

Female agency and collective action: what determines the intensity of participation? A case study from a joint-microfinance and coffee cooperative in the Mountains of the Moon, Western Uganda

Felix Meier zu Selhausen, Utrecht University & Mountains of the Moon University

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Abstract: *Collective action has become an important strategy for rural women in developing countries to access both financial services and markets. However, within self-help groups the intensity of participation and commitment can vary given the different motivations, perceived benefits and trust into collective action. Using household data of female members of a Ugandan coffee and microfinance cooperative I investigate whether (1) women's decision-making agency, (2) individual characteristics and (3) group characteristics determine the intensity of participation in the group-based cooperative. Its uses number of shares per member as a proxy for participation and commitment in the institution for collective action. The results suggest that women's decision-making agency, spousal household cooperation, level of income, literacy, length of membership, and trust between members are necessary factors for the intensity in women's efforts to participate within the cooperative. Increased participation can function as an important catalysts, as women are likely to gain to more bargaining power.*

Key words: cooperative, participation, women, agency, trust.

1. INTRODUCTION

Recent years have seen a rising interest in the role of women's agency in economic development, defined as women's ability to make purposeful choices for themselves and act upon them (Sen 1999; Kabeer 2001; Carmichael 2011; World Bank 2011). At the same time the role of institutions for collective action for community-based development and poverty reduction in low-income countries has been promoted by development practitioners, governments and scholars (Birchall 2003, 2004; Thorp et al. 2005; Develtere et al. 2009). Combining women's empowerment and collective action has become a business model and justification at the same time for microfinance institutions to target explicitly women.¹ Moreover, the United Nations recognizes co-operatives as an

¹ According to the Microfinance Summit Campaign, microfinance institutions counted more than 205 million clients - more than 150 million were women, as of December 2010.

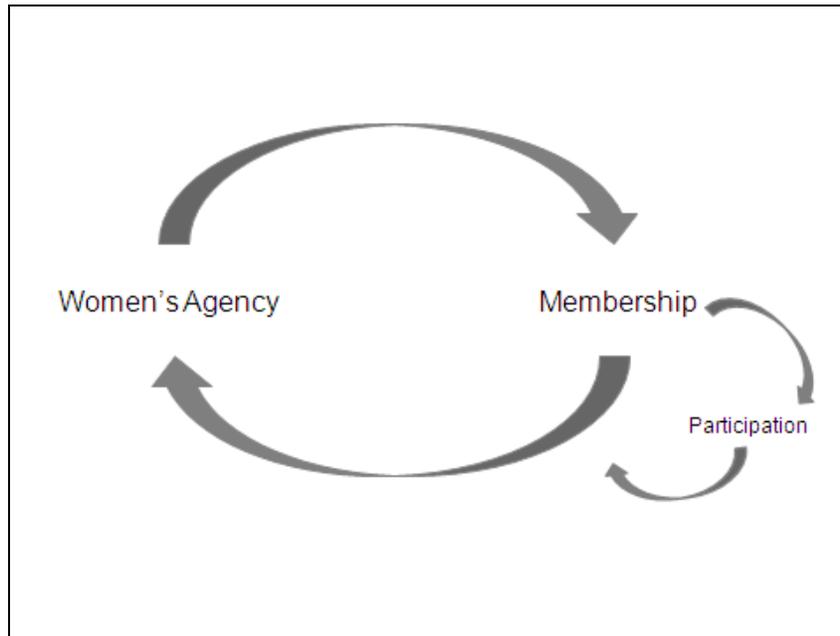
example of a way to ‘to pursue both economic viability and social responsibility’ in the ‘International Year of Co-operatives 2012’. In addition, the International Labour Organization (ILO) views the renaissance of the African cooperative movement as an important driving force for economic development. Simultaneously, the ‘World Development Report 2012’ promotes greater gender equality in order to enhance productivity, improve development outcomes for the next generation, and make institutions more representative. Moreover, the Nobel Committee has repeatedly awarded those who have contributed to build institutions for collective action (i.e.e laureates such as Wangari Maathai 2004; Muhammad Yunus 2006; Elinor Ostrom 2009). In addition, because institutions themselves are gendered (Elson 1999), they have immediate potential to question or reinforce existing social norms and behaviours concerning gender relations. In other words, institutions for collective action provide a suitable mechanism and good starting point for development and the transformation of women’s agency.

Collective action has the potential to act upon problems that cannot be resolved individually and hence has become an important strategy for female smallholder farmers in developing countries to benefit in terms of improved livelihoods from access to capital and commodity markets from which they are typically excluded (Jones et al. 2012; Mayoux et al. 2009; van Zanden 2004). As a result female occupations appear to concentrate around industries which provide low returns to capital (de Mel et al. 2009) and relegate women to the private sphere (Agarwal 2001; Quisumbing 2003). Women can influence their surroundings through their participation in collective action but their success depends in part on their ability to make effective choices within the household and their community (Sen 1999; World Bank 2011). In other words, women’s membership and level of participation in institutions for collective action, probably both depends on and determines their individual agency (Figure 1).

There are numerous studies that have investigated the determinants of household participation in credit and agricultural cooperatives (IPA 2012; Bernard and Spielman 2009; Wollni and Zeller 2007; Hulme and Mosley 1996). They find that one of the biggest limitations to cooperative’s capacity to meet community needs and poverty eradication are the significant constraints on women and the poor to participate in collective action. Against this background, there has been a rising interest into what determines women’s membership in institutions for collective action (Meier zu Selhausen 2012; Awotide 2012; Pandolfelli et al. 2008; Meinzen-Dick and Zwarteveen 1998; Montgomery 1996). However, within institutions for collective action, the commitment and degree of participation of female members can vary. Potentially this is because expected net benefits, agency, trust and motivations are not identical across all members. Yet, the determinants of women’s intensity of internal participation has hardly been

investigated. Figure 1 suggests the causal relationship and feedback mechanism between women's agency, membership in collective action and their intensity of participation. However, it is crucial for the sustainability and performance of ICAs to understand which factors constrain and which commit and encourage members' intensities of participation and trust in the institution. Although women's agency is a key determinant for people to participate in ICAs there has been little research on women's agency and their actual level of participation within structures of ICAs.² Given that women's decision-making agency on the household level matters for initial membership I hypothesize that women's agency also has a positive effect on the level of participation and ownership within the institution itself. Furthermore, I am particularly interested in whether (1) a higher level of trust between members; (2) lower levels of poverty; and (3) group size and homogeneity of gender determines participation and ownership in the cooperative.

Figure 1:



This paper investigates the determinants of married women's degree of participation using a case study of 309 female members randomly selected from 26 self-help groups of a rural microfinance and coffee co-operative in Western Uganda's highlands. In order to

² For example, Pandolfelli et al. (2008) review five references in this field (Wade 1988; Ostrom 1990; Bromley 1992; Baland and Platteau 1996; Agrawal 2001) and do not find gender or women's agency incorporated in their indexes for analysis of ICAs.

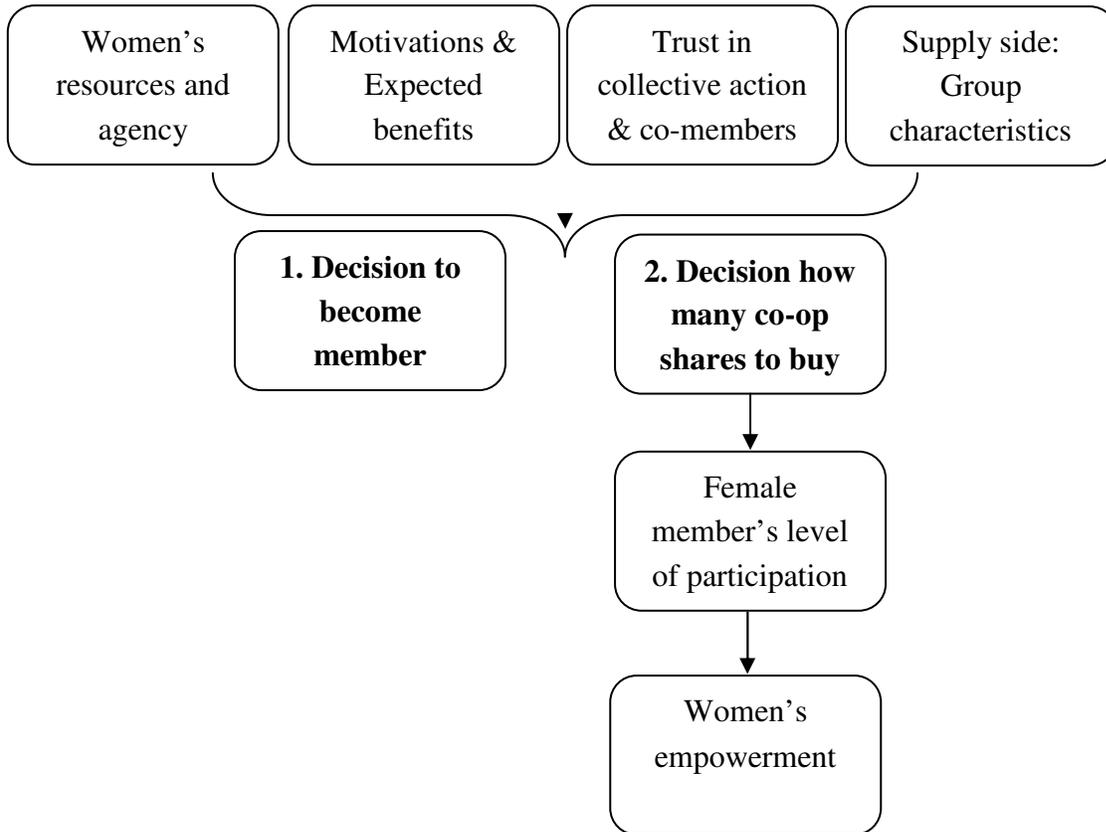
measure women's degree of participation and ownership within the cooperative I make use of number of cooperative shares female members purchased as an indicator for both ownership and participation in the institution. The results indicate that women's decision-making agency on the household level is crucial for the intensity of participation in the co-operative. Moreover, increased length of membership and trust in co-members translates into greater ownership and participation within the ICA. I also find that intensity of participation is related to women's literacy status and trust between members and members and the co-operative whereas ICA characteristics, such as group size and heterogeneity are not statistically significant.

The paper proceeds as follows. Section 2 provides an overview of the literature on collective action and women's agency. Section 3 describes the methodology, the co-operative under study and the data. Section 4 reports and analyses the findings. Section 5 concludes.

2. FEMALE AGENCY AND PARTICIPATION IN COLLECTIVE ACTION

This section discusses the existing literature of women's agency and participation in collective action. Figure 2 provides the framework and suggested causal directions of women's empowerment and the probability to join and then participate in ICAs. The model is drawn from theories of Amartya Sen's capability approach and theories of social cooperation. Figure 2 presents the main determinants to be explored in this paper. They include, women's initial resources (e.g. literacy, land) decision-making agency on the household level (e.g. income pooling decision-making over expenditures, freedom of mobility), individual motivations and expectations (i.e. benefits), trust into the institution for collective action and its associates, and self-help group characteristics (e.g. group size, heterogeneity, length membership). These four dimensions of determinants of participation in ICAs do not follow a causal sequence, and thus each of the factors works independently affect the likelihood of member participation. For the sake of simplicity of the model I do not take into account all supply side effects such as mobilization of participants or recruitment efforts and benefits by ICAs but focus on the cooperative's organizational structure. Table 1 presents the explanatory variables and hypothesizes their expected effects. It also reports some control variables.

Figure 2: Main connections to be explored



Women's resources and decision-making agency

Household spending patterns ultimately depend on each member's information set and bargaining power. If both spouses had the same preferences and desires, then, who owns the money or other assets (e.g. land) would not matter within the household. All resources would flow into a common pool with the intention of being channelled towards the optimal uses for the family. However, in practice individual preferences and pooling of resources between spouses is not as harmonious as described and depends on individuals bargaining power (Alderman 1997). For example, various studies about female versus male control over resources and household spending patterns reveal that women tend to spend more on children's health and education than their husband's when their incomes increase (Benhassine et al. 2011, Duflo and Udry 2004, Duflo 2003, Lundberg et al. 1997, Thomas 1990). Naturally, this makes women to key actors in poverty reduction. In other words, when women acquire agency, they improve their social-economic position and the ones of their offspring (Kabeer 2005) - theoretically, this is what microfinance is about. Moreover, Attanasio and Lechene (2002) report

increased wife's decision making power with a greater share of income contributing to total household income using the Progresa dataset from Mexico. This study uses four indicators for decision-making agency: (1) spousal income pooling; (2) decision-making agency over household purchases; (3) freedom of physical mobility; and (4) perceptions towards gender-based violence. I hypothesize a positive effect of increased spousal household cooperation and increased female decision-making agency on the degree of freedom and choice of participation within the cooperative. If wives have greater control over her money and the money that is pooled between both spouses her, she also has a greater influence on spending patterns. Thus, this would give female members a greater freedom of purchasing cooperative shares if she finds it beneficial to do so. Moreover, women's education plays an important role for participation in ICAs. Adams et al. (1999) shows that years of schooling is positively related with participation in credit groups in Bangladesh and IPA (2012) report that members wealth and literacy status mattered for joining village savings and loan associations (VSLAs) in Uganda. Also, Awotide (2012) explored the determinants of women's participation in cooperative societies in Nigeria and finds that the level of education and years of running a business positively influenced participation while husband's pressure limited women's participation within cooperatives.

Group characteristics – the supply side

Institutional dynamics are not only an important determinant for the decision for membership but also for the degree members actively participate in collective action. Providing opportunities that are beneficial to members strengthen their commitment (e.g. training and extension services, fair trade marketing). According to Ostrom (1992) and Becker and Ostrom (1995), collective action is most successful when there is cultural homogeneity (tribal and religious affiliation) which influences trust and reciprocity between members, as well as relatively small group size (Olson 1971). La Ferrara (2002) finds that people living in villages in rural Tanzania with higher wealth inequality are less likely to be members of groups. On the one hand group heterogeneity in terms of sexes, may be beneficial to challenge community wide gender norms and subordination. That's what gender is about. Moreover, there are various studies that find that management of natural resources is more effective when both sexes are actively involved in the management groups (Sultana and Thompson 2008; Were et al. 2008). For the case of microfinance the exclusion of men may result into husbands not supporting their wives' loan repayment because they did not internalize the particular procedures of receiving and repaying loans. Also, a lack of understanding of other rules of the game applied in SHGs (Armendáriz de Aghion and Murdoch 2010, Leach and Sitaram 2002) or simply a feeling of exclusion can result into resistance of collective action by wife's partner. On

the other hand, cooperation between women is encouraged when groups are based on homogeneity because of present gender constraints women desire female conformity which makes them feel more at ease sharing problems from home. I test whether husband's co-membership in the cooperative results into competition for shares or increases wives' level of participation and expect a positive correlation. Then I also test whether group heterogeneity favours women's level of participation within the cooperative. I also test whether the frequency of SHG meetings affects the commitment via purchase of shares. Moreover, trust plays an important role for group cohesion and participation levels within the ICA. According to Hansen et al. (2001), trust among members and trust between members and the cooperative staff are important predictors of group cohesion, defined as strength of members' desires to remain active in a group and their commitment to it. I try to capture trust between members by an indicator whether the respondent was friends with the last two members that joined already before. Although the indicator is imperfect it gives an idea whether those SHGs are exclusive organizations where initial trust plays an important role. I also control for length of membership to see whether the experience of participation has been a positive one over time. Given that duration of SHG membership is positively related with the experience of participation I hypothesize a positive feedback on number of shares. However, there is self-selection bias, given that members are more likely to stay in the SHG the more satisfied they are. Finally, I control for distance to the closest main road and self-help group affiliation.

I control for household characteristics including socioeconomic factors, such as age, land size, household size, education, income from coffee and non-coffee activities. Additionally, I control for SHG characteristics, including size, frequency of meetings, respondent participates in ROSCA, distance to co-operative headquarter, years of membership, husband is co-member, trust between members, group heterogeneity and group identity.

Table 1: Summary statistic by hypothesized effects

Variable	Description	Expected effect	Mean	SD	Min	Max
Shares	Number of cooperative shares purchased by female members by July 2012		10.55	13.740	0	4.49
Age	Age of female cooperative member	+	37.54	11.423	16	71
Literacy	Wife can write her name	+	0.59	0.490	0	1
Land	Land holding in acres	+	1.65	1.520	0	10
Income (ln)	Income from other activities than coffee sales over the last month in Ush by ln	+	71,462	133,156	0	14.85
Coffee (ln)	Income from coffee sales in one year in Ush by ln	+	810,890	955.698	0	16.01
Offspring	Number of surviving children	-	6.28	2.988	0	14
Length	Years of membership	+	6.07	3.645	1	14
Distance	SHG meeting location from main road in walking minutes	-	35.28	31.211	0	120
Group size	Number of co-members in self-help group	-	36.15	19.231	22	108
Meeting	Frequency of self-help group meetings in days	-	8.97	5.280	7	30
Heterogeneity	Female-male ratio in self-help groups	+/-	4.77	3.554	1	8.33
Husband	Wife's husband is a member of the cooperative	+	0.38	0.485	0	1
Trust	Respondent was friend with the last two members that joined the self-help group	+	0.79	0.406	0	1
GBV	Gender-based violence	-	0.16	0.216	0	1
Mobility	Wife can visit family and friends without permission of husband	+	0.92	0.278	0	1
Pooling	Both spouses both pool at least half of their incomes	+	0.27	0.445	0	1
Decider husband	Average of four areas of household expenditures in which the husband takes the decision	-	0.16	0.263	0	1
Tribe	Tribal affiliation Bakonjo		0.98	0.149	0	1
Religion	Religious affiliation Christian		0.99	0.080	0	1
SHG	Number of self-help group		13.37	7.577	1	26

3. THE STUDY SITE

Bukonzo Joint Cooperative Microfinance Society Ltd. (henceforth referred to as Bukonzo Joint) in Uganda, the cooperative under study, was founded in 1999 and since then owned by its members. Seventy-five percent of its 2,220 members were women in 2011, all scattered in clusters of settlements in the Rwenzori Mountains of Western Uganda (see map in Appendix A). Bukonzo Joint started as a microfinance institution that organized its members into SHGs to access credit and savings products and establish a network of mutual support between its members. The majority of members grow organic, hand-picked Arabica coffee and since 2005 market it collectively through the co-operative. Moreover, Bukonzo Joint combines its financial services with participatory training in understanding and changing gender relations³, as well as organic and fair trade coffee growing.

The district of Kasese, where the cooperative is located (see map), has a population of 671,000 and is located just on the Equator. It is bordered by Kabarole District to the north, Kamwenge District to the east, Bushenyi District to the south and the Democratic Republic of the Congo (DRC) to the west where the Rwenzori Mountains formed a natural boundary millions of years ago (see Appendix A for map of Uganda). Bukonzo Joint operates in the mountainous area of Bukonzo County which has 7 sub-counties with a population of 280,500. Bukonzo County is located in the west of Kasese district in the Rwenzori Mountains bordering the DRC. Bukonzo County is an exclusively agricultural area without electricity connection (except generators and solar panels). The main cash crop is coffee – Uganda’s major export earner and employer.⁴ Most villages lie above 1,200 metres of altitude which enables small-scale farmers to grow Arabica and Robusta coffee. Annually, the area experiences two rainy seasons (March to May and August to November) and two dry-seasons (June to August and December to February). Agricultural yields (i.e. coffee) during a rainy season are considerably higher than during a dry-season. Within the society of the survey area, the norm for women is early and universal marriage through which a girl acquires the social status of womanhood.

The cooperative was founded in 1999 with the mission to provide microfinance services to the poor and remote mountainous farming communities in Western Uganda’s Rwenzori Mountains. The isolated mountainous area was further marginalized in the past due to civil strife and abduction by the Allied Democratic Force (ADF) in the mid-1990s. This has been an important *raison d’être* for households in the region to cooperate. Often

³ See http://www.wemanglobal.org/2_GenderActionLearning.asp

⁴ Coffee represented 32.9 percent of all export earnings for Uganda in 2010, followed by tobacco, fish produce and black tea (AfDB and OECD 2011).

living in remote areas with poor infrastructure, people face high transaction costs that reduce their incentives for agricultural market participation (Barrett 2008). At the beginning the co-operative comprised of ten almost purely female groups. In thirteen years of microfinance operations, BJC has grown to serve 2,220 local small-scale farmers of which men account for a minority of 24 percent, distributed over 74 mixed-sex groups SHGs in 2011. Members are initially trained and organized into voluntary SHGs comprised of 15-30 members, each provided with an individual passbook for recording savings and credit. New members need to be approved upon by all SHG members. Membership allows small-scale farmers in the region with relatively low incomes and absence of land titles, to gain access to credit that is difficult or impossible for them to get from formal financial institutions. Each SHG elects a chairman, cashier, loans officer and secretaries. When group members want to apply for a loan they need to explain the purpose of the loan to their group members in order to get a recommendation for it. Groups hold regular meetings, most of them on a weekly basis where the progress repayment schedule and proper end-use is checked upon by solidarity group members. In the case of late-repayment or credit default, solidarity group members, comprising of 3 to 5 members within the SHG, are liable for repayment after liquidation of the creditor's savings. Contrary to the general model of SHGs, loans are not given from a common SHG savings fund on an individual basis by BJC on the basis of a recommendation by the applicant's SHG. Savings are collected at weekly group meetings. The co-operative's field officers collect those weekly to cut down member's expenses on travel (to and from the branch).

The SHG model offers opportunity to integrate complementary interventions into its lending programs. BJC provides a comprehensive training scheme for active members, participatory trainings on how to improve gender relations on the household and community level are being strongly emphasized and best practices of fair trade and post-harvest management of organically grown coffee. Additionally, since 2005 internal marketing association pools and markets internationally smallholder farmers' coffee from the region, including SHG members. As a result members can expect higher prices for their Arabica coffee, and thus an increase in household income. The fair trade premiums are reinvested in health projects in the community. Members can benefit through access to financial services, improved income, shared knowledge to improve products, expanded markets and marketing, access to training and extension services and expanded capacities.

4. DATA AND METHODOLOGY

4.1 Household survey

Using a carefully designed and pre-tested questionnaire data for this study was collected in July and August 2012 in seven sub-counties of Bukonzo County in Western Uganda. All sub-counties are major coffee regions located the highlands of the Rwenzori Mountains (see map). Interviews were conducted on the household level and respondents were exclusively married female SHG-members of Bukonzo Joint Co-operative. Selection of respondents was done based on multi-stage cluster sampling. First, from a list of all 74 SHGs of BJC, 26 SHGs were randomly selected. Second, within each of these 26 selected SHGs, around 12 married female respondents were randomly drawn, resulting into a total of 309 respondents in the sample. Those women on the group level who were randomly selected did not receive any financial compensation during or after the interviews. The interview was conducted exclusively with female members that had a husband at the time of the survey without the husband present.

4.2 Methodology

Bukonzo Joint pursues an open membership policy which does not restrict new members and farmers can market their coffee through the cooperative even without membership. Membership requires members to be above age of eighteen and to buy at least one cooperative share of Bukonzo Joint worth 10,000 Ush (equivalent of \$4). There are no specific selection-criteria concerning ownership of specific assets such as land holding or other assets, except that existing SHG members must accept the new member. This is done by the applicant communicating his or her desire to join the particular SHG through a member of that group. If the SHG agrees to accept the applicant, the group invites him or her to their next meeting to get to know the potential new member and present their specific by-laws. In case members have not formed a SHG yet but desire to do so, Bukonzo Joint trains groups of a minimum size of 15 individuals the principles of SHGs operations. After joining, members can voluntarily purchase an unlimited number of shares through their SHGs. Various microfinance institutions couple the size of loans to member's shares. However, BJC does not condition loans to number of shares. Members obtain the full benefits from membership (i.e. interest on their savings, loans, trainings, or joint-marketing of their coffee) regardless of each member's investment in the cooperative. Members can purchase an unlimited number of shares at specific times during the year. Moreover, money is scarce given that member' cumulative monthly

income⁵ is about \$55 (Table 1), have hardly any access to wage labour, and on average have 6 children whose school fees need to be paid three times a year. Thus, any investment represents a well-considered decision. In this case, number of shares is a suitable overall indicator to measure the degree of participation, trust, and long-term interest in this particular institution for collective action. Previous studies, Fischer and Qaim (2012) use member's participation in meetings and their quantity of bananas sold through the cooperative.

In addition, one can rule out problems associated with reverse causality between number of shares and women's decision-making agency. In other words, do the number of shares result into increased agency or is the opposite true that increased agency leads to more shares? First, the beauty from a researcher's point of view is that shares need to be purchased from the cooperative. Women that lack decision-making agency generally have less control and say over household resources, and as a result can acquire fewer capital shares. On the other hand, in the case that female members acquire shares which later materialize into increased agency, one would have to question the causal flow of how shares were bought in the first place without the initial decision-making power to purchase them. In other words, individuals cannot buy their agency! This provides confidence that reverse-causality is not a problem for the regression analysis, and hence number of shares is the dependent variable.

So, what motivates female members to buy more than one share, if shares do not generate additional benefits through for example higher loans, higher coffee prices, or higher interest rates on savings than other members with fewer shares? Mancur Olson (1965) in *The Logic of Collective Action* already suggested that if "in any group in which participation is voluntary, the member or members whose shares of the marginal cost exceed their shares of the additional benefits will stop contributing to the achievement of the collective good before the group optimum has been reached." (Olson 1965, p. 31). In other words, if there is a large distribution of shares this would signal that members must have good reasons to increase their ownership of the cooperative.

Firstly, members may have a commercial interest, as annual surplus income (revenue over expenses) from net earnings from microfinance services and coffee sales are distributed in proportion to each member's level of financial patronage - the famous 'co-

⁵ Cumulative household income from sales of coffee and wife's other income generating activities per month. This income varies considerably with the season of coffee harvest and sales, given that coffee sales constitute half of household's total income. Note that this is not household income but excludes earnings from husband and also overestimates the full use of coffee sales given that not all income from coffee is shared with all household members.

op divi'⁶. An increased number of shares would signal trust and commitment to the cooperative and can be regarded as a long-term investment into the institution. Secondly, decisions at the annual general assembly (AGM) are not based on one-member one vote principle but the more shares members have, the more likely they become to attend and entitled to vote at the AGM. That's because each SHG is entitled to send one member per 10 shares⁷. Consequently, a SHG of 25 members with 50 shares can send 5 delegate members. Thirdly, members are free to sell their shares back to the cooperative at any time. However, the money is only returned when a buyer is found – usually a new member. Thus, it may be a good investment strategy besides savings deposits.

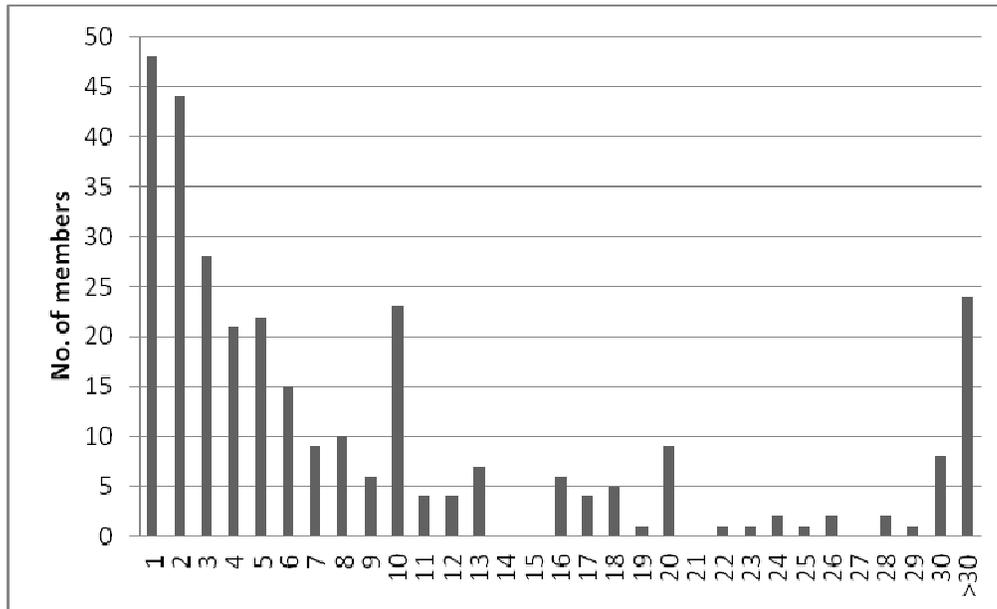
Against this background, we test two hypotheses. First, one of the pre-conditions of ownership of shares is agency, thus if women have a greater say about how to spend money on the household level and has desires to purchase shares we would expect her agency to also materialize in increased number of shares. In other words, we hypothesize that greater decision-making agency increases women's capacity to participate in institutions for collective action. And if so: it would foster women's agency even further. Secondly, length of membership is positively related to a growing degree of trust and participation in the cooperative.

Figure 2 shows the distribution of member shares. The majority of members do not own more than five co-operative shares. Moreover, number of shares are not normally distributed, thus for the regression analysis in Section 4, number of shares per member are transformed into natural logs to avoid misspecification. The correlation matrix of the independent variables are presented in Appendix B.

⁶ The term *co-op divi* dates back to the first co-operatives in the 19th century Britain.

⁷ In other words, a SHG with a total of 100 member shares is entitled to send 10 members to the annual general assembly. Members that have many are more likely to attend.

Figure 2: Number of shares per member



5. DETERMINANTS OF PARTICPACTION IN COLLECTIVE ACTION

5.1 Descriptive statistics

Table 1 reports individual characteristics of group members. It states that respondents who joined a SHG are on average 37 years old and have received four years of schooling explaining the illiteracy rate of 41 percent. They are almost all from the local Bakonjo tribe and share Christian faith. On average women own one to two acres of land and have more than six children. Virtually every household in the community is engaged in agriculture, in particular coffee growing. Biannual coffee sales constitutes for about half of households monthly income. Polygyny is widespread, as a third of households are polyganous. Respondents live in mountainous and remote areas, on average 35 minutes food walk from the next main road (which is not a tarmac road).

Self-help group membership varies from one to 14 years. Group size ranges from 22 to 108 members. Co-membership of respondents' husbands is common, as 38 percent of women's partners are members. Frequency of group meetings ranges from weekly to monthly meetings, however most groups meet on a weekly basis. Self-help groups appear to be exclusive institutions where trust plays an important role, as 79 percent of members were friends with the last two members that joined. Marriage is universal in most parts of Uganda. Respondents married on average at age of 18 years a man that was 6 years older.

So, what motivates female members to buy more than one share, if shares do not generate additional benefits as for example increased loan amounts, increased coffee prices, or increased interest rates on savings than other members with fewer shares? Mancur Olson in *The Logic of Collective Action* already suggested that if “in any group in which participation is voluntary, the member or members whose shares of the marginal cost exceed their shares of the additional benefits will stop contributing to the achievement of the collective good before the group optimum has been reached.” (Olson 1965, p. 31). In other words, if there is a large distribution of shares then members must have good reasons to increase their ownership of the cooperative. Figure X shows the distribution of

Firstly, members may have a commercial interest, as annual surplus income (revenue over expenses) from net earnings from microfinance services and coffee sales are distributed in proportion to each member’s level of financial patronage - the famous ‘co-op divi’⁸. An increased number of shares would signal trust and commitment to the cooperative and can be regarded as a long-term investment into the institution. Secondly, decisions at the annual general assembly (AGM) are not based on one-member one vote principle but the more shares members have, the more likely they become to attend and entitled to vote at the AGM. That’s because each SHG is entitled to send one member per 10 shares⁹. Consequently, a SHG of 25 members with 50 shares can send 5 delegate members. Thirdly, members are free to sell their shares back to the cooperative at any time. However, the money is only returned when a buyer is found – usually a new member. Thus, it may be a good investment strategy besides savings deposits.

Against this background, we test two hypotheses. First, if women have a greater say about how to spend money on the household level and enjoy a better overall status within the family we would expect her agency to also materialize in her ownership of the institution. In other words, we hypothesize that greater decision-making agency increases women’s capacity to participate in institutions for collective action. This is expected to foster women’s agency even further. Secondly, length of membership is positively related to a growing degree of trust and participation in the cooperative.

⁸ The term *co-op divi* dates back to the first co-operatives in the 19th century Britain.

⁹ In other words, a SHG with a total of 100 member shares is entitled to send 10 members to the annual general assembly. Members that have many are more likely to attend.

5.2 Determinants of participation in co-operatives

Central hypothesis to be tested is what determines the intensity of participation in the co-operative?

I estimate an OLS model to identify the determinants of the intensity of participation in the co-operative. As described in the previous section I use the natural log of number of shares per member as dependent variable. Table 2 presents the regression results. First, I estimate the baseline model in column (1) which includes four dimensions of women's decision-making agency. In all three models I control for the self-help group, tribal and religious affiliation. First, sole decision-making over household expenditures by the husband has a negative effect for their wives' level of participation in the institution. Moreover, spousal pooling of individual incomes increases number of shares owned by wives. Those two variables indicate that cooperation on the household level matters for women's participation in collective action. In addition, tolerance of domestic violence is negatively correlated with number of shares owned, implying that reduced gender subordination results into less conflict at "home" and thus more cooperation. Respondent's freedom of movement does not have a significant effect on ownership of shares.

In column (2) I control for individual characteristics of female members. The signs and statistical significance of the areas of women's agency are unchanged. The explanatory power of the model doubles to an R^2 of 0.17. It appears that literacy matters for participation in collective action. This could be because women have a greater capacity to understand and internalize the functioning of the cooperative rules and hence can develop more trust for it. By contrast Fischer and Qaim (2011) that use frequency of participation in group meetings as proxy for the intensity of overall participation in a Kenyan banana farmer groups do not find education to be a statistically significant predictor. Increased income both from coffee and other income generating activities translates into increased number of shares. As, one would expect, both income variables are positive and significant predictors of number of shares owned per female member. This signals that not only with increased income was invested into the cooperative but also that women were able to do so. This is in line with the previous results that cooperation on the household level is an important underlying factor for participation and ownership concerning collective action.

Surprisingly women's land holding are not statistically significant determinants of women's degree of participation in the ICA contrary to previous studies (e.g. Fischer and Qaim 2011). Also, the size of loans is not statistically related to the number of shares female members own, confirming the before mentioned practices of BJC not linking

loans to members' shares. An increase in women's personal income is positively related to the degree of participation. This indicates not only that with increased earnings women buy more shares but also that women have the ability to invest this income relatively freely in the ICA.

In column (3) I add multiple characteristics of the SHGs. The explanatory power doubles again ($R^2 = 0.31$). Both women's decision-making agency and spousal cooperation indicators remain highly significant and positive. However, the variable measuring wives' tolerance of domestic violence becomes statistically insignificant. The size of the group, group heterogeneity, frequency of group meetings, and distance to the cooperative do not influence women's degree of participation in the ICA. This is surprising as the literature usually stresses its importance for participation in collective action of small group size and homogeneity (Cazzuffi and Moradi 2012, Ostrom 1992, Olson 1965). In addition, husband's co-membership did not have a significant effect on number of shares owned. Male-inclusion does not have an effect on cooperation. On the other hand, it also means that husband's membership does not go on the expense of his wife's ability to participate in the institution.

As one would expect duration of membership is highly statistically significant and positively affects number of women's shares. This implies that as years spent in cooperative increases, women increase their participation in cooperative activities. There are various that could explain this. First, the obvious that longer membership also gave women more time to buy shares if they perceived it as beneficial. It could also be an indirect effect from the impact of collective action on women's decision-making agency, which we would expect to become stronger with length of participation. It could also reflect trust into the ICA, given that longer membership translates into women's growing intensity and desire to own and participate in the ICA.

Trust among members and the management of the cooperative are important predictors of group cohesion, the desire to participate in the SHG and their commitment to it (Hansen et al. 2002). Moreover, collective action efforts are likely to be more successful when individuals identify with a common future (Ostrom 1992) and build intensive interpersonal relationships (Portes and Landholt 2000). Hence, over time female cooperative members seem to gain more overall trust, become aware of the economic and social benefits they receive through the ICA, and possibly identify with a common future. A potential indicator for trust among SHG members is member's involvement with non-members before these became SHG members. In turn, it would mean that SHGs represent exclusive circles of trust of members that know each other already before membership. Therefore, we asked members whether they were friends with the last two members that joined their group before. Table 2 shows that if members share increased trust among

them, this translates into positive reciprocity –the desire to commit oneself to the ICA, measured by the number of shares owned. Also the frequency of SHG meetings has a positive impact on the level of participation, indicating the larger the time gap between SHG meetings the smaller the number of shares. Column (3) also shows that all dimensions of women’s agency, except domestic violence, continue to be statistically significant. Thus, women’s participation in the ICA depends on their ability to make effective choices. Given that women’s collective agency both depends on and determines their individual agency, increased ability of ownership of the cooperative gives women additional bargaining power within the household and community which then fosters more equal gender relations on the household level.

In sum, the degree of participation and ownership wedded female members have in the cooperative is strongly influenced by women’s degree of cooperation between spouses at “home”. Greater male decision-making reduces the intensity of participation. In turn this suggests that more joint-decision-making materializes into more shares. In addition, the particular characteristics of the cooperative positively affect female member’s degree of participation, including length of membership, trust among SHG members and income from coffee sales.

Table 2: Determinants of women's participation in self-help groups

<i>Dependent variable: No. of shares per member (ln)</i>	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>
Husband decision-maker	-0.807*** (0.000)	-0.612*** (0.009)	-0.519** (0.013)
Income pooling	0.676*** (0.005)	0.608*** (0.009)	0.731*** (0.001)
Freedom of mobility	0.163 (0.458)	0.231 (0.366)	0.199 (0.392)
Tolerance of GBV	-0.650** (0.034)	-0.846*** (0.003)	-0.374 (0.191)
Land (in acres)		-0.034 (0.405)	-0.021 (0.577)
No. of children		-0.021 (0.465)	-0.033 (0.224)
Loan (ln)		0.015 (0.156)	0.008 (0.428)
Age		0.022*** (0.006)	0.010 (0.160)
Wife literate		0.365*** (0.010)	0.363*** (0.008)
Income (ln)		0.022* (0.090)	0.020* (0.095)
Coffee sales (ln)		0.057*** (0.004)	0.034** (0.046)
Husband co-op member			-0.022 (0.851)
Length membership			0.124*** (0.000)
Group size			-0.002 (0.592)
Group heterogeneity			0.019 (0.506)
Distance (in minutes)			0.001 (0.404)
Group meetings			-0.009 (0.411)
Friends with last 2 members			0.329** (0.029)
Constant	0.916 (0.102)	-0.633 (0.404)	-0.737 (0.246)
Group dummy	Yes	Yes	Yes
Ethnicity and religion dummies	Yes	Yes	Yes
No. of observations	309	309	309
R²	0.0786	0.1689	0.3124

Note: Figures in parentheses are robust p-values. * Significant at 10% level, ** significant at 5% level, *** significant at 1% level.

6. CONCLUSION

Collective action has become an important strategy for rural women in developing countries to access both financial services and markets. However, within self-help groups the intensity of participation and commitment can vary given the different motivations, perceived benefits and trust into collective action. Using household data of female members of a Ugandan joint coffee and microfinance co-operative I investigate whether (1) women's decision-making agency, (2) individual characteristics and (3) group characteristics determine the intensity of participation in the group-based cooperative. It uses number of shares per member as a proxy for participation and commitment in the institution for collective action. The results suggest that women's decision-making agency, spousal household cooperation, level of income, literacy, length of membership, and trust between members are necessary factors for the intensity in women's efforts to participate within the cooperative.

Increased participation can function as an important catalysts for women's collective agency, as it depends on and determines women's individual agency. Further, I have shown that women's intensity of participation in institutions for collective action depends in part on their ability to make effective choices.

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Appendix B: Correlation matrix

	Decide	Pooling	Mob	GBV	Land	Child	Loan	Age	Lit	Cof	Inc	Hus	Dist	Size	Length	Meet	Trust
Pooling income	0.02																
Mobility	0.10	0.03															
GBV percep	0.20	-0.03	0.12														
Land	-0.05	0.01	-0.02	0.03													
Child	-0.14	0.03	-0.14	-0.03	0.24												
Loan	0.05	0.02	-0.01	0.05	0.02	0.04											
Age	-0.15	0.04	-0.11	0.00	0.30	0.67	0.05										
Literacy	-0.02	-0.00	0.08	0.04	0.03	-0.32	0.802	-0.33									
Coffee	-0.10	0.05	-0.06	0.02	0.18	0.14	0.08	0.13	0.01								
Income	-0.19	0.03	-0.01	0.01	0.04	-0.05	0.11	-0.04	0.11	0.15							
Husband	-0.00	0.09	0.02	-0.04	0.07	-0.08	-0.02	0.01	0.05	-0.04	-0.02						
Distance	-0.02	-0.06	0.07	0.04	-0.00	0.06	0.02	0.01	-0.10	0.09	-0.09	-0.00					
Size	-0.11	0.06	0.06	-0.01	0.03	-0.02	0.19	0.00	0.01	0.03	-0.03	-0.03	0.45				
Length	-0.17	0.01	-0.08	-0.18	0.10	0.29	0.15	0.38	-0.13	0.17	0.11	-0.01	0.02	0.06			
Meet	-0.05	0.04	0.10	0.03	0.12	-0.01	0.10	0.01	0.05	0.00	0.02	-0.06	-0.08	0.44	-0.01		
Trust	-0.15	-0.06	0.05	-0.09	0.08	0.04	0.00	0.02	0.05	0.09	0.12	-0.05	0.01	0.05	0.08	0.10	
Hetero	0.01	-0.11	0.10	-0.11	-0.04	-0.05	-0.12	-0.10	0.08	0.02	-0.05	-0.00	-0.12	-0.35	-0.11	-0.25	0.02

