

Theo yêu cầu của khách hàng, trong một năm qua, chúng tôi đã dịch qua 16 môn học, 34 cuốn sách, 43 bài báo, 5 sổ tay (chưa tính các tài liệu từ năm 2010 trở về trước) Xem ở đây

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Liên hệ dịch tài liệu :

thanhlam1910_2006@yahoo.com hoặc frbwrthes@gmail.com hoặc số 0168 8557 403 (gặp Lâm)

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Empowerment Through Microfinance: The Relation Between Loan Cycle and Level of Empowerment	Summary. — Does microfinance support the empowerment of female borrowers? Results of studies	Trao quyền nhờ Tài chính vi mô: Mối liên hệ giữa chu kỳ vay và mức độ trao quyền
		Tóm tắt. –Liệu tài chính vi mô có hỗ trợ việc trao quyền cho những khách vay nữ hay không? Những kết quả từ

analyzing microfinance and empowerment delivered mixed results. In order to explore whether microfinance influences empowerment, the paper compares women in higher loan cycles of a Pakistani microfinance institution with those in the first loan cycle regarding their empowerment. Using a survey and multivariate statistical methods, such as propensity score matching, the study found that women in higher loan cycles were on a higher level of empowerment. We conclude that microfinance has an impact on the empowerment of female borrowers.

1. BACKGROUND

Empowerment is not only discussed in the context of microfinance but generally in a development context (Charmes & Wieringa, 2003; Mosedale, 2005) and especially in relation to women empowerment. Some scholars and practitioners argue that microfinance leads to empowerment of whole nations or of marginalized groups. Though microfinance and empowerment are intensively discussed in the academic literature, however, the connection is still unclear and need further empirical analysis. Consequently, this paper will focus on women empowerment and microfinance based on a study conducted in Pakistan.

Therefore, we describe the current status of rural women in Pakistan, policies regarding women empowerment, and the role of microfinance program.

các nghiên cứu phân tích liên hệ giữa tài chính vi mô và trao quyền khá phức tạp. Để xác định liệu tài chính vi mô có ảnh hưởng tới việc trao quyền không, nghiên cứu này so sánh mức độ trao quyền giữa nhóm những phụ nữ Pakistan có chu kỳ cho vay cao hơn với nhóm những phụ nữ trong chu kỳ vay đầu tiên. Bằng cách sử dụng một khảo sát và nhiều phương pháp thống kê đa biến, như phương pháp kết nối điểm xu hướng, nghiên cứu đã cho thấy nhóm phụ nữ trong chu kỳ vay cao hơn đã được trao quyền nhiều hơn. Chúng tôi đi đến kết luận rằng tài chính vi mô có ảnh hưởng đến việc trao quyền đối với khách vay nữ.

1. THÔNG TIN CƠ BẢN

Việc trao quyền không chỉ được đề cập trong tài chính vi mô nói riêng mà còn được đề cập trong bối cảnh phát triển nói chung (Charmes & Wieringa, 2003; Mosedale, 2005) và việc này đặc biệt có liên quan tới mức độ trao quyền cho nữ giới. Nhiều học giả và chuyên gia tranh luận rằng tài chính vi mô kéo theo việc trao quyền của cả quốc gia hoặc những nhóm đặc thù. Tuy tài chính vi mô và việc trao quyền thường xuyên được nghiên cứu trong học thuật nhưng mối liên hệ giữa chúng vẫn chưa rõ ràng và cần những phân tích thực nghiệm hơn. Chính vì vậy

(a) Status of women in Pakistan
Roomi and Parrott (2008) mention the status of women in Pakistan as a major barrier for the development of female entrepreneurs. They identified a lack of access for women to capital, land, business premises, information technology, training, and agency assistance in addition to missing encouragement by male family members in a patriarchal society, limited spatial mobility, and a dearth of social capital in Pakistan.

Hausmann, Tyson, and Zahidi (2008) rank Pakistan on the 134th position out of 135 countries with respect to gender gap. Pakistan's economy is based on agriculture and 51% of women live in rural areas (Muhammad, Shaheen, Naqvi, & Zehra, 2012) working on household farms or within the household (Sathar & Kazi, 2000). Though officially women have the right to own land, it is mostly inherited by male children and thus the access to land for women is often restricted (Agarwal, 1994).

The labor force participation of women in Pakistan in 2012 was 24% (World Bank, 2014), putting the country on rank 172 out of 183 globally. According to the Economic Survey of Pakistan 2012-2013 (Ministry of Finance of the Government of Pakistan, 2013) the overall rural female literacy rate is 35% with a male literacy rate of 64%. Rural literacy is also lower than the average female literacy in Pakistan (47%). Still, class influences access to education and employment in rural settings. The

combination of a generally low accessibility to health care and gender inequality leads to a low access to health care for women (Society of Obstetricians & Gynaecologists of Pakistan, 2009) resulting in a relatively high female mortality rate. Furthermore, active participation of rural women in Pakistan is hindered due to limited participation in the workforce, immobility, domestic pressure, income disparity, and the lack of decision-making opportunities (Shabib ul Hasan, 2012). Hence, studies suggest that women's mobility is limited in Pakistan. Mumtaz and Salway (2005), for instance found that only 18% of their interviewees have traveled alone during four weeks before being interviewed. A further indicator of the status of women in Pakistan is violence against women, an enormous problem in South Asian countries and in Pakistan (Niaz, 2003).

(b) Policies regarding women empowerment in Pakistan

The Pakistani government follows the millennium development goals. With regard to women empowerment policies with respect to education are important.

Consequently, government policies strive to ensure that by 2015 all children, independent of gender, will be able to complete primary schooling. Secondly, the National Education Policy plans to eliminate gender disparity in education at all levels until 2015 (Ministry of Finance of the Government of Pakistan, 2013) and therefore established a

ministry for education and training. Other policies to strengthen women and empowerment are an initiative to provide state land to landless women (The Daily Times, 2012), an income support program that combines financial products such as microfinance, insurance and grants (see <http://www.bisp.gov.pk/>), training of women in rural jobs, and assisting them in marketing their products.

(c) Microfinance in Pakistan

Microfinance and women empowerment in Pakistan were first promoted in the 1990s and is regulated by the State Bank of Pakistan. In 2012-13 the microfinance platform mixmarket counted 28 microfinance institutions in Pakistan. As of October 2013 they served 2.7 million borrowers with a total loan sum of \$483 million (www.mixmarket.org). The biggest microfinance institutions in Pakistan with loan portfolios higher than \$35 million are Kushhali Bank, TMFB, NRSP, FMFB Pakistan and Kashf Foundation. The average percentage of female borrowers in the loan portfolios of Pakistani microfinance institutions in 2012-13 was 63%. At least eight of the Pakistani microfinance institutions only lend to women. According to [mixmarket.org](http://www.mixmarket.org), the biggest among them is Kashf Foundation.

(d) Problem statement and objective of the study

Above, the paper described the current status of women in Pakistan and the means to improve their situation. In addition to educational policies, microfinance is meant to

play an important role to support women empowerment in Pakistan, because it may offer access to finance that is not available particularly for those without any collateral. Though the problem exists in many developing and also developed countries and is rather gender neutral, in Pakistan the situation of women is even worse than of men (Roomi & Parrott, 2008). Women often do not have access to finance by conventional banks and either depend on private lenders or on microfinance institutions. Lack of access may appear because women do not know how to access formal finance, they cannot offer the necessary collateral or track record, or because of cultural barriers with respect to interacting with male bank officers (Niethammer, Saeed, Mohamed, & Charafi, 2007). Therefore, microfinance is a reliable way for women to receive financial capital for starting or maintaining a business. It is still unclear, however, how and whether microfinance has a positive effect on women empowerment and it is crucial to analyze the connection between microloans and empowerment. Consequently, the objective of the study is to explore the impact of microfinance in Pakistan on women empowerment. The study focuses on three research questions:

1. Are women in higher loan cycles, and consequently provided with more loans, more empowered than those in the first loan cycle?

2. Do other factors, such as age, marital status, and rural vs. urban environment, influence empowerment and the effect of microfinance on empowerment?

3. Which specific empowerment indicators are affected by microfinance?

2. LITERATURE REVIEW

The following review presents an overview about the literature on empowerment, on the connection between microfinance and empowerment, and on impact measurement in microfinance.

(a) Empowerment

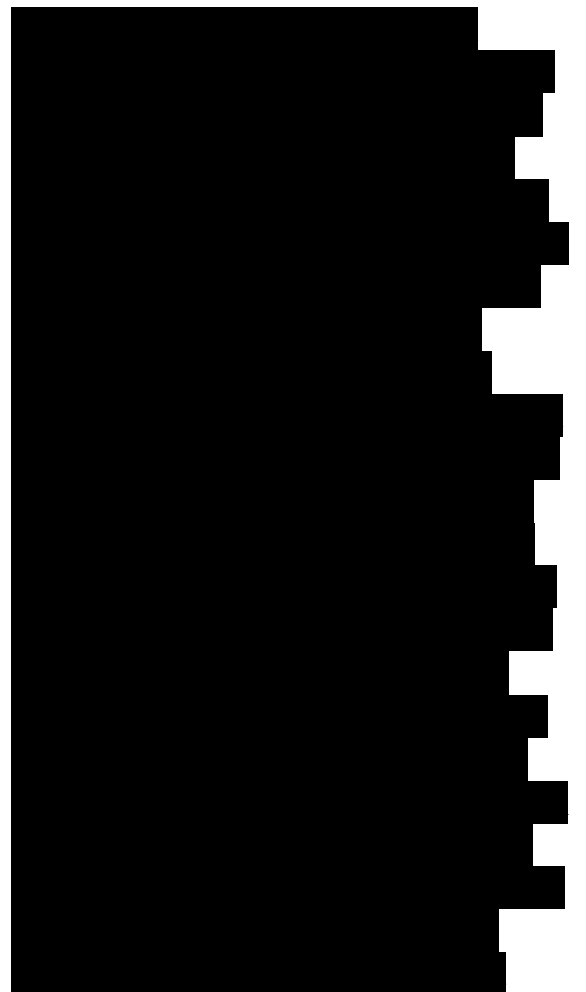
Empowerment is a complex construct used in management and in other social sciences such as development research and community psychology (Fetterman, 1994). Generally, empowerment can be seen in a relational way, defining empowerment as perceived control over others or over oneself and mainly as subjective perception. A second way of defining empowerment is a motivational construct. It focuses on what people expect with regard to their power and whether they are satisfied with their current state of power (Conger & Kanungo, 1988). In a broader organizational context, empowerment is defined as enabling rather than delegating. Empowering a person means enabling them to achieve certain goals, such as earning enough income to make a living, or for a woman to be able to decide about her children's education.

Generally empowerment is seen as a multidimensional concept that

consists of more than one variable (Ali & Hatta, 2012). Narayan (2005, p. 5) defines empowerment as "...the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives". In addition to Narayan's definition, it should be mentioned that families, neighbors, or other groups are usually subsumed under institutions as well, since empowerment is often discussed with respect to the relation to these groups.

Indicators of empowerment often include control over resources, participation in household and community decision-making, mobility in the public sphere, feelings of selfworth and efficacy, and better treatment at home and in the community (Kabeer, 2001; Noponen, 2003). Khan and Noree (2012) use a five-factor model of empowerment including child health, education, selection of spouse of children, purchase of basic goods, and decision of household savings. This model is similar to that of Nader (2008), who analyzed children's education, income, assets, health improvement, and harmony in the family. These multidimensional concepts mainly focus on the social dimension of empowerment. Other authors, though, concentrate on the financial dimension of empowerment.

Bhuiyan, Siwar, Ismail, and Bin Hossain (2013), for instance, use growth of income and consumption, the reduction of vulnerability to and alleviation of poverty, health, safety,



and children's schooling as factors defining empowerment.

In contrast to the concepts above focusing on individual empowerment, Muhammad et al. (2012) use a three-factor model that equally weights the factor proportion of women's share in total assets, proportion of women in jobs, and proportion of women in higher education. Because the authors do not focus on individuals but on the situation of women in the society, they use publically available data for their research.

Other studies, however, especially those in regions with significant power differences between women and men, concentrate on intra-household relationships as the main variable for measuring empowerment (Kabeer, 2001). Studies of this kind usually analyze the relation between wife and husband or women in smaller groups or villages.

With Leach and Sitaram (2002) it should be emphasized that women empowerment does not mean the exclusion of men. Some studies demonstrated that the inclusion of men in the entrepreneurial activities of women may be positive for both women's empowerment and their income, because it does not create conflicts between wives and husbands (Khan & Noree, 2012; Rai & Ravi, 2011).

Based on the literature on empowerment presented above, the study splits the concept into two main parts, financial and non-financial empowerment. Financial empowerment indicators are the

utilization of the loan (Khan & Noree, 2012), the contribution to household expenditure (Kabeer, 2001; Schuler & Rottach, 2010), income and income decision (Bhuiyan et al., 2013), equal participation in resource allocation (Muhammad et al., 2012) and savings (Khan & Noree, 2012).

Domestic decision making (Hunt & Kasynathan, 2001; Todd, 1996), schooling of children (Bhuiyan et al., 2013; Nader, 2008), and freedom of movement (Kabeer, 2005; Noponen, 2003) for the female borrower were used as social empowerment indicators following a multivariate approach (Ali & Hatta, 2012; Muhammad et al., 2012; Swain & Wallentin, 2009) that seems to be adequate for measuring such a complex concept as empowerment.

Though empowerment is connected with different levels, such as the individual, household, and community level, the study focuses on the household level. The reason was mainly methodological. As data base, the list of borrowers of a microfinance institutions was used. Consequently the survey could only be conducted on a household level. This approach, however, focused on the “central locus of women’s disempowerment” (Malhotra & Schuler, 2005, p. 71) but clearly accepts that interactions between different levels should be taken into account.

(b) Microfinance and empowerment

Microfinance is regarded as a means to empower developing countries by supporting entrepreneurship.

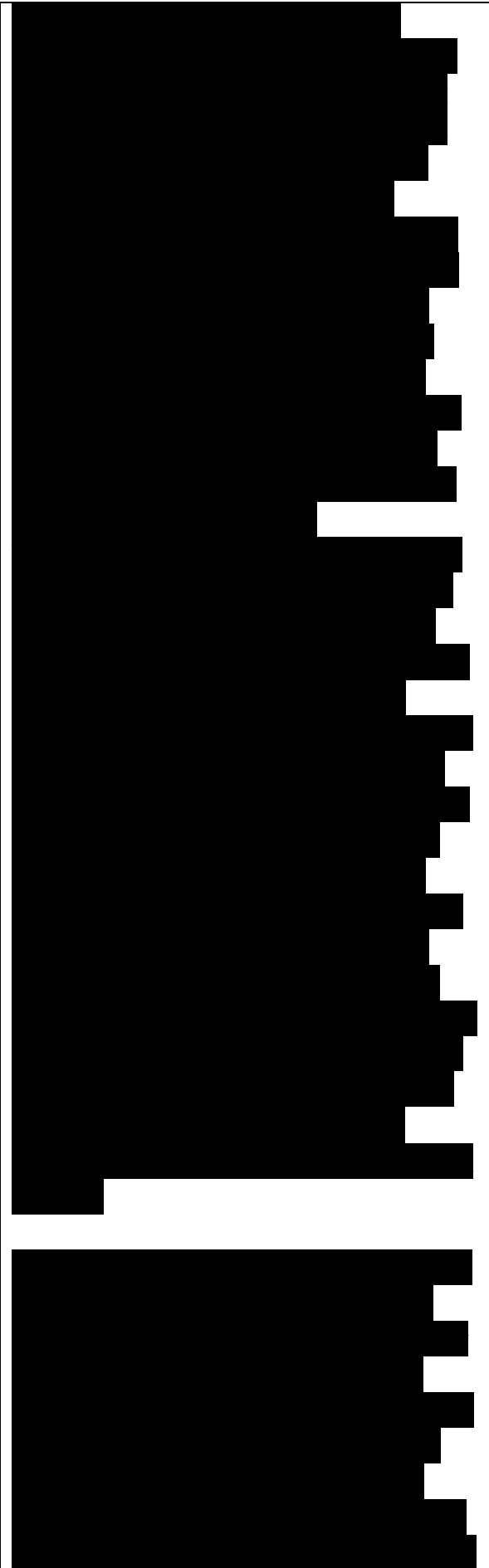
Scholars such as Woodworth (2000) argue that microfinance is needed to lift developing countries out of poverty (Khandker, 2005). In contrast to conventional development aid, microfinance involves and often even focuses on the informal sector (Alter Chen, 2005) and may be an alternative to macroeconomic solutions that are often used in development aid programs (Woodworth, 2000).

Negative consequences of the informal sector's importance are, that potential borrowers mostly are not aware of the products and services that are offered by microfinance institutions and commercial banks or that they are not able to access loans because of their illiteracy or knowledge in regional languages (Shabib ul Hasan, 2012). Additionally, credit evaluation procedures of institutionalized lenders are often stricter than those of informal lenders preventing borrowers from asking for loans at commercial banks of microfinance institutions (Arora & Meenu, 2011). With respect to the gender of the micro borrowers, an analysis conducted by Woodworth (2000) suggests that 65% of all microloans were provided to women in order to help them to start or maintain an enterprise with some institutions having even higher rates of loans for women (Chowdhury & Chowdhury, 2011; Noponen, 2003). Often, microfinance focuses on the empowerment of women in order to enable them gain a greater degree of

control over their destinies (Paxton, 1995). Studies suggest that microfinance is able to increase women's upward mobility and their influence on family decisions (Todd, 1996), both being a part of empowerment (Muhammad et al., 2012). Another rationale for focusing on female borrowers is the lower default rate compared with male borrowers (D'Espallier, Guerin, & Mersland, 2011) though some studies could not replicate this argument (Godquin, 2004).

But does the provision of loans to women automatically guarantee the empowerment of female borrowers? Hunt and Kasynathan (2001) suggest that in order to guarantee the empowerment of female borrowers, microfinance institutions should have an understanding of gender issues and women's rights and have implemented this understanding in their own organization. Aspects of empowerment should be monitored continuously after having provided a microloan and a clear mission on the importance of women having control over decision-making related to the use of their loan should be implemented. Furthermore, training programs should support this mission.

Ali and Hatta (2012) demonstrate that a "minimalist approach of microfinance" that mainly takes the repayment- rate and the financial sustainability of the microfinance institution into account does not create a significant impact on empowerment. They demonstrate that women's empowerment must not be a consequence of



microfinance but that it may be achieved if it is integrated in the vision, strategy, and operations of microfinance institutions (Haile, Bock, & Folmer, 2012).

Swain and Wallentin (2009) conducted one of the few studies that used a quasi-experimental approach to test whether microfinance had an impact on the empowerment of women. Their results suggest that women who were members of a microfinance program experienced a significant increase in empowerment compared to a non-member group. In another study, using a multivariate approach and working with a sample and a control group, Chowdhury and Chowdhury (2011) concluded that the participation in a microloan program created significantly higher outcomes, including empowerment, for the participants.

From a methodological and theoretical standpoint, Kabeer argues that differences in studies with respect to empowerment of women through microfinance arise because different concepts or aspects of empowerment such as intra-household power relations (Kabeer, 2001) vs. an increase of the financial situation of a borrower are applied. Depending on the understanding of the concept of empowerment, different studies suggest different impacts of microfinance on women empowerment, for instance, health care (Rai & Ravi, 2011).

In addition to the provision of a loan, external livelihood and personal factors may influence the success of microloans. External variables may be market characteristics, entrepreneurial and market knowledge as well as numerical and financial literacy (Leach & Sitaram, 2002). Khan and Noree (2012) identified age, education of the husband, father-inherited assets, marital status, number of sons alive, and the amount of microfinance as covariates that influence empowerment in addition to the direct impact of microfinance.

Obviously, other external factors such as infrastructural development, access to resources, skill building trainings, borrowers' education, mobility, labor availability, and other factors have an impact on women's empowerment (Otero, 1999). Because of these external effects the study was conducted in a particular region in Pakistan to guarantee comparable conditions for borrowers with respect to external socio-political factors.

According to Ngo and Wahhaj (2012) microfinance increases the empowerment of women, if it is invested profitably in a joint activity, and when a large share of the household budget is spent for household public goods. Consequently, the study suggests the loan to be invested in a joint business run by husband and wife. Hence, it seems that a number of external variables, such as societal impacts,

family relations, and knowledge, moderate the impact of microfinance on empowerment (Khan & Noree, 2012).

(c) Measuring the impact of microfinance on empowerment
Empowering people is an important—but not the exclusive—mission of microfinance (Kabeer, 2001). Controlling non-financial aspects of microfinance, however, is important to be able to manage potential positive effects, such as empowerment, as well as negative effects, such as child labor resulting from family-based micro-enterprises (Maldonado & Gonzalez-Vega, 2008) or the risk of overindebtedness.

Though many studies explore methods for measuring microfinance impacts (Weber, 2013), it is still unclear how effects of microfinance can be evaluated. Common impact measurement methods are outreach measurement (Cull, Demirgüç-Kunt, & Morduch, 2007; Yaron, 1992a), which sometimes includes social outreach (Bartual Sanfeliu, Cervello Royo, & Moya Clemente, 2013), and social cost-benefit analysis (Bhatt & Tang, 2001; Stewart, 1975). Neither method focuses on the measurement of empowerment, however.

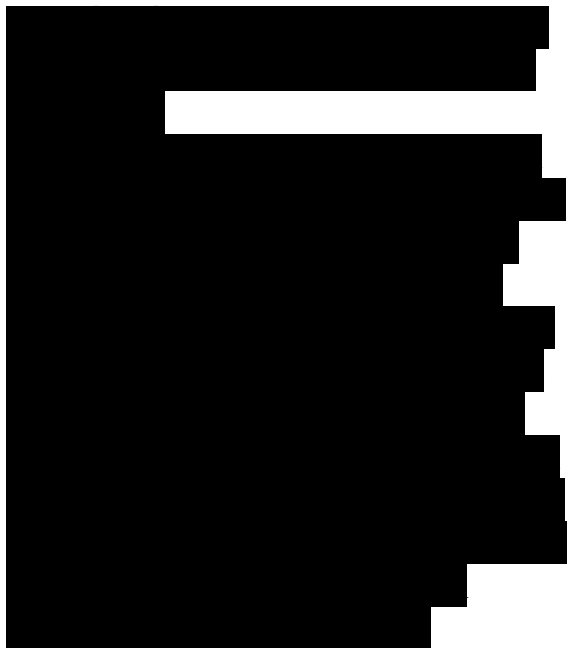
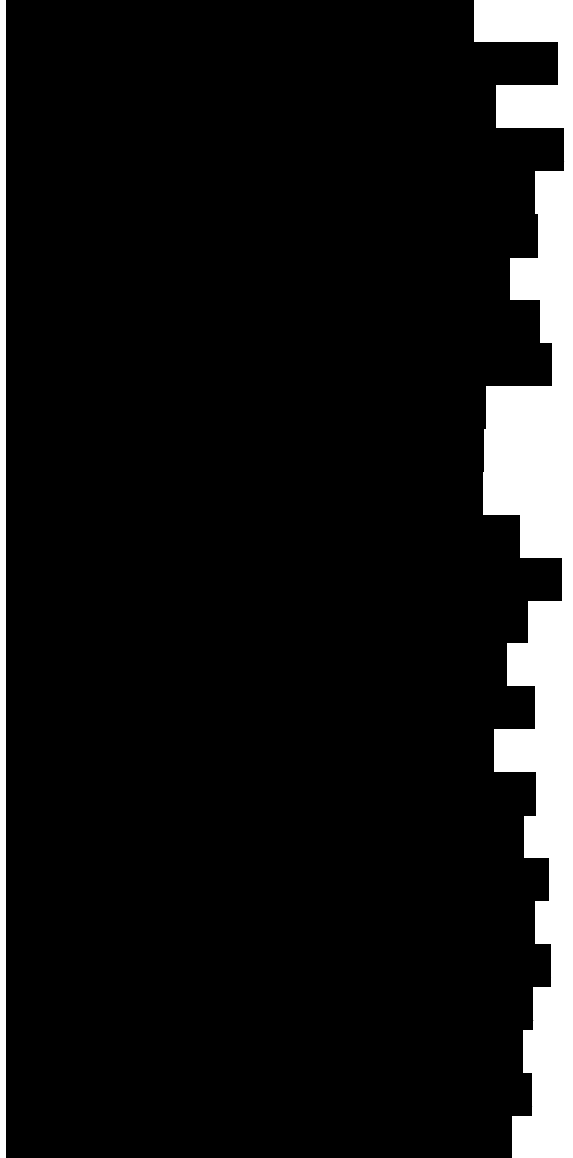
Many outreach studies focus on the number and the size of loans and the group of borrowers receiving the loans. The approach assumes that smaller loans, being provided to borrowers at the base of the pyramid, create a higher outreach than bigger loans to small- and medium-sized

enterprises. Size and type of borrower are the main indicators that are assessed in outreach measurement studies that are often used to compare different types of microfinance institutions such as those following a poverty alleviation approach vs. those following a financial systems approach (Hishigsuren, 2007; Mersland & Strom, 2010; Morduch, 1999; Yaron, 1992b).

Social cost-benefit analyses concentrate on costs, such as administrative costs or capital costs, and both financial and social benefits of the microfinance business for the respective institutions and their clients (Stewart, 1975). Shadow prices are often used to measure the value of social costs and benefits. The method is often applied to evaluate the efficiency of microfinance compared with other means of poverty alleviation (Bhatt & Tang, 2001) such as publicly financed development aid (van de Walle, 1997).

(d) Methodological issues of measuring the impact of microfinance: empowerment

When it comes to measuring the impact of microfinance on empowerment, a number of methodological issues have to be dealt with. The first issue is to operationalize empowerment. As mentioned above, empowerment is not a unidimensional variable but a multidimensional construct. Therefore, the components of empowerment have to be selected, and to be merged into a measurable construct that can be tested regarding

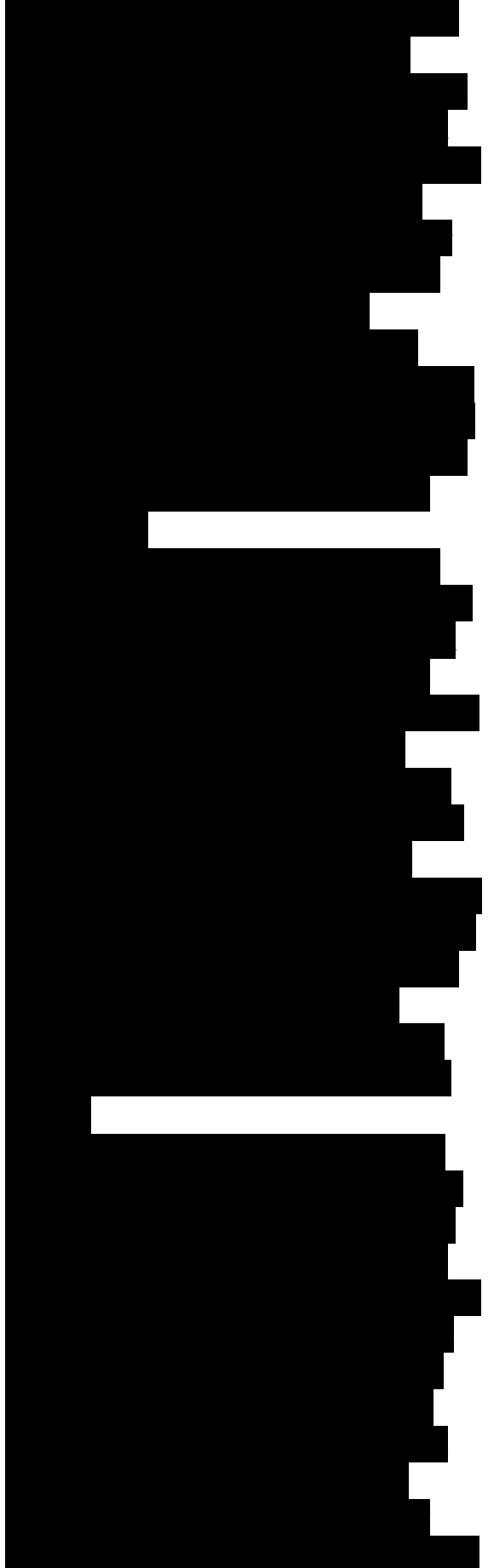


its validity.

The second issue is the cause-effect relation between microfinance and empowerment. The use of case studies without control groups is not able to analyze cause-effect relations in contrast to control-group studies like the one by Chowdhury and Chowdhury (2011). Therefore, the presented study used a control-group setting that tests cause and effect relations between microloans and a multidimensional construct of empowerment.

Thirdly, many studies use outreach measurement and focus on the characteristics of the borrowers, their social status or gender, and on loan size (Hermes & Lensink, 2011; Shabib ul Hasan, 2012). Though these indicators are important, however, they do not indicate the social impact of microfinance directly. Accounting for the percentage of women borrowers may be an indication for striving to improve female borrowers' empowerment, but it does not explicitly prove that micro-finance influence empowerment.

Consequently, loan cycles—with one loan granted per loan cycle—were used as independent variable in order to measure the effect of microfinance on empowerment. The approach bases upon the assumption that the effect of microfinance on empowerment does not emerge until the business that was financed through the microloan creates a stable financial return. New borrowers being in the first loan



cycle will not experience an effect on empowerment at this stage because the time for the loan to cause this effect is too short. The study used borrowers in the first loan cycle as control group and borrowers in higher loan cycles as treatment group for measuring differences in empowerment.

(e) Conceptual framework

Based on the description above the conceptual framework presented in Figure 1 was developed.

The model in Figure 1 suggests a linkage between microfinance with social and financial empowerment that is moderated by personal and livelihood variables. The influence of microfinance is operationalized by creating two groups of participants. The control group comprises borrowers in the first loan cycle. The treatment group consists of borrowers in higher loan cycles. Personal and livelihood variables being controlled in the model are age, marital status, literacy, and area, in which the participants live. The areas are split into rural, semi-urban, and urban environment. Social empowerment is operationalized by creating a score that is calculated using equi-weighted social empowerment indicators. The same method was used to calculate the financial empowerment score.

3. METHODS

The researchers decided to directly measure subjective and objective indicators of empowerment using questionnaires for standardized household surveys. The survey used a treatment group and a control

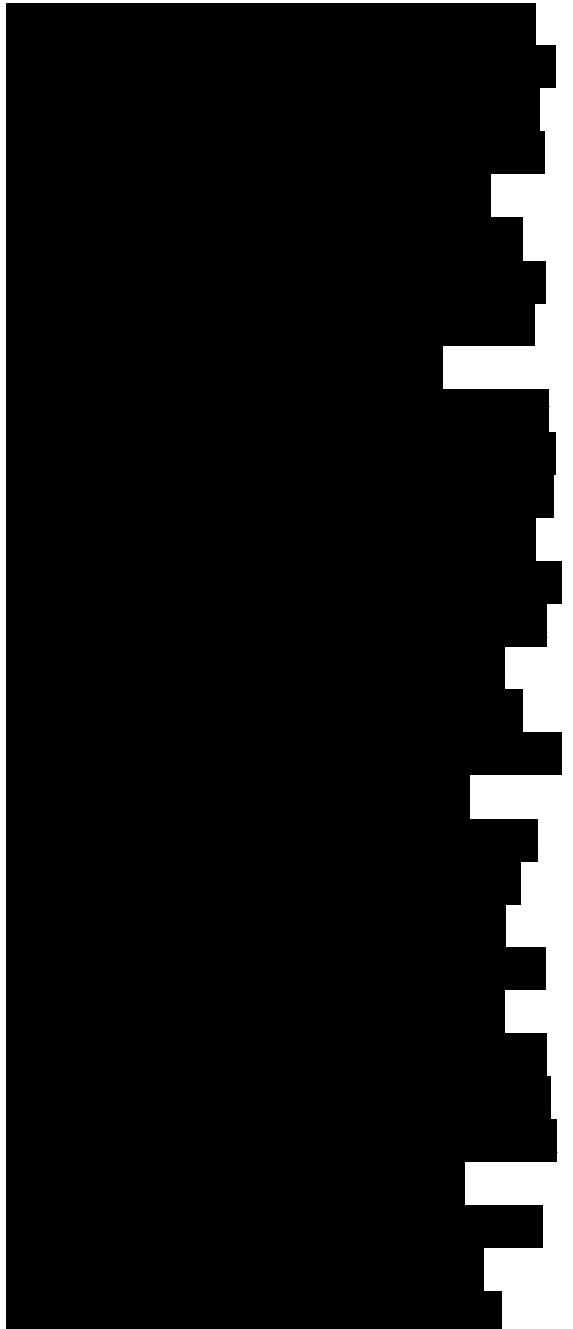
group. The data were gathered through visiting borrowers of urban, semi-urban, and rural branches of Kashf Foundation, the biggest Pakistani microfinance institution that exclusively lends to women. In order to analyze the effect of microfinance on empowerment, the study used logistic regression analysis with social and financial empowerment as dependent variables. Treatment vs. control group was used as the independent variable, indicating whether the participant was a member of a higher loan cycle or a new borrower.

In order to take potential effects of independent personal and livelihood variables into account, we used propensity score matching (PSM) in addition to integrating external variables into the logistic regression models. PSM (Rosenbaum & Rubin, 1983) can be used in observational studies in which participants are not assigned randomly to treatment and control groups. In these studies the effect of a treatment, such as microfinance, may be biased because of the existence of external factors (Katchova, 2010). The basic idea of PSM is to identify individuals in the treatment group and in the control group who are similar with respect to control variables. Consequently, PSM matches participants of control and treatment groups on the basis of similar covariates such as personal and livelihood variables. The main methods for matching individuals are nearest neighbor matching, kernel matching, and radius matching. Nearest neighbor matching is the

most candid PSM method. It selects the individual from the comparison group as a matching partner that is closest in terms of the propensity score. Kernel matching is a nonparametric method using weighted averages of a high number or all individuals in the control group to explore the similarity of individuals. Radius matching uses a tolerance level to set a maximum propensity score distance. Matching partners are selected inside the given propensity range (caliper).

PSM is conducted in four steps, (1) score estimation, (2) selection of the matching algorithm, (3) analysis of the overlap, (4) estimation of the matching quality, and (5) sensitivity analysis (Caliendo & Kopeinig, 2008). Alternative methods to match individuals from treatment and control groups are genetic matching (Diamond & Sekhon, 2012) or coarsened exact matching (Iacus, King, & Porro, 2012). Both methods are able to balance differences in variance and covariance. Because we already integrated the influence of control variables on the dependent variable (treatment) using a logit model and were able to identify the influence we used PSM as a simpler method to analyze the effect of livelihood variables on the dependent variable.

PSM can be used to calculate impacts of microfinance with and without taking into account livelihood and personal differences in the control and treatment groups (Duvendack & Palmer-Jones, 2012) and has been successfully applied for



assessing the impact of development programs (Becerril & Abdulai, 2010; Dehejia & Wahba, 2002; Hope, 2007; Jalan & Ravallion, 2003) and for the impact of microfinance (Imai, Arun, & Annim, 2010; Morvant-Roux, Guerin, Roesch, & Moisseron, 2014). Becerril and Abdulai (2010), for instance, used PSM and found significant impact of improved maize variety adoption on farm household welfare. Khan, Alam, and Islam (2012) applied PSM as well and found that a community-based fishery management program had a positive impact on the income and the household expenditures of poor fishermen in Bangladesh.

The control group consists of clients in the first loan cycle; the treatment group is made up of members in the second and higher loan cycles. Independent livelihood and personal variables are age, marital status, literacy, and area (rural, semi-rural, and rural coded as dummy variables). Dependent variables are empowerment (average of social and environmental empowerment), its sub-groups social and financial empowerment and specific empowerment indicators.

The study used a questionnaire that has been structured in three parts. The first part consists of general questions regarding variables such as age, marital status, literacy, level of education, loan cycle, number of children, and head of household. The second part focuses on financial empowerment and the third part centers on social empowerment. The questions were asked by one of the

authors of the study, who speaks the mother language of the participants and filled in the responses. The questionnaire offered different categories to respond to the questions.

The questions used to analyze social and financial empowerment (with their coding in brackets) are presented in Table 1.

Social empowerment focuses on decisions processes. The first two variables focus on analyzing who is seen as the principal decision maker in the household. In order to distinguish between decisions usually attributed to women and decisions made by the head of the household we asked about decision making on cooking, groceries, schooling, studies, and marriage of children. Generally, empowerment should lead to a stronger influence on decision making. As the second important field attributed through the literature as being connected with social empowerment, mobility was analyzed. We used two variables to analyze this factor asking for the frequency of visits and whether mobility is restricted to accompanied mobility.

Indicators used to assess financial empowerment focus on decisions about the loan, spending of income, and control about financial assets. All the fields are mentioned in the literature as being indicators for financial empowerment. The ability to decide about taking a loan and how to use it is an indicator for having the freedom to decide on financial issues. Generally, the literature has found that loans were

[REDACTED]

[REDACTED]

[REDACTED]

used according to the original plan if women were able to decide how the money was invested. Furthermore, the indicators represent the concept of control over resources that is seen as a major part of financial empowerment (Kabeer, 2001).

Social empowerment indicators

Who is the head of your household?
(Head household)

Who is the principal decision maker?
(Principal decision)

Who decides what to cook?
(Cooking)

Who decides what groceries to buy?
(Groceries)

Who decides about the schooling of the children? (Schooling)

Who decides about the studies of the children? (Studies)

Who decides about the marriage of the children? (Marriage)

How often do you visit your family members/relatives/friends? (Visit family)

How do you go to visit them? (Accompanied visits: alone, with husband, or with family members?)

Are there any restrictions on you for going out? (Mobility restrictions)

Financial empowerment indicators

Who utilized the loan? (Loan utilization)

Who decided on taking the loan? (Loan decision)

Do you contribute to household expenses? (Household expenses)

What do you spend your income for? (Income spending)

Who decides about spending of your income? (Spending decision)

Who decides to buy assets in your house? (Asset buying)

Who decides what assets to buy?
(Assets type)

How much control do you have
about your savings? (Control
savings)

The second block is about general
decision making about spending.
These questions were used in order
to test what the female borrower's
income created by the use of a loans
is spent for and whether the borrower
is able to decide what the money is
spent for.

4. SAMPLE AND PROCEDURE

The treatment group consisted of 60
participants equally distributed
among the three locations who were
borrowers for at least five years and
in the second of higher loan cycle.
The control group comprised 30
participants being in the first loan
cycle. In total the study had 90
participants. For multiple regressions
analyses, such as the ones this study
used, Bartlett, Kotrlik, and Higgins
(2001) propose a ratio of
observations to variables of at least
five. In the 'results' section it is
demonstrated that a maximum of six
variables was used. Consequently a
sample size of $n = 90$ minimizes the
risk of overfitting in the multivariate
regression model we used and
consequently can be justified as big
enough. The use of structural
equation modeling, however, is not
possible under the given sample size,
because $N > 150$ would be needed to
calculate a structural equation model
having standard errors small enough
to be of practical use (Anderson &
Gerbing, 1988).

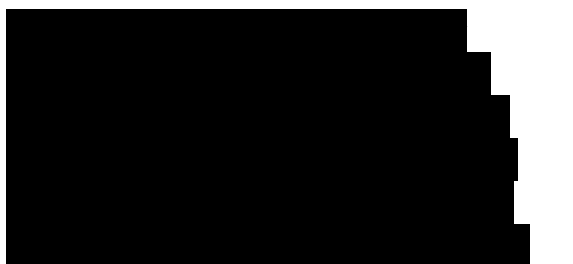
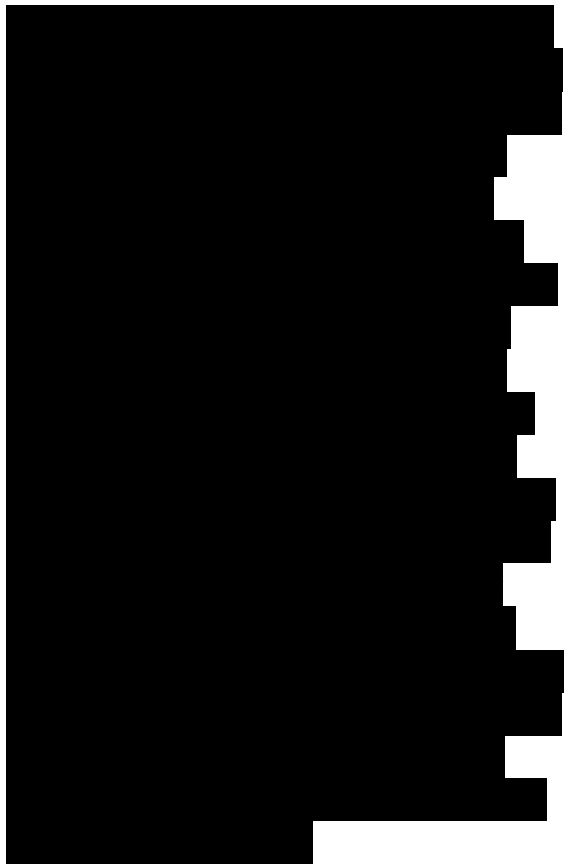
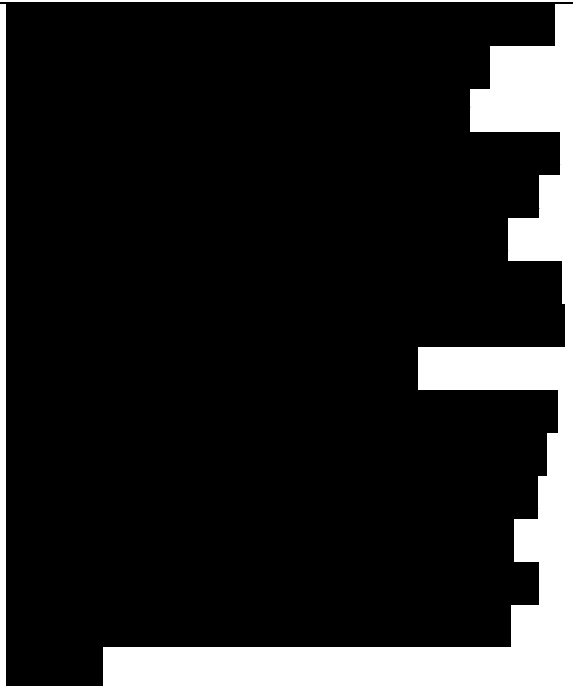
If the participation in a microfinance

program increased the empowerment, borrowers in higher loan cycles should be more empowered than women without a loan or being in the first loan cycle. Again, the control group was evenly distributed over the three regions. These women had the same socio-economic background as the sample group.

All borrowers were clients of Kashf Foundation (Ali, 2011). The organization strives to enhance the role women in economic development and increase their decision-making capabilities. Kashf Foundation has a market share of 11.5% (Ali, 2011).

The foundation has a network of 147 branches out of which 83 branches are urban, 34 are semi urban, while 30 are rural branches. Clients borrow collectively from the institution and encourage each other to repay the loan. At the end of 2010, Kashf had 312,146 clients. In addition to the lending business, Kashf Foundation has a separate department for social advocacy and gender development which conducts training for the staff as well as for its clients on gender issues. Kashf Foundation is active in 24 districts of Punjab and one district of Sindh (Kashf Foundation, 2011). The organization was chosen because they have a special focus on the empowerment of women and because they granted access to their borrowers.

An impact study (Kashf Foundation, 2010) suggests that 90% of microcredit lent by Kashf Foundation is reported to be used for productive purposes—such as



agriculture, home-based industries/manufacturing, small retail shops, etc. Approximately 10% of the loan amount was reported to be used for consumption purposes and for repaying loans. The high proportion of business utilization is consistent for new and old clients.

Around 60% of clients use a Kashf loan to start a new business. These businesses are usually seasonal and in some cases these ventures grow to become permanent businesses. The fact that many new businesses are started using Kashf loans indicates that the credit is going toward increasing and supplementing household incomes and supporting entrepreneurship at a nascent level.

5. RESULTS

The following sections will present the results of the study. The descriptive statistics of the sample are presented in Section 1. Section 2 tests differences between the control group and the treatment group with respect to control variables such as age or education. Section 3 presents univariate and multivariate analyses of the relation between micro loans and empowerment including logistic regression analyses and propensity score matching.

(a) Descriptive statistics

Ninety questionnaires were used for our study. Sixty questionnaires belonged to the treatment group with borrowers in higher loan cycles and at least a five-year lending history. Thirty questionnaires came from the control group. All participants were women; 30 questionnaires originated from urban, semi-urban, and rural branches, respectively.

All loans were so-called Kashf Karobar Karza. These are business loans for clients who are either new or have successfully completed their previous loans. None of the participants in our sample was in a recovery loan program. Loans given were in the range of up to \$190 for clients in their first loan cycle and up to \$475 for clients in higher loan cycles. Borrowers were asked what they used the loans for. In all cases the loans were used for the business indicated in the contract.

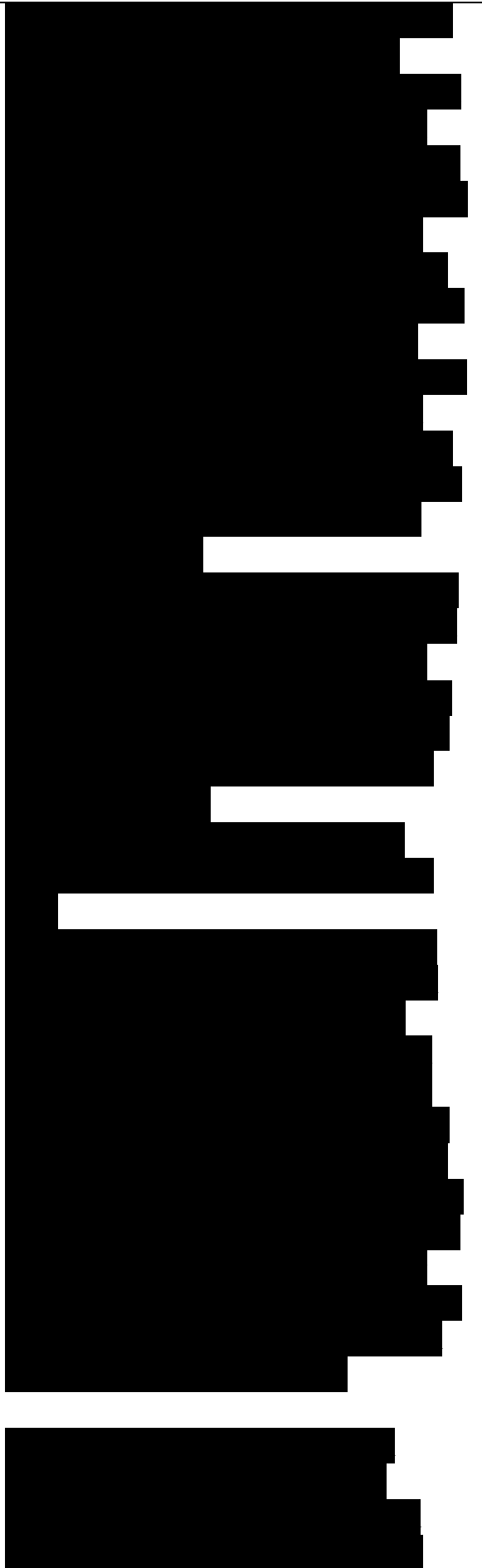
Per loan cycle the borrowers had one loan. The frequency of the number of loans per borrower is presented in Figure 2. The average loan cycle for the total sample was 4.88 with a median of 5 (sd = 3.58, kurtosis = 1.82, skewness = 1.84).

Figure 2. Frequency of the number of loans per borrower.

Data on the number of loan cycles split by control group and treatment group can be found in the following section. The average age of the participants was 37.63 years, with 79 married and 11 widowed. Sixty-one participants were literate. Thirty had religious education, 17 had attended primary school, 3 had secondary school degrees, 10 borrowers possessed high school degrees and one participant had a college degree. The average number of children per participant was 4.81 (Median = 5).

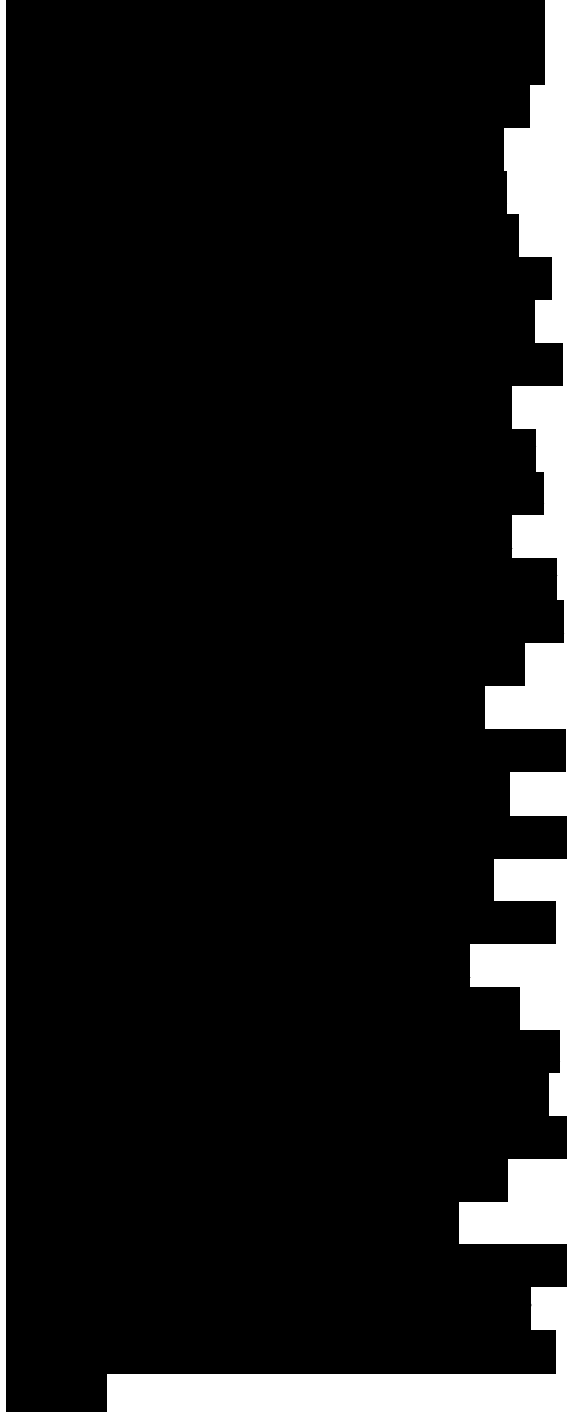
(b) Differences between sample and control group

Because the members of the control



and treatment groups were recruited based on the loan cycle, a Kruskal-Wallis test suggested that the number of loan cycles in the control group (Median = 1) was significantly lower than in the sample group with a median = 7 (Chi2 = 59.34, df = 1, p < .0001). All members of the control group were in their first loan cycle. The highest value in the sample group was 12 loan cycles and the minimum was two loan cycles. The analysis suggests significant differences regarding the age between the two groups because borrowers in a higher loan cycle are expected to be older than borrowers in the first loan cycle (Kruskal-Wallis Test: Chi2 = 9.16, df = 1, p = .0023, mediantreatment = 33, mediancontrol = 38.5). A similar result was expected for the number of children that was significantly higher (Kruskal- Wallis Test: Chi2 = 14.28, df = 1, p = .0002) in the treatment group (Median = 6) than in the control group (Median = 3). All other control variables, such as marital status, literacy, and education, were not significantly different between the control and the treatment groups, suggesting that the personal data of the two groups were similar and do not influence empowerment.

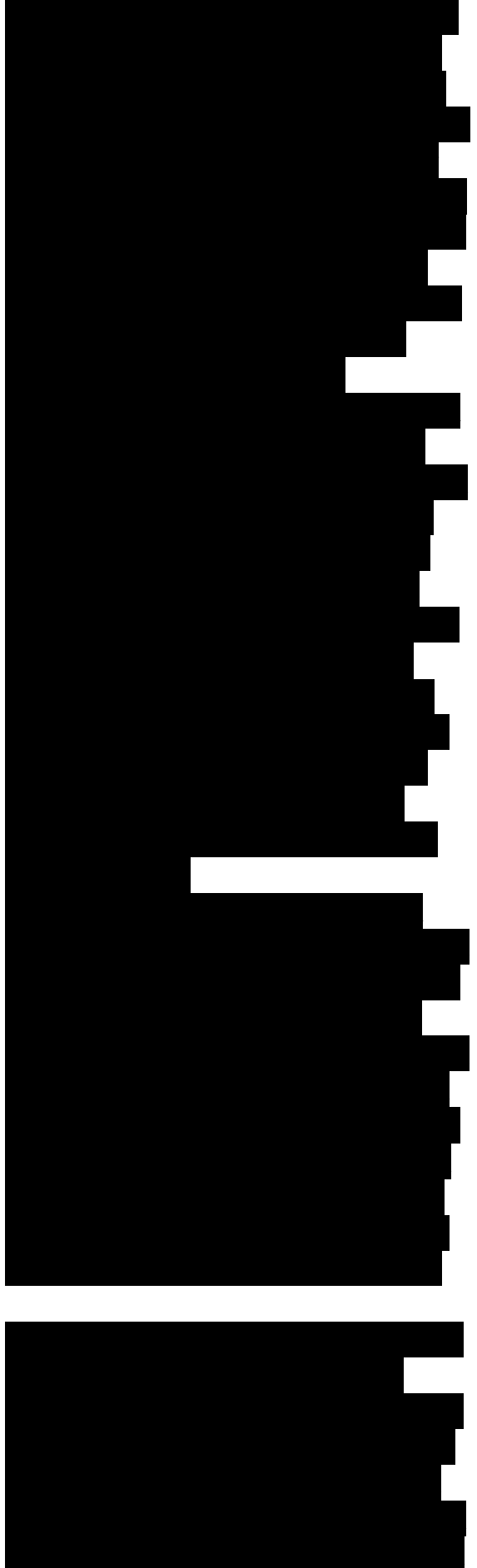
Additionally, we tested the effect of the marital status on decision making. At first glance, widows always make their own decisions. However, we took into account other family members, such as older children or parents may be members of the household as well and therefore could play a role in



decision making. In order to test this assumption we compared widows and married borrowers with respect to the main decision-making indicators using Chi2 tests and t-tests. We did not find significant differences between married women and wid-ows ($df = 88$, $t = .27$, $p = .79$) regarding social empowerment. With respect to the principal decision maker ($Chi2 = 1.79$, $p = .41$) and the decision about how to use the loan we did not find significant differences either ($Chi2 = .56$, $p = .76$). Finally, the analysis of the propensity score (see below) as well as all logit analyses did not indicate significant differences in empowerment indicators between widows and married women. These results confirmed our assumption that other family members, such as children and parents, participate in decision making in cases the husband passed away.

With respect to the three areas—urban, semi-urban, and rural—the results did not indicate significant differences for age, number of children, marital status, and literacy of the participants. Fisher’s exact tests, however, suggest a significantly higher frequency of religious and primary education at semi-urban branches ($Chi2 = 19.76$, $df = 8$, $p = .002$) compared to urban and rural branches.

A correlation analysis of the indicators being used for measuring social and financial empowerment was also conducted. The indicators for social and financial empowerment correspond to the questions used in the questionnaire



and presented above. The analysis delivers insights into the interdependency of the indicators that may create biases through autocorrelation. Table 1 presents the correlation between the indicators and their significance.

Table 1 shows 32 significant correlations out of 153 combinations. The highest coefficient is $r = .59$ between the indicator ‘Who decides to buy assets in your house?’ and ‘Who decides what assets to buy?’. The only other correlations higher than $r = .4$ are those for decisions about schooling and studies of the children and for the decision what to cook and what groceries to buy. Generally the correlation was rather small with an average correlation of $r = .145$ ($r_{\text{financial empowerment}} = .169$, $r_{\text{social empowerment}} = .152$). A t-test for the correlation between the correlation coefficients for social empowerment and financial empowerment did not result in significant differences ($t = -0.4618$, $df = 79$, $p = .65$).

(c) Financial and social empowerment

The main research question was to analyze whether microfinance increases the empowerment of the borrowers. Therefore, women in higher loan cycles should be more empowered than their counterparts in the first loan cycle. As a first step the influence of being a member of the control group vs. the treatment group on financial and social empowerment indicators was analyzed using Fisher’s exact tests with the respective empowerment indicators and group membership as variables.

The results are presented in Table 2.

The results suggest that two of the empowerment indicators are significantly different between the control group and the treatment group. The indicators showing significant differences are loan utilization and mobility restrictions. In the control group, decisions about the use of the loan are more frequently made by the husband than in the treatment group (N = 18, $N_{exp} = 12.5$, $Chi^2 = 2.5$). With respect to restrictions for leaving the house, women in the control group were significantly more frequently exposed to restrictions (N = 17, $N_{exp} = 11.3$, $Chi^2 = 2.8$).

In order to analyze the combined effect of the empowerment indicators, logistic regression analysis with social and financial empowerment as dependent variables and the membership in the sample or treatment group as independent variable was used. In contrast to univariate analyses logistic regression takes the correlation between the dependent variables—in our case financial and social empowerment—into account. If microfinance has an effect on empowerment, the treatment group should provide higher values at least with respect to financial and social empowerment than the control group.

Table 3. Indicator differences between the treatment and the control group

Indicator

Degrees of freedom

Significance

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The analysis started by combining the two indicators that were significant in the univariate analysis: utilization of the loan and mobility restrictions. The results of the logistic regression were significant ($p = .002$). The model was able to explain 12.9% of the variance. 71.1% of all cases were correctly classified into the control and the treatment groups, and the coefficients for both indicators were positive and significant ($p_{\text{loan utilization}} = .024$, $p_{\text{freedom of movement}} = .004$). In order to compare the impacts of the two variables, they were standardized using z-transformation. In this case the coefficient is .68 for loan utilization and .80 for mobility restrictions. The result indicates a stronger impact on mobility restrictions than on loan utilization. Additionally, both the social empowerment variable and the financial empowerment variable were created using the average of all respective indicators and z—standardizing the total average. In turn, we constructed a general empowerment variable (empowerment) by combining social and financial empowerment equi-weighted into one variable. In order to avoid losing too many data points through creating the two empowerment variables, missing values were substituted by the group mean. A skewness/kurtosis normality test suggests that all three variables were normally distributed ($p_{\text{financial}} .13$, $A_{\text{social}} .42$, $\wedge_{\text{empowerment}} .08$).

The result of the logistic regressions

[REDACTED]

[REDACTED]

[REDACTED]

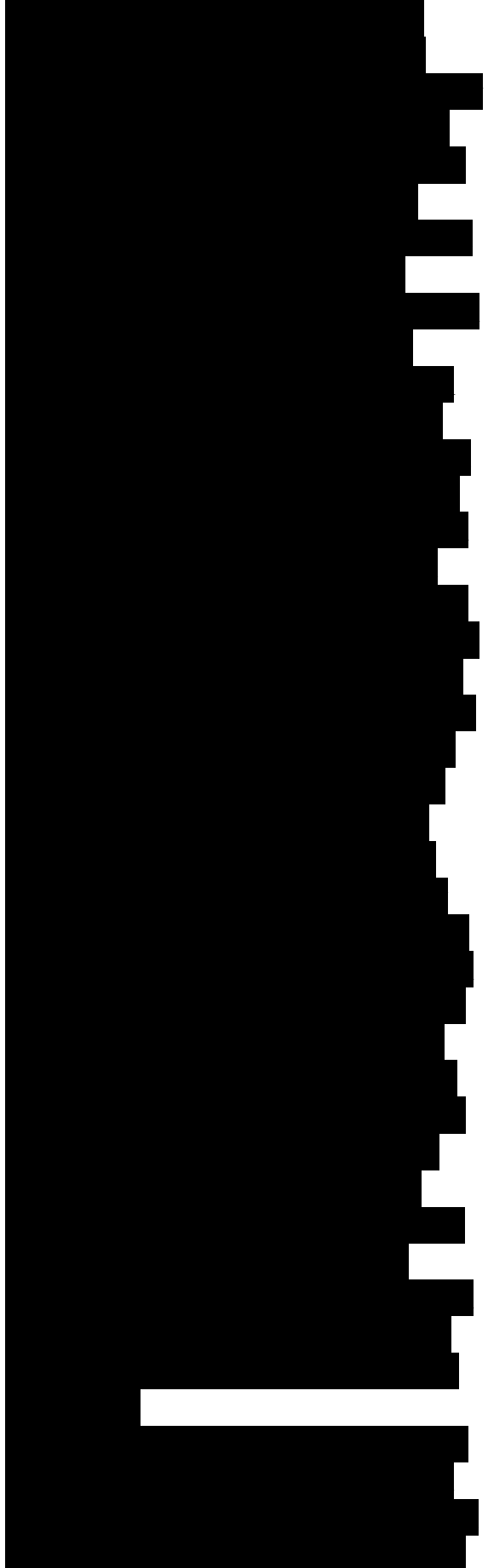
for financial empowerment ($p = .0001$, $r^2 = .13$) and for empowerment ($p = .0022$, $r^2 = .08$) was significant while the impact of microfinance on social empowerment was not significant ($p = .286$, $r^2 = .001$). The results suggest that empowerment can be predicted by the membership in the control or the treatment group. The treatment, being in a higher loan cycle, increased the empowerment by .93 units, financial empowerment by .995 units, and social empowerment by .240 units (Table 3).

What happens to the impact of being in a higher loan cycle on empowerment, if personal and livelihood variables are taken into consideration? The second logistic regression analysis added the control variables' age, literacy, marital status, and the area (rural, semi-urban, and urban) to the function. Because a set of $n - 1$ dummy variables represent an n — category variable, area was introduced through two dummy variables for living in a rural area vs. otherwise and for living in an urban area vs. otherwise. Again, the result for the effect of microfinance was significant for empowerment ($p = .011$, $r^2 = .17$) and financial empowerment ($p = .002$, $r^2 = .17$) but not for social empowerment ($p = .062$, $r^2 = .10$). The logit coefficients and their significance for the three empowerment variables and the independent livelihood and personal variables are presented in Table 4 as well as the results of the logistic regressions without livelihood and

personal variables.

The results presented in Table 4 suggest a significant effect of the treatment (higher loan cycle) on empowerment and financial empowerment. If, however, livelihood and personal variables are integrated into the model the effect of the loan cycle on empowerment and financial empowerment becomes smaller. While the difference in empowerment for the control and treatment groups without integrating control variables is .922 units, the integration of personal and livelihood variables reduces the difference by .144 units to .767 units. The results are similar for financial empowerment with a difference of .995 units without and .818 with personal and livelihood variables and suggest a similar effect for social empowerment. However, no significant impact of the treatment was detected for this variable with or without control variables. For all three empowerment variables age has a significant effect. The result suggests that age influences empowerment in addition to the treatment variable. The integration of the marital status in order to test differences between widows and married women did not result in significant coefficients for marital status neither for empowerment ($p = .75$), nor for financial empowerment ($p = .9$), nor for social empowerment ($p = .63$).

Table 4. Logistic Regressions for higher loan cycle as treatment and lower loan cycle as control group without (1) and with (2) control



variables for empowerment (a), financial empowerment (b), and social empowerment (c)

Table 5. Propensity scores (probit coefficient), significance, and means for personal and livelihood variables. Consequently, the study used propensity score matching (PSM) to control the impact of the livelihood and personal variables on empowerment. PSM was conducted for analyzing empowerment and social empowerment as well as for loan utilization and mobility restrictions. Social empowerment was not analyzed because the results did not suggest a significant impact of the loan cycles on social empowerment.

Table 5 presents the propensity scores for the livelihood and personal variables calculated by a probit model (Caliendo & Kopeinig, 2008) as well as their means for the control and the treatment group.

Again, the results presented in Table 5 suggest that individuals who are older are more likely to be in the treatment group indicating higher loan cycles. The other personal and livelihood variables do not have a significant effect on the probability of being in the treatment group. Overall, however, the control variables have a significant effect on the likelihood of being in a higher loan cycle ($p = .046$, $r^2 = .098$).

In order to compare the significance of the two logistic regressions—with and without control variables—a symmetry test was conducted in order to test differences in the correct predictions. Symmetry tests compare the predictions case wise in

order to analyze which cases were correctly predicted. The test was significant ($p = .0002$, $\text{Chi}^2 = 14.0$). The result suggests that the introduction of control variables into the equation improves the predictive validity of the logistic regression significantly from 71.1% to 75.7%.

As the next step members of the treatment and control group are matched with respect to livelihood and personal variables and the treatment effect was calculated using only participants who match with respect to the personal and livelihood variables. This study used nearest neighbor matching with bootstrapping. In addition radius matching, kernel matching, and stratification matching were tested. However, the results did not differ significantly from the nearest neighbor method and therefore are not presented in this paper. The results of the PSM are presented in Table 6.

Table 6 demonstrates that the differences between the first and the higher loan cycle are significant for all empowerment measurements. Empowerment is higher in higher loan cycles than in the first cycle even if the treatment and control groups are matched. Differences are between .742 units for empowerment and .350 units for mobility restrictions. The results suggest that microfinance has a positive effect on empowerment, if personal and livelihood variables are matched. A Kruskal- Wallis test conducted with 46 matched cases on the basis of a coarsened exact matching procedure (Blackwell, Iacus, King, & Porro,

[REDACTED]

[REDACTED]

[REDACTED]

2009) resulted in a significant difference between treatment and control group with respect to empowerment as well ($\text{Chi}^2 = 4.21$, $p = .04$). This result confirms the results of PSM and the logistic regression.

Table 7. Differences in empowerment and significance

In order to estimate the effect more accurately the following table presents the differences in empowerment calculated without taking personal and livelihood variables into consideration in addition to integrating these variables into the equation. Differences were calculated using the three methods, t-tests, regression analysis, and nearest neighbor method. The results are presented in Table 7.

After matching treated and control individuals, the effects of microfinance, operationalized by being in a higher loan cycle, are to increase the empowerment by .410 to .742 units on a scale with a standard deviation of $SD = .789$ and with a 95% confidence interval between -1.457 and 1.457.

6. CONCLUSIONS

This study analyzed the impact of microloans on the empowerment of female borrowers. There are mixed results about the connection between microfinance and empowerment as well as different concepts used for defining empowerment. The presented research used a treatment and a control group differing in the number of loan cycles the borrowers had gone through. A household survey was carried out in 90

households of Kashf Foundation's borrowers in Pakistan. The sample and control group approach was able to systematically identify differences between borrowers in higher loan cycles and new borrowers with respect to their empowerment. Furthermore, it was able to control whether external variables, such as age and literacy, influenced empowerment.

Similarly to Swain and Wallentin (2009), the study demonstrated that women in higher loan cycles of Kashf's microfinance program experienced a significant increase in empowerment compared to their counterparts in the first loan cycle. With respect to specific empowerment indicators, the presented research found differences in the utilization of the loan between the control group and the treatment group using both univariate and multivariate statistical analyses including propensity score matching. The univariate analysis suggests that being in a higher loan cycle affects the ability of a female borrower to decide how to use the loan. As the decision on how to use a loan is seen to be a crucial indicator for financial empowerment (Goetz & Gupta, 1996; Kabeer, 2001; Khan & Noree, 2012), the results suggest that microlending through Kashf leads to a higher financial empowerment. Because the borrower is best suited to decide how to use the loan, to focus on enabling the borrower to autonomously decide, guarantees an efficient and adequate use of the loan and consequently improves the pay

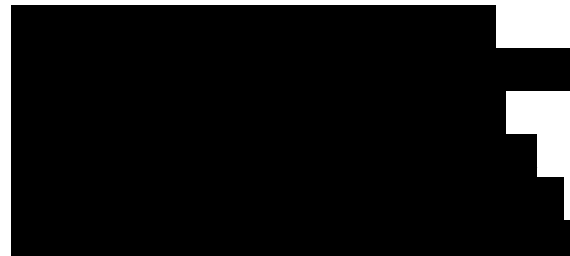
back rate.

The second single empowerment indicator for which significant differences between the control group and the sample group were found was “mobility restrictions.” Similar to other studies (Kabeer, 2005; Noponen, 2003), this study suggests that freedom of movement is an important indicator for social empowerment. Hence, micro loans do not only improve women’s financial empowerment but also their mobility that is often restricted (Jejeebhoy & Sathar, 2001).

Combining both variables in a logistic regression suggests a significant impact of the loan cycles as well. Consequently, the first conclusion is that microfinance increases main indicators of financial and social empowerment of female borrowers.

As a second way of conducting a multivariate analysis, all indicators were combined into two variables—financial and social empowerment—by integrating the indicators with equal weights into either financial or social empowerment. Again, the results suggest a significant influence of the treatment on empowerment. This result is in-line with many other studies demonstrating a relation between microfinance and empowerment (Montgomery & Weiss, 2011; Morduch, 1999; Todd, 1996).

Though the logistic regression was significant, a significant coefficient resulted only for financial empowerment and not for social empowerment suggesting an impact of microfinance on financial



empowerment rather than on social empowerment. Social changes often come with higher incomes, but as the literature demonstrates, social empowerment of women depends on many other external factors such as age, education of the husband, father-inherited assets, marital status, or number of sons alive (Khan & Noree, 2012; Ngo & Wahhaj, 2012). Thus, it is a much more heterogeneous construct than financial empowerment.

Although the borrowers in this study were clients of a microfinance institution focusing on empowering women, social empowerment—with the exception of freedom of movement—did not change significantly for women in higher loan cycles even if personal and livelihood variables are matched. In addition to external factors or the heterogeneity of the construct mentioned above, an explanation for this result could be that social empowerment is a long-term objective that needs longer time for changing than just some loan cycles. Because financial decision making usually stays on a household level, social empowerment variables such as freedom of movement or decisions of children's marriages are often influenced by family members or peers outside of the household.

From a methodological point of view the study demonstrated that a standardized approach using treatment and control groups including propensity score matching is able to analyze the impact of micro lending on women empowerment. The results of the study suggest that

empowerment increases with the number of loan cycles. Consequently, it cannot be expected that a one-term micro loan has already an effect on a complex social construct such as empowerment.

