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WP 2015: 3

February 2015

[1] **Ivar Kolstad**: Chr. Michelsen Institute, P.O.Box 6033 Postterminalen, N-5892 Bergen, Norway. Phone: +47 47 93 81 22. Fax: +47 55 31 03 13. E-mail: ivar.kolstad@cmi.no **Garcia Pires**: Centre for Applied Research at NHH (SNF), e-mail: armando.pires@snf.no **Arne Wiig**: Chr. Michelsen Institute, P.O.Box 6033 Postterminalen, N-5892 Bergen, Norway. Phone: +47 47 93 81 23. Fax: +47 55 31 03 13. E-mail: arne.wiig@cmi.no. The authors thank Development Workshop for facilitating data collection.

Abstract

The effect of within-group heterogeneity on the survival of social groups is theoretically ambiguous. A greater diversity of ideas, experience, and networks can have a positive effect on members' benefits from group membership, but diversity also creates a potential for conflict. This paper presents an analysis of the exit of microcredit groups, using data from Angola. The results suggest that group fragmentation in terms of social identities, or more specifically religious fractionalization, is associated with a greater probability of group exit. Results for within-group economic inequality suggest, however, that inequality is associated with a decrease in the probability of exit, but at a diminishing rate.

Contents

1. Introduction

Some social groups we are born into, such as ethnic groups, others we form or become part of during our lifetime. For groups that we become part of during our lifetime, a basic rationale is that we try to realize collectively what we cannot achieve individually. There are many examples of groups that we become part of for reasons such as these, from business associations, to unions, civil society organizations like charities or environmental organizations, resident's associations, savings and investment groups, self-help groups and more. They can be formed by individuals, households, businesses, regions, or countries. Typical for these groups is that they try to realize some public good for their members. This means that the possibility of free riding is a central challenge to the formation and continued existence of these groups, and hence to how well and for how long a group can realize the public good for its members.

In keeping a group together, a key question is how advantageous or disadvantageous it is that the members of the group are different in their characteristics and background. In other words, how is the interaction and continued existence of a group affected by heterogeneity within the group. The answer to this is not obvious, more heterogeneous groups may have members with complementary skills and networks, which may lead a group to prosper, which may give each member more of an incentive to keep the group together. On the other hand, greater heterogeneity in a group means that there could be less solidarity or trust between members, or make it more difficult for members to monitor or sanction free riding, which could lead a group to collapse more easily.

This paper analyzes the relationship between group heterogeneity and group survival, or more precisely, group disbandment or exit. We analyze two forms of heterogeneity within groups: i) in terms of social identity differences, such as religious differences, and ii) economic heterogeneity or inequality. We find that both appear to matter for group exit, but in different ways. Religious fragmentation is associated with greater group exit, but inequality is associated with lower probabilities of group collapse, at least up to a point.

Our empirical analysis uses data on credit groups from a microcredit institution in Angola. Micro-credit typically entails small loans being granted to poor individuals organized in credit groups. In these credit groups, each group member is jointly responsible for repaying the loans of the other group members, offering an alternative to collateral for borrowers who are too poor to put up any. Micro-credit groups are a good example of groups that are formed to realize collectively what cannot be achieved individually, in this case, continued access to credit is the public good for the group members, and non-repayment is a possible free-riding strategy. We analyze how initial heterogeneity in the micro-credit groups are related to their subsequent survival or exit.

Our analysis adds empirical evidence to the theoretical literature on group cohesion. Akerlof (1997) develops the social distance theory and argues that when individuals in a group are similar in terms of social characteristics (like income, education, ethnicity, and so on), these groups have more cohesion because individuals suffer a strong penalty from severing ties with like-minded people. In addition, group identity makes people belonging to the same social group develop similar tastes and objectives, which facilitates cooperation and coordination. Relevant is also Tiebout's (1956) "voting-with-the-feet" model. According to Tiebout's model, an individual that is not satisfied with a situation in a group can just leave the group, which can put at risk the existence of the group and of its purposes and aims. The presence of this "threat" can lead groups to try to accommodate the position of different individuals in a group. The corollary of this is that groups with members that have similar objectives and preferences tend to be more stable. Our contribution in relation to this literature is to show that the form of homogeneity or heterogeneity may matter for the continued existence of groups. In particular, social identity heterogeneity and economic inequality may have different implications for how well a group performs. We also explore some tentative mechanisms for why groups with greater social identity fragmentation exhibit a higher probability of exit, and why inequality to some extent seems to keep groups together.

In similar ways, our analysis adds to previous empirical analyses of group heterogeneity and cohesion. Lehrer and Chiswick (1993) find that a marriage is more stable when spouses are of the same religion. Isaacs and Laband (1999) analyze how homogeneity of a population in a given geographic area affects the stability of religious groups in this region. They find that in more homogenous regions, religious groups tend to be more constant. Moreover, investment in public goods tends to be higher in homogeneous communities, as suggested by Habyarimana et al. (2007).

The experimental literature also gives some hints on the role of heterogeneity on group dynamics and composition. Smith (2011), for instance, finds that group identity has a positive in-group and negative out-group effects on trust. In turn, Chen and Li (2009) show support for the hypothesis that individuals are more altruistic towards individuals belonging to the same group. In fact, in their experiment, individuals were more likely to choose social-welfare-maximizing actions when matched with an individual from the same group. In the same way, Charness et al. (2007) demonstrate that group membership affects preferences over outcomes. Our results confirm that homogeneity in terms of social identity seems to be important for keeping groups stable, and that an important mechanism in this respect is the advancement of trust and altruism. However, for economic heterogeneity, we find a more complex relationship with group cohesion.

Our paper also contributes to the literature on micro-finance. Development practitioners see microcredit as successful in bringing capital to poor people in developing countries, and in raising living standards

of the poor. Systematic evaluations are more critical of the positive impact of microfinance (see for instance Morduch, 1999; and Armendáriz de Aghion and Morduch, 2005). As a result, recent literature has put the emphasis on analyzing the conditions under which microcredit is likely to have the intended effects (see Berge et al., 2014, 2015). However, the role of group exit has been given limited attention in this respect, which is surprising given the emphasis on group loans and joint liability in microcredit approaches. In fact, while there is a large literature on factors that lead to the success or failure of micro entrepreneurs (see de Mel et al., 2007, 2008, 2009), there is a lack of literature on factors leading to the exit of groups. Paradoxically, the formation of groups is much better recorded in official data than their closure (see for instance Baland et al., 2007).

In addition, note also that of the scholarly works that do address the question of exit, most do not analyze the role of group heterogeneity. See for example, Epstein and Yuthas (2013); Pagura (2003); Siliki (2013); Evans, et al. (1999); Painter and MkNelly (1999); and Simanowitz (1999). However, Baland et al. (2007) analyze social heterogeneity in collective action in microcredit groups in India. They find that fractionalization and social heterogeneity based on caste in India did not have any significant effects on group survival, but do explain the departure of individuals from the group. We add to the limited literature on group survival and exit in micro-finance, and note that while our results on social identity are consistent with the individual exit results found by Baland et al. (2007), we add an analysis of the relation between economic inequality and group exit.

The purpose of this paper is thus to analyze the relationship between within-group heterogeneity of different forms, and group stability, survival and exit. The paper is structured as follows. Section 2 places the analysis in the context of the existing literature. Section 3 presents the data and empirical approach. The results are presented in Section 4, with a discussion of possible mechanisms linking heterogeneity and group exit. Section 5 concludes.

2. Conceptual framework

We can consider two main reasons for why groups are disbanded. The first has to do with graduation, membership in a group may over time put some or all members of the group in a better position, where they no longer need the group. Many types of groups are intended to be temporary, to help their members move on from their current situation or attain some common objective, after which the group has fulfilled its function. Micro-credit groups are essentially based on this rationale, they should promote access to capital and reduce poverty to an extent where the members can put up their own collateral and apply for standard individual loans. A group being closed down through graduation is therefore not necessarily bad. However, this of course depends on whether graduation on an individual level is highly asymmetric, if one critically important member graduates, leaving the rest of the members unable to keep the group going and generate enough resources to graduate themselves, this can have negative overall effects.

The other main reason that we can consider for why groups are disbanded is if they are or become dysfunctional and break down. This can manifest itself in many ways, through opportunism, a lack of trust, solidarity, altruism, and so on. Free riding is a central problem here, but groups can also break down for more innocuous reasons, such as coordination problems. A key variable likely to affect free riding is the size of the group. Olson (1965) shows that the larger the group, the less it will be able to favor its common interests. This is the traditional free rider argument, where free riding is increasing in the number of members in the group. Transaction costs are also higher in larger groups. Meetings for instance take a longer time. Both factors make it reasonable to expect that larger credit groups can more easily break down. While not the focus of our analysis, this makes it important to control for group size when analyzing other determinants of group exit, we therefore include this covariate in all specifications.

The focus of our analysis is on how different kinds of within-group heterogeneity are related to group exit. We distinguish between heterogeneity in terms of social identity and economic heterogeneity. In terms of social identity, we focus on religious fractionalization, but we also consider other forms, such as ethnic and linguistic fractionalization. In terms of economic heterogeneity, we focus mainly on household income, but we also explore differences in education and other variables. Given the above discussion on the different reasons for groups being disbanded, it also becomes important to understand the mechanisms through which heterogeneity affects group exit. This is so because the effects on members are likely to differ between cases of universal graduation, asymmetrical graduation, and group collapse.

In particular, following the arguments of Akerlof (1997) and Tiebout (1956), and the results of the previous empirical studies of group cohesion cited in the introduction, one hypothesis is that groups that are similar in terms of tastes, ethnicity, or religion are more coherent and therefore faced with less conflict and more trust. One will also expect that transaction costs are lower within homogenous groups. It is also easier to impose sanctions if all are coming from the same social network. One will accordingly expect that social identity heterogeneity within a group will lead to more exit, and that the likely mechanism is that group interaction becomes less functional. This is the hypothesis we explore in our analysis of social identity differences within groups. It is not obvious, however, that more heterogeneous groups in this sense will be less functional. In fact, group members in such groups may be able to draw on a more diverse set of networks and resources than more homogeneous group, consistent with the "strength of weak ties" argument of Granovetter (1973).

For inequality, one may similarly pose a question of whether it helps groups to stay together or has the opposite effect. The social distance theory of Akerlof (1997) includes income as a possible basis for distance perceptions, with the implication that members in more unequal groups may perceive themselves to be less in the same boat, with negative implications for group survival. Furthermore, as noted by Putman (1993), horizontal social networks or networks with similar status and power are more effective in generating trust than vertical networks. While we explore possible effects of initial inequality between group members, it is possible that these also reflect unequal benefits derived from the group, which can have an effect on exit probabilities. If for instance those with the highest benefits are the ones with the highest outside option, they are more likely to exit after exhausting a common resource (see for instance Banerjee et al., 2007 and Wiig, 1997).

At the same time, unequal distribution of benefits discourages poorer individuals from participating in the group and increase the transaction costs in conflict management and costs of negotiation (Bardhan et al 2007:55). On the other hand, Olson (1965)[2] suggests that inequality promotes cooperation by increasing the likelihood that a few wealthy individuals will be able to capture enough of the benefit to induce them to provide the public good independently of the actions of the others. If the benefits of access to credit are captured by the wealthy, their strong stake will make them play an important role in holding the group together. For the micro-credit groups considered here, this may be unlikely since there is usually a cap on how much individual members can borrow. However, a further possibility is that income inequality makes for groups that are more dynamic, hence they may be more successful in raising average outcomes for members. Income inequality will accordingly reduce the likelihood of exit. We

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[2] Quoted from Baland et al. (2007).

explore the relation between inequality and group exit, and possible mechanisms linking the two in more detail below.

3. Data and methodology

To shed light on the relation between within-group heterogeneity and group survival, we use survey data from microcredit groups in Angola. In February and March 2010, we interviewed 539 respondents of 51 credit groups in the capital Luanda. The respondents were clients of KixiCrédito, the largest non-commercial microcredit institution in Angola.[3] KixiCrédito clients are organized in solidarity groups, where clients have joint liability for loans. Clients were interviewed in Portuguese by local enumerators, at their bi-weekly credit group meetings. From this survey, we have a rich data set on individual and group characteristics. In April 2014, we revisited the same microcredit institution, to collect data on the fate of the 51 credit groups from the 2010 survey. Of these groups, 19 were no longer in existence at this time. To better understand why some groups exit, what the characteristics are that are associated with a high probability of a group being disbanded, and in particular whether exit probability is related to within-group heterogeneity, we regress exit on group characteristics as captured in the original 2010 survey.

We stress that our analysis is descriptive, and does not necessarily capture causal relations between within-group heterogeneity and group exit. A number of underlying and unobserved reasons can explain why some groups become more heterogeneous and have a higher probability of exit. In fact, individuals self-select into the type of group we are studying here, making selection on unobservables a distinct possibility. One possibility is that clients might prefer forming groups with those that are similar to themselves. It is then possible that the most able clients stand the best chance of being included into a group of their own preference. This leaves the least able only with the possibility of joining mixed groups. If this is the case, the resulting negative correlation between group heterogeneity and performance/exit may reflect underlying ability of the members of the group, rather than an effect of heterogeneity on survival. Our results are robust to a number of variables reflecting ability, such as profitability in business operations and level of education. Even so, we cannot rule out that there are other unobserved variables that bias our estimates. We also note that with 51 groups, we have relatively few observations on which to base our analysis. We nevertheless see our descriptive findings as useful in posing and discussing possible hypotheses on links between group heterogeneity and exit.

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[3] Established in 1999, KixiCrédito has a total of 8600 active clients in 12 branches across the country (African Development Bank, 2010).

We estimate a linear probability model as our main approach, following Angrist and Pischke (2009), but show that our results are robust to using a probit model. Equation (1) presents our main specification.

$$Exit_g = \alpha + \boldsymbol{X_g}\boldsymbol{\gamma} + \varepsilon_g \qquad\qquad (1)$$

Our dependent variable $Exit_g$ is a dummy indicating whether credit group g has closed down between 2010 and 2014. This is regressed on a vector of group level variables, $\boldsymbol{X_g}$, all measured in 2010. The details of the variable included in our main specification are presented in Table 1. We control for group size (the number of members in each group) in all estimations, and also include the squared term to capture any non-linear pattern. As our main measure of within-group heterogeneity in terms of social identity, we compute a religious fractionalization index for each group g following Alesina et al. (2003), which equals one minus the Herfindahl index of the share s_{rg} of individuals in each credit group that belongs to a certain religion r:

$$Religious\ fractionalization_g = 1 - \sum_{r=1}^{N} s_{rg} \qquad\qquad (2)$$

The index is based on the shares of group members for five religious categories, no religion (constituting about 2 per cent of all 539 clients), Catholicism (27 per cent), Protestantism (29 per cent), traditional religions (1 per cent), and other religions (41 per cent).

As our measure of within-group heterogeneity in economic terms, we compute a Gini index for each group based on the members' reported household income for the previous week. We also include the squared Gini index in some specifications to capture non-linear effects. As an additional covariate, we include the average number of people (outside of the household) that the credit group members employ in their businesses. This variable captures the scale of activities in the group, a larger scale could reflect either a more profitable business or a higher level of risk, both of which can be related to group exit.

Our results are robust to a number of other covariates. These include: alternative measures of average scale of activities (such as profits or sales or loan size); the average and variability of other characteristics of members (such as education, health, household head status and business experience); other measures of group composition and heterogeneity (including gender composition, ethnic and linguistic fractionalization, average levels of within-group trust and extent of networks of the members); and also measures of in-group favoritism constructed from data on a dictator game performed on the clients in 2010. For details, see Kolstad and Wiig (2013a). As none of these other variables displayed a robust significant relationship with group exit, we do not report these results here.

TABLE 1. MAIN VARIABLES

Variable	Explanation
Dependent variable	
Exit	Dummy = 1 if group has ceased to exist by 2014
Independent variables	
Groupsize	Number of members in group in 2010
Employees	Average number of employees of group members in 2010
Religious fractionalization	Fractionalization index in 2010 (higher values indicate that group members are more diverse in terms of religion)
Inequality	Gini coefficient for within-group inequality in household income in 2010

Descriptive statistics for our main variables are presented in Table 2. Of the 51 credit groups included in the survey in 2010, 19 groups or more than a third had ceased existing by 2014. The group size variable shows some variation, with an average of about 11 members. The businesses the group members operate are in general small, the mean of average employees is 0.33 suggesting three employees shared among the eleven members in a typical group, and the median (not reported in Table 2) is one employee shared among the group members. The religious fractionalization index with five religions in principle runs from zero to 0.8, and the descriptive statistics show substantial variation in within-group heterogeneity along this social identity dimension. The Gini inequality index similarly shows that groups are highly different with respect to their degree of economic heterogeneity.

TABLE 2. DESCRIPTIVE STATISTICS

Variable	Obs	Mean	Std. dev.	Min	Max
Exit	51	0.37	0.49	0	1
Groupsize	51	10.57	4.50	4	22
Employees	51	0.33	0.72	0	4.38
Religious fractionalization	51	0.50	0.16	0	0.70
Inequality	51	47.11	17.76	10.83	86.71

4. Results

The main results from our empirical analysis are presented in Table 3. The first column starts with a base specification including only the group size variables as explanatory variables for exit. The subsequent columns add average activity size (employees) of the group, religious fractionalization, and inequality and its square. The group size variables are insignificantly related to exit in all estimations, nor are they jointly significant at conventional levels, as seen in the p-value of the relevant F-test presented in the penultimate row of the table. For our main variables of interest, within-group heterogeneity in terms of social identity (religious fractionalization) is significantly and positively related to exit. More diversity in terms of religion in a group is hence associated with a higher probability of group exit. This result becomes stronger in the last two columns where we control for economic inequality within groups, suggesting that it may be important to condition on economic differences when analyzing effects of social identity heterogeneity. As seen in these two columns, within-group economic inequality is also strongly associated with exit. This relationship is non-linear, while neither inequality coefficient in the last column is individually significant, this is due to their high correlation. The p-value for the F-test that they are both zero is reported in the last row of the table, and shows that they are jointly significant.

Based on the coefficients, the probability of exit goes down as inequality increases from a low level, with a turning point of about 85 on the Gini index. This suggests that exit probability decreases with within-group inequality for relevant levels of inequality (the maximum level of inequality in our sample is 86.71), but at a diminishing rate. In other words, inequality increases chances of group survival, but only up to a point. This result is robust to controlling for the average income levels of the groups, and so does not reflect the low inequality groups being composed of only poor individuals. Finally, for the size of activity variable (employees) there is a significantly positive relation with exit.

TABLE 3. MAIN RESULTS, OLS

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5
Dependent variable	*Exit*	*Exit*	*Exit*	*Exit*	*Exit*
Groupsize	0.042	0.020	0.011	0.075	0.090
	(0.07)	(0.07)	(0.06)	(0.07)	(0.06)
Groupsize - squared	-0.002	-0.001	-0.001	-0.003	-0.004
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Employees		0.183***	0.172***	0.145***	0.140***
		(0.05)	(0.05)	(0.05)	(0.04)
Religious fractionalization			0.700*	0.868**	0.878**
			(0.41)	(0.37)	(0.35)
Inequality				-0.010***	-0.027
				(0.00)	(0.02)
Inequality - squared					0.000
					(0.00)
Constant	0.235	0.288	0.014	0.016	0.314
	(0.39)	(0.37)	(0.37)	(0.36)	(0.61)
R-sq.	0.026	0.098	0.147	0.250	0.265
N	51	51	51	51	51
p-value groupsize terms	0.234	0.393	0.201	0.216	0.194
p-value inequality terms					0.033

*Robust standard errors in parentheses. *** indicates significance at the 1% level, ** at 5%, * at 10%.*

Table 4 reports results from the corresponding probit estimations. Our main results are robust to this change in estimator. Within-group religious fractionalization has a significantly positive relation to group exit, at least when controlling for within-group economic inequality. The same non-linear relationship is found between economic inequality and exit as in the linear probability model, here the turning point is about 96 on the Gini index. Group size is not significantly related to exit. While the point estimate of the employment coefficient is positive, it is not significant in most of the probit estimations.

TABLE 4. RESULTS, PROBIT

	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5
Dependent variable	*Exit*	*Exit*	*Exit*	*Exit*	*Exit*
Groupsize	0.150	0.076	0.057	0.274	0.317
	(0.20)	(0.20)	(0.21)	(0.24)	(0.25)
Groupsize - squared	-0.008	-0.005	-0.005	-0.012	-0.014
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Employees		0.720*	0.765*	0.839	0.789
		(0.37)	(0.44)	(0.52)	(0.53)
Religious fractionalization			2.302	3.212**	3.234**
			(1.59)	(1.50)	(1.46)
Inequality				-0.035**	-0.076
				(0.01)	(0.07)
Inequality - squared					0.000
					(0.00)
Constant	-0.853	-0.705	-1.700	-1.913	-1.239
	(1.11)	(1.09)	(1.23)	(1.32)	(1.92)
R-sq.	0.023	0.085	0.131	0.229	0.237
N	51	51	51	51	51
p-value groupsize terms	0.368	0.534	0.307	0.378	0.342
p-value inequality terms					0.028

Robust standard errors in parentheses. *** indicates significance at the 1% level, ** at 5%, * at 10%.

There are several possible explanations for the finding that exit probabilities increase with religious fractionalization of the groups. One is that fractionalization in terms of identities increases conflict or distrust between group members, or reduces solidarity or willingness to contribute to the public good of continued loan access for the group. Another possibility is that being in a diverse group provides members with more skills and networks that make them more productive and more likely to leave as they no longer depend on the group or the microcredit institution to do well. In short, fractionalization could make groups exit through default or through graduation. Our data on the groups permits some analysis of these possibilities. We do not find that being in a more diverse group correlates with being in a group that has networks that are more extensive. Graduation hence does not seem to be a likely reason behind the breakdown of socially diverse groups.

There is instead a suggestion in our data that diversity in terms of social identity has a negative relation to solidarity or altruism in our groups. In the 2010 survey, we conducted a dictator game in two variants, one where the clients were given a sum of money and asked to decide how much to transfer to another group member, and one where they were given the same sum and asked to decide how much to allocate to someone outside their group. Comparing the sums allocated to a group member and to an outsider gives us an indicator of in-group favoritism, i.e. the extents to which individuals give priority to their fellow group members over outsiders. In other words, it gives us a measure of within-group solidarity or altruism. The religious fractionalization index turns out to be highly negatively correlated with the proportion of group members who practice in-group favoritism, i.e. who give more to a fellow group member than to an outsider. Including in-group favoritism in our main equation for exit reduces the

coefficient for religious fractionalization, if only marginally. In sum, there is some suggestion that diversity in this sense does not improve group interaction or the chances of group survival in our setting.

In principle, the higher exit rates of more economically equal groups could be explained by graduation if being in an egalitarian group is somehow connected to doing well. However, this does not seem to be the case. As noted, controlling for the average income of groups does not alter the result for inequality, suggesting that neither economically equal groups being composed of particularly rich or particularly poor individuals explains their higher exit rates. Instead, we have some evidence that groups with a higher level of inequality are more dynamic, since average profits tend to increase with inequality in a group, at a diminishing rate. Another explanation could be within-group variation in our income measure, which admittedly is short-term, captures more the temporal variation in or riskiness of any group's income, where groups with substantial variability create solidarity norms or mutual insurance mechanisms to counteract this. Looking at the data from the dictator game discussed earlier, there is a clear tendency that as income inequality increases, a lower proportion of group members choose to transfer no money to their own group member, i.e. a lower proportion acts completely selfishly. This relationship between inequality and in-group altruism also diminishes with the level of inequality, suggesting that in high inequality groups these types of norms or activities may be harder to sustain. Given our data, it is however difficult to further distinguish between these mechanisms of dynamism and mutual support that could link inequality and exit.

In addition, we cannot rule out other unobserved variables that drive the relationships between religious fractionalization, inequality, and exit. The same is possible for the other covariates of our analysis. Based on a free-rider argument, one would expect larger groups to break down more easily, but we find no significant relation between group size and exit. Of course, group size is an endogenous variable here. If for instance better able individuals are better able to manage and hold larger groups together, this form of unobserved ability could lead ordinary least squares results to underestimate the effect of group size on exit. The larger groups in our sample then tend to continue to exist with equal probability as small groups because of differences in ability of the members, but this does not imply that group size does not have a causal impact on exit probabilities. For the final covariate, our size of activity variable (average number of employees of the members), it is not obvious what to expect in terms of exit. The size of activity could reflect success, which could keep the group together but also make the members less dependent on the group. Another possibility is that this could reflect greater risk taking, which could put the group in greater jeopardy of default. We find a positive relationship between size of activity and exit, and since a previous study using the same data shows no significant effect of employment on profitability of individuals (Kolstad and Wiig, 2013b), this suggests that the relation may be due to more

risk taking. Alternatively, it could also reflect other unobserved variables driving both size of activity and exit.

In the context of our study, it was hard to track clients of groups that have collapsed. For a small, non-representative sample of clients of the groups that have exited, we have qualitative information on the reasons. These range from default, insufficient opportunities to employ the capital well, bad group interaction and sometimes default or fraud on the part of some members, to finding other sources of finance. At best, these qualitative data provides some examples of the mechanisms we have explored above. However, the reasons provided are often proximate causes of group collapse, not the real underlying challenges. There is for instance likely an underlying reason that bad group interaction or fraud occurs within certain groups and not others. The main part of our analysis has therefore tried to elicit some of these underlying reasons, by looking at the link between objective group characteristics and group exit.

5. Concluding remarks

This paper examines the relationship between within-group heterogeneity and group survival. The results indicate that more diverse groups in terms of social identity (in our case religious affiliation) have a greater probability of exit than more homogeneous groups. However, more diverse groups in terms of income tend to have a lower probability of exit, but at a diminishing rate as inequality grows larger. It seems likely that diversity in social identity in our case is related to impaired in-group interaction, a loss of solidarity. Inequality on the other hand may be related to group dynamism and norms of mutual aid or insurance, at least up to a point.

We stress, however, that our results are descriptive, and that the relations uncovered may reflect other unobserved variables driving both group heterogeneity and exit. There is nevertheless an indication here that when looking at the effect of group heterogeneity on group dynamics, it may be important to distinguish between different forms of heterogeneity, to separate diversity in social identity from economic inequality. It should also be noted that even if greater diversity with respect to social identity should come with a greater risk of group collapse, this does not mean that greater interaction between diverse individuals is not desirable in a wider perspective. Nor is inequality necessarily a good thing even if it proves to bind groups together.

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The effect of within-group heterogeneity on the survival of social groups is theoretically ambiguous. A greater diversity of ideas, experience, and networks can have a positive effect on members' benefits from group membership, but diversity also creates a potential for conflict. This paper presents an analysis of the exit of microcredit groups, using data from Angola. The results suggest that group fragmentation in terms of social identities, or more specifically religious fractionalization, is associated with a greater probability of group exit. Results for within-group economic inequality suggest, however, that inequality is associated with a decrease in the probability of exit, but at a diminishing rate.