Women’s Empowerment Through Microfinance: A case study on Burma

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Any errors are my own.

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Abstract

Using data cross-sectional data from the UNDP/PACT Myanmar’s “Outcome/Impact Assessment from Microfinance Project 2011”, the purpose of this study is to see if women who are members of a microfinance program are more empowered than non-members. The study also attempts to find what factors that are important for women’s empowerment. To create a measurement of empowerment, an index-based approach is used. The index consists of six questions related to a women’s household decision-making power. The explanatory variables are of demographic, economic, activity and geographic characteristics. Also controlled for is if length of participation in the microfinance program has an effect on women’s empowerment.

The key findings of the study indicate that women who are members of the microfinance program are more empowered than non-members. Also, being the head of household has a positive effect on empowerment. Further, age seemingly has a positive effect on the empowerment of women. However, eventually, this age-effect on empowerment is diminishing. The results of the study contradict previous research that claims the amount of the loan has a positive effect on empowerment. The only significant relation that was found between loan amount and empowerment instead pointed on a negative relation. The absence of the expected positive correlation between loan amount and empowerment might be an indicator of the possibility that access to credit is the important factor. It is also suggested that other aspects of the microfinance program, such as the social networking effects, might be empowering. Moreover, the results of the study make it difficult to draw any conclusions on whether length of membership in the microfinance is of importance for empowerment.

Keywords: Microfinance, Empowerment, Burma/Myanmar, Credit
Table of Content

1. INTRODUCTION ..................................................................................................................6
   1.2 PURPOSE OF THE STUDY ..............................................................................................7
   1.1 COUNTRY OVERVIEW: BURMA ...................................................................................9

2. THEORETICAL FRAMEWORK .............................................................................................11
   2.1 WOMEN’S EMPOWERMENT .......................................................................................11
   2.2 CREDIT AND DEVELOPMENT .....................................................................................12
   2.3 MICROFINANCE ...........................................................................................................15
      2.3.1 The Role of Microfinance in Women's Empowerment ............................................16

3. PREVIOUS STUDIES ON WOMEN'S EMPOWERMENT THROUGH MICROFINANCE ......... 17

4. EMPIRICAL STRATEGIES .................................................................................................20
   4.1 DATA AND SURVEY DESCRIPTION ..........................................................................21
   4.2 MEASURING WOMEN’S EMPOWERMENT .................................................................22
   4.3 EXPLANATORY VARIABLES .......................................................................................25

5. RESULTS ............................................................................................................................28
   5.1 BASELINE RESULTS .....................................................................................................28
   5.2 SENSITIVITY ANALYSIS .............................................................................................33

6. CONCLUSION ......................................................................................................................37

8. APPENDIX A: DESCRIPTIVE STATISTICS FOR THE DEPENDENT VARIABLE ................. 42

9. APPENDIX B: DESCRIPTIVE STATISTICS FOR INDEPENDENT VARIABLES ..................43

10. REFERENCES ....................................................................................................................44
List of Abbreviations

ACTED  Agency for Technical Cooperation and Development
CEDAW  Convention on the Elimination of all forms of Violence against Women
DFID  Department for International Development
FAO  Food and Agricultural Organisation of the United Nations
GDP  Gross domestic product
GEM  Gender empowerment measure
IMF  International Monetary Fund
NGO  Non-governmental organisation
OLS  Ordinary least square
PACT  Partner Agencies Collaborating Together
SIDA  Swedish International Development Cooperation Agency
SHG  Self-help group
UN  United Nations
UNDP  United Nations Development Program
USD  United States dollar
WLB  Women's League of Burma

List of Figures and Tables

Figure 1  Age
Figure 2  Education
Figure 3  Geographic zone
Figure 4  Occupation

Table 1  Model 1-4
Table 3  Model 5
Table 4  Model 6-9
1. Introduction

In recent years, women’s empowerment has been acknowledged as a key variable of development in less developed countries. Focusing on women’s empowerment in development is not only expected to benefit the women themselves, but is also believed to improve, through positive externalities, the overall life standard for their families and to strengthen their communities. Amongst these positive externalities of women’s empowerment are: higher education levels; higher awareness of health issues; lower fertility rates; and higher political awareness—all of these being important positive factors for development. It has thus been recognised that the interrelatedness between women’s empowerment and development makes it difficult to proceed in one area without making corresponding changes in the other area, and also that neglecting women’s empowerment and hindering women from reaching their full potential is consequently hindering economic and political development (Cheston and Kuhn 2002).

Several international organisations have therefore acknowledged women’s empowerment as a corner stone in development. As stated in the objectives for the United Nation’s Conference on Women in Beijing: “Empowerment of women and equality between women and men are prerequisites for achieving political, social, economic, cultural and environmental security among all peoples” (UN 1995:§41). Also the World Bank has identified women’s empowerment and gender equality as one main objective for development on the basis that “It strengthens countries abilities to grow, to reduce poverty and to govern effectively” (Mason and King 2001:1). Empowering women and promoting gender equality is also one of the UN’s eight millennium goals with focus on female education, employment and political power1.

A potentially effective way to empower women is through access to credit. Giving a woman access to credit increases her opportunities to reach a higher level of empowerment through the possibility to obtain her own source of income and create a

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1 See http://www.un.org/millenniumgoals/
sense of security. However, studies on several developing countries show that women are more likely to be credit-constrained than men (Fletschner and Kenney 2011). This should be seen in the context of already imperfect credit markets in developing countries, making it even harder for women to access credit. Imperfect credit markets are therefore hindering communities and countries from experiencing the positive externalities that arise when empowering women through access to credit.

Where the credit markets has failed to meet the poors’ need and, inversely, where the poor fail to meet the credit market’s requirement, Microfinance has been developed as a source of credit for the poor in developing countries. Through group-lending techniques where the group jointly are responsible for the management and repayment of each other’s loans, it has been possible for poor, with no earlier credit history or collateral, to access credit. Often these programmes also focus on financial education and managerial control. On the basis of the arguments above to empower women through credit, a great part of the microfinance institutes around the world are targeting women as their clients as “Access to credit and participation in income-generating activities is assumed to strengthen women’s bargaining position within the household, thereby allowing her to influence a greater number of strategic decisions” (Cheston and Kuhn 2002).

1.2 Purpose of the Study

Due to the wide acknowledgement of women’s empowerment as a key for development, it is of interest to find out how women are empowered. In recent research, access to credit and participation in a microfinance-program have been identified as possible empowering activities. This study will look further into the relationship between microfinance and empowerment by conducting a case study on Burma, a context where research on the relationship between women’s empowerment and microfinance is extremely scarce. In particular this study seeks to understand if women participating in a microfinance program are more empowered than those women who are not, and if there are certain factors that are important for women’s empowerment.

This study will focus on the following questions:
• Are members of a microfinance program more empowered than non-members?
• What factors are important for women’s empowerment?

In order to answer these questions, quantitative data on women participating in PACT Myanmar’s microfinance program is used. The author’s own experiences during a visit to Burma in January/February 2013 will also be taken into consideration in the study. These experiences include meetings with official representatives of PACT Myanmar as well as with women participating in the program.
1.1 Country Overview: Burma

Being until recently one of the most closed country in the world, Burma\(^2\) is also one of the most underdeveloped countries and is accordingly ranked 149 out of 187 in UNDP’s Human Development Index-ranking (UNDP 2011a). Burma is the second largest country in South-East Asia and has a population of more than 62 million people (IMF 2012). According to the UNDP-supported household-surveys, 25 percent of the population was below the poverty line in 2009 and it is estimated that around 20 percent of the population suffers from undernourishment (UNDP 2011b, ACTED 2010).

With 70 percent of the population living in rural areas, agriculture is the main sector of Burma’s economy, accounting for 42 percent of its total GDP (FAO 2011).

Burma is an extremely ethnically diverse country with more than 100 different ethnic groups and more than 135 national races acknowledged by the government (Ekhe and Smith 2007). This diversity makes it difficult to provide a general cohesive picture of the situation of the poor and especially of the women in Burma. There is also a shortage of studies and research on Burmese women as well as lack of relevant and reliable data (New 2003, DFID

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\(^2\) Burma is the name that the author uses in this study. Several organisations/scholars mentioned in the text are using the name Myanmar, and thus both names will appear.
According to the Burmese laws, women are equal to men in all spheres of society. However, due to different cultural beliefs within the country, this is not the case in reality (DFID n.d.). In 1997 the Burmese government signed The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW). In a CEDAW shadow report in 2008 by the Women's League of Burma (WLB), the Burmese government is criticised, as it does not “recognize the serious and systematic gender discrimination occurring within the country”. Further, the report accuses the government of not recognizing the many existing socio-cultural rules and laws within both Burmese and non-Burmese ethnicities, which “emphasize women's role as child-bearers and homemakers while giving men greater economic and decision-making power in domestic affairs” (WLB 2008). Women's representation in the public life is very limited and so is their involvement and access to social networks (DFID n.d.). An implication of this is that women hold just four percent of the seats in the national parliament (UNDP 2011a).

Lack of access to credit has been identified as one of the main reasons for the extended underdevelopment in Burma. Due to lack of credit, the rural areas and the agriculture sector have for a long time suffered from underinvestment (Dapice et al. 2010). Commercial banks in Burma are not allowed to lend money to farming activities and the state run Myanmar Agricultural and Development Bank that is specializing on small-scale loans to farmers, only lends money to those who can provide collateral (Turnell 2011:144). Since 1997 when UNDP started the first Microfinance scheme in Burma, microcredit has been a vital source of credit for the poor. Currently a number of NGOs serves more than 470,000 active borrowers of which more than 90 percent are women (Duflos et al. 2013, ACTED 2010).

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3 CEDAW is a convention adopted by the UN in 1997. See http://www.un.org/womenwatch/daw/cedaw/
4 A Thailand-based Burmese umbrella organisation of 12 women's organisations of different ethnic backgrounds. See: www.womenofburma.org
5 In addition to NGOs, there are also a number of institutes (including two state-owned banks) that primarily focus on loans for agricultural/ﬁshery/livestock activities. For a comprehensive list of all Microfinance providers in Myanmar, see Duflos et al. (2003).
2. Theoretical Framework

2.1 Women’s Empowerment

A broad amount of literature exists within the field of women’s empowerment. This does not only show the importance of the subject but also the difficulty in defining what empowerment is and how it is achieved.

As women’s empowerment is not a final state but rather a process, it is very difficult to conceptualise its meaning and there is no coherent definition in the literature (Rahman et al. 2009). When defining women’s empowerment, it is important to recognise that women are not a single homogenous group. As women are individuals that can be found in every division of a society, it is likely that each woman has her own definition of empowerment and her own idea of what empowers her. It is also important to keep in mind that gender disadvantage can take form in several ways and is likely to occur differently in different social and cultural contexts, which consequently means that an empowerment process in one context will not be the same as another context (Hashemi et al. 2006). However, despite cultural differences there are still several common actions that need to be considered, regardless of culture, religion or geographic location, in order to enhance women’s empowerment; “increased participation in decision making, more equitable status of women in the family and community, increased political powers and rights, and increased self-esteem” (Cheston and Kuhn 2002).

Several attempts have been made in the literature to define women’s empowerment in a development context. According to the United Nation’s Guidelines on Women Empowerment, women’s empowerment includes five components: “women’s sense of self-worth; their right to have and to determine choices; their right to have access to opportunities and resources; their right to have the power to control their own lives, both within and outside the home; and their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally” (UN 2001). Other definitions include the one from Kabeer (2005): “Empowerment refers to the
process of by which those who have been denied the ability to make choices acquire such an ability,” and Gutierrez (1990), who asserts, “Empowerment is a process of increasing personal, interpersonal, or political power so that individuals can take action to improve their life situation”.

From these definitions, two components of empowerment can be distinguished: process and agency, where process stands for the development-process towards increased possibilities for women in terms of choice and action, whereas agency works with women’s participation in the same process, emphasizing the importance of women being agents and actors in this development. The agency concept, which is the component of empowerment this study will mainly reflect upon, is often associated with decision-making power and is most frequently studied on household level. Decision-making power in the household, concerns women’s participation in decision-making in areas such as: Finances (e.g. purchases, pricing of crops, house repairs); Family matters (e.g. family planning; children’s education; children’s marriage); and Domestic matters (e.g. household work). The importance of increasing women’s decision-making power in the household is widely acknowledged as a key to women’s empowerment as it also increases a woman’s agency (Kabeer 1999).

Increasing women’s agency is believed to be a prerequisite for achieving gender equality socially, politically and economically (Malhotra et al. 2002). Promoting policies that increase gender equality through means such as political and legal reforms and interventions to give women greater access to resources, are also important, but do not automatically improve women’s status as “giving women access to resources does not lead to their greater control over resources, where change in legal statutes have little influence on practice, and where female political leaders do not necessarily work to promote women’s interest”. To achieve women’s empowerment and ultimately gender equality, women therefore foremost need to increase their agency and to recognize and utilize resources in their own interest.

2.2 Credit and Development

Access to financial institutions and to credit is a necessity when it comes to poverty reduction and development. Without access to financial services, it is often impossible for
the poor to make the necessary investments to improve their situation. A large share of
the poor in developing countries can be found in the rural areas, whereas the formal
banking sector mostly locate their branches in urban areas (Demirgüç-Kunt et al. 2007);
this section will mainly concern the rural credit market.

According to Ray (1998:531), demand for credit or capital can be divided into three parts:
Capital required for starting up or substantially expanding production, i.e. fixed capital;
Credit required for on-going production activity, i.e. working capital, and Credit required
for consumption. The latter part is vital when it comes to unexpected events that might
lead to increasing expenditures or lost income for poor households. Such events can range
from a bad harvest to a family member becoming ill, and are specially damaging for the
rural poor. Since most of the rural poor rely on agricultural activities as their source of
income, they have a higher income during harvest times and a lower income the rest of
year. These fluctuations in income make access to credit important also for consumption
smoothing. The fluctuations in income will otherwise lead to fluctuations also in intake of
nutrition and other basic necessities (Zeller et al. 1997). Limited credit access also
prevents the poor from making the necessary investments in fixed and working capital,
something that could potentially break the vicious cycle of poverty by generating more
income and also developing rural communities.

The rural credit market can be divided into two main sectors: the formal credit sector and
the informal credit market. The formal sector includes the governmental banks as well as
the commercial banks. A special branch of the governmental banks are often specialising
on agricultural loans and offering credit in poor rural areas. However, these banks often
lack the insight and knowledge of specific needs of the clients in these kinds of areas (Ray
2008:532). This might for example regard repayments that consider time of harvest when
setting up a repayment scheme, with limited instalments before the crop has been sold.
Even though the rural banks often offer loans with low interest rates, other costs
regarding paper work and visits to the bank, might also be hindering factors for the poor
to access credit (Dapice et al. 2010).

Another important aspect of the formal banking sector is the demand for collateral. Many
of the formal banks, also the rural branches, require some form of security such as
property or asset, when issuing a loan—something most poor, for obvious reasons, cannot present to the banks. The formal bank’s demand for collateral is connected to the concepts of asymmetric information and adverse selection. Lending money to a poor borrower with no previous credit-history includes a risk for the banking institutions, as they do not have any information on the potential borrower and can thus not make a secure judgement of the riskiness of the borrower’s project or whether he or she is capable to repay the loan. Requirement of collateral can therefore compensate for the risk that the asymmetric information gives rise to (Armendáriz de Aghion and Morduch 2005). The existence of asymmetric information, adverse selection and the requirement of collateral force many of the rural poor to turn to the informal credit market to access credit. The informal credit market consists of lenders, usually wealthier villagers, offering loans, often with extreme interest rates (Dapice et al. 2010). Informal lenders do not have the same requirements on collateral as the formal banks; a small plot of land or labour is often accepted as security making it possible for a borrower to work off his or her debt. Obviously these informal loans includes a bigger risk for the borrower, but due to the difficulties in accessing credit from other formal sources, turning to the informal credit market might be the only alternative. According to Bali Swain (2001): “It has been estimated that only 5 percent of the farmers in Africa and about 15 percent in Asia and Latin America have had access to formal credit; and on average across developing countries 5 percent of the borrowers have received 80 percent of the credit”. Another estimation is that “at least 80 % of the 900 million households in low- and lower-middle-income countries do not have access to formal financial services” (Robinson 2001:xvii). It is clear that supply of credit amongst the poor in developing countries does not meet the demand, and the conclusion that there exist imperfections in the rural credit market can easily be made.
2.3 Microfinance

One solution to the imperfect credit markets is the concept of microfinance. Since its breakthrough that came with the start of Grameen Bank in Bangladesh in 1976, microfinance has become one of the most important channels of accessing credit for poor people in developing countries (Kabeer 1998). Grameen bank developed a microfinance program based on a group lending technique where the group members serve as guarantees for each other's individual loan. The loan amount normally starts at a low level, but can be increased as the lending group demonstrates financially stability in terms of repayments. The method of group lending and its fundamental idea of group responsibility can therefore circumvent the previously discussed issues that asymmetric information in the formal banking sector gives rise to (Armendáriz de Aghion and Morduch 2005:13).

From the start, microfinance was called microcredit as its purpose was purely lending. Over time the concept of microcredits broadened to include other financial services as well (Robinson 2001). A presentation of all different microfinance activities and their objectives are beyond the scope of this paper. A brief summary over the key principles of microfinance by McGuire and Conroy can be found in Turnell (2005): “These include a presumption that access to credit is more important to the poor than the price of that credit, the widespread use of group and progressive-lending as a substitute for collateral, the maintenance of low administration costs through simplified procedures, the mobilisation of savings through deposit products, and the use of intensive motivational techniques”. Ledgerwood (1999:1) also presents a list of activities normally included in a microfinance program:

- Small loans, typically for working capital
- Informal appraisal of borrowers and investments
- Collateral substitutes, such as group guarantees or compulsory savings
- Access to repeat and larger loans, based on repayment performance
- Streamlined loan disbursement and monitoring
- Secure savings products
A majority of the loans from microfinance programs are issued for self-employed and income-generating activities and loans are thus provided mainly to poor, who operate, or plan to start up and to substantially expand small enterprises (Morduch 1999). These microenterprises can range from production, recycling, repairing or selling of various goods, to services such as renting out small amounts of land, draft animals or machinery and tools (Robinson 2001:9).

Even though the definition of microfinance normally only includes financial activities, it is common that a microfinance program is not exclusively about providing the poor with financial services, but often includes a non-economic agenda as well. Examples of such non-economic activities are: skills training, marketing, literacy training and health care. The purpose of these non-economic activities is to give support to the lender’s business as well as social support for the individual borrower and her family (Ledgerwood 1999:63). On the basis of the economic, as well as the non-economic activities offered by a microfinance program, Armendáriz de Aghion and Morduch (2005:3) state “microfinance presents a series of exciting possibilities for extending markets, reducing poverty, and fostering social change”.

2.3.1 The Role of Microfinance in Women's Empowerment

Today, a majority of the microfinance programs around the world target women as their clients. However, at the time when microfinance emerged as a channel for poor to access credit and as a tool for development, the greatest share of the clients of Grameen bank were men. The move towards a stronger focus on female borrowers was taken in the 1990s in response to growing problems with repayments of loans among the male borrowers. Consequently, in 2002, 95 percent of the clients of Gramen bank were women (Armendáriz de Aghion and Morduch 2005:139).

In addition to being more reliable and efficient when regarding repayment schemes and also displaying a higher degree of cooperativeness, studies have shown that women are more likely to be credit constrained than men, have a more restricted access to the wage labour market and that it is thus of importance to present women with possibilities that gives them access to these areas. Moreover, by giving women access to credit and
increasing women's participation in income-generating activities, women's bargaining power and decision-making roles within the household are also strengthened (Pitt and Khandker 1998, Pitt et al. 2003). As previously pointed out, women tend to spend a larger part of their income on family well-being, which, from a development point of view, is more optimal (Duflo 2012, Bali Swain and Wallentin 2009).

Microfinance is thus seen as “a road to gender empowerment” (Armendáriz de Aghion and Morduch 2005:184), something that is summed up well by Cheston and Khun (2002): “By providing access to financing for income-generating activities, microfinance institutions can significantly reduce women's vulnerability to poverty. A reduction in women's vulnerability can sometimes also translate into empowerment if greater financial security allows the women to become more assertive in household and community affairs”.

3. Previous Studies on Women’s Empowerment Through Microfinance

Several empirical studies have been conducted to establish what factors empower women. A large share of the research on women's empowerment emanates from various types of microfinance programmes: “Empowerment is an implicit, if not explicit, goal of a great number of microfinance institutions around the world” (Cheston and Khun 2002). However, whereas many studies look at how participation in a microfinance affects various proxies of women’s empowerment, such as fertility, health, literacy rates etc., only a few empirical studies attempt to examine the direct impact of microfinance on women’s empowerment (Bali Swain and Wallentin 2009). This section will present the main findings of some of the studies that look at the direct link between microfinance and women’s empowerment.

A study by Khan and Noreen (2012) on the role of microfinance in empowerment of women in the Bahawalpur district in Pakistan finds that access to credit through microfinance organisations has a positive impact on women’s empowerment and also that loan utilization by the woman herself is of importance. Khan and Noreen measure
empowerment by the construction of an index from indicators of child health, education, selection of spouse of children, purchase of basic goods, and decision on the use of loan. Apart from credit-access (measured in amount of loan), the study finds that age, education of husband, number of live sons, marital status, and father inherited assets are factors that have a positive effect on women’s empowerment. Based on these results, Khan and Noreen conclude that the women’s empowerment that emanates from microfinance can be increased by also increasing the amount of loans.

In a study on rural credit programs and women’s empowerment in Bangladesh, Hashemi et al. (1996) compares the effects that one minimalistic microfinance program, Grameen Bank (with explicit focus on credit access), and one holistic program, BRAC (that apart from access to credit also offers the clients non-economic activities), have on eight different dimensions of women’s empowerment. The study finds that both types of programs are generating empowerment, but in different dimensions. The holistic program increases women’s mobility and participation in political campaigns and protests to a greater extent than the minimalistic program. However, when looking at economic empowerment in terms of economic security, purchases, contribution to family support etc., the minimalistic program with its focus on issuing loans is more efficient. The authors therefore argue that non-economic activities are not a necessity to generate women’s empowerment, and similarly to the analysis presented by Kahn and Noreen, Hashemi et al. state that through access to credit per se, a woman’s economic role is strengthened and she is thereby empowered as she can, contribute to the family’s income to a greater extent than before.

Bali Swain and Wallentin (2011) attempt to look at the impact of economic versus non-economic factors on women’s empowerment by conducting a study on women that are members of Self-Help Groups (SHGs) in India. SHG is a form of village banking where groups of 10-20 members firstly save up money that they then can lend to themselves and, when demonstrating stability and financial discipline, they can borrow four times their savings from the microfinance organisation. The results of Bali Swain and Walletin’s study suggest that the economic factors have the biggest impact on women’s empowerment, as loans from within the SHG enable the members to create additional income opportunities, which increases their bargaining and decision-making power within the household and
thus leads to empowerment. However, the findings of the study also indicate that social attitudes of the respondent and members of her household also matter for empowerment and greater autonomy in terms of independent planning, management and decision-making at work. The impacts that social attitudes and autonomy have on empowerment are only two thirds and half, respectively, as effective as the effect of economic factors. The implication of these results are in line with the ones in Hashemi et al.’s study, that minimalistic microfinance through its economic impact is the most efficient way to promote empowerment.

Quite contrary to the studies by Khan and Noreen, Hashemi et al and Bali and Swain, the results and conclusions of Cheston and Kuhn (2002) on women’s empowerment through microfinance highlight the importance of not only focusing on credit-access in a microfinance program. The authors argue that although access to credit has the potential to empower women, it is not as easy as just “putting capital in their hands”. Cheston and Kuhn emphasise the importance of acknowledging that the ability of a woman to transform her life through access to financial services depends on factors connected to her individual situation as well as her environment, and the overall status for women in the society. Women are often facing other disadvantages in society, such as difficulties in accessing information and social networks that hinder them from maximizing their full empowerment potential. It is therefore important, Cheston and Kuhn argue, that microfinance organisations do not become complacent in the assumption that access to credit per se generates empowerment as it can cause microfinance institutes to “overlook both opportunities to empower women more profoundly and failures in empowerment”. Cheston and Kuhn also conclude that women in a group-lending program often value the non-economic benefits of the program (such as expanded social network, improved self-esteem, increased household decision-making power and increased respect from others in the same community), as much as they value access to credit.

Other studies indicating a positive relation between microfinance and empowerment include Kato and Kratzer (2013) and Pitt et al. (2006). Using both quantitative and qualitative data on women in three different regions in Tanzania, Kato and Kratzer (2013) examined how participation in a microfinance program affected women’s control over savings and income generated from business, participation in household decision-making,
household ownership of properties/assets, self-esteem, self-efficacy and mobility. The results indicate an increase in all of the areas above for members of a microfinance program compared to non-members. Pitt et al. (2006) use data from Bangladesh and measure empowerment as a latent variable that incorporates a number of indicators that proxy women's autonomy, decision-making power as well as participation in household and societal decision-making. The findings of the study indicate that microfinance empowers women as participation in a microfinance program makes women take a greater role in household decision making, have greater access to financial resources, increase their social networks, increase their bargaining power compared to their husbands, as well as have a greater freedom of mobility.

Despite the many studies that find microfinance to have a positive effect on women's empowerment, there are also parts of the literature that are more sceptical. One of the most frequently cited studies is Goetz and Gupta (1996), a study on women participating in microfinance programs in Bangladesh. They find that the men often control the loan given to the women. When it is time to repay the loan, the lack of control has a negative impact on women’s empowerment. Goetz and Gupta also suggest that, in some cases, the woman is in risk of being exposed to violence when asking the man for money to repay the loan.

4. Empirical Strategies

The influence of explanatory variables on women's empowerment is estimated by a multivariate regression technique, using an ordinary least square model (OLS):

\[ y = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \cdots + \beta_k X_{ki} + e_i \]

Women’s empowerment makes up the dependent variable \(y\), and the various explanatory variables \((X_1 + X_2 + X_3 + \cdots + X_k)\) consist of factors believed to have an effect on women’s empowerment. The next section further describes the independent variable as well as the dependent variables used in the models. The estimation results of the variables in the multiple regression models are interpreted \textit{ceteris paribus}, i.e. the change in one variable when all other variables are held constant. The OLS model assumes
that the error terms are normally distributed, and also that the variance of the error terms are constant, i.e. homoscedastic. A normality test is performed to test for the prior, whereas heteroscedasticity-consistent robust standard errors are used to avoid heteroscedasticity. The variables used in the study are also controlled for multicollinearity. In order to test the robustness of the baseline results, a sensitivity analysis is performed. The statistical software STATA is used in all estimations.

4.1 Data and Survey Description

To estimation determinants of women’s empowerment this study uses cross-sectional data from the UNDP/PACT Myanmar’s “Outcome/Impact Assessment for Microfinance Project 2011”. PACT Myanmar has been running the UNDP-funded program “Sustainable Livelihood through Microfinance for the Poor” in Myanmar since 1997, which today includes 440,000 active borrowers making it one of the twenty largest Microfinance programs in the world. The program is currently running in three different zones in Myanmar: Delta Region; Dry Zone and Shan State and 97 percent of the clients are women. The data-collection for the Outcome/Impact Assessment was conducted as a household survey in 2011 and includes 3,600 respondents from the three zones where the program is running. The respondents include both members of the Microfinance program as well as non-members – both men and women. Multistage sampling was used when collecting the data, i.e. the samples are selected in stages. This sampling method is frequently used as it simplifies the collection process—both practically and financially, compared to a single random sample where the samples are chosen totally randomized. However, as the sampling process is not totally randomized this might affect the composition of the population and thus also the estimation results (Battagila n.d.).

The figures below show the age, educational, geographical and occupational distribution of the population.

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6 http://www.mm.undp.org/HDI/MICRO.html
7 However, as parts of the population are excluded due to measurement-issues, the total population of the study is 1625. This is something that will be explained and discussed further below.
4.2 Measuring Women’s Empowerment

Despite the identification of women’s empowerment as a key variable in development, there is no standard, rigorous way of measuring it (Malhotra et al. 2002). There are no set questions or measurements that are used to create an empowerment-variable; neither is there a set way of statistically treating this kind of variable. How women’s empowerment is measured depends strongly on how the concept of women’s empowerment is defined, and in what dimension empowerment is looked upon. It is also important to realize that empowerment is an endogenous latent variable, i.e. not directly observable, and that the measurement will vary depending on what variables are chosen as observable indicators of empowerment.

Typically, women’s empowerment is measured either on aggregated (macro) level or on individual (micro) level. Women’s empowerment on macro level can be measured as several different aggregations such as community level, regional level or national level
One example of a measurement of empowerment on aggregated level is UNDP’s Gender Empowerment Measure (GEM) that measures agency on a national level in terms of decision-making and participation in the political and economic sphere (UNDP 2007/2008). Measuring empowerment on a micro level is generally done by using variables from household data – either through indirect proxies of empowerment, such as length of education, age of marriage or political participation – or variables that more directly measure empowerment, such as decision power in household, freedom of movement etc. (Mason and Smith 1999). However, many scholars argue that the method of using proxies does not acknowledge or capture the multi-dimensional nature of empowerment and that the relevance of proxies depends on geographical location or on what dimension of empowerment is studied (Malhotra et al. 2002).

In this study, women’s empowerment is defined and measured as women’s decision-making power in the household. As discussed above, decision-making power is due to its connection to the agency-concept, commonly used as a definition of empowerment, and thus also as an indicator of women’s empowerment on a micro level. Other studies using decision-making as a measurement of empowerment include the ones by Mason and Smith (1999, 2003) and Mason et al (2002).

A common way to create a measurement of empowerment is by constructing an index (see Chakrabarti and Biswas 2012, Hashemi et al. 1996, Noreen 2011). The index constructing the dependant empowerment-variable in this study consists of the answers to six questions related to women's decision-making power in the household: decision on marriage of children; decision on sending children to school; decision on asset purchase/input purchase; decision on selling of crops/selling price in grocery shop; decision on Donation; and decision on daily expenses. Each of these six questions has five answering alternatives: “Follow always” (i.e. always follow husband’s decision), “Consult with husband and lose”, “Decide both”, “Consult with husband and win” and “Initiate new idea, win her idea”. There are also two additional answering alternatives to each question: “Don’t know/No response” and “other”. As these two latter alternatives do not contain any
further information about the respondent’s decision-making level, the observations on these alternatives have been excluded.

These kinds of answering alternatives that include a ranking where the distance between two alternatives are not necessarily of the same size as the distance between two other alternatives, are termed *ordinal scales*. For example, in this case “Decide Both” is better than “Consult with husband and lose”, but we cannot say whether the distance between “Decide both” and “Consult with husband and lose” is greater or smaller than between “Consult with husband and win” and “Decide both”. However, to be able to construct an index in order to receive one single score to be used as the single measurement of women’s empowerment, the answer alternatives have to be ranked. It is arguable that the size of the distance between some of the answering alternatives should be given a higher or lower weight than the others, i.e. for example the size of the distance between “Consult with husband and lose” and “Decide both” is larger than the one between “Consult with husband and win” and “Initiate new idea, win her idea”, and that this should be taken into consideration when constructing the index. This method might however increase the risk for an arbitrary index, as there are no true theoretical or empirical answers to what distances between these answering alternatives are greater/smaller than the others, and it is also highly probable that these distances vary between the individual women.

Therefore the answering alternatives used to construct the index in this study has been assigned an individual scoring ranging from 1-5, where one indicates the lowest level of decision making (i.e. lowest level of empowerment), and five the highest. This approach consequently has the implication that the fourth answering alternative is twice as good as the second alternative, and that a change from alternative 1 to 2 is of the same size as a change from answering alternative 3-5. This obviously does not mirror the true complexity of the concept of empowerment, but is still a reliable way to analyse different levels of empowerment. Adding up the scores of the individual questions, the total score of the index runs between 6 and 30, where 6 indicates the lowest level of empowerment and 30 the highest level.

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8 Excluding these observations has a large impact on the size of the population leaving a total of 1625 observations. The possible impacts of this cut will be explained further on.
On the same basis as the case on scaling of the index, it might also be argued that some of the questions included in the index should be given a greater weight than others, as they can be claimed to have a greater significance in terms of women's empowerment; i.e. a higher decision-making level in decisions regarding selling of crops might indicate a higher empowerment level than if a woman has a high decision making level regarding donations. However, giving questions different weights involves the issue of choosing the weights and thus, as in the case with scaling, increases the risk of an arbitrary scale.

The reliability of the empowerment-index is tested through a Cronbach's Alpha test that measures how well the answers of the individual questions in the index correlate. A strong reliability indicates that the respondent has answered the set of question included in the index in a rational way, i.e. if a women has given a low score to question A, she has also given a low score to question B. The scale reliability value of the index used in this study is 0.846, which on a scale of reliability between 0-1 indicates a very strong reliability (Cortina 1993).

A summary description of the dependent empowerment variable is found in Appendix A.

4.3 Explanatory Variables

The explanatory variables are divided into four subgroups of different characteristics: demographic; economic; activity and geographic.

The demographic characteristics for a woman includes information about the woman's age, marital status, length of education, and whether she is head of the household. Age is expected to have a positive effect on empowerment, as confidence and independence are assumed to increase with age (Noreen 2011). On the same basis, education is also expected to have a positive impact on empowerment. Two variables, where age and education are squared, are also included to see if the effects that age and education potentially have on empowerment are continuous or if the effects increase or decrease after some time. Martial status is included in the models as a categorical dummy with the single variable performing as the reference dummy. The estimated coefficient results of the other categories of martial status (married, divorced and separated) are thus interpreted in relation to the single variable. Studies have found that married women are
more likely to be a part of decision-making in the household and marriage is thus expected to have a positive effect on empowerment (Hancock et al. 2011). Being head of the household is also believed to have a positive effect on empowerment as it includes greater power within the household.

The economic subgroup includes information on the woman’s total loan amount, food security and consumption. The total loan variable is an aggregation of all financial loans the a woman has taken from various lending sources. As a large part of the literature on women’s empowerment identifies credit as a key variable for empowerment, it is expected that total loan will exhibit a positive coefficient. Total loan is inserted as a logged variable to adjust for non-linearity. The variable food security tells whether the woman’s household has faced a food shortage and is thus an indicator of poverty level. The food security-dummy takes the value 1 if the woman has faced a food shortage, and 0 if she has not. Also consumption – which describes how many meals including meat, fish, egg, nut or beans were served in the woman’s household the day prior to the date of the survey – indicates the level of her income. The consumption- and food security variables are thus included to test whether economic income is a factor that determines women’s empowerment, and if having enough income to provide the family with a sufficient amount of food, would generate a higher level of empowerment.

The activity subgroup describes the woman’s main occupation, her managerial decision-making (interpreted as if the woman hires labour) and whether or not she is active in a community-based organisation other than the microfinance program. Main occupation is divided into five categories: agriculture worker (that also includes fishermen and livestock workers), sale/service worker, casual worker, skilled worker and unpaid family worker/dependant. As Burma is an agricultural country, a majority of the population possesses an agricultural-related occupation and the agriculture worker variable acts as the reference dummy in the models. However, one of the main ideas behind providing women with micro credits is to encourage them to start up small income-generating businesses which are supposed to generate economic empowerment. If this reasoning is correct, occupations-related sale and service should have a more positive effect on empowerment as compared to the reference dummy. The hire labour variable tests for whether managerial decision-making has an impact on empowerment and is expected to
exhibit positive coefficients. Due to the underrepresentation of women on all political levels in Burma, engagement in a community-based organisation (CBO) can be seen as an indicator of being empowered, and is thus expected to display a positive effect.

Geographical characteristic contains categorical dummies for three geographical zones: Delta region, Dry zone and Shan state. The Delta region variable performs as the reference dummy. The geographical characteristics are included to assure that geographical variations are not driving the results, but also to test for potential geographical differences in empowerment between different regions. As previously mentioned, Burma is extremely ethnically diverse and socio-cultural norms differ between different zones and townships, and thus also the view on gender- and intra-household roles. Consequently the estimation results are expected to indicate differences in empowerment levels among the various geographical areas.

A number of models are run to test how the estimation results hold when adding another group of characteristics. The first set of models seek to comply with the main purpose of this study; if members of a microfinance program are more empowered than non-members, and include a dummy that takes the value 1 if the woman is a member of the microfinance program and 0 if she is not a client. In the following model, an interaction variable between the client-dummy and the variable total loan is included together with all the explanatory variables, to test whether the size of loan held by a woman participating in the microfinance program has an effect on empowerment\(^9\). As seen in chapter 3, credit access is believed to have an empowering effect on women, and that an increased loan amount can also generate an increase in empowerment-level (Khan and Noreen 2012).

In the next series of models, categorical variables on length of participation in the microfinance are included in brackets of four years; to see whether the effect such a membership is expected to have on empowerment is time-dependent, i.e. The variable for 0-3 years participation performs as the reference dummy.

\(^9\) Making the implicit assumption that if a woman is a client of a microfinance program, at least parts of her loan would come from the microfinance institution.
A summary description of the dependent empowerment variable is found in Appendix B.

5. Results

5.1 Baseline results

As this study focuses on women’s empowerment, only the observations on women are included in the study and the observations on the 30 men are excluded. As previously mentioned, observations including the answers “Don’t know” or “No response” to any of the six questions, related to decision-making level in the household, that make up the empowerment-variable, are excluded from the study as they do not give any indication of the woman’s decision-making level. The implication of excluding these observations is that the total population of 3600 decreases to 1625 (1180 clients and 445 non-clients). Such a cut in the population is something that can impact the estimation results as the distribution of observations might be skewed. However, a population of 1625 is still a large enough sample to perform an econometric analysis on and to draw some robust results from.

The normality test indicates, as was expected due to the large sample size, no issues regarding non-normality and the test for multicollinearity is also acceptable.

The estimation results are presented in three tables. Table 1 summarizes the results of the first set of models that include the client dummy. Table 2 presents the result of the interaction-dummy between total loan and the client-dummy, whereas table 3 displays the results when controlling for length of participation in the microfinance program.
The results clearly show that being a client of the microfinance program has a positive effect on empowerment, as the client variable is significant on a one percent significance level in all four models. The coefficients are fairly constant in all the four models. Also the household head dummy indicates a positive correlation between empowerment on a one percent significance level in all of the models. Further, the age variable exhibits a significant positive effect suggesting that the older a woman is, the more empowered she is. However, the negative coefficients of the age-squared variable imply that the age effect is somewhat diminishing, i.e. that eventually the positive effect that age has on empowerment is decreasing.
The results in table 1 show that in two of the four models (model 2 and 4), the *married* dummy indicates that being married has a negative effect on empowerment as compared to being single, which in our models performs as the reference dummy for marital status. The explanation behind this result is potentially an implication of how this study measures empowerment as women’s decision-making power in the household in relation to the husband. Single women do not have a husband to bargain with and would therefore make decision by themselves to a greater extent than married women do (the next chapter will consider this implication further). As discussed in the previous section, education is expected to have a positive effect on empowerment. However, no such conclusion can be drawn as no significances of length of education are displayed in any of the models.

Moreover, contradictory to previous research and theory, the coefficients of the *total loan* variable exhibit a negative effect on empowerment on a five percent significance level in all of the three models that the variable is included in. These results suggest that a higher loan amount has a dis-empowering effect on women. A further elaboration on the implications of these results is found in the next chapter.

The results of models 2 and 4 suggest a significant relationship at a ten percent significance level between food security and empowerment, indicating that women that have faced food shortage are more empowered than those who have not. This result interestingly indicates that a lower level of income has a positive effect on empowerment. However, no significance of the *food security* dummy can be identified in model 3.

Looking at the estimation results of the different occupation categories, only the coefficient of *sale/service* exhibits a significant effect. The negative coefficient of this variable suggest in one of two models, on a ten percent significance level, that a woman working within *sale/service* is worse off in terms of empowerment compared to a woman working in an agricultural related occupation. As microfinance is promoting women to set up micro-business within sale and service, the opposite relation was expected. Further, no significant correlation between empowerment and managerial skills (*hire labour variable*) is found in the set of models displayed in table 1, nor between being a member of a CBO and empowerment.
The results of the geographic variables suggest, on a five percent significance level, that women living in Shan state are more empowered than women in the Delta region. This confirms the assumption that there exist differences in empowerment between the different geographical zones.

Both the R2 and the adjusted R2 are rather constant in all of the four models. In the fourth model, the adjusted R2 value suggests that 14.2 percent of the variance in women’s empowerment is significantly explained by the explanatory variables included in the model. This goodness-of-fit measurement is however fairly low, which is a sign of how multifaceted the concept of empowerment is, and the existing difficulties in trying to locate its determinants.

The results in table 2 show the result of including an interaction variable between the client and the total loan variables. The other explanatory variables that are identical to the ones seen in model 4 in table 1 are not displayed in table 2, as the interesting result is that of the interaction variable. However, the interaction variable displays no significance and no conclusion can therefore be drawn on whether loan size for a microfinance client matters for empowerment.
### Table 3

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Model 8</th>
<th>Model 9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EMPowerMENT</td>
<td>EMPowerMENT</td>
<td>EMPowerMENT</td>
<td>EMPowerMENT</td>
</tr>
<tr>
<td>Married</td>
<td>-0.831** [0.398]</td>
<td>-0.879** [0.401]</td>
<td>-0.877** [0.407]</td>
<td>-0.897** [0.404]</td>
</tr>
<tr>
<td>Widowed</td>
<td>1.137 [0.712]</td>
<td>1.073 [0.710]</td>
<td>1.027 [0.716]</td>
<td>0.948 [0.714]</td>
</tr>
<tr>
<td>Head of household</td>
<td>1.655*** [0.494]</td>
<td>1.632*** [0.497]</td>
<td>1.690*** [0.494]</td>
<td>1.758*** [0.486]</td>
</tr>
<tr>
<td>Age</td>
<td>0.062 [0.046]</td>
<td>0.070 [0.046]</td>
<td>0.067 [0.046]</td>
<td>0.055 [0.046]</td>
</tr>
<tr>
<td>Age^2</td>
<td>-0.001 [0.001]</td>
<td>-0.001 [0.001]</td>
<td>-0.001 [0.001]</td>
<td>-0.000 [0.001]</td>
</tr>
<tr>
<td>Years in school</td>
<td>-0.053 [0.082]</td>
<td>-0.042 [0.081]</td>
<td>-0.041 [0.081]</td>
<td>-0.002 [0.080]</td>
</tr>
<tr>
<td>Years in school^2</td>
<td>-0.003 [0.007]</td>
<td>-0.003 [0.007]</td>
<td>-0.002 [0.007]</td>
<td>-0.005 [0.007]</td>
</tr>
<tr>
<td>4-7 years in MF</td>
<td>-0.335* [0.186]</td>
<td>-0.288 [0.186]</td>
<td>-0.279 [0.189]</td>
<td>-0.326 [0.202]</td>
</tr>
<tr>
<td>8-11 years in MF</td>
<td>-0.227 [0.208]</td>
<td>-0.179 [0.210]</td>
<td>-0.179 [0.215]</td>
<td>-0.369 [0.228]</td>
</tr>
<tr>
<td>12-15 years in MF</td>
<td>0.425 [0.329]</td>
<td>0.498 [0.334]</td>
<td>0.506 [0.337]</td>
<td>0.351 [0.347]</td>
</tr>
<tr>
<td>Total Loan_log</td>
<td>-0.048* [0.029]</td>
<td>-0.048 [0.030]</td>
<td>-0.047 [0.030]</td>
<td>-0.047 [0.030]</td>
</tr>
<tr>
<td>Food Security</td>
<td>0.415** [0.180]</td>
<td>0.399** [0.184]</td>
<td>0.415** [0.182]</td>
<td>0.415** [0.182]</td>
</tr>
<tr>
<td>Consumption</td>
<td>0.069 [0.083]</td>
<td>0.077 [0.083]</td>
<td>0.098 [0.083]</td>
<td>0.098 [0.083]</td>
</tr>
<tr>
<td>Sale/Service worker</td>
<td>-0.323 [0.214]</td>
<td>-0.213 [0.219]</td>
<td>-0.213 [0.219]</td>
<td>-0.213 [0.219]</td>
</tr>
<tr>
<td>Casual worker</td>
<td>-0.119 [0.231]</td>
<td>0.113 [0.240]</td>
<td>0.113 [0.240]</td>
<td>0.113 [0.240]</td>
</tr>
<tr>
<td>Skilled worker</td>
<td>0.240 [0.406]</td>
<td>0.196 [0.410]</td>
<td>0.196 [0.410]</td>
<td>0.196 [0.410]</td>
</tr>
<tr>
<td>Unpaid family worker/Dependant</td>
<td>-0.249 [0.321]</td>
<td>-0.159 [0.313]</td>
<td>-0.159 [0.313]</td>
<td>-0.159 [0.313]</td>
</tr>
<tr>
<td>Active in CBO</td>
<td>-0.094 [0.239]</td>
<td>-0.023 [0.239]</td>
<td>-0.023 [0.239]</td>
<td>-0.023 [0.239]</td>
</tr>
<tr>
<td>Hire labour</td>
<td>-0.277 [0.272]</td>
<td>-0.133 [0.272]</td>
<td>-0.133 [0.272]</td>
<td>-0.133 [0.272]</td>
</tr>
<tr>
<td>Dry Zone</td>
<td>0.378** [0.171]</td>
<td>0.240 [0.406]</td>
<td>0.196 [0.410]</td>
<td>0.196 [0.410]</td>
</tr>
<tr>
<td>Shan State</td>
<td>0.627*** [0.227]</td>
<td>0.525** [0.227]</td>
<td>0.525** [0.227]</td>
<td>0.525** [0.227]</td>
</tr>
<tr>
<td>Constant</td>
<td>18.106*** [0.893]</td>
<td>17.796*** [0.914]</td>
<td>17.901*** [0.917]</td>
<td>17.712*** [0.909]</td>
</tr>
</tbody>
</table>

| Observations                     | 1,169    | 1,169    | 1,169    | 1,169    |
| R-squared                        | 0.164    | 0.170    | 0.173    | 0.180    |
| r2_a                             | 0.157    | 0.160    | 0.159    | 0.164    |

Robust standard errors in brackets

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

Table 3 presents the results of the models run to control if length of participation in the microfinance program has any impact on empowerment. For this reason, the population of these models consists only of microfinance clients. The variable on 0-3 years participation serves as the reference dummy.

One of the models (model 6), displayed in table 3, suggests that women who have participated in the microfinance program between 4-7 years are less empowered in relation to women who have been a part of the program 0-3 years. The 4-7 years in MF variable is significant on a one percent significance level in the first model; however, in the three following models, the coefficients of the 4-7 years in MF variable exhibit no
significance. The other time brackets do not display any significance in any of the models, and no robust conclusion can therefore be drawn on whether a longer membership in the microfinance program is having an effect on empowerment.

When only studying a population including microfinance clients, the *head of household* variable exhibits, similarly to the result presented in table 1, a positive correlation with empowerment on a one percent significance level. The *married* variable indicates that being married has a negative effect on empowerment compared to being single. The significant coefficients of the *food security* variable suggest, like previously discussed, that having faced food shortage, i.e. a lower income, has a positive effect on empowerment. The negative effect that total loan had in the previous set of models (table 1) is now only significant on a ten percent significance level, and that only in one of three models.

The results of the geographic zone variables have changed somewhat compared to the first set of models (table 1). The results in table 3 suggest that not only women in Shan state are more empowered compared to women in the Delta region, but that the same also holds for women in the Dry Zone. The difference in these results, compared to the results of the first set of models, is probably due to the change of the composition of the population.

The values of R2 and adjusted R2 are marginally higher in the models controlling for length of membership in the microfinance program compared to the models including the client-dummy (table 1). The adjusted R2 of model 9 in table 3 indicates that 16.4 percent of the variance in women’s empowerment is significantly explained by the explanatory variables included in the model.

### 5.2 Sensitivity Analysis

This section will check the robustness of the baseline results displayed in table 1. Firstly, potential outliers in the empowerment-variable will be controlled for, followed by an explanation of how the results differ when only studying the part of the population that includes married women, as empowerment in this study is measured as household decision-making in relation to the husband. Further, the robustness of the empowerment-
index will also be tested followed by a discussion of potential mediators and an elaboration over causality and its potential implications for the results.

It is possible that the dataset used to estimate the baseline results includes some observations that are remarkably larger or smaller than all the other observations, and that might therefore affect the regression results. Such observations, termed outliers, are detected here and excluded from the dependent empowerment variable in order to test the robustness of the baseline results. A common approach to controlling for outliers is to exclude observations found two standard deviations from the mean of the variable (Field 2005). Two new models are run with two different empowerment measures as dependent variable: one where the observations on empowerment that are extremely large are eliminated and a second model where the observations on empowerment that fall below the cut-off point, determined by the rule of two standard deviations from the mean, are excluded. The explanatory variables consist of the same variables as included in model 4 seen in table 1.

When identifying and omitting outliers with extremely low values in the empowerment variable, 1551 observations remain. The positive significance of the client, household head, age and age squared variables still hold, although the sizes of the effects of the first two former variables are somewhat smaller than in the baseline results. Moreover, the negative effect that being married has on empowerment in relation to being single, as seen in the baseline results, is confirmed but on a lower significance level. This is also the case for the Shan state dummy that once again indicates that women living in this state are more empowered than women in the Delta region. Moreover, when excluding the observations with extreme low values, the coefficients of variables separated/divorced and widowed exhibit a positive effect on empowerment compared to the reference dummy single. The significant negative effect that total loan had on empowerment in the baseline result disappears when correcting for low valued outliers.

When instead eliminating the outliers that have exceptionally high values, a total number of 1573 observations remain. The coefficients of the client and the head of household variables are very similar to the corresponding coefficients seen in the baseline results, confirming the positive effect that these two variables have on empowerment. The age
and the *age-squared* variables still exhibit significant relations with empowerment (a positive and a negative such respectively), but on a lower significance level than in the baseline results. Further, when excluding the empowerment observations with extremely high values, the negative significance of the *married* dummy (in relation to the *single* dummy) as well as the positive significance of the *Shan state* dummy (compared to the reference dummy *Delta region*) disappears. The significant negative effect that total loan has on empowerment is still visible, but on a lower significance level.

As previously explained in chapter 4, the empowerment-index used in this study is constructed based on questions on women’s household decision-making that focus on women’s interaction with their husbands when deciding over various matters. However, as women who do not have a husband (i.e. single, widowed and separated women) also have answered the household decision-making questions, it is probable that the responses that these women have given are somewhat arbitrary. It is hence of interest to run a model where observations on single, divorced and separated women are omitted, to see what effect this might have on the estimation results. Running a model with all the explanatory variables used in model 4, as seen in table 1, while omitting women with all other martial status but *married* (leaving a number of 1400 observations), the variables *client* and *head of household* still exhibit positive significances; *client* still at a one percent significance level, and *head of household* at a ten percent significance level (previously significant at one percent) but also with a lower value of the coefficient. The *age* and *age-squared* variable are no longer significant when only including observations on married women.

In order to test the robustness of the index used to create the dependent empowerment-variable, an alternative index is created. Instead of using a five-scale index, some of the answering alternatives result in a three-scale index. The answering alternatives “Follow always” and “Consult with husband and lose” are assigned the value 0, as they indicate that the woman has no decision-making power. “Decide both” is given the value 1 whereas “Consult with husband and won” and “Initiate new idea, win her idea” are given the value 2. Consequently this index will run between 0-12, where 0 indicates that the woman is not empowered and 12 indicates the highest level of empowerment. The scale reliability measures 0.90 on a scale from 0-1 and the reliability is thus strongly confirmed.
When replacing the previously used measurement of women’s empowerment with this alternative one in the models corresponding to model 1-4 (see table 1 in chapter 6), no large differences in the results can be found. The new results still indicate that being a client is significantly positive for empowerment, as is being the head of the household. The same relationship between age and empowerment that was found in the baseline results, as well as the negative impact that total loan has on empowerment, is displayed also when using the alternative index approach.

As previously stated, empowerment is a latent variable and it is therefore difficult to establish what factors, if any, are directly affecting a woman’s level of empowerment, as it is possible that mediator variables exist. A mediator is a variable that is influencing the effect that an independent variable has on the dependent variable (Preacher and Hayes 2004). The estimation results in the previous section show a clear significant positive correlation between being a microfinance client and women’s empowerment. However, these results do not explain why being a member of the microfinance program leads to higher levels of empowerment. As no significant correlation between loan amount and empowerment was found in the baseline result, nor for the interaction variable on total loan and microfinance client and empowerment, it is difficult to argue that access to credit per se is what empowers women. It is likely that there exist one or several mediator variables that influence the effect that the independent variable (client) has on the dependent variable (empowerment). Based on discussions with local staff working at one of PACT Myanmar’s field offices in Shan state, as well as a group discussion with women participating in the microfinance program, the importance of increased social networking with other women within the group-lending system for women’s confidence and empowerment was highlighted several times. It is thus possible that social networking-effects serve as a mediator between membership of the microfinance program and women’s empowerment. However, more information and data on such potential variables are needed in order to test for such mediators statistically. It should be noted that even data on potential mediators are available, although it is still difficult to isolate the effects of credit on empowerment from other non-economic variables such as education or social activities included in a microfinance program (Goetz and Gupta 1996).
When interpreting the estimation results, it is important to notice that the correlation coefficients give no indications on direction of causality (Field 2005). No conclusion can therefore be made on whether being a microfinance client leads to higher empowerment, or whether it is empowerment that makes women become participants of the microfinance program. In fact, the latter is widely acknowledged as something problematic in the literature on empowerment and microfinance, as it has the implication that the women who are already empowered are the ones to partake in a microfinance program. As many microfinance organisations have women’s empowerment as an important part of their agenda, reaching the already empowered women can thus be seen as a contradiction as the women who need to be empowered are not the ones to join such a program (Hashemi et al. 1996, Pitt et al. 2003). The same reasoning over causality does obviously apply on all the significant variables, not just the client variable.

6. Conclusion

This study has looked at women’s empowerment through microfinance with the aim of investigating whether women participating in a microfinance client are more empowered than those who do not. The study has also sought to find what factors are important for women’s empowerment. In order to measure empowerment an index was constructed based on questions related to women’s decision-making in the household. This section will first discuss the robustness of the empowerment-measure followed by a discussion of the main findings of the study and their implications.

To create a measurement of women’s empowerment, an index-based approach is used. Although the method of using an index to measure empowerment is widely common, there is no standard technique on how to construct such an index and there is neither a “right” nor a “wrong” way of doing so. To test the effectiveness of the empowerment-index used to estimate the determinants of women’s empowerment, an alternative index using a different approach was also constructed. The estimation results using the alternative index displayed the same relationship of the explanatory variables and the dependent variable as previously seen in the baseline results. It is therefore concluded that the index used for this study was appropriate.
To answer the first question of this study: "Are members of a microfinance program more empowered than non-members?" a series of four models were run. The baseline results, presented in table 1 in chapter 6, show that women that are members of a microfinance program are more empowered than those women who are non-members. The robustness of this result has been confirmed multiple times in the performed sensitivity analysis (see chapter 5:2) and thus confirms the result of several other studies conducted on the same topic.

The second question this study attempts to answer is "What factors are important for women's empowerment?" The baseline results as well as the results from the various models in the sensitivity analysis show that apart from being a client of the microfinance program, being the head of the household is also an important factor for women’s empowerment. This result was expected as being the household head indicates that the woman is having a great say in decision-making within the household. More surprising was that the estimation results on length of education did not show any significant effects on empowerment in any of the models in the baseline results or in the sensitivity analysis. Why education does not have a positive effect on empowerment, as was expected, can possibly be explained by the way empowerment is interpreted and measured in this study. As decision-making power in the household is used as the indicator of empowerment level, and since access to education in Burma is available both for men and women, it is possible that education does not affect intra-relations between husband and wife.

The expected significant positive effect that age had on empowerment, as well as the negative effect that the age-squared variable exhibited, indicating on a diminishing age-effect, that was found in the first set of models (model 1-4) and also after excluding outliers, was not found in the second set of models (model 6-9) when only including women that are members of the microfinance program or when only including married women in the regression. That age displayed no significant effect on empowerment in the latter models is potentially a cause of exclusion of parts of the population.

Contrary to what was expected, participation in a CBO did not show any effect on women’s empowerment in any of the models and neither did managerial control (i.e. hire labour).
Regarding CBO, the data on women’s participation in these organisations does not contain any information on whether the women actually have access to a CBO in their community, information that could potentially have changed the results.

No robust significant result for main occupation was found in this study. As a majority of the loans provided by microfinance institutes are issued to start up or expand micro-enterprises so that the female borrower can generate her own income and thereby strengthen her role in the household, it was expected that women that had a service or sale-related occupation would be more empowered than women working in the agricultural sector. However, as agriculture is the main-sector in Burma and since a larger part of PACT’s microfinance loans are still used for agriculture/livestock-related purposes, (even though PACT encourage their clients to take loans for diversified livelihood activities) these result are therefore not surprising in a Burmese context.

The variable on food security, that in this study performed as an indicator of income-level, displayed in both set of models in the baseline result a positive effect on women’s empowerment, indicating that women in poorer household are more empowered than women from less poor households. As in the case with education, this somewhat unorthodox result might be explained by the measurement of women’s empowerment as decision-making power. It is possible that in a household that is poor, decisions over children’s marriage and education, purchases, donations etc. might be easier as there are not that much resources to spend on these activities.

One of the most interesting findings in this study is the result of the variable total loan. From theory and previous research, it was expected that loan amount should have a positive effect on empowerment. However, in some of the models, total loan showed no significant effect on empowerment, and the only significant result on credit that was found indicated a negative relation between loan-amount and empowerment, not the positive relation expected. One possible explanation behind this result might be a cause of how the variable total loan is created. As previously mentioned, the variable total loan includes all loans from various lenders, not only from the microfinance organisation. As these lending sources also include an informal lender that borrows money at high interest rates, it is possible that these loans are causing pressure and stress rather than the empowering
effects expected from a microfinance loan. However, when looking at the interaction-effect between *client* and *total loan* to control if loan size matters when being a member of the microfinance program (see table 2), the estimated coefficient result of the interaction-variable did not either display the expected positive correlation with empowerment.

This finding is particularly interesting in the context of microfinance, as it implies that it is not credit *per se* that is generating empowerment, and that increased levels of empowerment cannot be achieved by increasing the loan amount. The absence of a positive relation between loan amount and empowerment might also suggest that the important factor when it comes to women's empowerment through microfinance is access to the credit market and the possibility to obtain a loan, rather than the size of the loan. Moreover, as mentioned in the sensitivity analysis, it is perhaps of greater importance to look at what the loan is used for, and if that activity has an impact on women's empowerment, or if there are other underlying factors that explain why women that are members of the microfinance program are more empowered than non-members. This reasoning follows the theory that there might be mediator variables, apart from loan utilization, that in this case could potentially also be participation in various educational activities included in the microfinance program or, as emphasized by PACT’s local staff as well as clients of the microfinance program, the social network effects that come when joining other women in a lending group.

This study also controlled for length of participation in the microfinance and its effect on women’s empowerment (table 3). Interestingly, the estimation result indicated in one of the models that women that have been members of the microfinance program 4-7 years are less empowered than those who have only been a member for 0-3 years. For the other year-brackets, no significant result was displayed in any of the models and consequently no conclusion can be drawn on how a longer membership affects empowerment. The result that women who have participated in the microfinance 4-7 years are less empowered than those who have more recently joined the program might be an indicator that the obligations that come when joining a microfinance program, such as repayment of the individual loan, the joint liability of the loans within the lending-group or the sacrificing of work/family-time to attend meetings, might actually be disempowering after some time. However, as this result was not displayed in the following models and no other
significant correlations between length of participation and empowerment was found, no robust conclusions can be drawn on how length of membership in microfinance affects empowerment. Yet, an interesting implication of the absence of significant correlation between length of membership and empowerment exists: As previous results say that clients are more empowered than non-clients, these new results indicate that this empowerment-effect comes from merely joining the microfinance program—that having access to credit and other benefits that membership results in (both economic and social) is what matters in terms of empowerment, and that this empowerment-effect does not necessarily increase over time.
8. Appendix A: Descriptive Statistics for the Dependent Variable

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<th>Std. Dev.</th>
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9. Appendix B: Descriptive Statistics for Independent Variables

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10 000 Burmese Kyat (1 USD = approximately 880 Kyat).
10. References


IMF (International Monetary Fund) (2012). World Economic Outlook Database. 
(2013-05-19)


