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Husbands and Wives. The powers and perils of participation in a microfinance cooperative for female entrepreneurs

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Abstract
This study on female entrepreneurs in Western Uganda provides empirical evidence on the socio-economic effects of participation in a microfinance cooperative of both the female entrepreneur and her husband. Participation by female entrepreneurs in a microfinance cooperative is not an unconditional blessing: even though it does deliver higher household incomes, it might also deteriorate the female's household decision-making power when her husband participates in the same self-help group of the microfinance cooperative. This offers new insights for development policy and for entrepreneurship scholars to study the bright and dark sides of microfinance.

Keywords: microfinance, cooperatives, female entrepreneurship, coffee, Uganda

JEL classification: J16, J54, L26, N27, O15, O16, Q13

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INTRODUCTION

Entrepreneurship in developing countries has been evaluated in very different ways. On the one end of the spectrum, micro level (Banerjee & Duflo, 2011) as well as macro level studies (Van Stel et al., 2005; Stam & Van Stel, 2011) in developing countries show that self-employment is at best a survival strategy. On the other end of the spectrum, entrepreneurship is seen as emancipation (Rindova et al., 2009) and as social change (Calás et al., 2009), especially for female entrepreneurs. How wide ranging these perspectives on (female) entrepreneurship in developing countries may be, they share the concern that a lack of finance is constraining the pursuit of opportunities by female entrepreneurs in developing countries.

The businesses of the poor most often remain very small and make very little money (Banerjee & Duflo, 2011). These self-employed suffer from a lack of capital, are unable to achieve scale economies, and struggle to access markets for their produce. Participation in group-based microfinance and marketing cooperatives has the potential to remedy those constraints, and even improve the social position of female entrepreneurs (Sanyal, 2009; Jones et al., 2012). Microfinance cooperatives that provide financial services through a group-based lending strategy provide access to shared financial resources to those unable to access bank loans and can evoke self-discipline and encouragement through regular repayment and group meetings (Bauer et al., 2012). Production and marketing cooperatives might provide economies of scale in producing and selling the goods of small scale producers by reducing the number of intermediaries along the supply chain. This means that cooperatives might solve the constraints of self-employment in developing countries, and in that way have a positive effect on incomes of self-employed.

In this paper, our goal is to understand the socio-economic effects for female entrepreneurs of participation in microfinance cooperatives. To this end, we pose our main research question: To what extent and how does the participation in a microfinance cooperative affect household income and the household position of female entrepreneurs? So we are not just interested in whether microfinance stimulates financial performance: this has already been analyzed in multiple studies (e.g. Banerjee et al., 2010; Karlan & Zinman 2010; Khandker, 2005¸ Roodman & Morduch 2009), but also in the emancipating effect of participation on the female's position within the household. This paper seeks to broaden the focus of entrepreneurship research by drawing attention to the emancipatory aspects of entrepreneurship (cf. Calás et al., 2009; Hughes et al., 2012; Rindova et al., 2009), and more in particular how participation of female entrepreneurs in microfinance cooperatives empowers them. Our research contributes to the literature on female entrepreneurship and microfinance in a number of ways. First, we examine the household income effect of participation in a joint microfinance and coffee cooperative. Second, we study the effect of participation in a microfinance cooperative on decision-making agency of female entrepreneurs. Third, we analyze the role of husband co-membership on the effects of microfinance cooperatives on the household income and on the female's decision-making agency. In the context of developing countries and restrictive gender norms, microfinance and marketing cooperatives have potentially an even greater impact on women than more narrow microfinance institutions (MFIs), because these cooperatives enable female entrepreneurs to increase their productivity as self-employed (Fafchamps et al., 2011) and it might also improve their position in the household (World Bank, 2011), setting them free from the power of the husband (cf. Rindova et al., 2009).

Our particular academic contribution can thus be summarized as a study into the effects of a joint microfinance coffee cooperative on household income and the household

position of female entrepreneurs in a developing country setting. This is done with a large-scale quantitative study from Western Uganda, including 412 participants of a joint microfinance coffee cooperative and a control group of 196 similar self-employed women outside this cooperative. Such a large scale quantitative study complements previous qualitative studies on the effect of cooperatives on the agency of female entrepreneurs in developing country settings (e.g. Datta & Gailey, 2012; Jones et al., 2012), that provide insights into the effects of participation in these cooperatives in practice.

This article proceeds as follows. First, we discuss the relevant literature on microfinance and female entrepreneurship in developing countries, and formulate hypotheses that are grounded in the prior literature. Second, we give some background information about the empirical database, the particular study region, and the methodology used to conduct our study. Third, we outline our research findings. Finally, we conclude with implications for researchers, policy makers and practitioners while offering recommendations for future research.

MICROFINANCE AND FEMALE ENTREPRENEURSHIP IN DEVELOPING COUNTRIES

Microfinance and household income

Lack of access to credit is one of the principal reasons why citizens of developing countries remain poor (Banerjee & Duflo, 2011; Hermes & Lensink, 2007). Formal credit markets are weak or non-existent in developing countries. For example, in sub-Saharan Africa only about a quarter of the adult population has an account at a formal financial institution (Demirguc-Kunt & Klapper, 2012), with women having even lower access than males. In Uganda, lack of access is particularly acute, since only 15 percent of adult females

versus 26 percent of adult males hold an account at a formal financial institution (Chaia et al., 2009; Demirguc-Kunt & Klapper, 2012). As a result women are more likely to be credit and savings constrained than men and therefore face greater risks and restrictions for any form of investment into income-generating activities and security arrangements (World Bank, 2011). As a result, valuable entrepreneurial projects go unfunded, even more so for women than for men, thereby hindering economic development. Microfinance schemes offer a possible solution to this problem. Individuals form into (self-help) groups and are jointly liable for penalties if one member of the group defaults. According to Parker (2009, p.252), the advantage of joint liability contracts is "that they give entrepreneurs incentives to exploit local information and exert pressure to discipline co-members in a manner consistent with the interests of the lenders (and by releasing funds from lenders, therefore also the entrepreneurs)." The access to finance that is provided by the microfinance scheme is likely to increase the productive investments by the participating entrepreneur, and will lead to higher household incomes (see for example McKernan, 2002). Some studies even found a significantly larger positive effect on households in which women rather than men were participants in the microfinance scheme (Pitt & Khandker, 1998). This might be indicative of how access to credit in developing countries unleashes women's productive skills which, unlike men's, are held in check by cultural and religious restrictions.

In line with previous studies (Calkins & Ngo, 2010; Fischer & Qaim, 2012; Ito et al., 2012) we expect additional positive effects of membership of the cooperative on household income, due to the development and diffusion of improved production processes, scale economies and qualification in marketing. Thus we hypothesize that:

Hypothesis 1. Participation in a microfinance cooperative by female entrepreneurs has positive effects on the financial performance of the household.

Microfinance and empowerment of female entrepreneurs

This paper seeks to broaden the focus of entrepreneurship research by drawing attention to the emancipatory aspects of entrepreneurship (cf. Calás et al., 2009; Rindova et al., 2009), and more in particular how participation of female entrepreneurs in microfinance cooperatives empowers them. This relates to a broader interpretation of development than just expanding income, also including the freedom to determine choices in life (Sen, 1999) - to shape ones world by removing perceived constraints (Rindova et al., 2009). In this interpretation, development is the result of an expansion of the capabilities of economic agents through a better matching of opportunities with entrepreneurial functionings (Sen, 1999; Gries & Naudé, 2011). What is ultimately important is that people have the freedoms (capabilities) to lead the kind of lives they want to lead, to do what they want to do and be the person they want to be. Once they effectively have these freedoms, they can choose to act on those freedoms in line with their own ideas of the kind of life they want to live (Robeyns, 2003, p.7). Agency is "a person's ability to pursue and realize goals that he or she values; the opposite of a person with agency is someone who is forced, oppressed or passive" (Alkire, 2005, p.3). Without agency entrepreneurship may cease to be a valued functioning. This developmental interpretation of agency is thus quite different from agency theory in which the subordinate role of the agent to the principal is central (see Eisenhardt, 1989).

In a recent paper Jones et al. (2012, p.13), find that in three East African countries "participating in collective forms of enterprise and linking to Fair Trade markets can enable women producers to access resources and markets, develop relationships, and overcome gender constraints". Moreover, they report increased self-esteem and status for female participants in cooperatives and producer groups within their households and community. In addition, Sanyal (2009) showed that group-based microfinance may empower women and

promote their social capital by facilitating their ability to take collective action. Moreover, Holvoet (2005) and Swain & Wallentin (2009) report that microfinance empowers women in India and Bangladesh by increasing their decision-making power at home. Thus, we formulate hypothesis 2 as:

Hypothesis 2. Participation in a microfinance cooperative by female entrepreneurs has positive effects on their social position in the household.

In contrast to our hypothesized positive socio-economic effects, impact evaluations have challenged the impression of group-based microfinance programs to act as "magic bullet" or stimulate "virtuous spirals" for women's agency on the household level (Kabeer, 2005; Mayoux, 1999). Previous evaluations based on randomized control trials by Banerjee et al. (2010) report that women's empowerment did not improve with participation in microfinance schemes, nor did business grants or business trainings led to business growth and increased revenues when given to female entrepreneurs in Peru (Karlan & Valdivia, 2011), Sri Lanka (De Mel et al., 2008; 2009) or Tanzania (Oppedal et al., 2011). In addition, although women gain access to financial services, the money is often controlled by their husbands or other male members of the household (Goetz & Gupta, 1996; Rahman, 1999; Bruton et al., 2010). In particular, well-documented evidence suggested that microfinance increases frictions between husbands and wives, as husbands often felt threaten in their role as primarily income earners (Rahman, 1999). Moreover, other articles suggests that microfinance does not entirely increase women's bargaining power, for such women borrowers surrender nearly forty percent of control over their investment decisions, and over ninety percent of their return realizations from their investments, onto their husbands (Goetz & Gupta, 1996). Given these

concerns about the positive socio-economic effects of microfinance schemes, due to the moderating effect of the husband's interference, we hypothesize:

Hypothesis 3. Co-membership of the female entrepreneur's husband in the same microfinance cooperative diminishes the positive effect on the social position of female entrepreneurs in the household.

METHODOLOGY

The difficulty of causal inference of any microfinance program is the absence of a counterfactual. In obtaining more systematic knowledge whether microfinance delivers on its promises, randomized control trials (RCTs) have been used as a research method (see for example Banerjee et al., 2010; Roodman & Morduch, 2009). However, its design is not free of ethical concerns, high costs, and its results may not be generalized across countries or cultural contexts (Ravallion, 2009; Khavul, 2010; Barrett & Carter, 2010). We examine whether cooperative participation of female entrepreneurs had an effect on the financial performance of the household and their social position within the household. The control group is randomly picked from the same area as the SHG group.

Uganda context

Uganda is a landlocked country bordered by South Sudan in the north, Kenya in the east, Tanzania and Rwanda in the south, and the Democratic Republic of the Congo (DRC) in the west. From 2008 to 2012 GDP growth rates were 2.9%, Uganda's estimated per capita income (in 2005 US$) in 2012 was US$ 405, with a per capita purchasing power parity of

US$ 1,165 (World Bank, 2013). About 84% of the population of 36.3 million lives in rural areas. Seven of ten Ugandans depend on agricultural production, contributing to a quarter of the country's GDP. Coffee is Uganda's major export crop, contributing a third of all export earnings in 2010 (AfDB & OECD, 2011), followed by tea and tobacco. Uganda has one of the highest registered entrepreneurship rates in the world, according to the Global Entrepreneurship monitor 2012: a total entrepreneurial activity rate of 36 % and an established business owners rate of 31 %, indicating that a large majority of the labor population is active as entrepreneur. The male rate of entrepreneurship is similar to the female rate of entrepreneurship, which is rather common within Africa, but exceptional in other continents.

Marriage is universal and women marry on average at age of 20, while their husbands are about 5 years older (United Nations, 2009). Bride price payment and polygamy is widely practiced, particularly in rural areas (Anderson, 2007). Girls typically leave their natal family home to enter the husband's family and village. Fertility is high, as women give birth to 6 children on average. Nowadays, primary school enrollment is relatively high and girls have the same opportunities to attend school than boys, which is mirrored in literacy rates among female and male youth of 87.4 % and 89.6 % respectively. Despite these relatively high and equal literacy rates, Uganda performs rather bad in the 2012 United Nations Gender Inequality Index, scoring 161 out of 186.

Microfinance cooperative

The Bukonzo Joint Co-operative (BJC) operates in the mountainous area of Bukonzo County in Kasese District on the northern slopes of the Rwenzori Mountains bordering the DRC. Bukonzo County is an exclusively agricultural area. The great majority of households depend on subsistence crop and coffee production.

BJC operates on an adapted version of the village banking model, lending money to and accepting savings from low income clients organized in self-help groups. By 2012, BJC has grown to service 2,220 local small-scale farmers, of which women account for 76 % of its members, distributed across 74 mixed-sex SHGs. SHGs have on average 28 members: 21 female and 7 male members. SHGs are further divided into solidarity groups, comprising of 3 to 5 members, who are jointly liable for the repayment of loans of their members. SHGs meet weekly to receive technical trainings, make savings, and take-out individual loans for which they are jointly responsible. More than 60 % of female respondents of the cooperative stated that their main motivation for joining BJC in the first place was to access microfinance services, and one in five stated that access to joint coffee marketing acted as an important motivator.

Between 2011 and 2012, 47 % of the respondents took an individual loan from the cooperative with an average amount of 160,000 Ush ($ 65). About half of them invested their loans into their businesses and about a third into paying their children's school fees. Moreover, BJC provides trainings for SHG member to transform gender relations on the household and community level, and best practices of pre and post-harvest management of organically grown coffee. Additionally, since 2005 BJC pools and markets smallholder members' and even non-members' coffee internationally. Since 2012, the marketing component is fair trade licensed. As the survey is meant to uncover the relation between cooperative membership on female entrepreneurs' agency, the population is limited only to female members. This limits the population of which the sample is drawn from to 1,691 women. In order to explore intra-household decision-making power the study population was limited furthermore to those female members of BJC and female non-members that had a husband at the time of the survey.[1]

[1] The BJC has no policy that requires husband's to cosign their wives loan agreement, a practice very common elsewhere (see e.g. Bruton et al., 2011; Doss, 2013).

Research sample

The method for calculating a precise and statistically required sample size is called power calculations. The statistical power is the probability of detecting an impact if there is one (Gertler et al., 2010). Typically, power calculations are conducted for powers of 0.9 and 0.8. It indicates that one finds an impact within 80 or 90 percent of cases where one occurred. This work applies the standard power of 80 percent. Furthermore, we apply the common 95 % confidence interval. Table 1 illustrates the associated power calculations required for different minimum detectable effects. Standardized effect sizes are small ($\delta = 0.2$) medium ($\delta = 0.4$) and large ($\delta = 0.5$).

Insert Table 1 Here

Table 1 illustrate that the smaller the effect size to detect, the larger the sample size for a power of 0.8. Moreover, sample requirements increase since the evaluation aims to compare impacts between 4 clusters. From Table 1 one can conclude that for a small effect size the number of clusters exceeds the total number of operational SHGs and therefore is not feasible, while both medium and large effect sizes can be calculated. There is no indication to presume a large effect; consequently we stick to the more conservative medium effect. For a power of 0.8 to detect a medium effect of 0.4, an increase of women's agency due to BJC program, a total sample of at least 24 clusters (or SHGs) with a total of 384 respondents would be sufficient for the treatment group. Since, the comparison group does not contain any clusters, 198 respondents are sufficient. In total, the sample comes to 592 married female respondents.

Randomization

Random selection of the treatment sample followed a two-step process: First, stratified random sampling for which 74 (SHGs) were divided into four groups where SHGs shared the characteristic group maturity. Groups were clustered into blocks according to the year they started operation and randomized within each block: 2000-2002, 2003-2005, 2006-2008, and 2009-2011. Second, within each of the four strata a subset of 6 SHGs were randomly assigned to treatment using a spreadsheet. An extra group per cluster was included anticipating non-response.

Next, on the treatment level, 16 female members (average arithmetic mean of female participants in SHGs) were randomly drawn from each SHG using a random choice game. SHGs were spread across mountainous and rural geographies, only to reach by hiking.

Respondents in the comparison group were chosen to reflect a comparable socio-economic group as the female SHG respondents and thus were randomly visited at the household level in the same area of each of the SHGs.

Data

For our empirical study, we conducted a survey of 631 married women in mountainous area of Bukonzo County in Kasese District, western Uganda – 421 members of BJC and 210 non- members. The survey was conducted in July and August 2012, just prior to the coffee harvesting season. Interviews were commissioned to eight independent and trained enumerators from Mountains of the Moon University. Interviews were conducted in Lukonzo, using a structured and pre-tested questionnaire specifically designed for this research[2]. The interview situation was private, without any family or SHG members present.

[2] Enumerators were both female and male. We include enumerator's sex in the regression controlling for systematic response differences in the interview situation between male and female enumerators.

Table 2 presents the two most important sources of income of the female respondents. The primary source of income comes from coffee sales followed by sales of field crops, small shop activity, other self-employed activities and sale of livestock. Other sources of income include petty trade, sales of fish, meat or food products. In other words, the majority of respondents are self-employed, as only fourteen respondents are either wage earners, receivers of money from husbands or third persons. We also report respondents' secondary source of income. For those fourteen respondents who don't qualify for being self-employed in the first place, we check whether their secondary source of income comes through a self-employment activity and leave those in the dataset. This is the case for seven respondents. Moreover, sixteen respondents are jobless. We remain with a total sample of 608 self-employed female respondents – 412 cooperative and 196 non-members.

Insert Table 2 Here

Table 3 presents some summary statistics on those selected households. Religious and tribal values are identical for both respondent groups. The average non-BJC household had just above 6 members compared to 7 to 8 in households that joined BJC. Respondent households who joined a BJC (husband and wife accumulated) owned 1.9 acres of land, whereas non-SHG households owned 1.5 acres. However, husbands of both BJC members and non-members own on average about four times as much land as their wives. Moreover, Table 3 states that respondents who joined BJC are on average 6 years older than non-members that explains why they also have on average two more surviving children, and larger household sizes. Early and universal marriage is common and both female cohorts married on average at age of 18. Average schooling levels are low for both female SHG members and non-members. Still the mean year of schooling is significantly lower for BJC

members - 4 versus 5.2 years. BJC members had close to twice as much savings at the time of the survey, attributed to the fact that BJC members have a safe place to save up lump sums from coffee sales and other income activities.

BJC-member households (wife and husband) earn about 277,000 Ush (equivalent to $113) per month including revenues from coffee sales. Non-members earn 30,000 ($12) more. Virtually every household in the community engages in coffee cultivation, as 93 percent of BJC-members and 789 percent of non-members grow coffee which represents the most important income generating activity for wives (and households) followed by sale of field crops (e.g yams, cassava, plantain) and small shop sales. Those households that participate in BJC generated on average 752,000 Ush ($307) in comparison to 550,000 Ush ($224) for non-participants from coffee per year.[3] This difference has possibly to do with larger land holdings and higher coffee prices for cooperative members. Also, wives' weekly incomes are smaller for non-cooperative participants but husband's incomes are substantially larger for non-members. As a result, total household income, including coffee sales, are slightly higher for non-members. Both households spent on average large sums on health – 64,800 Ush ($27) for SHG members and 43,200 Ush ($18) for non-members. The tropical climate favors malaria and other febrile diseases: 44 percent of respondents reported to have had malaria in the last month, and more than one clinic visit on average over the last month, keeping in mind that any febrile illness is usually referred to as malaria. Both households share almost identical living conditions and both groups live in mountainous and remote areas, on average 34 minutes food walk from the next main road (which is not a tarmac road).

Insert Table 3 Here

[3] The returns from coffee sales are hardly ever separated into wife and husband shares, which makes it impossible for us to use the female entrepreneur's coffee sales as a distinct dependent variable.

Operationalization of constructs

We operationalized the socio-economic performance of the female entrepreneurs with the dependent variables coffee sales (per household; see Table 3) and shared decision-making on household expenditures regarding health, education, food and general household expenditures. The construction and characteristics of the social position variables is shown in Table 4. The social position of the female entrepreneur is measured with four variables that reflect her influence on decision taking in the household concerning health expenditures, education expenditures, food expenditures and general household expenditures. The variable is so constructed to take into account both joint decision-making (wife and husband: value 0.5), fully autonomous decision-making by the wife (value 1), and also no influence (value 0). It appears that men hold significant decision-making power with respect to health and education expenses, whereas women appear to be participating on an equal footing in decisions pertaining to food and general household expenditures.[4] Large-scale investments, such as health (about 20% of monthly household incomes, see Table 3) and offspring's school fee payments, represent costly life-cycle expenditures for parents (Rutherford, 2000). It seems that more costly investment decisions are taken by the husband while expenditures more related to food and home expenditures are taken jointly. The characteristics and correlations of the other variables are shown in Table 5.

Insert Table 4 Here

Insert Table 5 Here

[4] We only have data on the intra-household bargaining power of the female entrepreneur and her husband, not on the extended family members, which might also be important for the bargaining process (Khavul et al., 2009).

RESULTS

We expected a positive effect of participation in the cooperative on household income, and more in particular a positive effect of duration of participation on household income. We not only expect a positive effect of cooperative membership on the financial performance of female entrepreneurs, but also positive effects on the social position of the female entrepreneurs in their household, as indicated by having a say in household decisions regarding children's education, health expenditures, food purchases and household purchases. The results of the regression analyses are presented in Table 6. In addition, Table 7 reports regression results only for the sample of members of BJC, where we explore the effect of husband's co-membership in BJC and SHGs on wives' decision-making agency even further.

Household income

Cooperative membership has no direct effect on household income from coffee; there is only a statistically significant positive relation with duration of participation with income. This highlights that it is not membership per se that matters for enhancing household's income from coffee production, but that it is the duration that matters. This indicates that it takes time to reap the (financial) benefits from improved access to finance and marketing resources of the cooperative. Figure 1 illustrates that within the first eight years of membership there seems to be a learning effect, since members' coffee production (measured as income from coffee) increases slightly but continuously, however after eight years this relationship diminishes, indicating no sustained investment effect from cooperative membership. Wife's income outside coffee production has a positive effect on income from coffee, giving households more resources to invest into the expansion of their business from coffee. Increased land held by the husband increases income from coffee. The same effect is

not observed when landholdings of the wife increase, suggesting that the majority of cash-crops are grown on husbands' land, while women grow mostly food crops. Increased schooling affects income from coffee negatively. Respondents suggested that women with increased human capital tend to work more outside agriculture.

Social position

Neither cooperative membership, nor increased duration of participation seems to have an effect on decision-making power over household expenditures. In contrast, the regression analyses show that two decision-making agency variables are significantly and negatively correlated with husband's co-membership. It seems that husbands enter into competition for the decision-making over the allocation of income when they participate in the same cooperative as their wife. In case both marriage partners are members in the cooperative the wife loses her theoretically improved bargaining position, as being the single one to access microfinance loans and being responsible for selling the household's coffee. Moreover, men seem to restore or may even expand on their ability to make decisions on the household level when gaining more access to loans and income from coffee, which materializes into less spousal cooperation.

This mechanism is reinforced by the fact that when husbands own more land, this has adverse effects on women's ability to make own decisions on the household level, because more male land ownership translates into increased income from coffee which is controlled by the husband. In addition, husband's bargaining power increases as his income increases and thus erodes women's power to negotiate in all four indicators of family expenditures. On the other hand also women's bargaining power increases as her non-coffee income increases and potentially improves her perception of her monetary contribution to the household (in

addition to her housework and child-care) which can prevent the erosion of women's bargaining power inside the household.

Insert Table 6 Here

In Table 7 we explore the effect of husband's co-membership a bit further. We differentiate between husbands' co-membership in BJC and in their wives' SHG. Therefore, the sample only includes female entrepreneurs from BJC. The regression results in Table 7 regarding the variable of male co-membership in BJC differ considerably from the regression results presented in Table 6. All four variables capturing the wife's social position are not significantly correlated with husband's co-membership in BJC anymore. However, husband's co-membership in wife's SHG has a negative effect on all four measures of women's household agency. In other words, male co-membership does not have a negative effect on women's agency per se: this negative effect is only present when the husband enters the domain of the SHG. This is not a marginal phenomenon since 22 % of the husbands are co-members of the same SHG (see Table 3). The question is whether the husband or wife entered the SHG first. We expect that when the wife entered the SHG first, this is an indication of agency in itself and will positively affect the benefits derived from being a member of a SHG (or in the contrasting situation, that wives follow their husbands submissively, and do not benefit from the membership). This mechanism seems to be confirmed by the positive effect of the wife joining the SHG first on all the agency variables.

Insert Table 7 Here

Discussion

In this paper we have broadened the horizon of microfinance and entrepreneurship studies, by studying a joint microfinance and coffee cooperative. We have traced the effects of cooperative membership and duration of participation on the financial performance as well as on the social position of the female entrepreneur. The latter aspect reveals the way in which cooperatives affect the agency of female entrepreneurs beyond the financial effects. We found evidence for a positive cooperative effect on the financial performance of the household, confirming hypothesis 1. For household income from coffee it is not membership per se that matters, but the length of membership, indicating learning and long term investment effects. We did not find any evidence of a positive cooperative effect on the social position of female entrepreneurs in household decision-making. Hypothesis 2 thus had to be rejected. In contrast, we found a negative effect of cooperative co-membership of the husband on the social position of the wife. This not only confirms hypothesis 3, but even exceeded this with a negative effect. However, this negative effect of husband co-membership only materializes when the husband is a member of the same SHG as his wife – not when he is a member of another SHG of the cooperative. The husband's presence in the SHG may contribute to competition for receiving coffee payment and loans from the microfinance component (as they are usually paid back by the household together) which reduces the wife's ability to take decisions by herself, in contrast to sole membership. Also, with the husband being a member of the same SHG women potentially cannot unfold themselves and thus not lend mutual and peer support to each other which takes the potential positive effects of cooperative membership away. Once husband SHG co-membership is controlled for, a weakly significant positive effect of cooperative membership length on household decision-making regarding health and education expenses emerges. Even though cooperative membership seems to have positive effects on the financial performance of

female entrepreneurs, the effects on the female entrepreneurs' social position are more ambiguous.

Our study suggests that entrepreneurship research should take into account non-financial effects more often. More in particular, microfinance research should take into account the social embeddedness and power relations involved in the household of the recipient. Even though microfinance cooperatives have positive socio-economic effects, these are contingent on the (non-)involvement of the husband in the same SHG.

This study shows that also non-RCT studies can deliver insights into the socio-economic effects of microfinance cooperatives. However, in the future more explicit longitudinal research designs, and especially the design of RCTs before start of a cooperative would provide better insights into the effects of participation in cooperatives on the household income and social position of female entrepreneurs. In addition, this study focused on the participation in one particular cooperative, with no variation in the quality of cooperatives. Future studies should also take into account the moderating effect of the quality of (management of) cooperatives, and perhaps even successful versus failed cooperatives. Finally, for preventing success bias, future research might trace the individual exits out of cooperatives: trace the extent of member exit, its causes, and effects on the performance and position of exited female entrepreneurs.

CONCLUSION

Microfinance has been said to stimulate entrepreneurial activity in developing countries, not only the quantity, but also the quality. Female entrepreneurs have been expected to benefit even more from microfinance schemes than male entrepreneurs, both in financial terms and in empowerment terms, especially when they participate in microfinance cooperatives. This

study on the effects of a microfinance cooperative on the household performance and position of female entrepreneurs in Western Uganda has provided new, nuanced empirical evidence on the effects of participation in microfinance cooperatives of both the female entrepreneur and her husband. Participation by female entrepreneurs in microfinance cooperatives is not an unconditional blessing: even though it does deliver higher household incomes, it might also deteriorate the female's household decision-making power when her husband participates in the same self-help group. This offers new insights for development policy and for entrepreneurship scholars to study the bright and dark sides of microfinance.

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Table 1
Sample size required for various minimum detectable effects, Power = 0.8, Maximum of 74 clusters

Minimum detectable effect	Number of clusters	Units per cluster	Treatment sample with clusters	Comparison sample without clusters
Small ($\delta = 0.2$)	Not feasible	Not feasible	Not feasible	787
Medium ($\delta = 0.4$)	24	16	384	198
Large ($\delta = 0.5$)	16	16	256	128

Table 2
Main sources of income of respondents

	1st source of income		2nd source of income	
Coffee sales	417	68.0%	68	11.3%
Sales of field crops	106	17.3%	226	37.2%
Small business	48	7.8%	108	17.8%
Other self-employment	30	4.8%	98	14.0%
Sale of livestock	8	1.3%	30	4.9%
Wage labor	6	1.0%	23	3.8%
Husband's income	5	0.8%	10	1.6%
Remittances	3	0.5%	0	0.0%
No occupation	16	2.5%	104	17.1%
Total	**631**	**100.0%**	**607**	**100.0%**

Table 3
Summary statistic by respondent groups

Variables	Full sample (N = 608)	Non-cooperative members (N = 196)	Cooperative members (N = 412)
Age wife	34.70	30.25	36.81***
Age husband	40.69	35.94	40.69***
Age at first marriage wife	18.23	18.20	18.24
Years of education wife	4.41	5.22	4.02***
Years of education husband	6.39	6.84	6.17**
Number of children born	5.52	4.39	6.06***
Household size	7.10	6.20	7.51***
Polygamous households (%)	32	28	34
Number of wives per husband	1.40	1.34	1.42
Years of membership in BJC wife	3.90	0	5.76***
Husband member in BJC (%)	29	17	35***
Husband co-member in SHG (%)	15	0	22***
Land holding wife (acres)	0.34	0.28	0.37
Land holding husband (acres)	1.46	1.20	1.58*
Annual income coffee (Ush)	686,800 ($280) [a]	550,000 ($224) [a]	752,000*** ($307) [a]
Wife income per month (Ush)	77,200 ($31) [a]	70,000 ($29) [a]	81,000 ($33) [a]
Husband income per month (Ush)	151,200 ($62) [a]	188,000 ($77) [a]	134,000* ($55) [a]
Total household income per month including income from coffee (Ush)	285,700 ($117) [a]	303,000 ($124) [a]	277,000 ($113) [a]
Children's and wife's health expenditures per month	57,600 ($24) [a]	43,200 ($18) [a]	64,500** ($26) [a]
Total savings (Ush)	136,000 ($56) [a]	91,000 ($37) [a]	157,000*** ($64) [a]
Number of clinic visits last month	1.44	1.34	1.48
Malaria wife last month (%)	44	39	47*
Home has an iron roof (%)	91	91	91
Home has a cement floor (%)	11	9	12
Coffee growers (%)	89	78	93
Bakonjo tribe (%)	100	100	100
Christian faith (%)	100	99	100
Distance to main road (in walking minutes)	34	34	34

Note: Mean values are shown. For continuous variables, standard deviations are reported in parentheses. Statistical significance of differences in mean value at * 10% level, ** 5% level, *** 1% level
[a] The U.S. dollar amount is calculated at the July 2012 exchange rate of $1 = Ush 2,450

Table 4
Social position variables

Variables†	Total Mean	Mean non-coop	Mean coop	SD
Household decisions on health expenditures	0.34	0.28	0.37***	0.318
Household decisions on education expenditures	0.36	0.29	0.39***	0.326
Household decisions on food expenditures	0.42	0.39	0.42	0.329
Household decisions on general expenditures	0.47	0.42	0.49**	0.322

† these household decision-making variables have the following output values: husband only = 0; joint = 0.5; wife only = 1
Note: Statistical significance of differences in mean value at * 10% level, ** 5% level, *** 1% level

Table 5
Correlation matrix

	Mean	SD	Min	Max	HH exp	Health exp	Educ exp	Food exp	Coop	Length coop	Coop husb	Age wife	Age husb	Nr. child	Educ	Educ husb	Nr. wives	Income wife	Income husb	Coffee (log)	Land	Land h
Household exp	0.466	0.322	0	1																		
Health exp	0.343	0.318	0	1	0.497 ***																	
Educ exp	0.358	0.326	0	1	0.443 ***	0.606 ***																
Food exp	0.417	0.329	0	1	0.590 ***	0.595 ***	0.446 ***															
Coop member	0.677	0.467	0	1	0.091 *	0.131 ***	0.153 ***	0.068 *														
Length coop	3.806	3.978	0	14	0.180 ***	0.213 ***	0.097 ***	0.140 ***	0.660 ***													
Husband BJC	0.202	0.402	0	1	-0.056	-0.015	-0.038	-0.125 ***	0.186 ***	0.131 ***												
Age	34.692	11.490	16	71	0.287 ***	0.295 ***	0.332 ***	0.2453 ***	0.267 ***	0.423 ***	0.044											
Age husband	4.407	3.284	0	14	0.280 ***	0.279 ***	0.312 ***	0.253 ***	0.247 ***	0.391 ***	0.039	0.905 ***										
Fertility	5.519	3.178	5.519	3.178	0.178 ***	0.251 ***	0.327 ***	0.189 ***	0.244 ***	0.337 ***	-0.005	0.723 ***	0.667 ***									
Education	4.407	3.284	0	14	-0.176 ***	-0.186 ***	-0.165 ***	-0.172 ***	-0.170 ***	-0.210 ***	0.047	-0.489 ***	-0.475 ***	-0.544 ***								
Education husb	6.388	3.525	0	14	-0.155 ***	-0.154 ***	-0.163 ***	-0.137 ***	-0.087 **	-0.062	0.040	-0.320 ***	-0.315 ***	-0.384 ***	0.563 ***							
No. of wives	1.396	0.643	1	5	0.124 ***	0.073 *	0.137 ***	0.099 **	0.058	0.053	-0.074 *	0.215 ***	0.269 ***	0.143 ***	-0.181 ***	-0.154 ***						
Income wife	3.189	1.772	0	5.447	0.031	0.057	0.032	0.019	0.052	0.077 *	0.047	-0.038	-0.039	-0.069 *	0.119 ***	0.107 ***	-0.080 **					
Income husband	3.428	1.879	0	5.903	-0.116 ***	-0.157 ***	-0.116 ***	-0.151 ***	-0.053	-0.063	0.029	-0.140 ***	-0.172 ***	-0.203 ***	0.243 ***	0.231 ***	-0.064	0.298 ***				
Coffee_log	11.735	4.158	0	16.013	0.031	-0.054	0.064	0.024	0.178 ***	0.215 ***	0.078 *	0.210 ***	0.191 ***	0.196 ***	-0.169 ***	-0.101 **	0.021	0.112 ***	0.038			
Land wife	0.340	0.827	0	6	0.016	0.081 **	0.101 **	0.052	0.048	0.087 **	-0.013	0.222 ***	0.218 ***	0.134 ***	-0.065	-0.031	0.079 *	0.084 **	0.023	0.092 **		
Land husband	1.459	1.557	0	20	0.030	-0.008	0.032	-0.029	0.113 **	0.139 ***	0.090 **	0.261 ***	0.234 ***	0.220 ***	0.005	0.053	0.033	0.093 **	0.040	0.173 ***	0.174 ***	
Enumerator	0.638	0.481	0	1	-0.047	0.120 ***	0.100 **	0.090 **	-0.007	-0.060	-0.082 **	-0.088 **	-0.100 **	-0.042	-0.037 **	0.081	0.042	0.119 ***	0.129 ***	-0.012	0.054	0.107 ***

Note: Correlations significant at * 10% level, ** 5% level, *** 1% level

Table 6
OLS and ordered probit regression results – full sample (N= 608)

	Coffee (log) OLS	Health exp OPROBIT	Educ exp OPROBIT	Food exp OPROBIT	House exp OPROBIY
Coop	0.412	0.011	0.010	0.014	0.010
	(0.513)	(0.142)	(0.140)	(0.137)	(0.139)
Length	0.107**	0.003	0.003	-0.000	0.001
	(0.046)	(0.017)	(0.016)	(0.016)	(0.016)
Coop husband	0.379	-0.002	-0.015	-0.061***	-0.044*
	(0.348)	(0.105)	(0.105)	(0.101)	(0.102)
Age wife	0.012	0.003**	0.003	0.003	0.007***
	(0.029)	(0.011)	(0.012)	(0.010)	(0.011)
Age husband	-0.002	0.000	0.000	0.002	0.001
	(0.025)	(0.009)	(0.010)	(0.009)	(0.008)
Nr. wives	-0.117	0.002	0.022	0.010	0.023
	(0.253)	(0.081)	(0.080)	(0.079)	(0.077)
Nr. children	0.060	0.003	0.012***	-0.001	-0.010*
	(0.060)	(0.023)	(0.023)	(0.022)	(0.022)
Education wife	-0.138**	0.000	0.006**	-0.001	-0.001
	(0.068)	(0.019)	(0.018)	(0.019)	(0.018)
Educ husband	-0.041	-0.002	-0.002	-0.001	-0.004
	(0.049)	(0.016)	(0.016)	(0.016)	(0.016)
Income wife	0.211*	0.011***	0.006	0.010*	0.014**
	(0.111)	(0.028)	(0.028)	(0.027)	(0.028)
Income husband	0.140	-0.012***	-0.009**	-0.017***	-0.013*
	(0.100)	(0.027)	(0.028)	(0.028)	(0.028)
Coffee (log)		-0.005***	-0.000	-0.000	-0.001
		(0.013)	(0.137)	(0.013)	(0.013)
Land wife	0.166	0.004	0.006	-0.001	-0.019
	(0.140)	(0.055)	(0.051)	(0.054)	(0.053)
Land husband	0.326***	-0.011	-0.011*	-0.015**	-0.003
	(0.326)	(0.041)	(0.036)	(0.034)	(0.026)
Enumerator	Yes	Yes	Yes	Yes	Yes
Constant	9.726***				
	(1.034)				
Observations	608	608	608	608	608
(Pseudo) R^2	0.108	0.098	0.100	0.067	0.063

Note: Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Table 7
Regression results cooperative members only (N=412)

	Coffee (log) OLS	Health OPROBIT	Educ OPROBIT	Food OPROBIT	HH OPROBIT
Length	0.140***	0.004*	0.004*	0.000	0.004
	0.042	(0.018)	(0.017)	(0.018)	(0.017)
Coop husband	0.357	0.037	0.038	-0.027	-0.007
	0.432	(0.160)	(0.166)	(0.162)	(0.158)
SHG husband	0.125	-0.059**	-0.101***	-0.077**	-0.074*
	0.620)	(0.219)	(0.222)	(0.218)	(0.207)
Wife SHG first	-0.866	0.052	0.172***	0.090*	0.007
	(0.788)	(0.241)	(0.238)	(0.238)	(0.243)
Coop family	0.130	-0.036**	-0.018	-0.012	-0.011
	(0.354)	(0.131)	(0.128)	(0.130)	(0.128)
Age	0.014	0.002	0.003	0.001	0.005*
	(0.032)	(0.014)	(0.015)	(0.013)	(0.014)
Age husband	-0.004	0.000	-0.000	0.004	0.002
	(0.027)	(0.012)	(0.012)	(0.011)	(0.011)
Nr. wives	-0.033	-0.007	0.008	-0.001	0.009
	(0.242)	(0.095)	(0.096)	(0.090)	(0.091)
Nr. children	0.068	0.003	0.012***	-0.000	-0.016**
	(0.067)	(0.026)	(0.027)	(0.026)	(0.026)
Education wife	-0.050	-0.000	0.005	-0.001	0.001
	(0.075)	(0.022)	(0.022)	(0.021)	(0.022)
Education husband	-0.076	-0.000	-0.005	0.000	-0.004
	(0.049)	(0.020)	(0.019)	(0.020)	(0.019)
Income	-0.056	-0.003	0.001	-0.008	-0.004
	(0.082)	(0.033)	(0.033)	(0.033)	(0.034)
Income husband	0.211**	-0.009**	-0.003	-0.015**	-0.006
	(0.101)	(0.033)	(0.034)	(0.034)	(0.035)
Coffee (log)		-0.002	0.002	-0.000	-0.002
		(0.019)	(0.019)	(0.019)	(0.020)
Land wife	0.204	0.011	0.013	0.006	-0.019
	(0.135)	(0.064)	(0.059)	(0.065)	(0.067)
Land husband	0.332***	-0.011**	-0.016**	-0.016**	0.007
	(0.120)	(0.041)	(0.044)	(0.041)	(0.040)
SHG size	0.000	-0.000	0.000	0.000	0.000
	(0.008)	(0.003)	(0.003)	(0.002)	(0.003)
Distance	0.010**	-0.000	-0.000	0.000	0.000
	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)
SHG nr	0.038	0.000	-0.000	0.001	-0.001
	(0.025)	(0.008)	(0.008)	(0.008)	(0.008)
Enumerator	Yes	Yes	Yes	Yes	Yes
Constant	9.485***				
	(1.259)				
Pseudo R^2	0.119	0.086	0.103	0.081	0.064
N	412	412	412	412	412

Note: Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Figure 1
Annual income from coffee and years of cooperative membership