The impact of rural microcredit and financial inclusion schemes targeting women on household vulnerability and economic empowerment: evidence from South West Nigeria

Revised Proposal and Response to Comments

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Theme: Safety Net Complementarities

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1. Abstract (100 to 250 words)

Improved financial inclusion is a policy imperative for inclusive growth and poverty reduction in developing countries. However, access to financial services is still limited in Africa. Gender plays an important role, as women are more financially excluded than men. In Nigeria, women who generally lack control over family resources are amongst the most financially excluded subgroup of the population. Traditions and socio-cultural norms that make women generally subservient to men constrain their access to financial services and productive assets. The Central Bank of Nigeria recently earmarked funds for lending to small and medium enterprises, with 60% of the fund for women empowerment through microcredit, with the hope to significantly improve financial inclusion amongst this subgroup of the population by 2020.

We propose a non-experimental impact evaluation of a microcredit scheme targeting market women for financial inclusion and empowerment in South West Nigeria. The scheme encourages women who are cleared to receive microcredit to form cooperatives in order to secure their credits and then receive training in certain areas. Our research is in collaboration with Amoye Microfinance Bank Ikere Ekiti Nigeria, a rural financial services provider, thereby supporting evidenced-based policy making and capacity building in the bank. We plan to assess the impact of the microcredit on indicators of household vulnerability and women empowerment, using regression discontinuity method. Results, no doubt, should be of particular importance to policy makers, financial institutions, and development practitioners alike.

2. Main research questions and research objectives

In a growing number of countries, banks and other financial service providers are finding new ways of delivering financial services to financially excluded segments of the population (World Bank 2012). Microcredit programs are seen as important interventions to contribute to the achievement of the gender equality and empowerment targets of the Millennium Development Goals (MDGs) in developing countries (Kabeer 2005).

Financial inclusion relates to the delivery of banking and financial services at affordable costs to the vast majority of disadvantaged, unbanked or vulnerable groups of the population. According to the Central Bank of Nigeria (CBN), financial inclusion is achieved when adults have easy access to a broad range of formal financial services that meet their needs and are provided at affordable cost (CBN 2012). A financial inclusive system will allow poor households to save and manage their finance securely, decrease their vulnerability to economic shocks and enable them to contribute more actively to their well-being (Ramji 2009).

Gender plays an important role, as women are typically more financially excluded compared to men. The World Bank acknowledges 'significant disparities along gender lines in how adults save, make payments, borrow money and manage risk' especially among lower and middle income countries. In a World Bank study of 124,000 individuals drawn from 123 countries, researchers find that females are significantly less likely to use formal accounts (Allen et al., 2012). Among the financially excluded adults in Nigeria, 54.4% are women (CBN 2012). Women generally lack control over family resources, as traditions and socio-cultural (and sometimes religious) norms that make women subservient to men, also constrain their access to financial services and productive assets.

Using microcredit interventions for the purpose of improving financial inclusion amongst the

financially excluded subgroup in the population, such as women has gained increasing attention in recent years (e.g. World Bank 2012, Ramji 2009, Pande et al 2008). In Nigeria, the CBN launched a National Financial Inclusion Strategy on the 23rd of October 2012, aimed at reducing financial exclusion among adult Nigerians from 79.6% to 20% by the year 2020. As part of the strategy, the CBN earmarked funds for lending to small and medium enterprises (SMEs), with 60% of the funds for women empowerment through rural microcredit, with the hope to significantly improve financial inclusion amongst this sub-group of the population. Additionally, the scheme encourages women approved for credit to form (or join) cooperatives to secure their credit, and provides training in certain areas to members.

Microcredit is considered as an important policy instrument to enhance women's well-being (Pande et al 2008). It is believed that improving the financial inclusion amongst women will benefit their immediate households through broader access to financial services and can empower them. Moreover, women are considered good credit risk, less likely to misuse loans, and more likely to share the benefits with other members of the family or household, especially children, and more likely to empower them (e.g. Garikipati, 2008).

Our research objective is to evaluate the impact of the rural microcredit on indicators of household vulnerability and women economic empowerment, using regression discontinuity designs. From institutional perspective, we also plan to examine the impact of the scheme on the performance of the microfinance institution providing the services, using difference-in-difference method. We will also examine any unintended effects (positive or negative) associated with the scheme. Understanding the effectiveness of the scheme on women empowerment is particularly important in an environment with high levels of constraints and barriers facing women. Our research is being undertaken in collaboration with Amoye Microfinance Bank, Ikere Ekiti, South West, Nigeria, a rural financial services provider, thereby supporting evidence-based policy-making and capacity building.

In pursuit of our research objectives, we state the following core research questions;

- What is the impact of the rural microcredit scheme on indicators of household vulnerability and women economic empowerment? Our interest in this question is to understand the extent to which the scheme affects the constraints, and barriers facing women's access to financial services, ownership of household productive assets and household decision-making.
- What is the impact of the rural microcredit scheme on the performance of the microfinance institution? The relevance of this question is to understand the impact from the point of view of the financial institution.
- Are there any unintended effects (positive or negative) associated with the scheme? If so, to what extent do they affect the overall impact of the scheme?

3. Policy context

The intervention we consider is a rural microcredit scheme designed with a training component to increase the financial inclusion amongst market women and accentuate their

economic empowerment. The study will be undertaken in collaboration with a rural financial services provider, the Amoye Microfinance Bank, Ikere in Ekiti State, South West Nigeria.

In this intervention, unbanked market women are encouraged to form cooperatives in order to secure their credit and manage their financial activities thereby increasing financial inclusion. Members of the cooperative then undergo informal training designed to make them develop basic financial management and goal setting skills, financial literary (e.g. record keeping), and the use of electronic payment infrastructure (e.g.) payment cards, point of sale terminals and mobile phones, etc.) to transact business. These skills are expected to enhance their empowerment by serving them well in managing resources beyond those invested in their market businesses.

From the perspective of policy, the proposed research project is justified on the several grounds. First, in developing context, financial inclusion is important for improving the well-being of the poor segment of the population particularly in rural areas, including rural poor farmers, rural non-farming enterprises and other vulnerable groups such as women (Parekh 2006). Women are amongst the most financially excluded in Nigeria (CBN 2012). This is partly because of the cultural norms that make women generally subservient to men, which constrains women's access to financial services. Women generally lack control over family resources including financial resources.

Second, the financial system policy maker in Nigeria, the CBN recently set aside funds for lending to SMEs through microfinance providers, with 60% of the fund earmarked for women empowerment through increased financial inclusion, in the hope to significantly reduce the population of women presently excluded from the financial system from 79.6% to 20% by 2020 (CBN 2012). A demonstration of the effectiveness of this scheme cannot be over-emphasised, particularly in order to justify the huge resources committed to enhancing financial inclusion, as well as accountability to the public.

In addition to high level of financial exclusion, transaction costs associated with the banking system as well as distance to bank branches in rural Nigeria are the key barriers to using formal savings accounts, particularly amongst women (EfInA 2010). It is of interest to understand how these constraints are affected by increasing financial inclusion of women, especially participation in undertaking productive activities, the use of electronic payment infrastructure and having control over how to spend some household incomes or saving.

Secondly, for banking and microfinance institutions, supporting financial inclusion represents both business opportunities and social responsibility, and the role of cooperative movements and microfinance institutions has been considered as important to improve financial inclusion. Whether this also empowers the members and in what direction are of interest to policy (Parekh 2006).

Also, the proposed research is timely, as the central question begging for answers globally is whether the world can achieve global financial inclusion by 2020 (Centre for Financial Inclusion, CFI 2013). The need to address this question has gained momentum recently. There are discussions and research efforts relating to how the goal of financial inclusion can be achieved. Also, financial inclusion now forms the basis of new national policy agenda in several developing countries, including Nigeria, South Africa, and other countries in Sub-Sahara Africa (e.g. African Development Bank, AfDB 2013).

At the forefront of this call are the major international organisations such as the World Bank, International Finance Corporation, AfDB, etc. For example, a new publication, '*Financial Inclusion in Africa*, released on December 9, 2013 by the AfDB finds that for sustained and inclusive development to thrive, a great deal of innovation is needed to ensure that appropriate financial services and instruments are put in place for the benefit of the poor and other vulnerable groups in Africa (AfDB 2013).

Moreover, the World Bank has just released the 2011 database on Global Financial Inclusion (called *Global findex)*, measuring how adults save, borrow, make payments and manage risk in 148 countries across the world[1]. The database does not currently include measures of microfinance outputs, (even though microfinance forms the basis of some of the variables) and empowerment. Thus, the finding from our proposed research may contribute to further development of the database.

Additionally, it is now recognised that the conventional approaches to addressing poverty and other MDG goals are insufficient to address the challenges, and that financial inclusion offers incremental and complementary intervention to tackle poverty, to promote inclusive development and to address the MDGs. Moreover, a lesson from the recent global financial crisis is the need to scale-up microfinance efforts toward financial inclusion and this is more imperative now than at any other time.

Our proposed research also offers potentially useful approaches to planning, evidence-based policy-making designed to strengthen the connection between microcredit, financial inclusion, and empowerment. The findings from our research can also provide information on the empowerment effects of financial inclusion, which is currently lacking.

Finally, our proposed research will be valuable in understanding the impact that microcredit schemes can have, not only in realising the goal of financial inclusion, but also in empowering women. Thus, findings from our research will contribute to building the awareness of policy makers and other stakeholders with respect to the financial needs of women and bringing women leaders into policy dialogue on how these can enhance their empowerment.

In summary, the increasing interest outline above should be matched with evidence-based research to demonstrate the effectiveness of microfinance programs targeting women for financial inclusion and empowerment. Doing so in a developing country context has tremendous policy significance.

4. Summary of literature and scientific contribution

The theoretical literature demonstrates the mechanisms through which improved financial inclusion through microfinance initiatives can empower women. These include women having access to financial resources on their own account and tools that help them make a living, increasing their bargaining power within households, and reducing their vulnerability to external shocks (Napier et al 2013, Ramji 2009).

However, there is little evidence-based research to support these propositions. Rather, empirical studies generally show that lending to women in developing countries may benefit

[1]For details see, http://go.worldbank.org/TN8C86K630

their households, but this has not translated into their empowerment, and indeed has actually disempowered them (for a review to these studies, see Garikipati, 2008).

Also, previous studies in impact evaluation of microfinance targeting women have largely focused on institutional level indicators of performance (e.g. repayment, customer retention, new account opening, etc.), thereby limiting our understanding of how women respond to the credit opportunities (World Bank 2007). At best, these institutional level outcomes can be considered as outputs for the microfinance, they do not necessarily imply outcomes for the customer. For example, new account opening may imply more people being served by the microfinance scheme, but from the point of view of the customer, this will be desirable only if the program improves their well-being (e.g. income).

Thus, there are clear knowledge gaps in understanding the theoretical propositions and how women respond to recent targeted microfinance initiatives, particularly in terms of the impacts on household vulnerabilities and empowerment. This is particularly important in developing country context generally, and African countries such as Nigeria in particular, where access to financial services by individuals and households is still limited, and traditions and sociocultural norms make women generally subservient to men, thereby limiting their control over family resources.

It is equally important to understand the distinction between institutional and customer level outcomes, and the process through which the former translate to the later. This is because some scheme outputs can also measure customer outcomes (World Bank 2007). For example, whilst saving rate provides an indication of a source of loan capital to the microfinance institution; it is also an indicator of financial stability of the customer. However, different impact evaluation methods may be required to assess these outcomes.

Our proposed research offers useful approaches to institutional planning and evidence-based policy-making designed to strengthen the connection between microcredit, financial inclusion, and gender empowerment. The findings from our research will also provide information on the empowerment effects of financial inclusion, which is currently lacking.

Finally, the World Bank has recently released the 2011 database on Global Financial Inclusion (called Global findex), which measures how adults save, borrow, make payments, and manage risk in 148 countries across the world[2]. The database is at its developmental stage, and does not currently include measures of microfinance outputs (even though microfinance forms the basis of some of the variables) and empowerment. Thus, insights from the findings of our proposed research may contribute to further development of the database.

5. Methodology

Our central objective is to assess the impact of a rural microfinance and financial inclusion (the intervention) on household vulnerability and women empowerment. We also plan to assess the impact of the intervention on a set of indicators of institutional performance. In the absence of an experimental design such as a randomised control trial, based on random assignment of participants into treatment and control groups, we propose quasi-experimental approaches (for a

[2] For details, see http://go.worldbank.org/TN8C86K630.

review of methods, see Gertle et al., 2011). In this section, we provide details of methods to be used to identify program impact, thereby addressing the central objectives of the study, and the specific research questions stated earlier.

5.1. The intervention

The intervention we consider is a microcredit scheme designed to improve financial inclusion amongst rural market women accentuate their economic empowerment. As part of this scheme, market women who have been cleared to receive credit are encouraged to form or join existing cooperatives in order to secure their credit and manage their financial activities. The individual can choose to join or not to join. Those who form or join a cooperative then undergo informal training, designed to improve their financial inclusion by developing their financial management skills, financial literacy (e.g. record keeping) and the use of electronic payment infrastructure (such as payment cards, point of sale terminals, and mobile phones, etc.) to transact business. These skills are expected to also enhance their empowerment by serving them well in managing resources beyond those invested in their market businesses.

5.2. Identification of program impact (individual level outcomes)

A key issue in evaluation of microfinance is to find a comparison group that adequately mimics the treatment group (World Bank 2007). The difficulty is in finding a comparison group of non-participants who are similar (in terms of characteristics) to participants. Rigorous impact evaluation requires that the unobserved factors amongst the treatment and control groups are similar.

The Amoye microfinance scheme appears to exhibit some features of an encouragement design, where access to credit is non-random, and no one is excluded from participating. However, it is not an encouragement design per se, as the determination of those who receive credit or otherwise, is not random, (See, Duflo et al., 2006 for details about encouragement design). Therefore we will exploit the quasi-experimental design embedded in the delivery for the identification of program impact.

In the Amoye microfinance scheme, all market women cleared to receive a loan (irrespective of the amount) were eligible to participate in the scheme, and each of them was asked if they would join a cooperative to secure their credit and receive the training[3]. Thus we have two groups of women, those who successfully secure credit and join or form a cooperative to receive the training (or not), which we designate the treatment group, and those who, despite being eligible to apply for credit, were unable to secure credit (the control group). In this case, if the two groups exhibit similar characteristics, the impact of the scheme can be examined by comparing outcomes between women in the treatment and control groups. The models to identify the impact are presented as follows;

[3] In the South West of Nigeria, and Ekiti State in particular, being a member of a local cooperative association is considered the most secure way to guarantee repayment of loans. People attach repayment to family integrity, so that a default is considered a stigma to family members.

5.2.1. Regression Discontinuity design to evaluate the impact of the scheme on household vulnerability and women economic empowerment

Evaluating the impact of interventions such as microcredit schemes generally face the problem of addressing selection bias arising from different sources. With respect to the Amoye microcredit scheme, participants would not have been randomly selected from the population of women in Ikere or indeed in Ekiti State. Additionally, the criteria determining selection (loan or credit approval) may also be correlated with the outcomes of interest. Typically, the process of granting or securing loans in Nigeria is a function of some measure of empowerment (loan applicants would typically be expected to provide evidence of some asset as collateral). There may also be unobserved (and usually unobservable) factors associated with participation that may also correlate with the outcomes of interest.

In the absence of randomisation and because the scheme as already been implemented, we plan to use regression discontinuity (RD) methods to evaluate the impact of the scheme on indicators of household vulnerability and women economic empowerment. The RD method is applicable in a situation where participation (or treatment assignment) is based on meeting a threshold set within some eligibility criteria (Khandker et al., 2010; Lee and Lemieux 2010; Robin and Pei 2012). We will employ combinations of graphical and estimation techniques within the RD method. The graphical approach is useful for an initial visualisation of the identification strategy of the RD design, and provides the basis of estimation by informing the functional form of potential relationships.

For estimation, we will adopt a parametric strategy for its precision, while also recognising and minimising its potential for bias. Essentially, we will estimate the following general model of the outcome (Y_i) as a function of treatment (T_i) and a rating variable (r_i) centred at the cut-point, in which the i's represent individual observations.

$$Y_i = \alpha + \beta_0 T_i + f(r_i) + \varepsilon_i \qquad (1)$$

The rating variable is included in the model to correct for selection bias (Heckman and Robb 1985). The parameter α measures the average value of the outcome for those in the treatment group after controlling for the rating variable, while β_0 measures the impact of the treatment on the outcome at the cut point (in other words, the effect on the outcome due to the treatment, which is the parameter of interest). Finally, ε_i is a random error term for each observation (i), which is assumed to be independently and identically distributed.

Attempts will be made to minimise bias by trying out various functional forms of the relationship between the conditional mean of the outcome Y_i and the rating variable. For example, the models often tested in parametric RD analysis include linear, linear interaction, quadratic, quadratic interaction, cubic and cubic interaction models. We will adopt the F-test approach to determine the correct functional form (Lemieux 2010).

Furthermore, the literature on the application of RD method indicates that the parameter estimates from the model may be sensitive to the covariates included or omitted from the model, which may invalidate the RD design. Bias arises if the parameter estimates change significantly as covariates are included or excluded, suggesting that those in the treatment

group differ in those characteristics from those who did not get treatment. It is suggested that including covariates in (1) will reduce some of this bias (Lemieux 2010).

5.2.2. Difference-in-differences method to evaluate the impact of the scheme on the performance of the microfinance institution (Amoye Microfinance Bank, Ikere Ekiti State)

We propose the use of a difference-in-differences (DID) method to evaluate the impact of the scheme on the performance of the Amoye Microfinance Bank (AMB). The DID method has been consistently used in impact evaluation of microfinance programs, especially where the focus of analysis is on institutional performance indicators such as repayment rate (e.g. Karlan and Golberg 2007).

We denote the value of the institutional level outcome in the pre-scheme period ($t = 0$) by g_{T0}, and correspondingly at the end of post-scheme period ($t = 1$) by g_{T1}. The difference between the two measures of outcome between time $t = 0$ and time $t = 1$ can be written generally as;

$$\Delta T = g_{T1} - g_{T0} \qquad (2)$$

This gives the change in the outcome variable for the pre and post scheme periods. In the absence of other explanatory variables, the unbiased estimate of the scheme impact on an institutional level outcome can be obtained using a linear regression model of the form;

$$\Delta g = \alpha + \delta D + u \qquad (3)$$

Δg is the change in institutional level outcome variable g, D is a dummy variable which takes the value 1 in the post-scheme period and 0 in the pre-scheme period; u is the error term.

5.2.3. Descriptive, post-test interview based methods to evaluate any unintended effects of the scheme

For the purpose of our proposed study, we plan to examine the unintended effects as stated in research question (3) through the spillovers effects, which can be positive or negative. Spillover effects can be considered as indirect effects of the scheme, and have been shown to be important for policy purposes. In addition, measuring the spillover effects tend to further reduce the extent of the bias in the analysis, while also informing policy (World Bank 2007).

Spillover effects may arise from the possibility that market women in the control group have learnt from the financial behaviour (e.g. the use of electronic payment infrastructure or the loans/credit received) by those women in the treatment group, especially if they trade in the same market or if they are trading partners. Examples of positive spillovers include increasing community income and economic activity.

In this case, we will compare outcomes between a sample of customers and non-customers in different market areas to each other. The implication for the RD model in Equation (1) is that, rather than just the average treatment effect, the impact of access to microfinance becomes important. Thus, our estimate of the impact becomes will become an intent-to-treat

effect rather than participation in the scheme (treatment) per se. This is an instrumental framework to allow for a reasonable estimate of the impact that microfinance could have at the community level. In this case, Eq. (1) will be re-specified. Finally, taking into account the spillover (indirect) effects implies that our evaluation of scheme impact will be based on 'total' program effect, comprising direct effects and indirect effects.

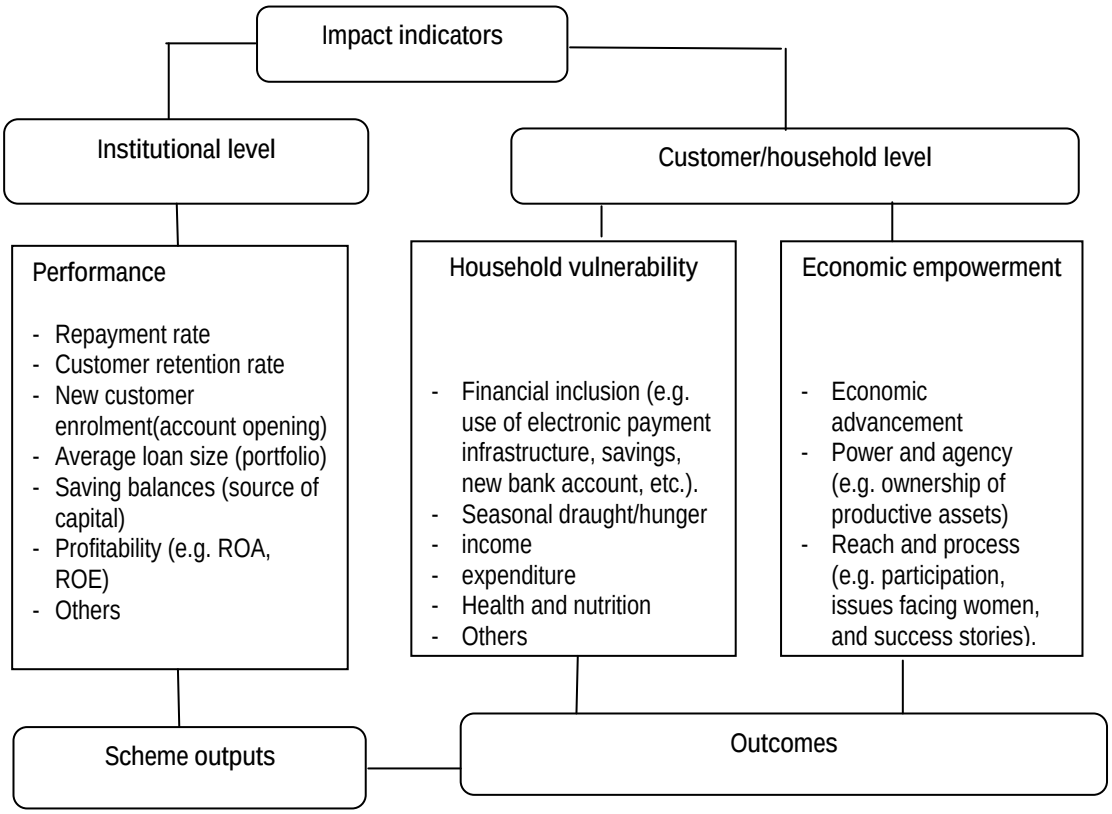
6. Data requirements and sources

The nature and types of the outcomes of interest can influence the type of data required. Therefore, we first present the outcomes of interest, followed by the data requirements. The selection of the outcomes of interest (or impact indicators) has been jointly agreed (and re-confirmed) at several meetings between our research team and our collaborators, Amoye Microfinance Bank (AMB).

6.1. Outcomes (impact indicators)

Figure 1 shows a structural presentation of the impact indicators of interest. As the figure shows, there are basically two domains of indicators, namely; institutional and customer/household level. The customer/household level is further divided into indicators of household vulnerability (including financial inclusion) and economic empowerment.

Figure 1: Outcomes (impact indicators)



The last segment allows the domains of indicators to be lined in that performance indicators of the microfinance bank serve outputs of the scheme but are outcomes of interest to the customer/households. E.g. Saving balances.

6.1.1. Institutional impact indicators

The institutional impact indicators of interest include;

i. Repayment rate

ii. Customer retention rate

iii. New customer enrolment (opening account)

iv. Average loan size (portfolio)

v. Saving balances –as a source of capital. Note that this is also an outcome to customer's financial inclusion and an indicator of financial stability for the customer.

vi. Profitability – measured by return on assets (ROA), Return on equity (ROE), or adjusted return to assets (i.e. minus liabilities), etc.

6.1.2. Customer/household level outcomes

Our measures of women economic empowerment will be based on the International Centre for Research on Women (ICRW) definition and measures (Golla et al (2011). ICRW defines women economic empowerment as when a woman has both ability to succeed and advance economically and has the power to make and act on economic decisions that affect her well-being and immediate household.

Empowerment outcomes include:

i. *Control over assets:* measured by women's ownership of productive assets such as land, livestock and machinery; having own source of income; and share on household income provided by women.

ii. *Agency/Decision making:* measured by the proportion of women's income expended on herself and children; involvement in major household decision such as large purchases like car, house, land, etc.), and access and use of information technology such as mobile phones, etc.

iii. *Self-confidence/efficacy*: Psychological wellbeing; attitude of own self-esteem, confidence in disagreeing with spouse.

iv. *Gender norms*: Ability to negotiate sexual and reproductive decisions (e.g. family planning).

v. Economic advancement indicators: measured as productivity and skills (e.g. business and record keeping skills, access to productive tools and financial technologies/infrastructure). Others are;

- Financial inclusion indicators including account opening, use of payment cards to transact business, use of point of sale terminal, savings, etc.
- Business practice – e.g. ability to keep records.
- Consumption smoothing/risk: has savings, insurance or liquid assets; does not experience seasonal shortages.

6.2. Treatment and rating variables

Table 1 provide the description of the remaining variables to use for analysis. These include treatment, rating, and other characteristics. The treatment variable is a binary variable taking the value of one of the credit application was approved, and value zero otherwise. All women are eligible to apply for this loan/credit, but not all got approval.

The rating or eligibility score variable, on the other hand, is a continuous variable measuring the cutoff threshold for microcredit. It is typical potential credit is granted based on a customer's ability to repay, with measures such as household asset value and saving rate prior to credit application.

Other variables to consider include demographic and socioeconomic characteristics of individuals that may also influence indicators of household vulnerability and economic empowerment. Examples include age, marital status, family composition (e.g. size, number and age of children), education/qualification, ethnicity, etc.

Table 1: Description of variables to be used for analysis

Variable type	Indicators	Details
Treatment variable	Whether the woman's loan (or credit) is approved or not	All women are eligible to apply for this loan/credit.
Rating variable	A continuous measure determining the cutoff threshold for microcredit.	Examples include measures of a customer's ability to repay, including asset value, saving rate prior to credit application, as women with higher savings rates or higher family incomes would also have a higher probability of loan/credit approval.
Other characteristics	Those individual characteristics that may also influence indicators of household vulnerability and empowerment	Examples include age, marital status, family composition (e.g. size, number and age of children), education/qualification, ethnicity, etc.

6.3. Data

At a recent meeting of our research team members and the officials of AMB, held on Wednesday, May 28, 2014, it was agreed that administrative data from AMB will be the main source of data to be used in this research.

6.3.1. Bank administrative data

Our collaborators, AMB will supply the administrative data on market women who applied for credit at the bank during the period April 2011 – March 2012, during which the scheme lasted. The data will include indicators of those who were successful in securing credit and those who were not, institutional indicators and some customer level outcomes such as whether the customer approved for credit went on to join or form a cooperative. AMB will also provide information from loan request forms, containing information on the demographics and socioeconomic characteristics of the individuals held in the bank's database, as well as the criteria for loan approval. For empowerment indicators, the bank officials promise to update the data base to include indicators of economic empowerment.

Additionally, a small survey of the market women may be undertaken in order to obtain information on household vulnerability and women empowerment. The survey will be conducted through interview methods and will be a cross section of women and (relevant) members of their families.

6.4. Sample size and statistical power

Amoye Microfinance Bank (AMB) operates mainly in the Ikere Local Government Area (LGA) of Ekiti State, which comprises Ikere metropolis and 61 villages and farmsteads. There are over 400 cooperatives in the area, half of which were formed by women. There are also 12 markets within the Ikere LGA. According to the Managing director of AMB, Mr Wole Akanle, the bank has a customer base of 12,000, amongst whom 7,500 (or 62.5%) are market women. At least 50% of these market women were cleared for credit under the scheme.

As agreed at the May 28, 2014 meeting, AMB would provide data on up to 3,000 customers, from which the research team would randomly select individuals for the survey. The exact number of women would be determined by availability of funding, although ideally, the research team would rather survey the entire 3,000, as this would make it possible to get more robust estimates as well as conduct sub-group analyses.

7. Consultation for policy influence

The outcome and outputs from the proposed research project can be assessed from two important areas, namely: (i) the extent to which the findings will influence policy-making regarding financial inclusion amongst women in developing context; (ii) the probability that the complementary interventions will be adopted by the relevant policy makers, and other stakeholders alike such as microfinance institutions.

The research will be undertaken in collaboration with a reputable rural area based microfinance bank – Amoye Microfinance Bank, Ikere, Ekiti State Nigeria, thereby supporting evidenced-based policy making in the sector. The overall goal is to inform evidence-based policy-making in the context of financial inclusion and women empowerment. In this case, a

demonstration of the effectiveness of the intervention is important for complementing the current national policy on financial inclusion and gender empowerment by the CBN.

We have an ongoing consultation with the Central Bank of Nigeria, where Dr. Kingsley Moghalu, the Deputy Governor, Financial System, and Mr. Wole Akanle, Managing Director of Amoye Microfinance Bank, had given approval for their collaboration in the research project. The Managing Director has issued us with a letter of support for our project and collaboration with them. In addition, AMB have reaffirmed their commitment to the project, as well as their readiness to provide administrative data for the project.

Additionally, the Managing Director will be working directly with us on the project. Such high level engagements with policy-makers and influential stakeholders will result in direct take-up of the findings to other decision-making processes with greater support of stakeholders, such as in adoption of the scheme by the CBN.

Specifically;

i) The findings from the proposed research will support evidence-based policy making in the context of financial inclusion and women empowerment in developing context, particularly in Sub-Sahara Africa.

ii) For the policy maker, the Central Bank of Nigeria, and other stakeholders, the findings of our proposed research will form an important input into the Nigeria's National Financial Inclusion Strategy, particularly the "articulation and implementation of the regulatory framework for agent banking to enable financial institutions to bring banking services to the currently unbanked in all parts of the country" (CBN 2012, p.VI).

iii) A demonstrated effectiveness of the scheme will also inform banks and other financial institutions, especially microfinance organizations (e.g. including our partner organization) for scaling-up or expansion.

In addition to our microfinance bank partner and CBN the policy-maker, other stakeholders and potential users of our research findings include;

(a) Nigerian banks – including deposit money banks, primary mortgage institutions and microfinance banks. There are currently 21 commercial banks serving approximately 20 million people and 865 microfinance banks serving approximately 3.2 million people, only one-in five of whom is a woman.

(b) Other financial institutions – comprising discount houses, finance companies, pension fund administrators and development finance institutions.

(c) Insurance companies, including loss adjusters and insurance agents.

(d) Regulators – In addition to the CBN, other regulators include the Nigerian Deposit Insurance Corporation, National Insurance Commission, National Pension Commission, and Nigeria Communications Commission.

(e) Technology/telecommunications firms – This includes settlement providers, Automated Teller Machine (ATM) service providers, mobile service providers, and point-of-sale

(POS) operators. This is important because overcoming the geographical gap through low-cost delivery channels to customers such as mobile devices is important for increasing the use of financial services by low-income and geographically distant people, particularly women.

(f) Public institutions, including State and Federal Ministries such as Agriculture, Finance, Education, Trade and Investment, as well as government agencies such as the National Planning Commission (NPC). NPC is the focal point for Development Planning and Economic Management of the Federal Government of Nigeria.

(g) Development partners and experts – This category includes international finance agencies, donor institutions, development partners, technical experts and advisers. They are well positioned to provide technical and international support to government and institutions.

(h) International research and academic community – to add to evidence base, and

(i) The media.

7.1. Communication and dissemination of research findings

The value of an impact evaluation study is dependent largely on how its findings are communicated and disseminated to potential users. To date, our collaboration with the microfinance bank has resulted in choosing the research questions, data, and selection of outcomes of interest in order to ensure that their needs are considered. They were also consulted on the evaluation method that we propose to adopt and its usefulness. We have also promised to update them on the funding decision points.

Communication and dissemination of research findings will take various forms including;

(a) Stakeholder engagement and policy workshops, featuring a focused group discussion where the findings of the research are presented and then discussed from policy perspective. The Central Bank of Nigeria and the National Planning Commission had indicated intention for such an engagement.

(b) Regular communication in the form of bi-monthly progress reports, to be presented in non-technical formats to our collaborators. A meeting of the project team, representative of the applying organisation, the staff of the microfinance bank and selected stakeholders will complement these reports.

(c) Participation in relevant local and international conferences.

(d) Publications in international peer reviewed journals. Target journals are *The Economic Journal*, *Journal of Development Economics*, and *World Development*.

(e) Dissemination through Centre for Financial Inclusion (CFI) blogs and newsletters. We have applied for a blog space for our research from the Centre for Financial Inclusion, Washington DC. USA. The CFI in an international agency on financial inclusion and a key stakeholder.

(f) More specifically, as an independent research think-tank, one of the key objectives of the research undertaken at the applying organisation, IPPA is to foster engagement with policy makers, using various approaches including roundtable discussion, focused group discussion, and organised stakeholder engagement workshops. IPPA staff has strong expertise and experience in this area.

(g) Capacity building at Amoye Microfinance Bank: The Amoye microcredit scheme has been completed but there has been no impact evaluation of the popular scheme. Therefore, important areas of capacity building at the collaborator organisation including;

(1) Understanding the use of impact evaluation methods, which they could use on their own.
(2) The use of statistical software for data analysis, especially Stata;
(3) Staff involvement in the survey of customers and data, thereby improving their data collection and data preparation skills.
(4) Better understanding and usefulness of their administrative data.

8.1. Research team members and expected capacity building

Table 2 presents the details of research team members and external resource person.

Table 2: Research team members

Name	Age	Sex (M,F)	Training and experience
Dr. Divine Ikenwilo	40	M	He has a PhD in Economics, specialising in impact evaluation and health Economics. He is the team leader; he will continue the job of liaising with the collaborators (the microfinance bank). He will also be involved in the econometric analysis of the work and the writing up of the findings.
Dr. Olufemi Obembe	46	M	He holds a PhD in Economics, specialising in Industrial Economics, Economics of Science and Technology, Corporate Finance, Development Economics, and Applied Econometrics. He is a Lecturer in Economics at the Obafemi Awolowo University, Ile Ife, and a Visiting Research Fellow at the Centre for Evidenced-Based Development Research and Policy, Initiative for Public Policy Analysis, Lagos Nigeria, which is the applying institution. Dr. Obembe will act as the coordinator for the project.
Mrs. Ngozi Ibeji	41	F	She holds a Master degree in Economics, specialising in Banking and Finance. She has over 10 years' experience in the banking sector before going back to academics. She is currently undertaking a PhD in Banking and Finance.

Ms. Kehinde Omotosho	31	F	She holds Master 's degrees in Business Administration with Distinction, with a second Master's degree in view (Science in Economics). First Class in Bachelor of Science and Education in Economics. She has received several academic awards including the Carnegie Female Undergraduate Scholarship Award (2002-2006). She has a two-year working experience in the banking sector. She is currently working as a Research Officer
Dr. Damilola Olajide	51	M	He holds a PhD in Economics, specialising in impact evaluation, Development Economics, Health Economics, and Banking and finance. He is the Research Coordinator at the applying organisation, the Centre for Evidenced-based Development Research and Policy, IPPA Lagos, Nigeria. Dr. Damilola Olajide will act as the external resource for the project. He will use his experience to ensure that task are undertaken on time and provide support to the research team in STATA statistical software for analysis.

References

1. AFDB 2012. Advancing African Women's Financial Inclusion: *Policy Brief*, Making Finance Work For Africa. Tunis: AFDB. http://www.mfw4a.org/

2. AfDB 2013. Financial Inclusion in Africa. Triki T and Faye I eds. Tunis: AfDB. http://www.mfw4a.org/.

3. Allen F, Demirgue-Kunt A, Klapper L, Peria MSM. 2012. The foundation of financial inclusion: understanding ownership and use of formal accounts. *The World Bank Policy Research Working paper* 6290. Washington DC: The World Bank Development Research Group Finance and Private Sector Development Team, December 2012.

4. Ashraf N, Karlan D, Yin W. 2010. Female empowerment: further evidence from a commitment savings product in the Philippines. World Development 28 (3), pp. 333-344.

5. CBN. 2012. National Financial Inclusion Strategy. Abuja: Central Bank of Nigeria, October 2012. www.microfinancegateway.org/gm/document-1.9.60413/Central%20Bank%20of%20Nigeria_NationalFIStrategy_Final.pdf.

6. Chibba M., 2009. Financial Inclusion, Poverty Reduction and the Millennium Development Goals. *European Journal of Development Research* 21: 213–230.

7. Coliendo M, Kopeinig S. 2008. Some practical guidelines for the implementation of propensity score matching. *Journal of Economic* Surveys 22: 31-72.

8. Duflo, E.R., Glennerster, R., and Kremer Michael. 2006. Using Randomization in Development Economics Research: A Toolkit. NBER Technical Working Paper No. 333. http://www.nber.org/papers/t0333

9. EfInA. 2010. Access to Financial Services in Nigeria Survey. http://www.efina.org.ng/our-work/research/access-to-financial-services-in-nigeria-survey/

10. Garikipati S. 2008. The impact of lending to women on household vulnerability and women empowerment: evidence from India. World Development 36 (12), pp. 2620-2642.

11. Gertler PJ, Martinez S, Premand S, Rawlings L, and Vermeersch CM. 2011. Impact Evaluation in Practice. The World Bank.

12. Ghalib AK, Malki I, Imai KS. 2011. The impact of microfinance and its role in easing poverty of rural households: estimations from Pakistan. Kobe University, Japan. Research Institute for Economics and Business Administration, Discussion Paper Series DP2011-28.

13. Gotland E M, Sadoulet E, Alain de Janvry, Mugari R, and Ortiz O. 2004. The impact of Farmer-Field-Schools on knowledge and productivity: a study of potato farmers in the Peruvian Andes. *Economic Development and Cultural Change* 52 (1): 129-158.

14. Heckman J, Robb R. 1985. Alternative methods for evaluating the impact of interventions: an overview. Journal of Econometrics 30 (1-2), pp. 239-267.

15. Heinrich C, Maffioli A, Vàzquez G. 2010. A prima for applying propensity-score matching. Inter-American Development Bank, *Impact Evaluation Guidelines Technical Notes*, No. IDB-TN-161. Washington D.C.

16. Imbens GW. 2004. Nonparametric estimation of average treatment effects under exogeneity: a review. *The Review of Economics and Statistics* 86: 4-29.

17. Jalan J, and Ravallion M. 2003. Estimating the benefit incidence of an antipoverty program by propensity score matching. *Journal of Business and Economic Statistics* 21 (1): 19-30.

18. Kabeer N. 2005. Gender Equality and Women's Empowerment: A Critical Analysis of the Third Millennium Development Goal. *Gender and Development*, vol. 13(1): 13-24.

19. Karlan D and Golberg N, 2007. Impact evaluation of microfinance. *Doing Impact Evaluation*, No. 7, The World Bank.

20. Khandker SR, Koolwal GB, Samad HA. 2010. Handbook on impact evaluation: quantitative methods and practices. The International Bank for Reconstruction and Development / The World Bank, 2010.

21. Lemiuex, L. 2010. Regression discontinuity designs in economics. *Journal of Economic Literature* 48: 281-355.

22. Napier M, Melamed C, taylor G, and Jaeggi T. 2013. Promoting Women's Financial Inclusion: a toolkit. Hlanze A, Stephenson Z, and Deuchert A (Eds.). Department for International Development (DFID): London.

23. Pande R, Field E, Fetter D. 2008. Microcredit and economic wellbeing: evidence from a city-wide expansion. Work in progress. Centre for Microfinance in India. Available http://www.centre-for-microfinance.org/research-projects/financial-inclusion/

24. Parekh H.T. Financial Inclusion: Issues and Challenges. *Economy and Political Weekl*y. Oct. 14, 2006.

25. Ramji M. 2009. Financial Inclusion in Gulbarga: Finding Usage in Access. *Eye on Microfinance*, Issue 6. http://www.centre-for-microfinance.org/financial-inclusion-drive-perspectives-gulbarga/

26. Robin J, Pei Z. 2012. A practical guide to regression discontinuity. MDRC Building Knowledge to Improve Social Policy. Available www.mdrc.org

27. Rosenbaum, P, R. and Rubin, D. 1983. The central role of the propensity score in observational studies for causal effects. *Biometrika 70 (1): 41-55.*

28. Shaikh AM, Simonson M, Vytlacil EJ, Yildiz N. 2009. A specification test for the propensity score using its distribution conditional on participation. *Journal of Econometrics* 151: 33-46.

29. World Bank. 2007. Impact Evaluation for Microfinance: Review of Methodological Issues. *Doing Impact Evaluation*, No. 7. The World Bank: Washington.