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‘Bang for buck’ in microfinance: Wellbeing mentorship or business education?

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A B S T R A C T

Within the microfinance literature, there is a growing interest in institutional logics. This paper explores ways that microfinance institutions can overcome the logic-tension of offering developmental programs and maintaining financial stability. First, I conduct a randomized control trial in Uganda to examine the financial and non-financial outcomes of *loan recipients*. Second, I use results from the field experiment, in a resource allocation model, to optimize the goals of a *lending institution*. I find that wellbeing mentorship, rather than business training, is the best ‘bang for buck’ when considering the interests of both the women entrepreneurs and the microfinance lending institution.

1. Introduction

Approximately one-half of the estimated 910 million people in Sub-Saharan Africa live in extreme poverty, which is defined as living on less than US $1.25/day (The Grameen Foundation, 2014). On a day-to-day basis, the vicious cycle of extreme poverty is one of constrained resources to meet basic family needs, such as providing food, education, and medical treatment for children. One espoused approach to reducing extreme poverty is comprehensive development, which includes both social and economic arrangements (Nickel, 2005; Sen, 1999). In a microfinance context, comprehensive development may include efforts to provide entrepreneurs with business training and wellbeing mentorship, in addition to credit opportunities, as mechanisms to build capabilities and to establish elementary freedoms (Sen, 1999). The difficulty with this approach is that it may create unintended organizational conflicts.

Within the microfinance literature there is an emerging interest in the tensions and potential conflicts created by multiple institutional logics (Battilana and Dorado, 2010; Cobb et al., 2016; Zhao and Lounsbury, 2016; Zhao and Wry, 2016). For instance, a microfinance institution (MFI) may want to offer comprehensive services to entrepreneurs, but are then faced with the stark economic realities of their financial position. When considering the benefits of different and often costly social and economic arrangements, MFIs may be forced to hybridize their logics. Hudon and Sandberg (2013) frame this as a critical ethical dilemma in microfinance. Therefore, the primary contribution of this paper is to advance knowledge of institutional logics and organizational choice by providing empirical tests of Sen's (1999) viewpoint on comprehensive development. This research sets out to provide answers to how MFIs can improve entrepreneur's financial and non-financial outcomes while simultaneously meeting their financial and social goals. Overall, the thrust of this paper is to understand what approach maximizes the MFI's ‘bang for buck’, given multiple institutional logics.

2. The hypotheses: improving entrepreneur outcomes

When Muhammad Yunus and the Grameen Bank won the Nobel Peace Prize in 2006, there was a wave of interest in how MFIs might combat global poverty and inequality. A decade later, various forms of microfinance now serve 7.4 million borrowers in Africa alone and approximately 200 million borrowers worldwide (Microcredit Summit, 2015). Despite the endorsing support for microfinance as a tool for development, "there is still much to be learned about what works in enterprise-based solutions to poverty" (Klinger and Schündeln, 2011). The following four hypotheses aim to explore the impact of program arrangements on entrepreneur's risk behaviors, loan delinquency, and financial worry.

2.1. What might impact entrepreneur outcomes?

There is a long list of program arrangements that could plausibly impact entrepreneur outcomes (Chliova et al., 2015). I examine business training and wellbeing mentorship. Even though training and mentorship are typically not a part of microfinance/microcredit definitions (e.g. Banerjee et al., 2015b; Chliova et al., 2015), scrutinizing their impacts may be beneficial (McKenzie and Woodruff, 2013). Some studies have investigated business training in different contexts and to different extents (see Karlan and Valdivia, 2011 for a review of RCTs that involve training). However, as demonstrated by prior scholarly work on training, the extent to which business training affects microfinance outcomes is modest and in many cases mixed (Glaub and Frese, 2011; McKenzie and Woodruff, 2013). Mano et al. (2012) question whether the benefits of training programs exceed the costs of such training.

Recent research from Goodman (2017) emphasizes the importance of appreciating different livelihood strategies and not focusing exclusively on loan productivity. My early dialogues with the MFI management team in this study echoed such point. They viewed business training as a way to enable current livelihood strategies at reduced levels of risk. In the context of this MFI, the dominant view was that business training would be a valuable platform for the MFI staff to communicate the importance of saving ('for a rainy day') and diversifying ('not putting all their eggs in one basket').

Even though it is not entirely clear whether business training helps entrepreneurs manage risk, there are reasons to believe that business training may be an opportunity to frame and discuss risk reduction/management mechanisms (i.e. savings and diversification) (Knight, 2012). In many developing countries, loan risk is magnified due to the uncollateralized nature of the loan (Chakrabarty and Bass, 2015). In fact, lending to entrepreneurs is a risky proposition for both the lender and the borrower (Field et al., 2013). One form of risk mitigation is saving. Morduch (2000) suggests that a savings program may be an essential feature of both subsidized and sustainable microfinance programs. Diversification of loan expenditures, by the borrower, may provide another form of risk mitigation. Portfolio theory holds that if investment returns are not perfectly correlated, diversification across investments will reduce risk. If a loan is paired with business training (training that includes instruction on the basic idea of saving and diversification), some of the loan risk may be reduced. As such, the following hypotheses are presented:

H_1: *Business training will be positively associated with higher levels of savings.*

H_2: *Business training will be positively associated with more diverse loan expenditures.*

Beyond a focus on the impact of business training, there is a need to understand the social impacts of microfinance programs on the lives of participants (Banerjee et al., 2015b; Morduch, 1999; Sen, 1999). Nickel (2005) frames this as non-financial dimensions. For example, women entrepreneurs who receive wellbeing mentorship – guidance on HIV/AIDs, family relations, sanitation, and food/water security – may develop a deep trust for the MFI. Given that women in southwestern Uganda are dealing with a long list of survival uncertainties, wellbeing mentorship may facilitate this trust development. Mayer et al. (1995) describe trust as confidence and predictability between two parties. The purpose of wellbeing mentorship is to positively address a range of social needs such as health, education, water, nutrition, and interpersonal relations in a way that is predictable and interpersonal (Kim et al., 2009). Wellbeing mentorship, therefore, sends a strong signal to women who borrow that their health and wellness matter to the MFI and that the MFI aims to be predictably accessible and available to meet their personal needs.

The extent to which borrowers perceive a MFI as benevolent and trustworthy may translate into better repayment rates (Banerjee et al., 2015a). This is similar to Blattman et al. (2016) who found that interactions with staff members was associated with participants' development of social capital, ultimately contributing to more positive economic outcomes. Therefore, I hypothesize that exposure to wellbeing mentorship builds trust, which in turn will be associated with lower levels of loan delinquency. While I am not explicitly testing for the mediating role of trust in the current analyses, and it is possible that alternative explanations might explain loan delinquency rates (e.g. Goodman, 2017), I hypothesize that:

H_3: *Wellbeing mentorship will be negatively associated with delinquency rates.*

It is conceivable that there may be a darker side to training. In addition to objective measures of financial outcomes (e.g. savings, diversification, and delinquency), training may subtly and negatively impact subjective outcomes. One's sense of satisfaction with their own financial status is influenced, in part, by their sense of worry and stress about meeting basic expenses (Gerrans et al., 2014). While the act of making financial adjustments and employing new strategies to improve one's financial wellbeing may contribute to greater financial solvency among low-income individuals, such adjustments have also been linked with an increase in perceived financial distress among low-income individuals (Prawitz et al., 2013). The amount of knowledge a person has about financial and business decision-making may also be linked with their level of financial distress.

Some research suggests that when individuals are presented with new and complex information, such as that with new venture creation, it may create a situation of "information overload" (Eppler and Mengis, 2004). Individuals who experience information overload may experience heightened distress or anxiety (Eppler and Mengis, 2004). In this case, the more entrepreneurs know the more they may worry. Therefore, I hypothesize the following:

H_4: Business *training will be associated with higher levels of financial worry.*

3. Study design and partner organization

Similar to Blattman et al. (2016) this study examines microfinance program variations in Uganda. However, unlike Blattman et al. (2016), business training and wellbeing mentorship are explored in parallel. To test the hypotheses, a randomized control trial (RTC) was conducted. An experimental approach is common for studies relying on randomization to identify microfinance outcomes (Banerjee et al., 2015a; Heckman, 1991), to disentangle hidden information (Karlan and Zinman, 2009) and to test factors necessary for entrepreneur and MFI success (Banerjee and Duflo, 2008). Heckman (1991) calls this "creative experimentation".

Subsequently, I used the results from the RTC as input data in a resource allocation model (termed a microfinance knapsack problem). The knapsack problem is a well-known optimization problem that involves choosing a subset of given items such that profit is maximized without exceeding the capacity of the knapsack (Salkin and Mathur, 1989). In the context of this RTC, the microfinance knapsack problem was formulated to empirically determine how to optimally allocate funds among several program variations in order to maximize social benefits to the loan recipients, without exceeding the financial capabilities of the lending institution. This approach was selected to investigate ways to balance social and financial objectives of lending institutions, given the results of the field experiment.

The partner for this field experiment was a nongovernmental organization (NGO) called Salama SHIELD Foundation (SSF). SSF has over 25 years of service to the Lyantonde District of Uganda. In the mid-1990s Lyantonde was considered the epicenter of the HIV/AIDS pandemic. For 15 years (prior to the introduction of microfinance), SSF developed programs to ensure safe drinking water, health promotion, food security, and educational opportunities for youth. Microfinance was the last program to be added, after devoting time to other interrelated and embedded issues.

To date SSF enjoys a virtually perfect repayment record. After over 9000 loans in over 100 villages, through 2017 only ten defaults have occurred, due to deaths. The virtually perfect repayment rate is one of the highest in the country and it is almost unprecedented given the risk-related challenges encountered by women in this environment. SSF loans range from 200,000 Ugandan Shillings (UGX) to 300,000 UGX. The approximate conversion and range is $60–90 US Dollars (USD). After the loans are disbursed, borrowers do not pay the first installment for approximately 60 days. For example, if a loan were disbursed on May 1, the client would make the first payment (principle plus interest) on July 1. Borrowers are expected to pay back the entire loan in six equal principal installments with a 2% interest. This brings the effective interest rate to approximately 31%. Clients are not required to have any collateral on the loan. Each borrower is required to place at a minimum 2000 UGX/month into a SSF savings fund.

The sample includes 96 women entrepreneurs from the Lyantonde region of Uganda, Africa. SSF had 99% attendance rates for both business training and wellbeing mentorship. Table 1 presents the summary statistics for those who participated in the field experiment.

The first unit of analysis was the entrepreneurs, focusing on their loan experience. The entire field experiment and data collection occurred over a 9-month period. The first month of the field experiment concentrated on the identification strategy and group selection process. There were several criteria for identifying and selecting the experimental groups. Each community had to be within a similar distance to the Lyantonde center. Groups with similar dialects and similar farming conditions were selected. In terms of group selection, SSF maintains that non-collateralized self-selected groups remain the method of debt security and group selection.

3.1. Randomized control trial

Treatments were implemented across two dimensions (1) business training (termed 'B'), and (2) wellbeing mentorship (termed 'W'). Experimental Group BW received business training, wellbeing mentorship, and a microloan. Experimental Group W received wellbeing mentorship and a microloan. Finally, control Group C received a microloan. Wellbeing mentorship lies at the core of this experiment and at the core of SSF's institutional values, therefore, there was no interest in removing this program.

The business training treatment included three 8-h days dedicated to several themes. Each of these themes is documented in detail within the SSF training manual. The training manual breaks business training into nine themes: (1) introduction to training, (2) overview of SSF as an organization, (3) poverty, (4) subsistence production versus commercial production, (5) entrepreneurship, (6) savings and resource mobilization, (7) group dynamics and management, (8) diversification and conflict resolution, and (9) microcredit operations and management.

The wellbeing mentoring, called "sensitizations" by the SSF team, were 1–2 h sessions that occurred when loans were collected. Each month, on a rotating basis, two SSF microfinance team members traveled to the home of one of the group members. During the loan collection, all group members were required to be present. This is where the wellbeing mentorship was conducted. The mentorship role was steered by a senior, and well respected, "Ssenga" (female paternal aunt). The topics of discussion included: (1) HIV/AIDs testing and mentoring, (2) family relations, (3) the importance of having children in school, (4) community development, (5) sanitation in the home, and (5) food/water security. As part of the wellbeing mentorship, borrowers were educated on procedures for safe water, sanitation, hygiene, and waste management. Each borrower was required to have a latrine, drying rack, and tippy tap (a hand washing tool), and was tested for HIV/AIDS.

Table 1
Characteristics of the Ugandan women in the microfinance field experiment.

	Mean/Proportion	Standard Deviation	Range
Sociodemographic Characteristics			
Age	39.4	12.0	19–74
Have some formal schooling	78%		1–0
Marital status			
Monogamous Marriage	37.9%		
Polygamous Marriage	20.0%		
Unmarried/Widowed	23.2%		
Cohabiting	19.0%		
Number of Children	6.0	3.2	0–14
Fosters orphans	61.5%		
Social wellbeing (Time 1)			
Experienced abuse	16%		
Number of children not in school	0.57	1.12	0–6
Number of days without food in past month	0.15	0.64	0–4
Worry about educational costs	2.19	1.28	1–5
Worry about healthcare costs	2.43	1.31	1–5
Worry about feeding family	1.87	1.05	1–5
Social wellbeing (Time 2)			
Experienced abuse	17.2%		
Number of children not in school	0.45	1.46	0–12
Number of days without food in past month	0.18	1.10	0–9
Worry about educational costs	2.00	1.29	1–5
Worry about healthcare costs	2.05	1.17	1–5
Worry about feeding family	1.57	0.90	1–5
Confidence in oneself	4.08	1.14	1–5
Business Measures			
Loan amount (USD)	78.56	18.66	29.81–89.42
Savings (USD)	5.18	2.77	2.98–14.90
Percentage of loan saved	7.26	5.01	3.33–33.33
Delinquency on loan	9.3%		
Loan expenditure diversification	3.89	2.63	1–9

4. Entrepreneur outcomes: findings from the RCT

Analysis of variance (ANOVA) models were employed to compare the economic and social well-being outcomes of the three different experimental groups at the time two follow-up (Table 2).

Consistent with hypothesis one, results indicate that the women in loan group BW, who received both business training and wellbeing mentorship, saved significantly more on average compared to those women who only received wellbeing mentorship. Women in group BW also saved a significantly higher percentage of their loan on average (9.4%) compared to women with only wellbeing mentorship (6.1%) and those women who only received a loan (6.4%). These results suggest that exposure to business training is positively associated with more savings, and greater savings as a percentage of one's initial loan amount.

Exposure to business training was also linked with the types of expenditures that women made, as well as the degree of diversification of loan expenditures. Results indicate that women who had both business training and wellbeing mentorship had significantly higher diversification of loan expenditures on average (4.63), compared to women who did not receive any training (2.97). This finding supports the second hypothesis and suggests that traditional diversification theory may be applicable within the microfinance context. Exposure to training was also associated with the types of expenditures that women made, with a significantly higher percentage of women in group BW spending some of their loan money on making educational expenditures (35.5%) compared to women in loan groups W (14.7%) or C (9.7%).

Results also suggest that a significantly larger percentage of individuals in loan group C spent some of their loan on “business” expenditures compared to group BW, while a significantly larger percentage of individuals in loan group BW spent money on “farming” expenditures compared to loan group C. These results should be interpreted with some caution, as many women in this sample farmed for a living, therefore expenditures in “farming” might also be considered a “business” expenditure.

Results of analysis of variance models support hypothesis three, that wellbeing mentorship is negatively associated with delinquency rates. Women who did not receive any wellbeing mentorship or business training had a significantly higher rate of delinquency on average (29%) compared to those women who received wellbeing mentorship (0%) or wellbeing mentorship and business training (0%). One view is that involvement in mentorship programs may lead to a greater degree of trust among women and a greater sense of responsibility to pay back the mentoring organization, thereby decreasing the likelihood of being delinquent in payments.

Business training was also linked with the degree of distress or worry that women felt about financial matters. Women in the loan group BW reported significantly higher rates of worry about paying for educational fees compared to women in the other two groups. All results presented in Table 2 were the same when running models using bivariate regression.

Table 2
Average loan group differences for business and social wellbeing outcomes at time 2 (Analysis of Variance).

	Group BW (n = 31)	**Group W** (n = 34)	**Group C** (n = 31)	Significant Differences at $p < 0.1$ level
Business outcomes				
Savings (USD)	6.12	4.14	5.37	BW > W
Avg. Percentage of Loan Saved	0.094	0.061	0.064	BW > W,C
Diversification of loan expenditures	4.63	3.88	2.97	BW > C
% who spent loan money on education expenditures	35.5%	14.7%	9.7%	BW > W,C
% who spent loan money on business expenditures	29.0%	41.2%	61.3%	C > BW
% who spent loan money on farming expenditures	61.2%	41.2%	19.4%	BW > C
% who spent loan money on animals	54.8%	55.9%	48.4%	
% who spent loan money on other expenditures	9.7%	17.6%	16.1%	
% delinquent	0%	0%	29%	C > BW,W
Social wellbeing outcomes				
Worry about Education Costs	2.6	1.8	1.7	BW > W,C
Worry about Healthcare Costs	2.4	1.8	2.0	
Worry about feeding family	1.6	1.4	1.7	
Confidence	4.13	3.97	4.16	
% experienced abuse	16.7%	24.1%	10.7%	

Note: Results based on ANOVA analyses of non-missing data.

5. Institutional outcomes: balancing financial and social goals

A common MFI tension is limited amounts of capital resources to lend and use for client programs. Therefore, the institutional logics are framed by financial constraints as they try to achieve their social goals. This creates a dilemma, as organizations must make tough decisions on how to maximize individual and institutional objectives. In order to address this tension, in an empirical fashion, an unbounded knapsack problem is presented.

5.1. Microfinance resource allocation viewed as a knapsack problem

The knapsack problem is a well-known optimization problem that involves choosing a subset of given items such that profit is maximized without exceeding the capacity of the knapsack (Salkin and Mathur, 1989). Formulating the microfinance knapsack problem involves articulating the decision variables, constraints, and objective function. Here, the decision variables represent the number of loan groups financed with a specific program variation (i.e., groups BW, W, and C, as described in the study).

The total amount invested in these groups must not exceed a predetermined budget for the organization, so this is formally a constraint in the model. Currently SSF has a budget of USD $72,000 to allocate to microfinance programs. The expenses incurred by SSF per loan group, where each group consists of 5–8 women, are as follows: the programming for each loan group BW costs $750 (USD), each loan group W costs $252, and each loan group C costs $197. Assuming an average of six women per group, with each woman receiving an average loan size of $78.56, the loan cost for each group is $471. So, each loan group BW costs $1221, each loan group W costs $723, and each loan group C costs $668. Certainly, other constraints may exist that impact the microfinance problem. For example, there may be a limited supply of trainers. In this section I assume that other restrictions are relaxed, so that the model focuses on the cost-benefit of the group allocation decision.

The objective function involves maximizing social and economic benefits for loan recipients. Specifically, the objective function is calculated as follows:

$$(\textit{total benefit of group } BW) \times (\textit{number of group } BWs \quad \textit{financed})$$
$$+(\textit{total benefit of group } \quad W) \times (\textit{number of group } Ws \quad \textit{financed})$$
$$+(\textit{total benefit of group } \quad C) \times (\textit{number of group } Cs \quad \textit{financed})$$

I parameterize the objective function using field experiment results from Table 2. Four measures for each loan group are used: '% loans deficient,' '% loan saved,' 'diversification of loan expenditures,' and 'worry about education.' These measures are used because

Table 3
Data (C_{ij}) for microfinance knapsack problem.

	Group BW	**Group W**	**Group C**
$C_{i,F1}$ - % loans not deficient	0	0	29
$C_{i,F2}$ - % loan saved	9.4	6.1	6.4
$C_{i,F3}$ - Diversification of loan expenditures	4.63	3.88	2.97
$C_{i,W1}$ - Worry about education	2.67	1.8	1.7

the analyses suggest that there are significant loan group differences in these outcomes. The nominal values, C_{ij}, of each criteria measure j for each loan group i, are shown in Table 3. I also normalize the measures using a linear normalization approach (Ravindran, 2008). This approach is used to convert the measures to a proportion of the range of realized values to transform them to values between 0 and 1.

I convert the measure of each criterion j, for each group type i, to the normalized value r_{ij} as follows. First, a good solution would entail minimizing loan deficiency (called F1) among groups, termed 'cost criterion.' On the other hand, a good solution would entail maximizing the contribution of the other three criteria (called F2, F3, and W1), termed 'benefit criteria.' Eqs. 1 and 2 show how the measures are normalized:

$$r_{ij} = \frac{C_{ij} - L_j}{H_j - L_j} \quad \text{(for benefit criteria)} \tag{1}$$

$$r_{ij} = \frac{L_j - C_{ij}}{L_j - H_j} \quad \text{(for cost criteria)} \tag{2}$$

The value of C_{ij} is the nominal value for the criterion measure from the results, and the values are shown in Table 3. The value of H_j is equal to the maximum (alternatively, minimum) value realized for that measure among all 96 loan participants in the sample for benefit (alternatively, cost) criteria. Finally the value of L_j is equal to the minimum (alternatively, maximum) value realized for that measure among all 96 loan participants in the sample for benefit (alternatively, cost) criteria. Loan deficiency values for H_{F1} and L_{F1} are 0 and 100, respectively. Values for L_{F2} and H_{F2} are 3.3 and 33.3, representing the realized range of the percentage of their loan that individuals saved. Values for L_{F3} and H_{F3} are 1 and 9, representing the realized range of the diversification measure. Finally, values for L_{W1} and H_{W2} are 1 and 5, representing the realized range of responses by individuals to the survey question on worrying about education expenses. The final values of the normalized criteria measures are shown in Table 4.

5.2. Solving the microfinance knapsack problem

Using CPLEX 12.6 optimization software the optimal allocation is found. Table 5 shows, for each instance, the number of groups served, the objective function value, and the breakdown of the objective function value by measure. When given the option of choosing program variation BW, W, or C (i.e., instance 1 in Table 5), the optimal solution is to finance 99 BW groups, with an objective function value of 163.65.

Instances are considered where only a single program variation (BW, W, or C) is included in the analysis (instances 2, 3, and 4). I notice that the solution to this problem is fairly trivial. That is, the program variation with the highest ratio of objective function contribution to cost among the group types and then allocate all resources to finance as many groups as possible with that program variation. This can be understood using a common idiom, since the decision maker should select the program variation that gives the highest 'bang for the buck.' For example, for each BW group financed, the contribution to the objective function (from Table 4) is (1 + 0.203 + 0.454 + 0.418), which equates to 2.075. As earlier stated, the cost to SSF for financing a BW group is $1221 USD. So the contribution/cost ratio = 2.075/1221 = 0.001699. Similarly, the contribution/cost ratio for a W group is 0.00229, and the ratio for a C group is 0.00185. *Since the ratio is highest for W groups (groups that received the wellbeing mentorship), this program variation should be selected to maximize the objective function (as demonstrated by instance 1 in Table 5), even though it is more expensive to implement than program variation C.*

Although program variation C has a higher contribution/cost ratio than program variation BW, I exclude variation C from subsequent analysis. The exclusion is justified for several reasons. First, the results from the hypotheses testing show that C groups have higher rates of delinquent loan payments, which can be viewed as an unacceptable outcome for microfinance organizations. Next, it is argued that mentorship promotes goals such as improvement of health and wellbeing, and it creates and promotes trust. Finally, SSF has taken a comprehensive approach to development. This means they are not willing to use a traditional bank model, which generally excludes mentorship, due to their ideological foundations.

The results can be used to perform a similar analysis of the continuum of wellbeing mentorship. Here I perform the same calculations but use program variations C and W. This is possible because program variation C includes no wellbeing mentorship, and can be obtained by setting α to zero. Setting α to one yields program variation W. Similar to the business training scenario, the number of groups that can be financed decreases because of the higher cost of wellbeing mentorship. However, the objective function value increases as more wellbeing mentorship is given, since the higher group level contribution outweighs the increased cost. *This indicates that wellbeing mentorship is not only useful for improving individual-level outcomes, but is worth it for the institution because of larger aggregate benefit.*

Table 4
Normalized criteria measures, computed using Eqs. (1) and (2).

	Group BW	**Group W**	**Group C**
$r_{i,F1}$	1.00	1.00	0.710
$r_{i,F2}$	0.203	0.093	0.103
$r_{i,F3}$	0.454	0.360	0.246
$r_{i,W1}$	0.418	0.200	0.175

Table 5
Solutions for four instances of the microfinance knapsack problem.

Instance # (program variation included)	Objective function value	BW groups financed	W groups financed	C groups financed	F1 total	F2 total	F3 total	W1 total
1 (All)	163.65	0	99	0	99	9.21	35.64	19.8
2 (BW)	120.35	58	0	0	58	11.78	26.33	24.24
3 (W)	163.65	0	99	0	99	9.21	35.64	19.8
4 (C)	132.04	0	0	107	75.97	11.02	26.32	18.73

6. Discussion

This paper adds to the theoretical conversation of institutional logics by empirically examining tradeoffs between the logics of MFI services and MFI sustainability (Battilana and Dorado, 2010; Cobb et al., 2016; Hudon and Sandberg, 2013; Zhao and Lounsbury, 2016; Zhao and Wry, 2016). The findings in this paper suggest that there are improved individual outcomes from business training, however, the logic of MFI sustainability is best resolved by wellbeing mentorship. The results of group W support that notion that wellbeing mentorship is a critical success nexus between the entrepreneurs and the institution – it is not only useful for improving individual-level outcomes, but is worth it for the institution because of larger aggregate benefit. Business training is associated with higher levels of saving, diversification of loan expenditures, and more financial worry. Wellbeing mentorship is associated with reduced delinquency rates, which can be linked to eventual defaults.

This study does raise questions with respect to the long run impacts of B. It is not clear what constitutes effective training in the microfinance literature. Little attention has been given to the cost-benefit of such training over time. The current study empirically examines the financial and social tensions of different microfinance program variations in order to maximize the benefits for borrowers and lenders. The findings demonstrate that there are institutional tradeoffs, with respect to business training, that warrant closer scrutiny. Business training may not be worth the cost in many instances. However this study does not determine if the partner organization is equally effective in delivering B and W training. There is also a case to be made for B training to be treated as a loner term investment.

The results of this paper offer new insights into a darker side of developmental entrepreneurship. Over three days of business training loan clients may became more aware of the risks associated with new venture creation as well as their current social and economic disposition. Results show that this can create more individual-level worry, particularly about paying for their child's education. This finding supports the theories of information overload, in that exposure to novel and complex information, such as business production and management, may contribute to financial worry (Eppler and Mengis, 2004). This sense of concern however, may positively contribute to decision making and lead to improved financial solvency, in the form of greater savings, more diverse expenditures, and additional expenditures in long-term investments, such as children's education.

Field experiments are costly and have inherent limitations. While many field experiments have sample sizes similar to the current study, I recognize that interesting nuances may go unnoticed due to low statistical power. In particular, the current study considers only bivariate associations, and therefore the models do not fully capture the complexities of these relationships nor do they control for potentially confounding factors. A larger study may uncover venture mechanisms at work, with greater statistical power. Finally, due to funding constraints, I was not able to have a “business training only” experimental group.

7. Conclusion

Extreme poverty is a complex and palpable problem. Microfinance credit opportunities, coupled with training and/or mentorship, may form the basis of a workable solution to this problem. Sen (1999) suggests that development efforts should focus on both economic and social solutions in tandem. This paper offers an institutional perspective that concurrently aligns the loan recipient's objectives with lending institution's goals. I find that wellbeing mentorship is a ‘bang for buck’ approach that benefits both the entrepreneurs and the microfinance institution.

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References

⟨http://www.grameenfoundation.org/sites/default/files/Grameen_Foundation_2014_Annual-Report_web.pdf⟩.
Banerjee, A.V., Duflo, E., 2008. The Experimental Approach to Development Economics (No. w14467). National Bureau of Economic Research.
Banerjee, A., Duflo, E., Glennerster, R., Kinnan, C., 2015a. The miracle of microfinance? Evidence from a randomized evaluation. Am. Econ. J.: Appl. Econ. 7 (1),

22–53.
Banerjee, A., Karlan, D., Zinman, J., 2015b. Six randomized evaluations of microcredit: introduction and further steps. Am. Econ. J.: Appl. Econ. 7 (1), 1–21.
Battilana, J., Dorado, S., 2010. Building sustainable hybrid organizations: the case of commercial microfinance organizations. Acad. Manag. J. 53 (6), 1419–1440.
Blattman, C., Green, E.P., Jamison, J., Lehmann, M.C., Annan, J., 2016. The returns to microenterprise support among the ultrapoor: a field experiment in postwar Uganda. Am. Econ. J.: Appl. Econ. 8 (2), 35–64.
Chakrabarty, S., Bass, A.E., 2015. Comparing virtue, consequentialist, and deontological ethics-based corporate social responsibility: mitigating microfinance risk in institutional voids. J. Bus. Ethics 126 (3), 487–512.
Chliova, M., Brinckmann, J., Rosenbusch, N., 2015. Is microcredit a blessing for the poor? A meta-analysis examining development outcomes and contextual considerations. J. Bus. Ventur. 30 (3), 467–487.
Cobb, J.A., Wry, T., Zhao, E.Y., 2016. Funding financial inclusion: institutional logics and the contextual contingency of funding for microfinance organizations. Acad. Manag. J. 59 (6), 2103–2131.
Eppler, M.J., Mengis, J., 2004. The concept of information overload: a review of literature from organization science, accounting, marketing, MIS, and related disciplines. Inform. Soc. 20, 325–344.
Field, E., Pande, R., Papp, J., Rigol, N., 2013. Does the classic microfinance model discourage entrepreneurship among the poor? Experimental evidence from India. Am. Econ. Rev. 103 (6), 2196–2226.
Gerrans, P., Speelman, C., Campitelli, G., 2014. The relationship between personal financial wellness and financial wellbeing: a structural equation modeling approach. J. Fam. Econ. Issues 35, 145–160.
Glaub, M., Frese, M., 2011. A critical review of the effects of entrepreneurship training in developing countries. Enterp. Dev. Micro. 22 (4), 335–353.
Goodman, R., 2017. Borrowing money, exchanging relationships: making microfinance fit into local lives in Kumaon, India. World Dev. 93, 362–373.
Heckman, J.J., 1991. **Randomization and social policy evaluation**. NBER Working Paper 107.
Hudon, M., Sandberg, J., 2013. The ethical crisis in microfinance: issues, findings, and implications. Bus. Ethics Q. 23 (4), 561–589.
Karlan, D., Valdivia, M., 2011. Teaching entrepreneurship: impact of business training on microfinance clients and institutions. Rev. Econ. Stat. 93 (2), 510–527.
Karlan, D., Zinman, J., 2009. Observing unobservables: Identifying information asymmetries with a consumer credit field experiment. Econometrica 77 (6), 1993–2008.
Kim, J.K., Ferrari, G., Abramsky, T., Watts, C., Hargreaves, J., Morison, L., Phetla, G., Porter, J., Pronyk, P., 2009. Assessing the incremental effects of combining economic and health interventions: the IMAGE study in South Africa. Bull. World Health Organ. 87, 824–832.
Klinger, B., Schündeln, M., 2011. Can entrepreneurial activity be taught? Quasi-experimental evidence from Central America. World Dev. 39 (9), 1592–1610.
Knight, F.H., 2012. **Risk, Uncertainty and Profit**. Courier Corporation, New York.
Mano, Y., Iddrisu, A., Yoshino, Y., Sonobe, T., 2012. How can micro and small enterprises in Sub-Saharan Africa become more productive? The impacts of experimental basic managerial training. World Dev. 40 (3), 458–468.
Mayer, R.C., Davis, J.H., Schoorman, F.D., 1995. 'An integrative model of organizational trust'. Acad. Manag. Rev. 20 (3), 709–734.
McKenzie, D., Woodruff, C., 2013. What are we learning from business training and entrepreneurship evaluations around the developing world? World Bank Res. Obs., lkt007.
Microcredit Summit, 2015. Available at: (⟨http://www.microcreditsummit.org/track-movement-out-of-poverty.html⟩) (accessed 15 June 2015).
Morduch, J., 1999. The microfinance promise. J. Econ. Lit. 37 (4), 1569–1614.
Morduch, J., 2000. The microfinance schism. World Dev. 28 (4), 617–629.
Nickel, J., 2005. Poverty and rights. Philos. Q. 55 (220), 385–402.
Prawitz, A.D., Kalkowski, J.C., Cohart, J., 2013. Response to economic pressures by low-income families: financial distress and hopefulness. J. Fam. Econ. Issues 34, 29–40.
Ravindran, A.R. (Ed.), 2008. **Operations Research and Management Science Handbook**. CRC Press.
Salkin, H.M., Mathur, K., 1989. ***Foundations of integer programming***. North Holland.
Sen, A.K., 1999. **Development as Freedom**. Knopf, New York.
Zhao, E.Y., Lounsbury, M., 2016. An institutional logics approach to social entrepreneurship: market logic, religious diversity, and resource acquisition by microfinance organizations. J. Bus. Ventur. 31 (6), 643–662.
Zhao, E.Y., Wry, T., 2016. Not all inequality is equal: Deconstructing the societal logic of patriarchy to understand microfinance lending to women. Acad. Manag. J. 59 (6), 1994–2020.