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FINANCIAL LITERACY AND DEVELOPMENT EXPERIMENTAL INSIGHTS FROM RURAL MICRO- AND SMALL ENTREPRENEURS (MSEs) IN WESTERN UGANDA

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ABSTRACT

Financial literacy is the ability to read, analyze, manage and discuss various financial conditions that eventually lead to individuals' economic well-being. It includes the understanding of different financial choices and making the right financial decisions for better future planning (Stone, 2004; Vitt *et al.*, 2000). This paper presents a quasi-experimental study of a financial literacy intervention with rural micro- and small entrepreneurs (MSEs) in Western Uganda, testing the effects of financial literacy training on savings, borrowing, record keeping and budgeting. The training has induced significant differences between treatment and control group. Significantly more treatment than control group members said that they saved. Only one in three treatment group members reports savings difficulties, down from one in two at baseline, while the control group sees significantly more members with savings difficulties. Amount saved in the last three months, on the other hand, show no significant differences between the groups. Between treatment and follow-up survey, they went up for both groups, 2.5 times for treatment and 3.3 times for control group. Last but not least, the difference between treatment and control group in budgeting is now significant at 1%-level. The findings confirm that translation of knowledge into behaviours is a process. Whereas provision of knowledge and awareness is possible in a relatively cost-efficient way, changing core behaviours that drive MSE-success is not. For training providers (and funders) it is paramount to focus their efforts on interventions that are directly linked to changing behaviours. We therefore conclude that trainings have to centre on very practical and directly applicable issues rather than knowledge, in line with Drexler *et al* (2010).

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INTRODUCTION

Financial literacy is the ability to read, analyze, manage and discuss various financial conditions that eventually lead to individuals' economic well-being. It includes the understanding of different financial choices and making the right financial decisions for better future planning (Stone, 2004; Vitt *et al.*, 2000). Financial access refers to availability of credit, savings, money transfers and/or insurance, i. e. financial services. Hence financial literacy is thought to provide the link between access and productive use of financial services. This paper presents a quasi-experimental study of a financial literacy intervention with rural micro- and small entrepreneurs (MSEs) in Western Uganda. These MSEs have access to financial services, in particular micro-credit as members of groups that are affiliated to the region's largest non-regulated microfinance

institution (MFI). We discuss if financial literacy does indeed provide a link between access and capability.

MATERIALS AND METHODS

Related literature

Studies show that lack of preparedness and low financial literacy level among people around the world contributed to the worldwide economic crisis of 2008/9, especially in the USA. For example a study showed that more than 40 millions of Americans do not analyze or even keep record of their living expenses. Studies have shown that the level of financial skills and knowledge among the majority of people especially among young people is low even in advanced societies (Jacob *et al.*, 2000, p. 15). Thus, while money is one of the important issues of the human mind, most people are unwilling to talk about it not because of the lack of interest but due to their poor knowledge in this field (Fox *et al.*, 2005). One of the important points of financial literacy is having low level in

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financial skills and knowledge which causes making wrong decisions that harm both individuals and societies. This problem among those families with lower income levels could be deeper and more serious due to their lower human and social capital (Jacob *et al.*, 2000, p.8). Thus, increasing financial education not only improves financial decisions and their outcomes (Lusardi and Mitchell, 2014), but also improve their economics status (Sprow, 2010). World Bank's definition for sustainable development consists of 5 elements: development of financial, physical, human, social and natural capital in order to meet current needs in the future (World Bank, 2003). 'According to the capability approach, 'functionings' and 'capabilities' are the best metric for most kinds of interpersonal evaluations' (Stanford, 2015). People's capabilities to function refer to 'their effective opportunities to undertake actions and activities that they have reason to value, and be the person that they have reason to want to be' (Stanford, 2015). In the context of financial (sector) development, people can only make choices of financial services and deploy them for 'activities that they have reason to value', and value financial choices themselves as relevant means to 'be the person that they want to be', if they both command financial literacy and have access to a variety of financial services.

The interest in financial literacy by development scholars cannot be separated from the evolution of modern microfinance and the financial inclusion paradigm, which has been one of the most vibrant, and repeatedly among the most controversial fields of development cooperation and policy. It has hence been looking for theoretical underpinning in development theory (Box 1). Financial inclusion is highly topical since the G20 Pittsburgh Summit in 2009. The literature identifies two channels through which financial literacy (FL) contributes to development. On the one hand, FL should shape financial decisions such as how and how much to save, invest, borrow, insure and remit. Individual or social behavioural biases might constrain financially literate actors to take financially sound decisions, but increasing FL-levels should enable actors to better check those biases (Doi *et al.*, 2014; Gine *et al.*, 2013). Training FL should increase the capacity to identify the best financial decision and to apply it (exemplarily World Bank, 2013), which would translate into stable household finances with robust portfolios of income and investment. On the other hand, FL, in particular planning and record keeping, is an element of management capacity. '[H]uman capital theory [...] predicts that individuals or groups who possess greater levels of knowledge, skills, and other competencies will achieve greater performance outcomes. Entrepreneurship researchers have studied the relationship between human capital and entrepreneurial outcomes at various levels of analysis and results have been generally supportive of the theory' (Martin *et al.*, 2013:211).

Training FL should increase management capacity, which in micro- and small entrepreneurs (MSEs) would translate into more productive enterprises. Productivity is a pre-requisite to sustain education, health and other wealth in the economy (Mano *et al.* 2012; Berge *et al.* 2011). Seeku (2015) discusses agency banking in Kenya as a form of changing financial product features to reach out to financially excluded strata of the economy. He reports that the number of licensed bank agents has grown from under 10,000 in 2010 to almost 30,000 in 2014, as the number of financial institutions using agents

has grown from 5 to 15. The leading financial institution using agents is Equity Bank with 12,500 licensed agents in 2014. 85% of its customers never visit the bank branches but transact only through agents. In Kenya, agency banking and mobile money accounts for almost half of financial inclusion; together with Uganda, this is the largest contribution of this segment across 12 African countries surveyed between 2009 and 2013 (EPRC 2013). Pandey (2015) reviews status and scope of female entrepreneurs across sectors and government schemes in India. She observes that the role of female owned enterprises was culturally 'traced out as an extension of their kitchen activities mainly to 3Ps, viz., Pickles, Powder and Pappad [...] With growing awareness about business and spread of education among women over the period, women have started shifting from 3Ps to engross to 3 modern Es, viz., Engineering, Electronics and Energy' (Pandey 2015:4276). For example, women entrepreneurs are manufacturing solar cookers in Gujarat and small foundries in Maharashtra. Pandey finds that female entrepreneurs in India are constrained mainly by lack of investment credit, but also by lack of business planning and accounting knowledge. The two factors re-enforce each other in a virtuous cycle because lack of business records gives financial institutions a reason (or pretext) to refuse credit. Pandey (2015) recommends among others that business trainings for women be subsidized substantially. Bulte *et al.* (2014) and Berge *et al.* (2011) study impact of training interventions with customers of microfinance institutions. Bulte *et al.* (2014) draw their sample from groups that are members of cooperatives in Rwanda.

They are trained four full days in a row in business planning, record keeping and saving and borrowing. They find that the training 'enhanced financial knowledge of trained persons, and that enhanced financial knowledge translates into more savings and borrowing, along with an increased likelihood of starting new income-generating activities' (Bulte *et al.*, 2014:3). However, the trainees did not pass on their knowledge and skills to other group members (from each group, one representative was trained with the premise to share on). Berge *et al.* (2011) draw their sample from microfinance clients in Tanzania, who are provided 21 weekly sessions of 45 minutes each, covering business and entrepreneurship topics; 83% of trainees met the attendance threshold over the whole training period. Berge *et al.* (2011) find improved business knowledge of both female and male entrepreneurs. However, only male entrepreneurs 'increased their sales by around 25-30 percent, and are significantly happier with their situation than non-trained entrepreneurs. The effects on female entrepreneurs are much more muted' (Berge *et al.* 2011:4).

Microfinance and development (cooperation)

Modern-time 'microfinance' evolved from initiatives to offer better credit options to poor people that were refused services by traditional (regulated) banks. The best known of these initiatives are Ms. Ela Bhatt's cooperative bank for women (SEWA-Bank, founded 1974) who are vulnerable self-employed in Gujarat (Western India); Mr. John Hatch introduction of 'village banking' for rural communities in 1984 Southern America, which grew into FINCA, one of the world's largest microfinance institutions (MFI), and Mr. Mohammed Yunus experiments (since 1976) with group lending to poor women in Bangladesh, which grew into Grameen Bank. Mr. Yunus and Grameen Bank gained world-

wide attention and recognition which cumulated in the award of the Nobel Peace Prize in 2006 (Roodman, 2012). Between the 1970s and the 1990s, microfinance was practically identical with 'microcredit'. Ideologically, this was rooted in Mr. Yunus' declaration of 'credit as a human right'; supported by the experience of MFIs that microcredit supposedly positively transformed borrowers' livelihoods. This ideological basis was received 'with open arms' by development agencies which, in the 1980s and 90s, grappled with the task of reaching more people with stagnating or contracting budgets. The idea that 'revolving' budgets could serve much more beneficiaries than grants appeared to be a response to that challenge. Practically, it was supported by the massive growth of MFIs that replicated the group-based business models of FINCA and Grameen Bank. Bangladesh provided fertile ground to two other MFIs, ASA and BRAC, which grew with this business model to be among the 10 largest MFIs of the world (Schmidt, 2010). This growth turned exponential in the 1st decade of the 2000s and culminated in the public listings of the Mexican MFI Compartamos in 2007 and the Indian MFI SKS, then the world's largest MFI, in 2010.

In the late 1990s, the microfinance debate underwent a paradigm shift from micro-credit to micro-finance, encompassing savings and, increasingly, money transfers and micro-insurance (however the latter has seen few sustainable business models). This paradigm shift was initially triggered by the work of Stuart Rutherford, whose 1999-paper 'the poor and their money' drew attention to the demand for micro-savings rather than micro-credit. The microfinance paradigm was further enforced by the crisis that micro-credit industries experienced in 'Bosnia, Morocco, Nicaragua and Pakistan in 2008 and 2009' (Roodman 2012:Loc214) and in India in 2005/06 and 2009/10 (Schmidt 2011:207). All of these crisis were co-caused by imprudent lending and over-indebted borrowers revolting. At the same time, new research findings rejected earlier publications that had supported the causal link from micro-credit to positive transformation of livelihoods. This new line of research based on randomized control trials (RCT) has since found no impact of micro-credit on borrowers' socio-economic status. Together, these developments triggered another paradigm shift, particularly among policy makers and development agencies, towards 'financial inclusion'. Financial inclusion measures the access to a variety of types (credit, savings, insurance, investment) and qualities (informal, semi-formal, formal) of financial services.

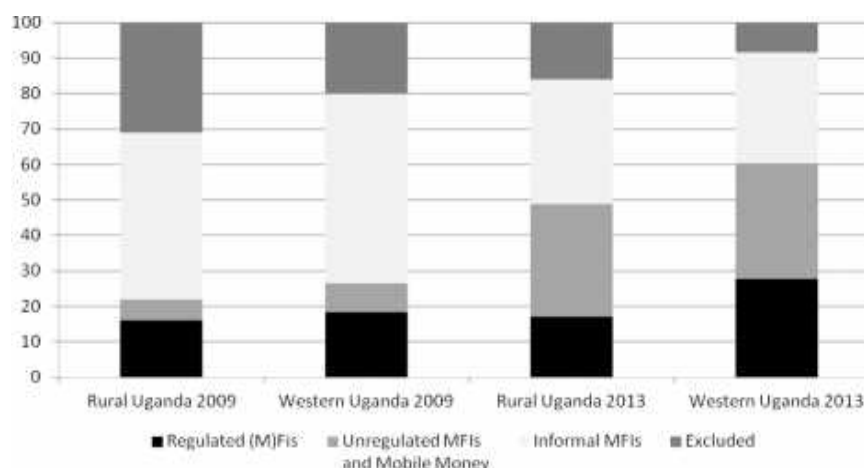
The concept was first introduced by the British Government in 1999. Macro-level studies claim that higher levels of financial inclusion are associated with improved development trajectories (higher GDP-growth, e. g Beck et al, 2000). Micro-level studies find positive impact particularly of access to savings (Miller, 2015). Financial literacy is part of the financial inclusion paradigm. On the one hand, it is argued that measuring access alone is not sufficient, but that it has to be combined with the capability of customers to make good use of financial services. On the other hand, MFIs desire to convince their funders that they are not 'just (i. e. usurious) moneylenders', but that they offer 'responsible finance' which combines credit with financial education to make the borrower use credit for investment rather than consumption.

Socio-economic and geographical context of the study

The proportion of financially excluded rural Ugandans reduced from 31% in 2009 to 17% in 2013. Western Uganda performed stronger than rural Uganda, because it includes some of the main 'upcountry' towns like Mbarara, Kasese and Hoima.¹ The proportion of financially excluded reduced from 19.9% in 2009 to 8.4% in 2013 (Figure 1). The main driver of this trend in rural Uganda are non-regulated MFIs and mobile money services. In Western Uganda, both regulated (M)FIs and non-regulated MFIs and mobile money services drove financial inclusion up. 'Regulated' here refers to licensing and supervision by Uganda's central bank. This reflects the development of Uganda's microfinance sector, with a number of MFIs operating in Western Uganda, one of which transformed from non-regulated to regulated in 2013, and regulated (M)FIs, some of which had made that same transformation in the first half of the 2000s, opening new branches in the cities and towns. However, if non-regulated MFIs and mobile money services are separated, it is found that almost all the change comes from the latter. They grew from practically zero to 29% of rural Ugandans reached, while non-regulated MFIs accounted for only 3%, actually a reduction compared to 6% of 2009.²

MATERIALS AND METHODS

We study in a quasi-experimental setting the effects of financial literacy training on savings, borrowing, record keeping and budgeting. Our input and outcome variables are compatible with those found by Miller et al (2015) in a review



Source: EPRC (2013); presentation by authors.

Figure 1. Financial Inclusion, Rural and Western Uganda, 2009 and 2013

Table 1. Input- and outcome variables studied

Financial topic	Input Variables ¹	Outcome Variable ³
Saving	<ul style="list-style-type: none"> Mixed topics Individual instructor-based delivery Community-setting for instruction 	Do you save
		How much saved in the last three month
		Do you make a savings plan
		Reaching savings goal
Credit	<ul style="list-style-type: none"> Intensity of instruction 7-10 hours² Less than or equal to one week duration 	Do you have saving difficulties
		Borrows or has borrowed ⁴
		Ever delayed repayment
Record keeping / budgeting		Knowledge of interest rates
		Do you keep records
		Do you make a budget
		Separate business and personal records
		Comparing financial options

1 For detailed specification of the input variables see Niwaha/Tumwamy (2015).

2 Cumulative for all topics; each 2 hours.

3 Bold: FL outcome variables used most widely (5 or more papers reviewed by Miller et al 2015).

4 By nature of the sampling frame (micro finance clients), all respondents of our study borrow; we report instead the percentage of respondents that borrow from regulated financial institutions

Table 2. Characteristics of respondents¹

	Treatment	Control	t-stat
Number of respondents	258	279	
Gender			
- % of female respondents	46.5	45.5	0.23
Age			
- % between 15 and 35 years old	32.9	53.9	3.229**
Household size			
- average number of children	5.9	5.6	0.878
Education			
- beyond primary school	32.9	39.4	1.308

1 Measured in follow-up survey.

Significant at 10%-level = *; Significant at 5%-level = **; Significant at 1%-level = ***.

Table 3. Comparison of means of outcome variables, treatment and control group

Financial topic	Variable	Treatment	Control	Difference	t-stat
<i>Panel 1: Baseline survey</i>					
Saving	Do you save (% who said yes)	84.7	88.5	-3.8	1.393***
	How much saved in the last three month (Av. Amount UGX)	127,663.8	146,447.1	-18,783.3	-1.197
	Do you make a savings plan (% who said yes)	79.3	80.6	-1.3	0.406
	Do you have saving difficulties (% who said yes)	52.4	31.2	21.2	-5.413
Credit	Ever delayed repayment (% who said yes)	24.1	31.1	-7	1.920***
Record keeping / budgeting	Do you keep records (% who said yes)	27.6	31.4	-3.8	1.047*
	Do you make a budget (% who said yes)	42.2	40.0	2.2	-0.545
	Separate business and personal records (% who said yes)	44.7	49.0	-4.3	0.395
<i>Panel 2: Follow-up survey</i>					
Saving	Do you save (% who said yes)	98.6	94.2	4.4	-1.507***
	How much saved in the last three month (Av. Amount UGX)	325,318.5	485,366.3	-160,047.8	-2.628
	Do you make a savings plan (% who said yes)	85.7	83.5	2.2	-0.697
	Do you have saving difficulties (% who said yes)	33.3	42.0	-8.7	2.066***
Credit	Ever delayed repayment (% who said yes)	62.2	44.0	18.2	-4.268***
Record keeping / budgeting	Do you keep records (% who said yes)	65.3	37.0	28.3	-6.793
	Do you make a budget (% who said yes)	64.1	15.2	48.9	-13.087***
	Separate business and personal records (% who said yes)	63.5	35.5	28	-6.520

Significant at 10%-level = *; Significant at 5%-level = **; Significant at 1%-level = ***.

of 188 FL-studies that were carried out between 2000 and 2013. We included the three most commonly used FL-outcome-variables (Table 1). Only 12 of the studies reviewed by Miller *et al* (2015) were set in Africa, mostly in (semi) urban settings. On average, the six studies that used a classroom-setting provided 13 instruction hours. Most of the other studies used media-based setting. Out of these, seven used an experimental design. Three of these studies were set in East Africa (two in Kenya and one in Uganda). Gine *et al* (2013) study the effect of financial literacy for Kenyan farmers with regard to a specific financial product, that is weather index insurance. Eissa *et al* (2013) study the effects of FL delivered through cartoons and comics to Kenyan youth. Campos *et al*. (2015) study comparatively the effect of financial education, vocational training and networking on semi-urban MSEs in Uganda.³ Our study presents experimental findings from rural MSEs, instructed for eight hours in a classroom setting at the meeting sites of their groups (full details of the input-variables are given by Niwaha/Tumuramyé 2015). Our study is set in two sub-counties of Kabarole district in Western Uganda, one bordering on Fort Portal town and the other one rural. Treatment and control group, each comprising of 22 randomly selected customer-groups of the largest non-regulated MFI in the region, were placed in different sub-counties to avoid spill-over effects (Niwaha/Tumuramyé, 2015). Their main characteristics are given in table 2. Control group members are significantly older than treatment group members; they are also better educated.

RESULTS

At baseline, control group members showed significant difference in savings, borrowing and record keeping/budgeting behaviours. More of them compared of treatment group members said that they kept records and at the same time saved. The control group members also saved USD 7.28⁴ more than treatment group members; that is about 15% of the amount treatment group members reported to have saved in the last three months. This seems to reflect the above mentioned differences in age, education and urbanity. However, also more of them than of treatment group members said that they had ever delayed repayments of loans (Table 3 - panel 1). The follow-up survey (Table 3 - Panel 2) shows an improvement of all savings and record keeping / budgeting variables for the treatment group. However, their borrowing behaviour deteriorated substantially. The number of treated respondents who said they had ever delayed repayments of loans increased 2.6times (from 24.1% at baseline to 62.2% in the follow-up survey). Hence, the significant difference between treatment and control group remains significant at 1%-level, but is now turned against the treatment group. For the control group, on the other hand, the follow-up survey paints a mixed picture: Improved savings but deteriorated budgeting behaviour, uneven record keeping and deteriorated borrowing behaviour - though less so than for the treatment group. The training has induced significant differences between treatment and control group.

1 According to CityPopulation (2015), Mbarara is Uganda's 3rd largest city with 195,000 inhabitants. Kasese is No 8 (102,000) and Hoima No. 9 (101,000). Other Western region towns with 50,000 and above inhabitants are Masindi (95,000), Fort Portal (54,000), Mpondwe (51,000) and Kabale (50,000) (all data for 2014, inhabitants rounded to thousands)

2 For Western Uganda, the 'break-down' by non-regulated MFIs and mobile money services is not available.

Now, significantly more treatment than control group members said that they saved. Only one in three treatment group members reports savings difficulties, down from one in two at baseline, while the control group sees significantly more members with savings difficulties. Savings amounts of last three months when up for both groups, 2.5 times for treatment and 3.3 times for control group. Like at baseline, savings amount differences are not significant between the groups. Last but not least, the difference between treatment and control group in budgeting is now significant at 1%-level.

DISCUSSION

Like Karlan/Valdivia (2006), we observe strong impact in the area of record keeping. Our training emphasised record keeping (1/4 of total training time) and supported it by providing calculators or notebooks at the end of the training. Another strong impact is observed for budgeting, which might account for it being a core concept in the training session on financial planning. However, it must be noted that these are self-reported behaviours, which may fall short of the actually observed behaviours. Anecdotally, the field team found that trainees had embarked on applying the record keeping and budgeting methods learned, but gradually neglected them as time went by. Savings and borrowing volumes, by comparison, are measures of actual behaviour. Like Bulte *et al* (2014), we record improved savings behaviour, reflected in all four savings variables. However, different from Bulte *et al*, we cannot account significant impact for the training. On borrowing behaviour, the training failed to have positive effects. The deterioration over both groups indicates that there might be other reasons why borrowing became more difficult in the area (data on borrowing sources seems also to indicate changed lending behaviour of financial institutions, though it is not conclusive).

Recommendations and conclusion

Both the trainees and the representatives of the MFI to which the groups are affiliated highly appreciated the training. Our training was much more concentrated within a limited time period than Berge *et al* (2014) and Karlan and Valdivia (2006). Given that we have very comparable results, our training format is hence substantially more cost-efficient. The findings confirm that translation of knowledge into behaviours is a process, as the adage of ascribed to American writer Mark Twain tells: 'You can't just drop old habits. You have to fight them down the stair by stair towards the exit'. Whereas provision of knowledge and awareness is possible in a relatively cost-efficient way, changing core behaviours that drive MSE-success is not. For training providers (and funders) it is paramount to focus their efforts on interventions that are directly linked to changing behaviours. In other words, trainings have to centre on very practical and directly applicable issues rather than knowledge, as Drexler *et al* (2010) demonstrate. In our own training, the sessions that were more practical, such as record keeping and budgeting, showed higher effects than those that were mainly giving information, such as credit.

3. The short descriptions of these 3 papers are based on Miller *et al* (2015), because the papers were not directly accessible for the authors.

4. 18,783.3 UGX; exchange rate of 31st March 2014.

Focusing financial literacy training very much on practical, applicable planning tools and on savings that can be practiced in the training group context (Keneema 2014) seems to be the most promising approach. The comparison between control and treatment groups also shows that training cannot replace structured educational attainment. Even with a hands-on training, trainees were less capable to identify the cost of a loan correctly and hence to choose the better option than control group members who had acquired better schooling. That means that universities and other tertiary education institutions have a role to play to reach out to more Ugandans, and at the same time include practical entrepreneurship education in their curricula (Martin *et al.*, 2013).

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