EARLY CAREERS ARTICLE

Including Men in a Female Financial Model: An Analysis of Informal Grassroots Financial Associations

Linda Nakato[1,2]

Abstract

There is an increasing push among development actors to engage men in gender-focused development efforts. This is also observed in initiatives organizing economically poor individuals into groups where members save and borrow among each other. This study investigates the influence of male membership on the savings group's profit-generating capacity. Further, the study aims to understand if this relationship is moderated by the level of gender equality in the country where the group is located. Drawing on random effects regression analysis on a sample of data on 81,853 savings groups from 30 African countries covering the period 2010 to 2017, the results show that the group's profit-generating capacity reduces as the percentage of male members increases. Further, gender inequality in the countries where these groups are located worsens the observed negative relation. The findings highlight the need to thoroughly evaluate policy initiatives aimed at such savings groups to avoid harming core group functions.

Keywords Savings groups · Male engagement · Profit generating capacity · Gender · Group performance

Résumé

Il existe une dynamique croissante parmi les acteurs du développement pour impliquer les hommes dans les efforts de développement axés sur le genre. Ceci est également observé dans les initiatives qui permettent à des personnes en situation de pauvreté économique de s'organiser en groupes où les membres épargnent et empruntent entre eux. Cette étude examine l'influence de la participation masculine sur la capacité du groupe d'épargne à générer du profit. De plus, l'étude vise à comprendre si la relation entre ces deux variables est modérée par le niveau d'égalité des sexes

✉ Linda Nakato
linda.nakato@uia.no; lnakato@eprcug.org

1   School of Business & Law, University of Agder, Universitetsveien 19, 4604 Kristiansand, Norway

2   Economic Policy Research Centre, Makerere University, Plot 51 Pool Road, P.O Box 7841, Kampala, Uganda

dans le pays où le groupe est implanté. L'étude s'appuie sur une analyse de régression à effets aléatoires sur un échantillon de données issu de 81 853 groupes d'épargne dans 30 pays africains sur la période de 2010 à 2017. Les résultats montrent que la capacité du groupe d'épargne à générer du profit diminue à mesure que le pourcentage de membres masculins augmente. De plus, l'inégalité entre les sexes dans les pays où ces groupes se situent aggrave la relation négative observée. Ces résultats soulignent la nécessité d'évaluer en profondeur les initiatives politiques visant ces groupes d'épargne afin d'éviter de nuire aux fonctions centrales du groupe.

Introduction

For decades, women have been the focus of several development interventions since they were largely marginalized in society. In areas such as reproductive health, gender equality, gender-based violence, intimate partner violence, and even mainstream microfinance, emphasis was put on women. Increasingly, however, we are observing a shift towards engaging men in such interventions [See for example Subašić et al. (2018) for gender equality; Casey et al. (2018) for gender-based violence; Ruane-McAteer et al. (2019) for sexual and reproductive health; Flood (2011) for men's violence against women]. There are increasing global efforts in this regard from major development actors. The United Nations for example through campaigns like the 'HeForShe' campaign recognizes the role men and boys must play to foster gender equality. The move towards male engagement in these different efforts stems from the realization that it may be difficult to achieve gender equality from development efforts if the focus is entirely on women and men are excluded. Since the marginalization of women is deeply rooted in discriminative gender norms inherent in several societies and men are normally the custodians of such norms, their role must be recognized if a change is to happen.

In this paper, we consider a large and growing development model - savings groups that are currently facing a similar trend of increased male focus. We investigate the influence of increasing male engagement on key aspects of the savings group's operational model. Savings groups (SGs) are grassroots, community-managed financial institutions where members save collectively and borrow from pooled savings at an interest (Le Polain et al. 2018). Such institutions are flexible and robust to different environments (Mutebi et al. 2017; Ojong 2014) which makes them very popular among development actors like CARE International, Catholic Relief Services, etc. as a mode to reach largely excluded populations. Current estimates show that there are over 14 million members in savings groups globally (SEEP Network 2016). At inception, the model had a particular emphasis on women. For example, the first structured savings groups model, the Village Savings and Loan Associations, pioneered by CARE International in the 1990s started by reaching out to only women. Through the Mata Masu Dubara (meaning women on the move) groups, the goal was to drive the socio-economic empowerment of women (Grant and Allen 2002). Although women still make up around 80 percent of savings groups' membership (Wheaton 2019), available data shows that male membership is increasing over time. In the sample used for this study, for example, the share of male members

increased from about 9% in 2010 to over 27% in 2017. However, very little is known about the influence that this increasing male engagement has on the SG core operational model.

We shed light on the influence that male engagement has on savings groups. Specifically, we investigate the following research question: what impact does male membership have on the savings group's profit-generating capacity? The SG model requires efficient handling of savings and borrowing activities to create wealth for the group members and for the sustainability of the groups. The group profit-generating capacity is the best way to measure whether the group is operating efficiently. Some scholars argue in favor of member homogeneity across certain elements within the group arguing that when people are similar, it is easier to enforce rules making transaction costs much lower in such groups (Cassidy and Fafchamps 2020; Slover 1991). On the contrary, heterogeneity may bring people of dissimilar interests together (Nagarajan et al. 1999) which can affect group functioning and performance in general. For example, men are usually portrayed as more self-interested whereas women usually tend towards collective interests (D'Espallier et al. 2013; Guérin 2011; Johnson 2004).

We use a novel data set covering 81,853 savings groups from 30 countries in the period 2010 to 2017. This data is obtained from the Savings Groups Information Exchange (SAVIX), the first platform of its kind to have comprehensive data on these informal financial associations. SG profit-generating capacity is measured using the return on savings that captures the wealth creation for the group and members' financial outcome from group participation. The results indicate that as the percentage of male members in the group increases, the profit-generating capacity reduces. Additionally, we investigate whether the relation between gender composition and group profit-generating capacity is influenced by the level of gender equality in the country in which the group is located. Countries with low levels of gender equality are usually characterized by discriminatory gender norms that could curtail the ability of men and women to interact and collaborate in groups. For example, in certain societies, it is even prohibited for women to interact with men, especially in public spaces (Lata et al. 2020). Indeed, the results show that gender inequality in the countries where these groups are located worsens the negative relation between gender composition and SG's profit-generating capacity.

This study is conceptually rooted in a larger body of work that investigates increasing male engagement in development interventions that previously focused on women. Several scholars have investigated male engagement albeit the effect of this has been mostly investigated on an individual and household level (Slegh et al. 2013; Stern et al. 2015). We shift the unit of analysis from the individual to the group level. By doing so, the research contributes to a broader body of knowledge and guides policy on engaging men in savings groups without harming the core aspects of the group.

Additionally, the paper adds to the evidence regarding savings group composition by investigating the gender composition question. Burlando and Canidio (2017) look at the socioeconomic status of the group members and how this influences the amount of savings collected and the loans disbursed. Cassidy and Fafchamps (2020)
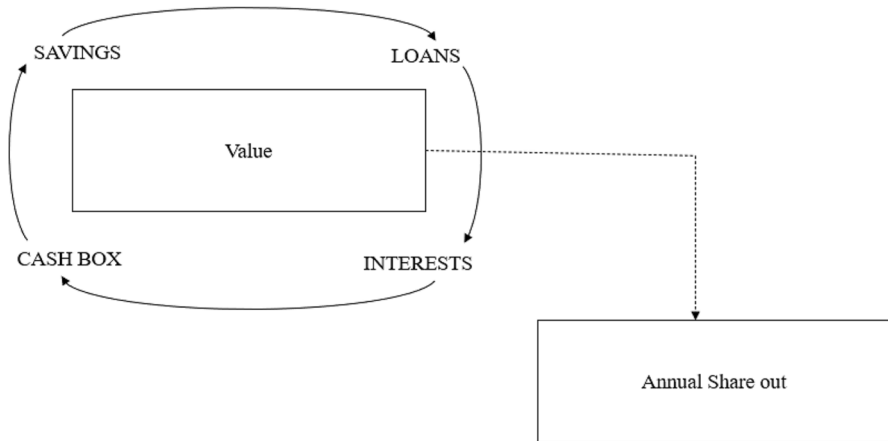
Fig. 1 The operational model of savings groups

investigate how sorting of group members along certain characteristics like occupation may influence the financial intermediation capability of savings groups.

The rest of the paper is organized as follows: section "Relevant Literature and theoretical framework" presents the relevant literature; section "Method" describes the data and the empirical strategy used in the paper. In section "Results", the results are presented and discussed, and section "Discussion of Findings" concludes the paper.

Relevant Literature and Theoretical Framework

Background on Savings Groups

Savings groups are community-based financial institutions composed of 15-30 members that pool money in a common fund and borrow from the fund at an interest (Le Polain et al. 2018; Burlando and Canidio 2017). They are typically informal associations that are built on a foundation of cooperation (Cassidy and Fafchamps 2020). The savings group methodology is based on traditional financial groups schemes like the Rotating Savings and Credit Associations (ROSCAs) and Accumulating Savings and Credit Associations (ASCAs), which have been in existence for centuries (Beaman et al. 2014; Bouman 1995). The basic savings group model, the Village Savings & Loan Associations (VSLA), was pioneered by CARE International in Niger in 1990. Since then, different international Non-Government Organizations (NGOs) like Catholic Relief Services, Agha Khan Foundation, Oxfam, etc. have promoted variants of the VSLA model. The savings group methodology has gained popularity among NGOs owing to its capability to reach large populations cost-effectively (Le Polain et al. 2018; Karlan et al. 2017).

Figure 1 below summarizes the savings group operational model. Savings and loans are the core group activities. Members make savings by purchasing shares

during the scheduled group meetings. These savings are then made available to interested members who can take loans from the group funds at a pre-determined interest rate. Normally, members can only borrow around three times their savings. Thus, collecting savings and giving out loans represents the main mechanism through which SGs create value and generate profits for the group members. At the end of the cycle, typically annually, the contents of the cash box (the savings plus the accumulated interest) are shared out among the group members. By the share-out date, all loans must be repaid. Hence, operating a SG effectively is not easy. At the beginning of a cycle, members must be motivated to bring in sufficient savings to make lending possible. When lending begins, the borrowers must be carefully selected to assure repayment. Fines and interests must be collected, and as the end of a cycle approaches all loans must be repaid. Taken together, a savings group is a complex business model to operate and the best proxy to measure whether a group is financially managed effectively and efficiently is the return on savings (ROS). This measurement summarizes a group's ability to intermediate savings and create wealth for the group members.

The first basic savings groups formed in Niger by CARE International under the Mata Masu Dubara (Women on the move) project focused on improving women's socioeconomic conditions. Hence, all initial savings groups were comprised of only female members. Currently, there are still some facilitating agencies that exclusively focus on women. For example: in Sudan, Oxfam's Saving for Change program targets only women (Stevens 2018). Though the savings groups are still dominated by females, recent developments have witnessed increasing male participation. Savings group promoters are encouraging the engagement of men to mitigate certain negative effects that may arise when men feel threatened by the increasing women empowerment. Such effects include increased intimate partner violence (Slegh et al. 2013; Gupta et al. 2013).

Inclusion of Men in Gendered Interventions

For decades, women have been on the receiving end of different forms of gender injustice, for example, gender-based violence, intimate partner violence, and exclusion from participation in political and economic activities. Most of these injustices are deeply rooted in discriminative social norms for which men are usually custodians hence branding men as perpetrators of gender injustice (Flood 2019). Several efforts have been undertaken to remedy such injustices including sensitization of women and equipping them with knowledge and skills, engaging and mobilizing communities, and influencing a change in policies and legislation (Flood 2019).

However, these have often been geared towards empowering only women. Lately, though, there has been a realization that to achieve desired results from these interventions, men and boys need to be involved in efforts toward ending gender injustice (Schwittay 2019). First, as earlier mentioned, men are in most cases the perpetrators of such injustices like gender-based violence. Second, the exclusion of men may lead to negative consequences like increased gender injustices and inequalities (Colpitts

2019; Slegh et al. 2013), and it, therefore, is important for men to understand that they too stand to gain from reduced gender injustices and empowered women.

Like in other gendered interventions, there are increasing efforts to engage men in savings groups mostly premised on two reasons (Wheaton 2019). Just like women, some men suffer financial exclusion. To remedy such male exclusion and move towards universal financial inclusion, actors are recognizing the need to refocus financial inclusion efforts such as savings groups and involve men. Additionally, there is increased recognition that access to finance alone is not sufficient for the holistic transformation of women in the face of prevailing gender norms (Vossengberg et al. 2018). Moreover, there is also an increased awareness that the focus on women may lead to unintended consequences (ICRW 2019; Edwards 2017) hence there is a need to ensure that savings groups cause no harm to female members.

Unlike male engagement in reproductive health, gender violence, and intimate partner violence, this study investigates male engagement in activities one can consider outside direct household structures. It will hence shed more light on how the engagement of men in such activities influences their operations.

Group Composition and Savings Groups' Performance

To examine group composition and savings groups' performance, two theoretical foundations are drawn on: the social identity theory (Tajfel 1978) and the Similarity-attraction paradigm (Byrne 1971). The social identity theory starts from the premise that belonging to a group confers social identity to a person. Tajfel (1972, p. 31) defines social identity as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of the group membership". Further still, people seek to gain a positive social identity by belonging to a certain group which they derive from social comparisons with other relevant groups. It is through this process of social comparison that one acknowledges the distinctive differences between one's group (the ingroup) and other groups (the outgroup) and develops "outgroup" bias. The social identity approach predicts that diversity creates subgroups within a group which increases "ingroup" favoritism and "outgroup" discrimination. Such behavior in turn reduces information exchange and collaboration between group members and increases conflict which leads to reduced productivity and satisfaction (Anthony 2005).

The similarity-attraction paradigm proposes that people prefer to associate with others whom they perceive to be similar to themselves and interact better with persons whom they share similar characteristics with (Mia 2022). This hence implies that homogeneous groups will exhibit stronger cohesion and better communication yielding better outcomes. The paradigm proposes that diversity reduces interpersonal attraction and liking within the group which reduces cohesiveness, trust, and efficient communication within the group ultimately leading to negative group performance.

In conventional microfinance, it is common to apply group lending methodologies. In such settings, several scholars have investigated the effect of the gender composition of credit groups. In a laboratory experiment setting of microfinance

loan groups, Berge et al. (2016) find that female groups are better than all male and mixed groups in collaboration for problem-solving. Further, they find that female groups are more risk-taking. Studying loan repayment rates in credit groups, Anthony and Horne (2003) find a positive relationship between the percentage of women and individual loan repayments. Similarly, while investigating delinquency rates among microfinance loan groups in Bangladesh, Sharma and Zeller (1997) show that delinquency rate decreases as the percentage of females in the groups increases. Still, investigating repayment rates, D'Espallier et al. (2011) focus on microfinance institutions and investigate the gender question in terms of the percentage of female clients served by an MFI. Their findings suggest that an increase in the percentage of female clients results in a decrease in portfolio risk, write-offs, and loan loss provisions. In Guatemala, Kevane and Wydick (2001) highlight that female credit groups have the lowest instances of fund misuse with mixed-gender groups having the worst performance.

When it comes to gender composition and performance of savings groups, Eboh (2000) takes a descriptive approach when analyzing the sustainability of savings and credit associations in Nigeria. He shows that all-female savings and credit groups had higher average savings and loans per member compared to all-male groups. He further observes that absenteeism from meetings was lower for all-female savings groups compared to gender-mixed groups. Slover (1991), however, finds that groups with membership dominated by females have fewer funds mobilized than those comprised of predominantly males. He attributes this to the differences in risk-taking between men and women.

Why would male involvement as group members influence the savings group's profit-generating capacity? One argument is that male involvement may increase conflicts and tensions in the group due to inherent differences in behavioral characteristics between men and women. There is a common perception that, unlike women, men are less cooperative and less socially oriented (D'Espallier et al. 2013; Anthony and Horne 2003). In other words, men are more individualistic (Johnson 2004). Further, literature proposes that men tend to lean more towards disagreement and are more competitive while women lean more towards agreement and are more conciliatory (Anthony and Horne 2003). In this paper, we argue that in line with the social identity theory and similarity attraction paradigm, such differences may affect group interactions, communication among group members, conflict resolution, and decision-making and consequently affecting group operations.

Additionally, men have alternative sources of credit and savings (D'Espallier et al. 2013). Due to this, they may join savings groups for other purposes and may not be interested in the group functions of savings and credit. For instance, women sometimes engage in informal financial associations like ROSCAs without the knowledge of their husbands and extended family because this is the only way they can have control over their money (Guérin 2011). Men may hence join such groups to monitor the actions of their wives and get more information about their savings and credit activities. This may affect the way women conduct their group activities and ultimately hurt the overall group performance.

With the view that men are poor at loan repayment (Enimu et al. 2017) and have lower savings rates (Ledgerwood 1999), trust issues may arise in the groups when

men join which may also lead to hesitations in issuing loans to men. Moreover, there is a perception that men compared to women are not as influenced by social pressure (Johnson 2004) hence they may default on loan repayment without fear of any consequences or societal shaming (Shohel et al. 2022).

However, based on some socio-economic characteristics of men especially in the areas in which savings groups are prevalent, male engagement may enhance group performance in several ways. Men are usually involved in activities that require large lump sums of money and equally have responsibilities that require the same (Jonhson 2004). This may translate into an increased demand for loans which is beneficial for a group as a larger share of the savings is lent out. Also, men are generally more educated and more literate than women (Guérin 2011). This could bring advantages for the group as they could enhance the knowledge base in the group, devise more efficient ways of running the group, and growing the group fund. After all, as mentioned, operating a SG is complex. Moreover, the argument that men are more risk-seeking than women (Croson and Gneezy 2009; Jianakoplos and Bernasek 1998; Slover 1991) may positively influence the group's profit-generating capacity. If this risk appetite is combined with an increase in interest rate to cover the additional risk brought on by men, it may lead to an increase in the group returns.

Does the relationship between gender and savings group's profit-generating capacity vary with the level of gender equality in the different countries where the groups are located? One can argue that, indeed, the effect may be different in countries where men and women have more equal rights and access to equal opportunities compared to countries where there is high inequality between men and women. Gender norms inherent in different societies influence the way men and women interact in different spheres and have a bearing on the kind of opportunities that are available to the different genders (Shohel et al. 2021; Johnson 2004). For example, in some societies, the woman's responsibilities are relegated only to childbearing and taking care of the household (Kabeer 2005). In such societies, women may not be allowed to freely participate in economic activities such as in financial associations like savings groups. Moreover, in several cases, even when women can participate in certain activities, they are limited from reaching their full potential owing to the discriminatory gender norms of such patriarchal cultures (Shohel et al. 2021; Kinkinginhoun-Mêdagbé et al. 2010). When the percentage of men in the group increases in such societies characterized by high levels of gender inequality, it will likely have a worse effect than in societies where gender inequality is low.

Method

Variable Definitions

Dependent Variables

The dependent variable, return on savings (ROS), is used to proxy the profit-generating capacity. Previous studies have used ROS to measure the performance of SGs (Gonzales Martinez 2020; Burlando et al. 2016; Burlando and Canidio 2017). ROS

captures the profitability of the group and the efficiency with which a group manages the complex SG business model to generate profit for its members. It measures the value created for the group members when their savings are lent out at an interest, and it is obtained as the total profit over the average savings used to generate these profits.

Independent Variable

The independent variable, group gender composition is captured using two variables. One we call *male members.* This captures the percentage of male members in a group and is computed as the number of male members divided by the total number of members in the group. The second independent variable we call *mixed gender* is a dummy variable that takes on the value of one if the group is composed of both male and female members and zero if the group is composed of only female members. Whereas the dummy variable, *mixed gender*, covers the effect of the mere presence of male members in the group, the *male members* variable covers the difference in effects resulting from differing percentages of male members.

Moderating Variable

We conjecture that the relationship between gender composition and group profit-generating capacity is influenced by the level of gender equality in the country where the group is located. We investigate this by introducing a moderation term for gender equality. To measure gender equality, we use the global Gender Gap Index (GGI) obtained from the World Economic Forum. The GGI measures gender-based differences in relation to four dimensions i.e., economic participation, education attainment, health, and political empowerment. The index ranges from 0 to 1 with higher values meaning higher equality and vice versa. In this study, the index has been reverse-coded with higher values meaning higher inequality and vice versa for ease of interpretation.

Control Variables

We include as control variables several SG-specific and contextual variables. The SG-specific variables include the age of the group, total assets, group size, welfare fund, rural dummy, other development initiatives, and facilitating agency. *Age* is likely to influence the profit-generating capacity of the groups due to the learning effect that takes place over time. With subsequent cycles, members may have a better understanding and appreciation of the savings group's methodology (Moret et al. 2020). We also control for *total assets* which represent the welfare of group members, i.e., their ability to bring in more savings to the group. *Group size* is also likely to influence the profit-generating capacity as larger groups are likely to have higher loan fund utilization rates due to a higher number of projects qualifying for loans which should translate into higher returns. However, larger group size may also expose the group to risks associated with free riding and may affect the group

operations negatively. Alongside the core loan fund, some SGs keep an emergency fund referred to as a *welfare fund* to cater to member emergencies. The welfare fund is likely to influence the group's profit-generating capacity (Gonzales Martinez 2020).

Additionally, we include a dummy variable that takes on the value of one if the group is in *rural* areas. The location of the group may influence the profit-generating capacity of the group because groups in urban areas may have access to more resources. SGs are usually used as channels through which *other development initiatives* are delivered to low-income populations. These other development initiatives are usually referred to as 'add-ons' or 'plus activities'. They include health education, training on income-generating activities, etc. The presence of add-ons along with core group activities is likely to influence the SG profit generation capacity as illustrated by Gonzales Martinez (2020). SGs are normally formed and supported by international Non-Governmental Organizations referred to as *facilitating agencies*. These facilitating agencies usually have different objectives and modes of operation that may influence the profit-generating of the groups.

A savings group's profit-generating capacity is influenced by the macroeconomic conditions of the countries in which they operate. To account for the different macroeconomic conditions under which the savings groups in our sample operate, we include three contextual control variables. These are the population density, gross domestic product (GDP) per capita, and the heritage index of economic freedom.

To minimize the effect of outliers, all the ratios are winsorized at the 1% and 99% levels. Table 2 presents all the variables and their definitions.

Data

We have access to a unique dataset on informal grassroots financial associations from the Savings Groups Information Exchange (SAVIX). The SAVIX is an online platform that contains standardized data on many savings groups globally. It was developed by the VSL Associates and funded by the Bill and Melinda Gates Foundation together with several facilitating agencies (CARE International, Catholic Relief Services, Oxfam International, and Plan International). Data is collected and uploaded to the SAVIX Management Information System (MIS) on a quarterly basis. The SAVIX captures several elements relating to the operations of the savings groups. The sample for this study consists of 81,853 savings groups from 30 African countries and covers the period from 2010 to 2017. Table 1 details the distribution of the data by country. Most savings groups in the sample are from Mali (19.72%), closely followed by Uganda (14.85%).

The SAVIX is the first and arguably the most comprehensive database there is on informal community-managed grassroots associations globally. The data is collected and uploaded by field officers visiting the groups on a quarterly basis. The SAVIX mainly contains data for savings groups that are supported by a facilitating agency, thus it does not cover several other groups that are formed spontaneously without the support of a facilitating agency which is a weakness of the dataset. Nonetheless,

Table 1 Distribution of sample by country

Country	No. of SGs	Percentage
Benin	3763	4.6
Burkina Faso	6155	7.52
Burundi	1959	2.39
Cameroon	652	0.8
Egypt	1450	1.77
Ethiopia	1388	1.7
Ghana	5113	6.25
Guinea	1838	2.25
Guinea Bissau	314	0.38
Ivory Coast	4730	5.78
Kenya	4723	5.77
Lesotho	5	0.01
Madagascar	410	0.5
Malawi	1673	2.04
Mali	16,140	19.72
Mozambique	1330	1.62
Namibia	131	0.16
Niger	1673	2.04
Nigeria	765	0.93
Republic of the Congo	60	0.07
Rwanda	1501	1.83
Senegal	2410	2.94
Sierra Leone	1961	2.4
South Africa	1007	1.23
Swaziland	18	0.02
Togo	2484	3.03
Uganda	12,158	14.85
Tanzania	3006	3.67
Zambia	1960	2.39
Zimbabwe	1076	1.31
Total	81,853	100

the SAVIX is the most representative dataset on savings groups as it covers different complementary metrics and contains several groups from different countries.

To supplement data from the SAVIX and consider the macroeconomic conditions of the countries where the SGs are located, we draw on several country indicators obtained from multiple sources. GGI data is obtained from the World Economic Forum global gender gap reports, population density is obtained from the world development indicators developed by the World Bank, Gross Domestic Product (GDP) is obtained from the world economic outlook database maintained by the International Monetary Fund and economic freedom index is obtained from heritage foundation.

Estimation Strategy

It should be noted that there could be some endogeneity concerns as the group profit-generating capacity and the percentage of male members may be simultaneously determined. If SGs formed completely or almost completely by women are successful for example in terms of producing high returns for group members, this will attract men to participate in the next cycle of the SG. Hence, the number of men in a group may be influenced by the profit-generating capacity of a group just as the number of men in a group may influence the profit-generating capacity. We address this simultaneity bias concern by analyzing only the data on the first cycle of group operations. In such a case, men are not basing their decision to join the group on the group's previous cycle outcomes. Endogeneity concerns are also addressed under the further analyses section using a matched sample difference-in-differences approach.

We employ random effects[1] regression analysis to investigate whether the profit-generating capacity is statistically related to the gender composition of the group. Specifically, we estimate the basic model below:

$$Y_{it} = \beta_0 + \beta_1 Gender_{it} + \delta X_{it} + c_i + u_{it} \tag{1}$$

where Y_{it} captures the profit-generating capacity, measured in terms of ROS. $Gender_{it}$ is the gender composition of the ith savings group at time t. X_{it} represents a vector of control variables. We also include time dummies in the different regressions to cater for time-fixed effects.[2] c_i is the group-specific unobserved effect and u_{it} is the idiosyncratic error term. Standard errors are clustered at the group level.

Gender Composition of SGs Over Time

Although over 80% of savings groups' membership globally is comprised of women (Wheaton 2019), Fig. 2 shows that the share of male members is growing rapidly over time. Male members have increased from around 9% in 2010 to over 27% in 2017. This shows the increasing significance of men in savings groups' operations.

---

[1] The Breusch and Pagan Lagrangian multiplier test for random effects is significant for both models which supports the presence of panel effects hence the use of random effects. Additionally, the Hausman test supports the use of fixed effects. However, we decide against fixed effects because, in most of our savings groups, the Mixed dummy used in model 2 remains constant over time. We complement the results of the random effects with a couple of robustness checks like the use of the matched sample differences-in-differences regression in order to ascertain the validity of the results amidst the cited limitations.

[2] Country dummies introduce multicollinearity concerns as evidenced by extremely high variance inflation factors. We hence exclude them in the regressions. We, however, account for contextual differences in the macroeconomic conditions of the countries that these groups are in by controlling for GDP per capita, population density, and heritage index of economic freedom.

Fig. 2 Share of male members over time

Summary Statistics

Table 2 presents the summary statistics for the variables used in the study. From the table, we see that the average group in the dataset is composed of 17 percent male members. The mixed-gender dummy shows that about 55 percent of the groups have both male and female members. The other 45 percent is composed of only female members.

Concerning the profit-generating capacity, the average group has a return on savings of 40.9%. A value of 40.9% means that at each end-of-cycle share-out, each member on average makes 40 cents on each dollar saved. This further shows that savings groups typically lend out at high rates and fetch higher returns for group members as compared to other savings mechanisms like formal financial institutions (Allen 2002).

Regarding the moderating variable, GGI, the average group is in a country with a score of 0.65 which indicates that most groups are located in countries with moderate levels of gender equality. The minimum value (0.57) and maximum value (0.82) show that SGs in the sample are in countries with diverse levels of gender equality i.e., from average levels to high levels of equality.

Moving on to the savings groups' characteristics, we observe that the average group has been in existence for 351 days (corresponding to about one year since its first savings were initiated for the first cycle), has an asset size of 667.6 USD, and has 23 active members. Further still, 69.5% of the SGs keep a welfare fund and 59% are in rural areas. 37.6% of the SGs incorporate other development initiatives like health education, women empowerment, etc. This shows that savings

Table 2 Variable definitions and summary statistics

Variable	Definition	Obs	Mean	Median	Std. Dev	Min	Max
Gender variables							
Male members	Proportion of male members in the group	227,388	0.170	0.067	0.210	0	0.968
Mixed gender	A dummy variable equal to 1 if the group is composed of both males and females and 0 if the group is composed of only females	227,388	0.550	1	0.497	0	1
Profit generating capacity							
ROS	Return on savings	227,388	0.409	0.275	0.466	−0.339	2.212
Gender equality indicator							
GGI	Global gender gap index of the country in which the group is located	211,513	0.653	0.650	0.061	0.568	0.822
SG characteristics							
Age	The age of the group in days	227,388	350.736	256	336.736	14	1756
Total assets	The total assets of the group	227,388	667.558	366.591	809.380	4.096	4399.131
Asset size	The natural logarithm of total assets	227,388	5.802	5.904	1.336	1.410	8.389
Group size	The number of active members in the group	227,388	23.174	25	6.054	3	100
Welfare fund	1 if the group keeps an emergency fund	227,388	0.695	1	0.460	0	1
Rural	1 if the group is in the rural areas	227,388	0.591	1	0.492	0	1
Other development initiatives	1 if the group has integrated other development initiatives	227,388	0.376	0	0.484	0	1
Facilitating agency							
CARE	1 if the group is supported by CARE	227,388	0.242	0	0.428	0	1
Catholic relief services	1 if the group is supported by Catholic Relief Services	227,388	0.144	0	0.351	0	1
Oxfam	1 if the group is supported by Oxfam	227,388	0.190	0	0.393	0	1
Plan international	1 if the group is supported by Plan International	227,388	0.293	0	0.455	0	1
Others	1 if the group is supported by other facilitating agencies other than those indicated above	227,388	0.130	0	0.336	0	1
Macro indicator							
Population density	People per square km of land area	227,388	108.427	76.847	102.454	2.761	485.648
GDP per capita	GDP per capita of the country in which the group is located	227,388	2531.638	1959.434	1977.522	669.694	12,533.94

Table 2 (continued)

Variable	Definition	Obs	Mean	Median	Std. Dev	Min	Max
Heritage	The heritage index of the country in which the SG is located	227,388	57.343	57.400	4.009	28.600	67.600

groups, in addition to being mechanisms for local intermediation of savings, are also channels through which multiple services can be offered to the people at the bottom of the pyramid to tackle multi-dimensional poverty. The table further shows that the majority of the SGs in the sample (29.3%) are supported by Plan International, closely followed by CARE (24.2%), Oxfam (19%), and Catholic Relief Services (14.4%) with other facilitating agencies sharing the remaining 13 percent among them.

Looking at the macroeconomic conditions for the countries in our sample, the average country has a population density of 108.43 people per square kilometer, GDP per capita of 2531.6 USD, and a heritage economic freedom score of 57%.

Results

Gender and Savings Group's Profit-Generating Capacity

Table 3 presents the random effects regression results for the effect of gender on the profit-generating capacity of the group measured in terms of the return on savings (ROS). The results reported in column 1 indicate that the proportion of male members is negatively related to the profit-generating capacity of the group. The estimated coefficient shows that a unit increase in the proportion of male members by say 100 percentage points leads to a 6.7 percentage point decrease in the ROS.

One potential argument for the observed effect is the perception that men are poor at loan repayment and hence have higher default rates than women (D'Espallier et al. 2011; Mutebi et al. 2017). The high default rates have a direct effect on the returns on savings as both the member savings and interest income are lost. Moreover, the potentially higher default rates could influence the fund utilization rate if loans to men are rationed to mitigate the effects of their poor repayment rates. In mixed gender, women may tend to limit the amount of money that they allow men to take as loans and reduce the overall lending in a group. A similar observation was made by Mutebi et al. (2017) where in some mixed-gender groups, there was a limit to how many men were allowed in the group owing to the high default rates of men. Additionally, there were more stringent terms imposed when men required loans, for example, they required that men have their spouses serve as their guarantors because women ensured that men fully paid back the acquired loan (Mutebi et al. 2017).

Another potential argument is that the nature of savings groups may not be suited to the socio-economic characteristics of men i.e., they more often require bigger loans that the group may not be able to offer. Johnson (2004) makes a similar observation with regard to ROSCAs being less suited to men's financial responsibilities. Moreover, since men usually have alternative forms of savings and sources of credit unlike women, they may not care much for the savings group's activities and may join for different purposes. Some men may join to monitor the activities of the women (Waller 2014). In such instances, this may affect the savings and borrowing behavior of women especially if they do not want the men to have knowledge of the same. For example, women may reduce how much they borrow because they do not want the men to know how much money they have under their control.

Table 3 Gender and SG profit generation capacity

Variables	(1) ROS	(2) ROS
Male members	−0.0670***	
	(0.0061)	
Mixed gender		−0.0397***
		(0.0030)
Age	0.0001***	0.0001***
	(0.0000)	(0.0000)
Asset size	0.1562***	0.1569***
	(0.0010)	(0.0010)
Group size	−0.0093***	−0.0089***
	(0.0003)	(0.0003)
Other development initiatives	−0.0412***	−0.0416***
	(0.0038)	(0.0038)
Welfare fund	−0.0989***	−0.0966***
	(0.0032)	(0.0032)
Rural	−0.0105***	−0.0105***
	(0.0031)	(0.0031)
Population density	0.0001***	0.0001***
	(0.0000)	(0.0000)
GDP per capita	−0.0000***	−0.0000***
	(0.0000)	(0.0000)
Heritage	−0.0077***	−0.0079***
	(0.0005)	(0.0005)
Agency dummies	Yes	Yes
Time dummies	Yes	Yes
Observations	227,388	227,388
R-squared	0.2024	0.2026
Number of SGs	81,853	81,853

Data is collected on a quarterly basis and the observations used in the regressions pertain to one cycle (four quarters). Standard errors clustered at the group level are reported in parentheses

Significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Anderson and Baland (2002) observe that women keep their participation in informal savings groups secret from their husbands to hide their savings from misuse by the husbands so when men join such groups, it could infringe on the privacy that the women sought and influence their savings and borrowing behavior ultimately affecting the return on savings.

Looking at the control variables, some results are interesting. We observe a lower ROS for rural groups which hints at the poorer investment opportunities in rural areas hence the need to lend to members at lower interest rates or a lower share of the savings being converted into loans. Similarly, we observe that a lower return on savings is associated with SGs that deliver other development initiatives

Table 4 Moderating role of gender equality

Variables	(1) ROS	(2) ROS
Male members	−0.0886***	
	(0.0072)	
GGI	0.1144***	0.1909***
	(0.0177)	(0.0217)
Mixed		−0.0403***
		(0.0033)
Male members*GGI	−0.4838***	
	(0.0563)	
Mixed*GGI		−0.2789***
		(0.0267)
Control variables	Yes	Yes
Agency dummies	Yes	Yes
Time dummies	Yes	Yes
Observations	211,513	211,513
R-squared	0.2127	0.2129
Number of SGs	75,361	75,361

Information on GGI is missing for some countries reducing the number of SGs used in this analysis as compared to Table 2. Data is collected on a quarterly basis and the observations used in the regressions pertain to one cycle (four quarters). Standard errors clustered at the group level are reported in parentheses

Significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

along the core group activities. This indicates that the other development initiatives may destruct the group from the core savings and borrowing activities, an area that should be researched further to find out how delivery of other initiatives influences savings groups operations and devise ways of constructively doing the same without harming the core group model. Further still, lower profit-generating capacity is associated with groups that keep a welfare fund for emergency purposes.

In column 2, gender composition is measured using the dummy variable, mixed gender. The results are consistent with those obtained when gender is measured using the proportion of male members. There is a negative relation between the mixed-gender dummy and the profit-generating capacity of the group. Specifically, mixed-gender savings groups have significantly lower ROS than savings groups composed of only female members.

Moderating Effect of Gender Equality

Does the above relation between gender composition and group profit-generating capacity vary with the level of gender equality in the country in which the group is located? To answer this, we include an interaction term between gender composition

and the level of gender equality in the regression model. Gender equality is measured using the global gender gap index (GGI). Random effects regression results are presented in Table 4. As in Table 3 column 1 reports numbers related to the share of male members while column 2 reports results when gender is measured using the mixed gender dummy variable.

As shown, contextual gender equality influences the effect of gender on group profit-generating capacity. Specifically, the negative relation between gender and ROS is worse as the level of gender inequality increases. The results shed light on the importance of understanding inherent gender norms for the functioning of savings groups.

Further Analyses

Alternative Estimation Method

To ascertain the robustness of the results and make an argument for a causal effect of gender composition on group profit-generating capacity, we employ the difference-in-differences (DID) approach (Chen et al. 2017). The DID approach further takes care of the endogeneity concerns of simultaneity as highlighted above. DID is used to estimate the effect of a treatment by comparing two similar groups, one with treatment and the other without treatment. The SAVIX dataset contains data that is collected on a quarterly basis. To form the sample for this analysis, we include groups that experience an increase in group membership. We include data on the group one quarter before and one quarter after the increase in group membership. To make the treatment group, the increase in group membership had to bring in male members hence the group moved from being all-female to mixed. This leaves 203 SGs making up the treatment group. In the control group, the increase in group membership still brings in female members and the group remains all-female. This leaves 1745 SGs making the control group.

Before performing the DID, we apply propensity score matching on the pre-treatment data to make the treatment and control groups as similar as possible. We use the nearest neighbor to select (Stuart and Rubin 2008), for each SG in the treatment group an SG from the control group with the closest propensity score based on several matching covariates. Specifically, each SG with mixed gender composition is matched to an SG with only female members that is as similar as possible to it along several covariates before male members joined the mixed SG. The control variables used in the previous regression models form the matching covariates that are adopted. The final dataset after matching contains data on 203 treated SGs and an equal number of matched control SGs.

To test the reliability of the matching, we conduct univariate *t*-tests for the matching covariates to compare the mixed-gender groups with their matched control SGs. Panel A of Table 5 shows that there is no statistically significant difference between both groups along the observable matching covariates. We then estimate the DID model below on the matched sample.

Table 5 Difference-in-differences estimation results

Panel A: Matching reliability	Treatment	Control	t-stat
Age	247.059	212.493	− 1.443
Total assets	511.757	407.918	− 1.534
Group size	17.828	17.872	0.083
SG plus	0.103	0.089	− 0.504
Welfare fund	0.847	0.837	− 0.272
Rural	0.286	0.256	− 0.669
Population density	93.854	86.080	− 1.302
GDP per capita	2911.756	2967.337	0.323
Heritage	57.467	57.449	− 0.075
Panel B: Difference-in-differences results			ROS
Male joiners			0.0367
			(0.0385)
Post			0.0232
			(0.0418)
Male joiners*Post			−0.1019**
			(0.0463)
Control variables			Yes
Agency dummies			Yes
Cycle dummies			Yes
Time dummies			Yes
Observations			812
R^2			0.3527
Number of SGs			406

Standard errors clustered at the group level are reported in parentheses

Significance: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

$$ROS_{it} = \alpha + \beta_1 Male\ joiners_{it} + \beta_2 Post_{it} + \beta_3 Male\ joiners_{it} \times Post_{it} + \delta X_{it} + \varepsilon_{it}$$
(2)

where *Male joiners* is an indicator variable equal to one if the SG is in the treatment group, and zero otherwise, *Post* is an indicator variable equal to one if the quarter is after membership increase. X_{it} represents a vector of control variables as in Eq. 1. We include cycle, facilitating agency, and time-fixed effects. SGs may be in different cycles which could influence profit-generating capacity so cycle fixed effects take this into account.

Panel B of Table 5 presents the DID results. The coefficient on the Malejoiners × Post is negative and statistically significant at the 5% level which suggests that after male members joining the group, SGs have lower ROS than after female members join. The coefficient shows that SGs have ROS that is 10 percentage points lower the quarter after male members join than when female members join.

Table 6 Robustness analysis—redefined gender categorization

Variables	ROS
Minority men	−0.0398***
	(0.0031)
Balanced	−0.0148*
	(0.0087)
Majority men	−0.0445***
	(0.0046)
Control variables	Yes
Agency dummies	Yes
Time dummies	Yes
Constant	0.3696***
	(0.0276)
Observations	227,388
R-squared	0.2026
Number of SGs	81,853

Robust standard errors in parentheses

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Alternative Definition of the Gender Variable

We recode the gender variable into four categories to assess if the manner of the composition has any effect on the profit-generating capacity. The categories are; all female (takes the value of 1 if all members in the group are female and zero otherwise), minority men (assumes the value of 1 if the group is composed of fewer men than women and zero otherwise), balanced (assumes the value of 1 if the group is composed of an equal number of men and women, and zero otherwise) and majority men (assumes the value of 1 if the group is composed of more men than women and zero otherwise).

The results of this analysis are presented in Table 6 and the 'all female' is the reference category. Compared to groups that are composed of only female members, groups that have some men in them, have a lower ROS further confirming the previous results. This is evidenced by the negative significant results in all categories i.e., minority men, balanced, and majority men. In fact, the coefficient for the majority being men is the highest, illustrating again that the more 'male' a group becomes the worse the group performs.

Does It Matter How Many Male Members a Group Has?

In further analysis, we decompose the gender composition as follows: We compare groups with (a) no male members i.e., all-female groups with (b) groups with one male member, (c) groups with two male members, and (d) groups with three or more male members. We run random effects regressions with the reference category as the groups with no male members.

Table 7 Does it matter how many male members a group has?

Variables	ROS
1 Male	0.0030
	(0.0059)
2 Males	−0.0387***
	(0.0057)
3 or more males	−0.0492***
	(0.0031)
Control variables	Yes
Agency dummies	Yes
Time dummies	Yes
Constant	0.354***
	(0.0275)
Observations	227,388
Number of SGs	81,853

Robust standard errors in parentheses

***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

We find that generally, groups with two or more male members have a lower ROS than groups with no male members or with one male member (Table 7). Specifically, having one male member has no effect on ROS. However, having two male members significantly reduces group ROS and having three members further reduces the ROS.

Discussion of Findings

Drawing on the social identity theory and similarity-attraction paradigm as theoretical foundations, this paper examined the effect of gender composition on the performance of savings groups. We specifically use data on 81,853 savings groups in 30 African countries to investigate the effects of gender composition on SG profit-generating capacity. We further investigated how this relationship changes depending on the gender equality of the country in which the group is located.

Confirming the premises of the two adopted theories, the findings showed a negative relationship between gender composition and group profit-generating capacity. Specifically, the findings show that the profit-generating capacity of the group decreases as the proportion of male members in the group increases. The finding is in line with Berge et al. (2016) who find higher collaboration in female microfinance groups compared to all male and mixed groups. The findings also corroborate Anthony and Horne (2003) who find that loan repayment in credit groups increases with the percentage of women.

One potential argument for the observed effect in this study is the perception that men are poor at loan repayment and hence have higher default rates than women (D'Espallier et al. 2011; Mutebi et al. 2017). The high default rates have a direct effect on the returns on savings as both the member savings and interest income

are lost. Moreover, the potentially higher default rates could influence the fund utilization rate if loans to men are rationed to mitigate the effects of their poor repayment rates. In mixed gender, women may tend to limit the amount of money that they allow men to take as loans and reduce the overall lending in a group. A similar observation was made by Mutebi et al. (2017) where in some mixed-gender groups, there was a limit to how many men were allowed in the group owing to the high default rates of men. Additionally, there were more stringent terms imposed when men required loans, for example, they required that men have their spouses serve as their guarantors because women ensured that men fully paid back the acquired loan (Mutebi et al. 2017).

Another potential argument is that the nature of savings groups may not be suited to the socio-economic characteristics of men i.e., they more often require bigger loans that the group may not be able to offer. Johnson (2004) makes a similar observation with regard to ROSCAs being less suited to men's financial responsibilities. Moreover, since men usually have alternative forms of savings and sources of credit unlike women, they may not care much for the savings group's activities and may join for different purposes. Some men may join to monitor the activities of the women (Waller 2014). In such instances, this may affect the savings and borrowing behavior of women especially if they do not want the men to have knowledge of the same. For example, women may reduce how much they borrow because they do not want the men to know how much money they have under their control. Anderson and Baland (2002) observe that women keep their participation in informal savings groups secret from their husbands to hide their savings from misuse by the husbands so when men join such groups, it could infringe on the privacy that the women sought and influence their savings and borrowing behavior ultimately affecting the return on savings.

Further, the findings also showed that the gender equality of the country where the group is located exacerbates the observed effect of the gender composition on the group's profit-generating capacity. The findings hence highlight the fact that gender discrimination affects women's ability to participate in economic and social activities. Moreover, the findings also highlight the importance of contextual factors such as culture and norms in achieving results for different interventions (Zhang and Posso 2017).

Conclusion and Suggestions for Future Research

While there are increasing efforts to engage men in gender-focused development projects, little is known about how this influences the effectiveness of the projects. This is particularly true for savings groups which have become a 'darling' for development agencies that are interested in financial inclusion and empowerment through group efforts for people living at the bottom of the pyramid. In this paper, we investigate the relationship between gender composition and the profit-generating capacity of savings groups, i.e., the financial efficiency of groups. We further probe whether this relationship is moderated by the gender equality situation in the country where the savings groups are located. Gender composition is

measured through the proportion of male members, and a dummy variable that shows whether the group is composed of both male and female members or only female members. Profit-generating capacity is measured through the return on savings which measures the wealth created from member savings. Using a large sample of data on 81,853 savings groups in 30 countries, we employ random effects regression analysis to investigate the effects of gender composition on SG profit-generating capacity. We address endogeneity concerns due to simultaneity bias by doing the empirical analysis on observations from only the first cycle of group operations, i.e., the gender composition of the group is decided ex-ante the performance of the group.

Results indicate that there is a negative relationship between gender composition and group profit-generating capacity suggesting that SGs with a higher proportion of male members have a lower return on savings. The results for the dummy variable for the mixed gender group are consistent showing that SGs with both male and female members have a lower return on savings as compared to those that have only female members. Further, results for the interaction term between the gender composition and gender equality variable show that the negative relationship between gender composition and profit-generating capacity is generally made worse in contexts with high gender inequality. These findings are robust to alternative estimation methods and alternative definitions of the gender composition variable. Results from the differences-in-differences robustness estimation further minimize endogeneity concerns.

A couple of recommendations emerge from the study. First, to avoid harming the savings group operational model, practitioners should be aware of the downsides that come with male engagement in SGs and should derive ways of solving them. Male engagement can be an important component in the empowerment of women. However, as seen from the results, having both males and females in the same group has a negative effect on some core aspects of the savings group model. Thus, SG promoters should be wary of this and come up with necessary balancing efforts like for instance gender awareness training and increased monitoring of gender-mixed groups.

Second, development actors should exercise increased contextual caution when implementing programs. Underlying gender norms of the different program areas should be taken into consideration before implementing programs in different areas. This recommendation stems from the observation that the negative relationship between gender composition and SG profit-generating capacity varies with the gender equality of the different countries in which the SGs are located.

Savings groups are often used by development actors to deliver other development initiatives apart from savings and credit. Gender equality dialogue and training is one such initiative that is often delivered through these groups. Further research can show how the effect of gender on group operations is moderated by gender equality training as an add-on. Could such trainings provide a potential solution to the observed negative effect that mixed-gender groups have a lower ROS than groups that are all females?

Future studies are also needed to capture the effect on women which cannot be captured by the current quantitative investigation. Are women changing their

behavior for example in terms of expression during group meetings when men join the groups? The lower ROS for mixed gender groups could signal a change in saving and borrowing behavior among female members when men join the groups. Understanding how women react to men joining the groups will expose the behavioral biases that women may have towards men and with this, solutions can be devised on how the two genders can collaborate for the overall good of the group and individuals in the group.

Moreover, on a more general level, a qualitative investigation may help decipher the reasons why men join SGs and particularly why they would like to be in the same group as women. Do they trust dealing with women more than fellow men? Do they join such groups to monitor activities of the women as suggested by Waller (2014) and have an idea of the financial position of the women? As gender norms paint women as a generally weaker gender in societies with high gender inequality, do the men join female groups to take advantage of the position of women? Do they join such SGs because they are lured by the development agencies, who are interested in driving the gender equality agenda? Are development agencies more interested in the social function of the group as compared to the financial aspect?

Declarations

Conflict of interest No conflicts of interest.

References

Allen, H. 2002. CARE international's village savings & loan programmes in Africa: Microfinance for the rural poor that works.

Anderson, S., and J.M. Baland. 2002. The economics of roscas and intrahousehold resource allocation. *The Quarterly Journal of Economics* 117 (3): 963–995.

Anthony, D. 2005. Cooperation in microcredit borrowing groups: Identity, sanctions, and reciprocity in the production of collective goods. *American Sociological Review* 70 (3): 496–515.

Anthony, D., and C. Horne. 2003. Gender and cooperation: explaining loan repayment in micro-credit groups. *Social Psychology Quarterly* 66: 293–302.

Beaman, L., D. Karlan, and B. Thuysbaert. 2014. *Saving for a (not so) rainy day: A randomized evaluation of savings groups in Mali (No. w20600)*. Cambridge: National Bureau of Economic Research.

Berge, L.I.O., K.S. Juniwaty, and L.H. Sekei. 2016. Gender composition and group dynamics: Evidence from a laboratory experiment with microfinance clients. *Journal of Economic Behavior & Organization* 131: 1–20.

Bouman, F.J. 1995. Rotating and accumulating savings and credit associations: A development perspective. *World Development* 23 (3): 371–384.

Burlando, A., and A. Canidio. 2017. Does group inclusion hurt financial inclusion? Evidence from ultra-poor members of Ugandan savings groups. *Journal of Development Economics* 128: 24–48.

Burlando, A., A. Canidio, and R. Selby. 2016. The economics of savings groups. *International Economic Review*. https://doi.org/10.2139/ssrn.2785033.

Byrne, D.E. 1971. *The attraction paradigm*, vol. 11. Cambridge: Academic Press.

Casey, E., J. Carlson, S. Two Bulls, and A. Yager. 2018. Gender transformative approaches to engaging men in gender-based violence prevention: A review and conceptual model. *Trauma, Violence, & Abuse* 19 (2): 231–246.

Cassidy, R., and M. Fafchamps. 2020. Banker my neighbor: Matching and financial intermediation in savings groups. *Journal of Development Economics* 145: 102460.

Chen, J., W.S. Leung, and M. Goergen. 2017. The impact of board gender composition on dividend payouts. *Journal of Corporate Finance* 43: 86–105.

Colpitts, E. 2019. Engaging men and boys to prevent gender-based violence in South Africa: Possibilities, tensions, and debates. *Canadian Journal of Development Studies/revue Canadienne D'études Du Développement* 40 (3): 423–439.

Croson, R., and U. Gneezy. 2009. Gender differences in preferences. *Journal of Economic Literature* 47 (2): 448–474.

D'Espallier, B., I. Guérin, and R. Mersland. 2011. Women and repayment in microfinance: A global analysis. *World Development* 39 (5): 758–772.

D'Espallier, B., I. Guerin, and R. Mersland. 2013. Focus on women in microfinance institutions. *The Journal of Development Studies* 49 (5): 589–608.

Eboh, E.C. 2000. Rural informal savings and credit associations as risk managers and the lessons for the design and execution of rural credit schemes in Nigeria. *African Development Review* 12 (2): 233–262.

Edwards, S. 2017. Why include men and boys in the fight for gender equality? https://www.devex.com/news/why-include-men-and-boys-in-the-fight-for-gender-equality-90245

Enimu, S., E.O. Eyo, and E.A. Ajah. 2017. Determinants of loan repayment among agricultural microcredit finance group members in Delta state, Nigeria. *Financial Innovation* 3 (1): 21.

Flood, M. 2011. Involving men in efforts to end violence against women. *Men and Masculinities* 14 (3): 358–377.

Flood, M. 2019. *Engaging men and boys in violence prevention*. New York: Springer.

Gonzales Martinez, R. 2020. Which social program supports sustainable grass-root finance? Machine-learning evidence. *International Journal of Sustainable Development & World Ecology* 27 (5): 389–395.

Grant, W.J., and H.C. Allen. 2002. CARE's mata masu dubara (women on the move) program in Niger: Successful financial intermediation in the rural Sahel. *Journal of Microfinance/ESR Review* 4 (2): 10.

Guérin, I. 2011. The gender of finance and lessons for microfinance. *The Handbook of Microfinance* 589: 612.

Gupta, J., K.L. Falb, H. Lehmann, D. Kpebo, Z. Xuan, M. Hossain, C. Zimmerman, C. Watts, and J. Annan. 2013. Gender norms and economic empowerment intervention to reduce intimate partner violence against women in rural Côte d'Ivoire: A randomized controlled pilot study. *BMC International Health and Human Rights* 13 (1): 1–12.

International Center for Research on Women. 2019. Women's economic empowerment: The unintended consequences. https://www.icrw.org/wp-content/uploads/2019/09/Brief-Unintended-consequences_revised-Sept-9.pdf

Jianakoplos, N.A., and A. Bernasek. 1998. Are women more risk-averse? *Economic Inquiry* 36 (4): 620–630.

Johnson, S. 2004. Gender norms in financial markets: Evidence from Kenya. *World Development* 32 (8): 1355–1374.

Kabeer, N. 2005. Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender & Development* 13 (1): 13–24.

Karlan, D., B. Savonitto, B. Thuysbaert, and C. Udry. 2017. Impact of savings groups on the lives of the poor. *Proceedings of the National Academy of Sciences* 114 (12): 3079–3084.

Kevane, M., and B. Wydick. 2001. Microenterprise lending to female entrepreneurs: Sacrificing economic growth for poverty alleviation? *World Development* 29 (7): 1225–1236.

Kinkingninhoun-Mêdagbé, F.M., A. Diagne, F. Simtowe, A.R. Agboh-Noameshie, and P.Y. Adégbola. 2010. Gender discrimination and its impact on income, productivity, and technical efficiency: Evidence from Benin. *Agriculture and Human Values* 27 (1): 57–69.

Lata, L.N., P. Walters, and S. Roitman. 2020. The politics of gendered space: Social norms and purdah affecting female informal work in Dhaka, Bangladesh. *Gender, Work & Organization.* 28 (1): 318–336.

Le Polain, M., O. Sterck, and M. Nyssens. 2018. Interest rates in savings groups: Thrift or threat? *World Development* 101: 162–172.

Ledgerwood, J. 1999. *Sustainable banking with the poor microfinance handbook*. Washington: The World Bank.

Mia, M.A., L. Dalla Pellegrina, and W.Y. Wong. 2022. Female participation and financial performance of microfinance institutions: Evidence from transition economies. *Development Policy Review* 40: e12602.

Moret, W., M. Swann, and L. Lorenzetti. 2020. What happens when savings groups grow up? Examining savings group sustainability and perceived long-term benefits. *Development in Practice* 31: 1–15.

Mutebi, A., R. Muhumuza Kananura, E. Ekirapa-Kiracho, J. Bua, S. Namusoke Kiwanuka, G. Nammazi, L. Paina, and M. Tetui. 2017. Characteristics of community savings groups in rural Eastern Uganda: Opportunities for improving access to maternal health services. *Global Health Action* 10 (sup4): 1347363.

Nagarajan, G., R.L. Meyer, and D.H. Graham. 1999. Does membership homogeneity matter for group-based financial services? Evidence from the Gambia. *African Development Review* 11 (1): 87–102.

Ojong, N. 2014. Credit unions as conduits for microfinance delivery in Cameroon. *Annals of Public and Cooperative Economics* 85 (2): 287–304.

Ruane-McAteer, E., A. Amin, J. Hanratty, F. Lynn, K.C. van Willenswaard, E. Reid, R. Khosla, and M. Lohan. 2019. Interventions addressing men, masculinities and gender equality in sexual and reproductive health and rights: An evidence and gap map and systematic review of reviews. *BMJ Global Health* 4 (5): e001634.

Schwittay, A. 2019. Designing urban women's safety: An empirical study of inclusive innovation through a gender transformation lens. *The European Journal of Development Research* 31 (4): 836–854.

SEEP Network. 2016. Delivering formal financial services to savings groups: A handbook for financial service providers. https://mangotree.org/files/galleries/1752_SEEP_Delivering-Formal-Financial-Services-to-SGs_A-Handbook-for-FSPs-FINAL-20170407.pdf

Sharma, M., and M. Zeller. 1997. Repayment performance in group-based credit programs in Bangladesh: An empirical analysis. *World Development* 25 (10): 1731–1742. https://doi.org/10.1016/S0305-750X(97)00063-6.

Shohel, T.A., S. Niner, and S. Gunawardana. 2021. How the persistence of patriarchy undermines the financial empowerment of women microfinance borrowers? Evidence from a southern sub-district of Bangladesh. *PLoS ONE* 16 (4): e0250000.

Shohel, T.A., S. Niner, and S.J. Gunawardana. 2022. 'Even though I get a loan, my husband controls it': Rhetoric versus reality of empowering Bangladeshi women through microfinance programs. *The European Journal of Development Research*. https://doi.org/10.1057/s41287-022-00539-9.

Slegh, H., G. Barker, A. Kimonyo, P. Ndolimana, and M. Bannerman. 2013. 'I can do women's work': Reflections on engaging men as allies in women's economic empowerment in Rwanda. *Gender & Development* 21 (1): 15–30.

Slover, C.H. 1991. The Effect of Membership Homogeneity on Group Size, Funds Mobilization, and the Engenderment of Reciprocal Obligations among Informal Financial Groups in Rural Zaire.

Stern, E., L. Pascoe, T. Shand, and S. Richmond. 2015. Lessons learned from engaging men in sexual and reproductive health as clients, partners, and advocates of change in the Hoima district of Uganda. *Culture, Health & Sexuality* 17 (sup2): 190–205.

Stevens, E. 2018. Happiness in a land of sorrow: See how Saving for Change is making a difference in Darfur. https://www.oxfamamerica.org/explore/stories/happiness-in-a-land-of-sorrow-saving-for-change-in-darfur/

Stuart, E.A., and D.B. Rubin. 2008. Best practices in quasi-experimental designs. In *Best Practices in Quantitative Methods*, ed. Jason Osborne, 155–176. London: SAGE.

Subašić, E., S. Hardacre, B. Elton, N.R. Branscombe, M.K. Ryan, and K.J. Reynolds. 2018. "We for She": Mobilising men and women to act in solidarity for gender equality. *Group Processes & Intergroup Relations* 21 (5): 707–724.

Tajfel, H. 1972. La catégorisation sociale Social categorization. In *Introduction à la psychologie sociale*, ed. S. Moscovici, 272–302. Paris: Larousse.

Tajfel, H. 1978. Differentiation between social groups.

Vossenberg, S. et al. 2018. Beyond access: Exploring gender-transformative approaches to financial inclusion. International Development Research Centre. https://idl-bnc-idrc.dspacedirect.org/handle/10625/57156

Waller, M.K. 2014. Empowering women through savings groups: A study from the Wellness and Agriculture for Life Advancement (WALA) Program. https://www.crs.org/sites/default/files/tools-research/empowering-women-through-savings-groups.pdf

Wheaton, A. 2019. Where are the men? How male engagement in savings groups can contribute to financial inclusion and women's empowerment. https://mangotree.org/files/galleries/SEEP_Savings-Groups-and-Male-Enagement_20191207.pdf

Zhang, Q., and A. Posso. 2017. Microfinance and gender inequality: Cross-country evidence. *Applied Economics Letters* 24 (20): 1494–1498.