between the control and the treatment group will be cash-out discount.

Given that there are three experimental groups and each participant will be randomly assigned to just one of the groups, it implies our field experiment is of the between-subject design type. Thus, impacts of the treatments would be determined by exploiting between-subject variations. In particular, we compare participants in each of the two treatment arms to participants in the control group, who by definition receives zero withdrawal fee discounts, as well as between participants in different treatment arms. This way, we can identify the effect of our subsidy on usage of the account.

As our study involves a randomized study on price sensitivity, we follow the experimental protocol of studies on this topic detailed in our literature review section. In particular, we

[1] Note: all the amounts are quoted in the local currency, Dalasi. The current dalasi to

follow studies such as (Duflo, et al., 2006), (Karlan & Zinman, 2018) and (Schaner, 2015) were randomization variation in matching rates or interest rate yields are used to identify the responsiveness of savings demand to changes in price of yields. So, for all these studies the experimental arms consist of different matching or interest rates and individuals are randomly assigned to one of the matching or interest rates. We use a similar approach to identify the effect of interest. Hence, even though we study withdrawals fees instead of matching or yields, the design and implementation of our study follow closely these studies.

6. Timeline (300 words max.)

Activity	Month												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Ethical clearance and consultation with Qodoo management	■												
Design of survey instruments	■	■	■										
Baseline		■	■										
Sample selection and Randomization		■	■										
Cleaning and analysis of Baseline Data				■	■								
Preparation of baseline reports				■	■								
Implementation of Withdrawal fee discounts				■	■	■	■	■	■	■			
Follow-up										■			
Cleaning and analysis of follow-up Data											■		
Analysis data from experiment												■	
National policy workshop													■
Dissemination of Final results and report writing													■

7. Budget outline (300 words max.)

Activity	Unit cost	Units	Days/pages	Rounds	Total (GMD)	Total (US Dollars)
Payment to participants						
Treatment 2	850.00	764			648,975.00	14,277.45
Treatment 1	500.00	764			381,750.00	8,398.50
Sub Total A					**1,030,725.00**	**22,675.95**
Data collection and Entry Expenses						
Field supervisors	2,500.00	2	10	2	100,000.00	2,200.00
Enumerators	1,000.00	15	10	2	300,000.00	6,600.00
Questionnaires printing cost	1.00	2545	10	2	50,900.00	1,119.80
coders	350.00	10	6	2	42,000.00	924.00
Data cleaning	750.00	4	5	2	30,000.00	660.00
Coordinator	3,000.00	1	10	2	60,000.00	1,320.00
Transport Cost	300.00	15	10	2	90,000.00	1,980.00
Sub Total B					**672,900.00**	**14,803.80**
Training of Enumerator expenses						
Allowance for Participants	350.00	15	2	1	10,500.00	**231.00**
Trainers	4,000.00	2	2	1	16,000.00	**352.00**
Sub Total C					**26,500.00**	**583.00**
Other Expenses						
Staionary (lumpsum)					**25,000.00**	**550.00**
Institutional Fee						
Sub Total D					**1,755,125.00**	**38,612.75**
Institutional fee 15% of sub.total D					**263,268.75**	**5,791.91**
Grand Total						

					2,018,394	**44,404.66**

SECTION C – CAPACITY BUILDING

1. Team composition and experience

For each research team member, please indicate (using the following tables – one per member):

1. **Age, sex, as well as relevant/prior training and experience** in the issues and research techniques involved (start with team/project leader).
    - Note that PEP favors gender-mixed teams, composed of a maximum of four (4) members, at least 50% female researchers, and at least two (2) junior researchers (aged under 30), all contributing substantively to the research project. PEP also seeks gender balance in team leaders and thus positively encourages female-led research teams.
    - Each listed member must post an up-to-date CV in their profile on the PEP website – refer to "How to submit a proposal" on the call's webpage.
2. **Benchmark and expected capacity building**:
    - Describe the research capacities that each team member (and potentially her/his affiliated institutions) is expected to build through their participation in this project. This is an important aspect in the evaluation of proposals and should be presented in detail.
        - What techniques, literature, theories, tools, etc. will each team member and her/his institutions learn (acquire in practice) or deepen her/his knowledge of?
        - How will these skills help each team member in their career development?
        - What are the current states of knowledge of each team member in regard to the project you are proposing?
3. **Task and contributions to project**: Indicate the specific tasks each team member would carry out in executing the project.
    - Note that one of the team members must be clearly identified as responsible for coordinating and reporting on the design/implementation of the projects' policy engagement and communication strategy (see section III below). To achieve a more balanced task distribution, PEP advises to select a member other than the project leader.

Team leader

Name	Age	Sex (M, F)	Highest degree/diploma
Mr. Hamidou Jawara	30	M	M.Sc. Economics final year PhD student in Quantitative Economics

Training and experience	Attended a course in field experiments at the university of Kiel. Attended a workshop on Experimentrics for PhD students at the University of Hamburg. I am currently enrolled in a summer course on Field Experiments with John A. List at the Kiel Institute of World Economy. In addition, I have a working paper on the impact evaluation of cash transfers on food security using data from a Randomized control trials in Kenya. I have also a working paper on group lending and personality traits using a data from a survey I did in Gambia. Asides from these experiences, I have participated in couple of surveys in Gambia both as a data collector and lead researcher.
Expected capacity building	With this project, I expect to enhance my skills on carrying out field experiments and randomized control trails in developing countries. Even though, I have quite some theoretical knowledge in the area, I have not yet had the opportunity to undertake a field experimental project of my own. Thus, I see this project as a unique opportunity to do that. Since field experiments and randomized control trails are now the most favored methods for testing a hypothesis or doing impact studies, to have the opportunity to enhance my capacity in these areas would be an immense value addition. In fact, during the course of my doctoral studies, which ends early next year, I have developed several research problems for Gambia that I want to address using these methodologies. This is another reason why the trainings offered under this project will be so beneficial to me. Moreover, for University of The Gambia, where I work, we lack capacity in these areas. Therefore, to be able to get training on these methodologies would also be of high benefits to the institution.
Contribution to project	My specific contributions towards the project would be the following : 1. Coordinating all activities of the team and ensure that each member of the team meets his or her commitment to the project in ensuring that it is huge a success. 2. Spearhead the design of the experiments and developing the survey instruments (Baseline and follow ups) 3. Manage all matters relating to the publication of the project findings

Team member #2

Name	Age	Sex (M, F)	Highest degree/diploma
Adama Touray	29	F	MA Economics
Training and experience	I never had an opportunity to attend trainings in field experiment both theoretically and practically. However, I had experience in data collection and management as I took part in the population and housing census and labor survey both as a supervisor and an enumerator in 2013 and 2009 respectively. In addition, I also have some analytical skills, presentation skills, good communication skills, data management skills and training and supervisory skills.		
Expected capacity building	I expect to attain at the end of this project, a deeper understanding of field experiments both theoretically and practically. In addition, I see this project as an opportunity to enhance crucial skills needed in my career which includes, research skills and techniques, policy formulations especially economic policy and policy evaluation skills. All these skills I believed will be of immense benefit to the community as I will disseminate the knowledge I obtained from this project and many others in the future with colleagues and students of my institution.		
Contribution to project	My specific contributions towards the project would be the following : 1. Data Processing and cleaning 2. Lead discussions with potential users of the study results 3. Coordinating Survey activities		

Team member #3

Name	Age	Sex (M, F)	Highest degree/diploma
Fatoumata Singhateh	28	F	MA Economics (Masters of Arts)
Training and experience	I red several papers on field experiments but have not yet done any research using this methodology. Aside from that, I have specialized skills in the area of data Management and analysis, field research, analytical writing, information synthesis and presentation. I attended trainings on data collection and management with effective communication at Gambia Bureau of Statistics (GBOS). In addition, I have experience in coordinating field research and also the ability to work with large data sets, such as Multi Indicator Cluster Survey (MICs), Labor Force Survey (LFS) and Integrated Household Survey (IHS) . Furthermore, I have practical knowledge in the selling and management of financial products and services such as corporate accounts, savings accounts and treasury management.		
Expected capacity building	With this project, I expect to develop my knowledge on experimental research approaches since they are now the leading research methodologies in the social sciences. I expect to also improve my skill of analyzing data from		

	experiments as well as doing impact evaluations. I would also want to enhance my skills on how to effectively engage policy makers and increase the chance of them accepting research results.
Contribution to project	My contributions to the project would be : 1. Management of national policy workshops. 2. Lead engagement on policy implication of the study. 3. Prepare project reports.

Team member #4

Name	**Age**	**Sex (M, F)**	**Highest degree/diploma**
Lamin B. Jammeh	38	M	MA Economics
Training and experience	I am currently attending a PhD bridge program in Nairobi organize by African Economic Research Consortium (AERC). I might not have any prior training and experience in field experiment and randomized control trails methodology, but I do have lot of experience and understanding of the Gambian banking industry. As a lecturer, researcher and consultant, I am familiar with report writing for policy purposes and took part in couple of surveys both as a research Assistant, researcher and data analyst. My banking experience has exposed me to the practical reality of the difficulties an average Gambian is faced with when it comes to financial inclusion. I also have experience in negotiation and consultation, customer relationship management, selling and management of financial products and services		
Expected capacity building	Field Experiments and randomize control trails are becoming a very important area in policy research, and it is my hope that this project will expose and enhance my understanding of these methodologies. Moreover, as a young researcher and lecturer, I expect to learn lot of skills and techniques in policy formulations and evaluation that will make me contribute positively towards the development of Africa in general and The Gambia in particular.		
Contribution to project	My specific contributions towards the project would be the following : 1. Analyzing surveys results and preparing briefs 2. Spearhead engagements with the partner financial institutions (bank and Qcell)		

*Standard research teams are expected to include 4 members (including the team leader) - a 5th member requires additional justification

2.2. List of past, current or pending (non-PEP) projects in related areas involving team members, including resulting publications (If any)

Name of funding institution, title of project and related publications, list of team members involved

Name of funding institutions	**Title of projects and related publications (link)**	**Team member(s) involved**
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	

2.3. List of past or current PEP-supported projects involving team members, including resulting publications

Indicate the PEP project code, title and external (NON-PEP) publications if any, as well as those of your team members who were involved in each project.

Project code (e.g. PMMA-12345)	**Title of project and related external (non-PEP) publications, if any**	**Team member(s) involved**
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	
	Title:	
	Publication (reference):	

SECTION D – POLICY ENGAGEMENT

3.1. Policy relevance

3.1.1. Describe policy context and needs

Describe the specific policy issues or needs that your research aims to address; how your potential outcomes and findings may be used in policy making? Please be as precise as possible, indicating specific current or prospective policies and the specific contributions your research would make.

Also, justify timing of your research in terms of policy and socioeconomic needs and context – e.g. reference to existing, planned or potential policies at the national, regional or local level; specific political context; international examples of similar policy problems or solutions, etc.

In developing countries like Gambia, a huge proportion of the population is still unbanked. Reports from the Global Findex 2014 by (Demirgüç-Kunt, et al., 2015) indicate that Just 34 percent of the adult population and 30 percent of women in Sub-Saharan Africa have access to formal financial services. Yet, there is significant evidence, see (Ashraf et al., 2010) and (Bruhn and Love 2014) for a review, that ownership of formal accounts help household to set aside money to handle lump-sum expenditures (such as education, agricultural, and health investment) and accommodate unexpected income shocks, which reduces both poverty and income inequality.

As in many developing countries, among the reasons why many people in Gambia, particularly the poor in rural areas, do not own formal accounts like basic savings accounts are high monetary and participation cost, low financial literacy, lack of trust in financial institutions, and lack of availability of financial service providers in areas predominantly occupied by the poor. Hence, an intervention that addresses any one of these constraints should have a positive impact on financial inclusion. This would consequently enhance inclusive economic growth. The latter is among the long-term development goals of The Gambia.

Although, no formal financial inclusion policy exist for Gambia at the moment, the use of financial inclusion as a tool for inclusive growth for Gambia is clearly outlined in PAGE (Program for Accelerated Growth and Employment); the policy document that outlines how vision 2020 should be operationalized in the short-term. In PAGE II (drafted), there is an excerpt from vision 2020 that reads "The long term objectives of Vision 2020 are to address poor savings through improvements in output from the real sectors and enhancing financial intermediation", (Draft PAGE II 2017-2020). This statement of vision 2020 shows that improving financial intermediation is a core objective in the countries long-term development goals. Moreover, it also highlights the willingness of government to make financial services such as mobile money, more accessible and used by the majority of Gambians. One way of enhancing financial intermediation is to make the usage of financial services more affordable, which can be achieved by addressing constraints such as high marginal cost.

Therefore, one of the contributions of our project towards policy in Gambia would be to provide evidence on the extent to which subsidizing monetary cost could enhance financial intermediation by making financial services such as mobile money more likely to be adopted and use by the poor. This is in line with an argument made by (Jaabi, 2017) that a reduction of transaction cost can stimulate financial inclusion in Gambia via a reduction in financial friction.

Moreover, as part of her aim of using financial inclusion to tackle the problem of inclusive growth in Gambia, the government of The Gambia also want to promote the use of smart technologies such as mobile financial services to reduce financial friction and increase the use of financial services; this is rationalize by the high penetration rate of mobile phones (about 67%) in the country. However, the adoption and usage of such technologies could be constraint by high monetary cost. Therefore, by studying the elasticity of demand and usage of digital finance products such as mobile money to discounted withdrawal fees, we will be able to also shed some light on this issue. This will motivate a strong case for policy intervention in this regard.

3.1.2. Consultations to date

List the consultations that you have had with potential research users (e.g. policy makers or stakeholders) and that have helped define your research question, and/or informed you of the specific policy context described above.

For each institution consulted, please:

- List key (individual) representatives who participated in the consultation
- Describe the main outcome(s) of the consultation (feedback, inputs, etc.)

Name of institution/organization #1	Ministry of Finance and Economic Affairs
List the key representative involved in consultations (names and titles/positions)	
- Mr. Lamin Camara, Permanent secretary - Mr. Alagie Fadera, Director of Economic planning	
Describe main outcomes of consultation – feedback or inputs received	
We informed them of our plan to carry out this research project and requested for their suggestions to make our research more policy relevant. In our consultations, they have highlighted that our project is timely as the government of the Gambia, under the new political dispensation, wants to promote financial access; particularly for the poor in rural areas. Hence, scientific evidence on the issue would provide a solid support for policy making in this front.	

3.2. Engagement strategy

3.2.1. Identify target audiences

Identify potential users of your research findings – institutions/organizations that may use your findings to inform, advice or influence policy or other relevant decision-making processes. Please explain why you believe these institutions/organizations are the most important potential users of your research, to inform relevant development/policy decisions.

Name of institution/organization #1	Ministry of Finance and Economic affairs of The Gambia
Explain relevance of this user to inform key decisions	
Through the directorate for economic planning, the ministry is responsible for advising government of the Gambia on policies needed to tackle poverty in the country. Therefore, the findings of this research would be useful to them in that it will help them understand to what extent mobile money user's care about monetary cost like cash-out fees and whether subsidizing these cost could be a good way to encourage more mobile money usage in the country.	

Name of institution/organization #2	Ministry of Women Affairs of The Gambia
Explain relevance of this user to inform key decisions	
Working with affiliated bodies such as Women's Bureau and the National Women Council (NWC), the ministry is in charge of advising government on women socio-economic issues and how this could be improved to attain inclusive growth. As one of the aims of our research is to uncover the relationship between financial access and economic empowerment, particularly for women in Gambia, the results of our research would be useful to them. It will provide evidence that financial access for women could be a useful tool in improving the livelihood of women as well as empowering them.	

Name of institution/organization #3	UNDP, Gambia
Explain relevance of this user to inform key decisions	
The UNDP is a key international organization that assists the government of the Gambia to implement policies that are relevant for inclusive growth and are pro-poor. One of their central aims is to help the country towards the realization of the sustainable development goals 2030, which has poverty eradication as one of the main goals. Hence, our findings will provide them reliable evidence on whether subsidizing monetary cost in the use of financial products can be effective in catalyzing financial inclusion in the Gambia.	

3.2.2. Define outreach and engagement strategy

How, from proposal design to the dissemination of your research results, will you consult and communicate with these users to both gather their inputs and keep them informed of your project, in order to increase chances of research uptake?

For the institutions named above, we have made some attempts to engage all of them for discussions regarding our project. But so far we got feedbacks from just the people at the ministry of finance. Notwithstanding, we plan to keep the discussions on going throughout the project with all of them. In particular, we intend to share the results from each phase of our study with these stakeholders and ask for their inputs to make them more contextual. In addition, we even plan to engage them in our questionnaire development for the various surveys so that any suggestions on indicators that should be collected and analyzed would be incorporated in the survey instruments.

3.2.3. Outline your preliminary dissemination strategy

Outline your preliminary dissemination strategy (channels, tools, events, audiences, etc.).

Note that PEP expects grantees to disseminate information about their research work and (expected) outcomes throughout the project cycle, and not only after publication.

Our plan is to organize validation workshops to present the main findings from each of our surveys (from baseline to endline). For the workshops, we target all the institutions that we

identify as potential users of our findings, members of the academic community who are interested in the topic, stakeholders who advocate for the use financial inclusion to tackle poverty, members of the media, and ordinary members of the public. Since it is important for those enrolled in the experiments not to know that they are actually in an experiments, the workshops would be organized taking into consideration this issue.

SECTION E – OTHER CONSIDERATIONS

1. Ethic approval

Discuss ethical issues involved with the experiment.

Does your institution require ethical approval _____Yes _____x___No

If not, then PEP will submit your project to a "Research Ethics Review Committee (www.pep-net.org/research-ethics-review-committee)

We do not foresee any serious ethical issue from our project other than the fact that not every participant in the study will get the opportunity to have an account for free. However, due to resources constraints and our identification strategy it is rational to do this. In addition, the evidence could motivate policy on account opening charges that could benefit all households including those that didn't get the free accounts in our experimental pilot.

2. Ethical, social, gender or environmental issues or risks in relation to your experiment (300 words max.)

Apart from what is mentioned in the preceding section, another ethical issue might be that for some households just a female head of the household would be enrolled in the experiment. Some male headed households, especially those with strong religious and cultural beliefs, could consider this unethical and it might motivate them to view our intervention with suspicion and might even try to undermine it. To avoid such misunderstandings, we intend to include a question in our baseline survey questionnaire that will ask the household head whether it is ok if another member of the household, says the partner, receives a free savings account. If a household head response in the negative to this question and female member is to be enrolled in that household, even if she is not the household head, we would give detail explanations to the household head as to why that particular member is to be enrolled.

3. References and plagiarism:

Applicants should be very careful to avoid any appearance of plagiarism. Any text of five or more consecutive words that is borrowed from another source should be carefully contained between quotation marks with a reference to the source (including page number) immediately following the quotation. It is essential that we be able to distinguish what you have written yourself from what you have borrowed from elsewhere.

Note also that copying large extracts (such as several paragraphs) from other texts is not a good practice, and is usually unacceptable. For a fuller description of plagiarism, please refer, for example, to the following website:

- http://writing.yalecollege.yale.edu/advice-students/using-sources/understanding-and-avoiding-plagiarism

PEP will be using a software program to detect cases of plagiarism.

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