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Financial Struggling in Uganda: Who struggles
more and why?

Authors: Prof. Isabel Günther, Joeri Smits (Center for Development and
Cooperation - NADEL, ETH Zürich) and
Prof. Dr. Eva Terberger, Thomas Gietzen (KfW Development Bank,
Evaluation Unit)

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Financial Struggling in Uganda

Who struggles more and why?

Prof. Isabel Günther and Joeri Smits [*]
Prof. Eva Terberger and Thomas Gietzen [†]

Over-Indebtedness in Microfinance

The world has seen a rapid spread of microfinance over the past 40 years. Access to formal financial services has opened up new opportunities for millions of low-income households and micro-entrepreneurs. Despite the expansion of microfinance there remain many regions in the world where financial inclusion is still lagging behind. However, other regions of the world lately have undergone a very different experience, sparking a discussion about the vices and virtues of microcredit, the financial service which has historically been at the heart of microfinance (that also entails micro-savings and micro-insurance).

Right from the beginning, the microfinance movement was carried by the belief that overcoming entrepreneurial credit constraints will prove an effective way to spur economic development and fight poverty. In recent years, however, even advocates of microfinance are getting worried that in some areas too much credit is around. In particular, urban areas have started to witness increasingly saturated credit markets and sometimes abundant credit supply. The risk of over-borrowing and households' over-indebtedness is more and more being recognized as a major issue by the microfinance community. In 2014 - after the

[*] Center for Development and Cooperation (NADEL), ETH Zürich, Switzerland
Contact: joeri.smits@nadel.ethz.ch
[†] KfW Development Bank, Evaluation Unit
Contact: Thomas.Gietzen@kfw.de

experience of severe crises in microfinance, e.g. in Andhra Pradesh (India) in 2010 or Morocco in 2009 - the CFSI Survey for Microfinance Risk (CFSI, 2014) ranked over-indebtedness, credit risk and competition as the most important risks faced by the microfinance industry.

Over-indebtedness of microfinance clients is a potential downside risk of the rapid expansion of microcredit. The risk has always been intrinsically tied to borrowing. A business idea can fail or other external shocks can occur, leaving the client to face the debt burden without any of the expected gains. However, the crises in microfinance have brought the issue of over-indebtedness to the collective conscience.

Measurement of Over-Indebtedness

There are several ways to define and measure the problem of over-indebtedness of microfinance clients. Repayment delays and delinquency (non-performing loans, NPLs) at formal institutions are a commonly applied, well defined and easily quantified measure. However, NPLs offer only an incomplete picture of over-indebtedness. On the one hand, delinquent borrowers may include those with temporary liquidity shortages that do not necessarily suffer from a structural debt problem. On the other hand, some borrowers may actually meet their repayment obligations at formal financial institutions, but at the cost of their household needing to cut back severely on food consumption, education or even medical expenses, which clearly represents a state of *too much debt*. Figure 1 presents an overview of the different categories of borrowers.

To find an over-indebtedness measure that captures households' suffering from debt-induced distress, Schicks (2013) was a first

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┌─────────────┐    ┌──────────────────────────┐    ┌──────────────────────────┐
│  Financial  │    │    Non-performing loan    │    │     Performing loan      │
│ Institution │    └──────────────────────────┘    └──────────────────────────┘
└─────────────┘
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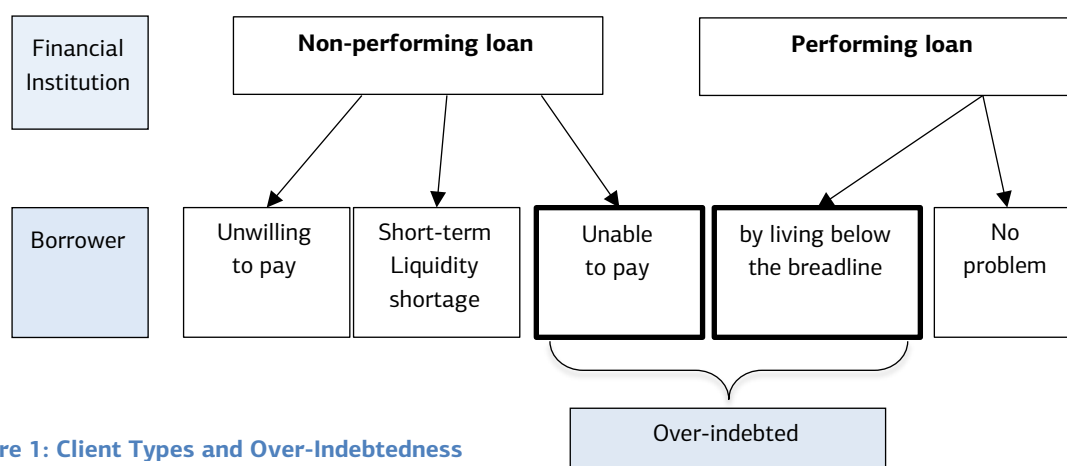| Borrower | Unwilling to pay | Short-term Liquidity shortage | Unable to pay | by living below the breadline | No problem |

Over-indebted

Figure 1: Client Types and Over-Indebtedness

attempt to measure over-indebtedness by unduly *sacrifices* households make to repay their loans; instead of considering the financial institutions' view of non-performing loans only. Typical household sacrifices include reduced food quantity/quality, reduced education expenses (e.g. taking children out of school) or depleting basic household assets/savings. Applying this measure and counting micro-borrowers as over-indebted when they suffered severe sacrifices or more than two stress events Schicks (2013) finds that in urban Accra, Ghana, about one third of all the interviewed microfinance borrowers must be considered over-indebted; a number that - on a first view - seems to warrant severe concerns about the sustainability of microfinance lending in urban Accra.

There are, however, two problems with Schicks' approach that suggest interpreting her results with care. Firstly, when asking households whether they had to endure hardship to meet repayment obligations respondents tend to confirm the interviewer's concerns (confirmation bias). Second, Schicks' study to measure the prevalence of over-indebtedness in Ghana did not feature a comparison or control group. All of the respondents in the study were borrowers of formal micro loans and as such the study is

unable to isolate the effects of borrowing at microfinance institutions on over-indebtedness. Much rather, the results capture the general struggles of poor households in Ghana trying to make ends meet. The exclusive attribution of stress events to the use of microcredit is highly questionable.

The Uganda Study

Our follow-up study in Uganda was motivated by the failure of Schicks' approach to capture the actual effects of taking up microcredit on households' financial burden. In addition to measuring the prevalence of financial struggling among households, our study tries to address the question of which effect formal microcredit has on households' over-indebtedness by applying a control or comparison group design. Using data on more than 1500 Ugandan households that were either a) borrowers at a formal institution, b) semi-formal borrowers (borrowing from an institution that is not regulated by the central bank) or c) informal-borrowers (borrowers at informal sources such as moneylenders also including those with outstanding bills), or d) non-borrowers, we are able to distil differences with respect to the financial burden between these groups. We cooperated with one of Uganda's major providers of micro-

finance services to sample formal borrowers from that institution. Compared to the total population with a share of about 9 % of households with a formal loan (FIN-SCOPE Uganda 2013), this study deliberately over-sampled borrowers of formal loans.

Credit use	Number of respondents	Share of respondents
Formal	238	17.8 %
Formal and informal	359	26.8 %
Formal and semi-formal	45	3.4 %
Semi-formal	43	3.2 %
Informal	368	27.5 %
Non-borrower	285	21.3 %
Total	1339	100 %

Table 1: Distribution of Borrower Types (Sample)

The comparison group households were chosen pseudo-randomly by interviewing the third-next household in the vicinity of the baseline sample of formal borrowers.

Data was collected during interviews in the fall of 2013 on specific stress events, households' loans and liabilities and other household features in and around Uganda's capital Kampala, which is widely perceived as a highly competitive market for microfinance. The interview questions built on Schicks' (2013) sacrifices approach. However, in order to avoid confirmation bias, no explicit link between the questions on sacrifices (distress events) and formal repayment obligations was made.

Financial Struggling

Figure 2 gives an overview over the most important distress events that were elicited and their occurrence among formal borrowers and the full sample of households. Results suggest that some stress indicators
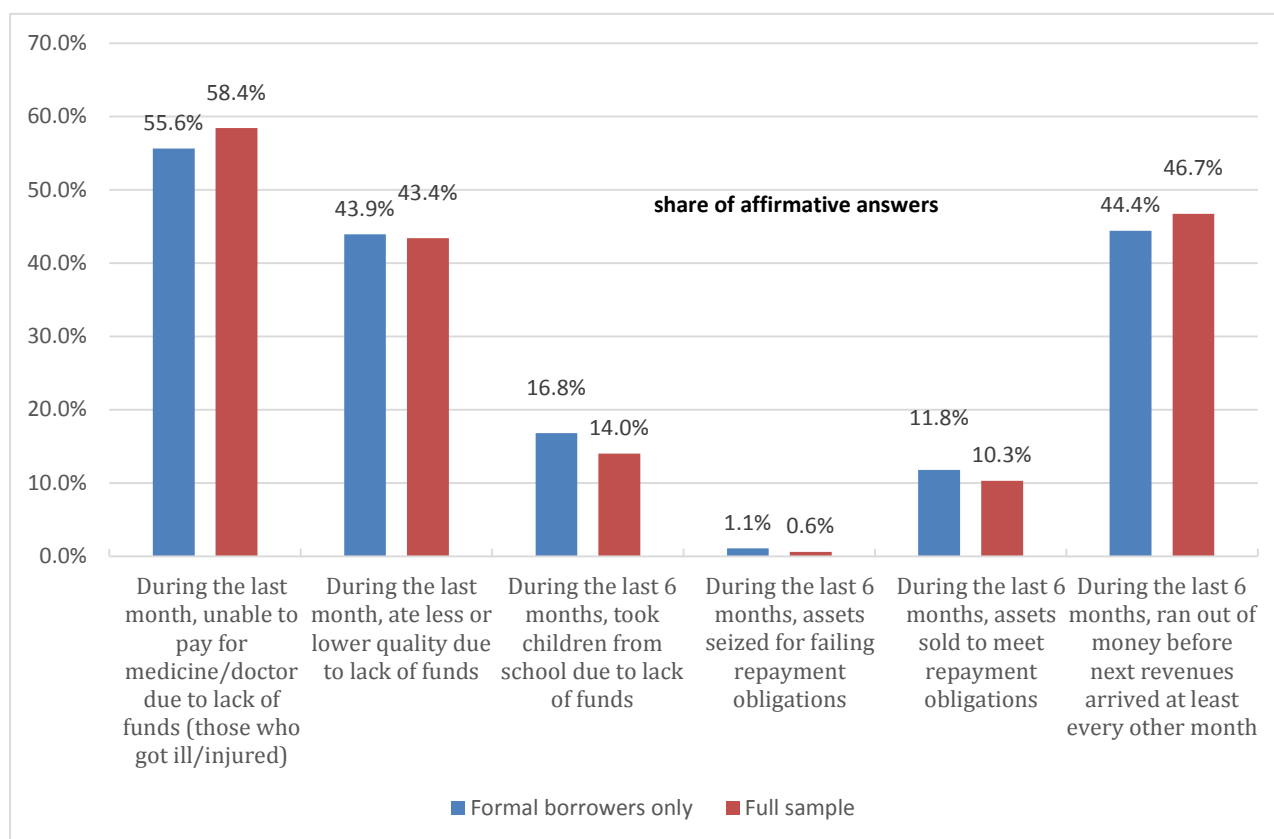

Figure 2: Distress Events, Formal Borrowers and Full Sample

reach alarming levels. The fact that slightly more than 50 % of all respondents for which a household member fell sick were unable to pay for medicine or the doctor due to a lack of funds during the last month is a clear indication of severe financial struggling of the population. However, the small difference between formal borrowers and the rest of the population suggests that this may not be an immediate result of too much credit among formal borrowers. Measuring distress events for a single group of borrowers is informative about the general financial struggle of that part of the population but contains no information on whether taking up microcredit expedites household over-indebtedness.
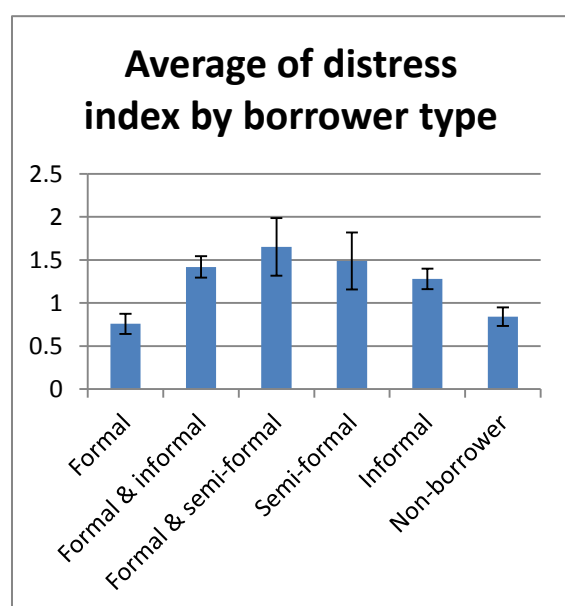

Figure 3: Distress Index among Borrower Groups (including 95% confidence interval)

Figure 3 depicts the distribution of the distress index that was constructed by the sum of confirmative answers to the aforementioned distress events in Figure 2. We find that borrowers at informal sources and borrowers that borrow from both informal/semi-formal and formal institutions on average report to have undergone more

stress events than borrowers at formal institutions and households that did not borrow at all. The descriptive evidence is thus not supportive of any claims that purport a direct negative effect of formal microloans on households' financial struggling.

Household characteristics

Descriptive statistics alone are not sufficiently reliable as a source of evidence, however. Why is that? We might imagine a multitude of household characteristics that influence both the uptake of credit but also the household's experience of distress events.

Variable	Mean	Std. Dev.
Female	40 %	49 %
Age in Years	38.71	11.34
Household Size	5.09	2.69
No education or primary education not completed	15 %	36 %
Highest education: Primary	31 %	46 %
Highest education: High School	39 %	49 %
Highest education: Diploma	5.5 %	2.3 %
Highest education: University	2.8 %	1.7 %
Muslim	23 %	42 %
Mean Numeracy Score (1-4)	2.58	1.25
Mean Finan. Literacy Score (1-5)	2.89	1.37
Monthly hh income (UGX)	1,802,907	5,254,306
Monthly hh debt service (UGX)	290,252	881,700
Total amount borrowed (UGX)	1,338,927	2,263,799
Shock	55%	50%

Table 2: Basic Sample Characteristics

Table 2 gives an overview of the household characteristics in the interviewed sample.

To pick out some examples: Not all interviewed households have the same income or the same level of education. It seems quite likely that households with higher incomes or higher education than average, experience less financial stress than the average household, no matter whether they borrow and what type of loan, formal or informal, they take up. Another prominent example is the influence of financial literacy. Many studies suggest that financially literate households have a lower probability of running into severe debt problems. The table depicts that financial literacy varies between households, and perhaps this variation is also systematically linked to belonging to a certain borrower group. As we could not observe financial literacy directly, but considered it to be an important source of influence on financial struggling, we had

to measure financial literacy (and numeracy skills) with the help of simple tests that asked respondents to answer to five basic financial knowledge questions (solve basic numerical problems).

Just like borrowing from formal, semi-formal or informal sources, all these household features reported in table 2 potentially influence the amount of financial struggling. Our descriptive statistics are unable to separate the different sources of influence, they rather report them blended. That is why econometric analysis is the obvious next step in analysis.

Econometric Analysis

Given that we can observe and measure the relevant household characteristics, econometric analysis is able to disentangle the effects of borrowing from a certain source versus the influence of different household characteristics on financial distress. Specif-

Selection Bias and RCT Designs

Non-borrowers, applicants for a loan, semi-formal borrowers and informal borrowers are imperfect comparison groups for formal borrowers. Household characteristics that make some households apply for and take up a formal loan may also affect their behavior and financial outcomes, independent of their borrowing behavior. Hence, we might mistakenly accredit differences in financial struggling between the borrower-groups to the type of borrowing that are in fact caused by different household characteristics. Comparisons between the groups might also be biased due to the fact that households tend to apply for certain types of credit after experiencing an adverse event, i.e. households in dire straits might self-select into certain borrower groups. A more rigorous randomized control trial (RCT) design would require randomly granting formal credit to some households while denying credit to other households that had otherwise also become borrowers at the formal institution. For obvious reasons, this approach of denying people credit is often unfeasible. Moreover, a more thorough look at the question of over-indebtedness would ideally follow the households' finances over a longer period of time. Econometric analysis is an applicable tool to correct at least for different observable (but not for unobservable) household characteristics, even if the results cannot match the rigor of an RCT.

ically, econometric analysis answers the question whether being a formal borrower increases the chance of experiencing more distress events compared to the other borrower groups, controlling for the different characteristics between the groups that might also have an influence on who borrows from whom.

Table 3 reports results of a Poisson regression (a type of regression that is used for data that can be counted, like the sum of distress events) using various household characteristics as control variables. Results for different comparison samples are reported in columns (1)-(3) and offer a number of interesting insights. First, we find that being a borrower at a formal institution does not increase the chances of experiencing financial distress in comparison to non-borrowers (column 1). Moreover, we find that compared to the group of informal and semi-formal borrowers, borrowers at formal financial institutions are less likely to suffer from distress events (column 2). This suggests that even when we control for observable differences in household characteristics between the groups, there is evidence that the chances of struggling financially are significantly higher for semi-formal and informal borrowers than for borrowers from formal institutions.

Furthermore, we find that a higher number of outstanding loans, self-reported unstable income, larger household sizes, and the household head being female correlate with more financial struggling. Results on female household heads are possibly driven by differences in socio-economic status between households with a male and a female head. Most notably, however, financial literacy skills are negatively correlated to levels of financial distress. This finding is in support of the efforts of the national and international community to promote financial literacy among clients of financial institutions in Uganda. The result suggests that financial literacy skills help households to achieve a more sustainable planning of household finances.

Column 3 reports the results of a comparison of formal borrowers to non-borrowers that have recently applied for formal credit but not actually borrowed yet (applicants). Using applicants, we try to create a control group that is likely to be similar in terms of its characteristics as the households that have self-selected into the same type of borrowing. Results suggest that active borrowers on average undergo more distress events than applicants. This effect, however, is to some extent expected. Borrowing always entails risk and thus leads to a spread of the household income distribution; some borrowers' businesses fail, some borrowers' businesses fare well. A distress index mainly captures the downside of this spread in the distribution (reflecting disproportionally the negative experiences of that part of the borrowing population that does not fare well) and we do not observe whether the increase in downside risk is counterbalanced - or more than counterbalanced - by gains on the upside.

Conclusion
Financial distress of microfinance clients has become a great concern within the microfinance community. This study was motivated by the deficiency of earlier attempts to find meaningful comparison groups that facilitate an interpretation of the role of credit on microfinance clients' financial burden measured at the household level.

We find that while a larger part of the population in urban Kampala, Uganda, must be

considered financially struggling, there is no evidence that the uptake of formal credit from a microfinance institution fosters over-indebtedness systematically. Particularly, compared to other credit sources, formal loans are associated with a lower amount of stress imposed on borrowers.

> The chances of struggling financially are significantly higher for semi-formal and informal borrowers than for borrowers from formal institutions.

This is by no means saying that clients of formal financial institutions do not struggle financially (and sometimes more than non-borrowers). It is of utmost importance that financial institutions pay great attention to the repayment capacities of their borrowers and not everybody is in the position to handle credit. It suggests, however, that formalization of credit sources reduces financial distress.

In a competitive credit market as urban Uganda, our finding of a strong association between the number of outstanding loans and experienced distress underlines the importance of credit information sharing among lenders.

Financial literacy stands out as a key policy variable to make sure that, in particular in the case of saturated credit markets, borrowers do not take up unduly large amounts of credit and do not take uninformed financial decisions. An increase in the overall level of financial literacy skills in the population is likely going to lead to a reduction in overall financial struggling.

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Outcome: Distress Index Results report b/se	Formal vs. Non-borrowers	Formal vs. informal/semi-formal borrowers	Formal vs. applicants
Formal borrower=1	-0.1007	-0.1664*	0.3526**
	0.11	0.09	0.13
Age in years	-0.0052	0.0159	0.0103
	0.01	0.02	0.02
Female=1	0.1667*	0.1907**	0.2129**
	0.07	0.06	0.08
Household size	0.0169	0.0388****	0.0185
	0.01	0.01	0.02
Muslim=1	0.1474*	0.1233	-0.0498
	0.07	0.07	0.09
Primary educ completed	-0.0603	-0.0214	0.1422
	0.08	0.08	0.09
O level in high school completed	-0.0402	-0.077	0.0096
	0.09	0.08	0.11
A level in high school completed	-0.3981*	-0.1908	-0.3528
	0.17	0.154	0.21
Diploma	-0.4477	-0.4425*	-0.35
	0.23	0.2	0.26
University Degree	-0.3273	-0.2431	0.1865
	0.85	0.28	1.62
Wealth index	-0.031**	-0.0336**	-0.0233*
	0.01	0.01	0.01
Numeracy score	-0.0136	-0.0345	-0.0445
	0.03	0.03	0.03
Financial literacy score	-0.1126****	-0.0406	-0.0636**
	0.03	0.02	0.03
Number of loans/open bills outstanding	0.1443****	0.1695****	-
	0.07	0.06	
Shock Dummy	0.2955****	0.3649****	0.3707****
(experienced a negative shock recently)	0.07	0.07	0.08
Unstable income	0.9462****	1.1023****	0.953
(as reported by respondent)	0.08	0.09	0.1
N	877	973	627
Wald	151.45	169.69	95.32

* p<0.05, ** p<0.01, *** p<0.001, **** p<0.0005

Table 3: Results from a Poisson Regression