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Poverty and Micro credit

- A multidimensional impact study on indigenous women in rural Guatemala

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Fattigdom och mikrokredit
- En mångdimensionell påverkansstudie av kvinnor ur ursprungsbefolkningen på landsbygden i Guatemala

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Acknowledgements

Abstract

The high level of economic inequality in the world today is an unacceptable. The poor people of the world lack several essential services, one of them being financial services. In order to achieve economic growth and higher incomes, capital investments are a key determinant. For capital investments to take place, the availability of credit is of outmost importance – but this is usually what poor people lack. In the fight against poverty, micro finance has become an increasingly popular option amongst western donor agencies. There are scientific studies analysing the impact of micro credit, studies which several cases show a positive correlation between the work of micro credit institutions and positive effects on multidimensional aspects of poverty.

Guatemala is a country that ranks below average on most social indicators within Central America. The economic inequalities are enormous, leaving the indigenous Maya population far behind. With this point of departure, this master's thesis and Minor Field Study aim to measure the impact of micro credit on indigenous women in a village in the poorest region of Guatemala. Its purpose is to capture how the economic capacity has changed over time due to micro credits from a micro finance institution. In order to obtain a multidimensional picture of their situation, four additional related aspects are examined – political capacity, social capital, human capital and gender equality. In addition, a correlation analysis of the inter-relation between these aspects and economic capacity is carried out.

The results are two-sided demonstrating no general correlation between time and economic capacity, nor the four other aspects. The variables that increase with time are: construction of their houses of today, the quality of the clothes and political capacity. The reliability of the data is, however, somewhat questionable. In analysing this, a contribution is made to the ongoing discussion on how to perform impact studies on micro finance institutions as well as on how different aspects influence each other.

Key terms: Micro finance, impact stucy, poverty, development, and social capital.

Sammanfattning

Den ekonomiska ojämlikhet som präglar världen idag är oacceptabel. Fattiga människor saknar flertalet grundläggande tjänster, däribland de finansiella. I strävan efter ekonomisk tillväxt och ökade inkomster, spelar kapitalinvesteringar en avgörande roll, och för att dessa skall komma till stånd är tillgång till kapital ytterst viktig. Detta är dock just vad de flesta fattiga saknar. I kampen mot fattigdomen har mikrofinans blivit ett verktyg som uppmärksammats alltmer bland västerländska biståndsgivare. Det finns många studier av effekten av mikrokrediter, och i flera fall visar dess resultat en positiv korrelation mellan mikrokreditinstitutioners arbete och multidimensionella aspekter av fattigdom.

Guatemala är ett land i Centralamerika som rankas under medel på de flesta sociala indikatorer. De ekonomiska ojämlikheterna är enorma och ursprungsbefolkningen, Mayaindianerna, ligger alltjämt längst ned på skalan. Med denna utgångspunkt, ämnar denna mastersuppsats och mindre fältstudie att mäta vilken påverkan mikrokrediter har på Mayakvinnor i en by i den regionen i Guatemala. Syftet är att fånga hur den ekonomiska kapaciteten förändrats med tiden som lån tagits. För att få en mer multidimensionell bild av hur deras situation har förändrats, undersöks fyra ytterligare aspekter – politisk kapacitet, socialt kapital, humankapital och jämställdhet mellan könen. Utöver detta utförs en korrelationsanalys av relationen mellan dessa aspekter och ekonomisk kapacitet.

Resultaten är dubbelsidiga på så vis att de inte visar någon generell korrelation mellan tid och ekonomisk kapacitet, eller de andra fyra aspekterna. De variabler som dock ökar med tiden är: konstruktion av deras hus idag, kvaliteten på deras kläder och politisk kapacitet. Det går dock att ifrågasätta resultatens trovärdighet. När detta analyseras görs ett bidrag till den pågående diskussionen om hur effekter av mikrofinansinstitutioner mäts, liksom hur olika variabler påverkar varandra.

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1 Introduction

In the world today, 1,2 billion, 20% of the worlds population, live on less than one dollar per day, 325 million boys and girls do not have access to primary education, 856 million adult are illiterate of which 64 percent are women (HDR, 2001).

These are examples of services which we in the western world take for granted. The figures might sound hopeless, but it is important to keep in mind that there is today more people than ever living on more than a dollar per day, more people than ever getting primary education. The development trend for many of these aspects is still positive. There is however an urgent demand for speeding up the pace of this development. To live in a world with such immense inequality is not acceptable.

One tool that has been recognized as effective in improving many aspects of the lives of poor is micro finance. It has become a well-known and celebrated within the industry of development aid. It is said to contribute in a number of different ways to the improvement of the situation of poor. Morduch and Haley (2002), claim that micro credits show positive impacts on the first six out of the eight UN´s Millennium Development Goals.[1] Micro credit is by many donor and development agencies said to improve lives in ways that reflect multidimensional aspects of poverty, such as access to education, improvement of shelter, increasing money-making activity (CGAP, 2002) and empowerment of women (Wright, 2000). There are others, such as Garson (1996) and Månsson (2004), who are more sceptical about the outspoken positive impacts, and raises concerns about the risks present within microfinance. What methods should be used to conduct impact studies is also a debated and discussed area. By investigating how one micro finance institution, Friendship Bridge, effect the lives of poor indigenous women living in a town in the poorest region of Guatemala, this case study will add to these ongoing discussions.

Guatemala is chosen as a country within Central America, ranking below average in most social indicators. 80 percent of the population live below a poverty line of two dollars per day. Of the indigenous population (making up more than half of the population) 90 percent are poor. (SIDA, 2004) The situation of women, in particular, is disadvantageous. The indigenous women suffer from discrimination threefold – by gender, poverty and ethnicity - making them an important group to support. Adding to this Guatemala is a country that has suffered from severe civil war for 30 years, signing a peace document in 1996. In this environment, financial services reach only approximately 10 percent of the population. (CGAP, 2001) This study will investigate what impacts that access to credit might have on the lives of poor indigenous women.

1.1 Purpose of this study

The main purpose of this thesis is to assess how micro credits (MC), given by a non governmental micro finance institution (MFI) Friendship Bridge (FB) in Santiago de Atitlán, Guatemala, effects the situation of its clients. This is accomplished through an investigation of the impacts that credit have on economic capacity – physical and psychological - over time. Adding to this, four related aspects are examined – political capacity, social capital, human capital and gender equality - in order to obtain a more multifaceted view of poverty, hence a richer picture of the situation of the clients. Since there is reason to believe that these aspects

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[1] See appendix 1.

are not totally separated from each other, I have chosen an additional point of examination - the correlation between these four aspects and economic capacity.

A second purpose of this study is to contribute to the ongoing discussion on how to perform impact studies on micro finance institutions. New insights are gained through a discussion on both choice of methods and the development of the variables used.

1.2 Method and demarcations

This study took place in Guatemala from July to September in 2003 together with Nina Björstrand, a master's student of political science. Through our combined multi-disciplinary background, we increased each others understanding regarding different aspects of the study.. Björstrand worked with the concept of political capacity as her dependent variable, , whereas I focused on economic capacity. We conducted all fieldwork together, but for the convenience of the reader, I will from now on, refer to I instead of we.

In order to fulfil the purpose within the given time frame, I decided to complete an extensive, quantitative, interview study, from which I could draw statistical conclusions. Furthermore, in order to combat language barriers I decided to let interpreters do the interviews consisting of pre-decided multiple-choice questions in a questionnaire. To find suitable questions relating to the purpose, I studied and reviewed literature related to the performance of impact studies and also read the documentation of other impact studies similar to my own. Most of the questions I turned out using have been used in varying other studies to measure similar variables as mine, while Björstrand and myself construct some. In addition to this I got inputs on the cultural setting as well as on statistics by my in-field supervisor Prof. C Hugo Cardona, University of San Carlos, Guatemala City and by Prof. Horbulyk, university of Calgary, Canada. Furthermore, in order to adapt my study to the cultural settings, I reviewed and discussed the questions with different loan managers at the micro finance institution, Friendship Bridge. They had completed questionnaires earlier during home visits to new clients applying for loans. Since this data was available, I chose to use the same questions as the base for defining physical economic capacity, making it possible to compare the change for each client over time. All together, this work resulted in the questionnaire in appendix 2.

I undertook structured interviews with 47 indigenous women all living in Santiago de Atitlán. They were randomly singled out from three groups with different length of time in Friendship Bridge. A group of completely new clients (cycle one) was used as a control group.

The study has several limitations. Micro finance (MF) is usually defined as "the provision of credit, savings, and other financial services to lower-income groups" (Almeyda and Branch, 1999, p.1). This study focuses only at the micro credit part. It should, however, be noted that savings are fundamental and often the first most important step in reaching the poorest with financial services. It protects effectively against seasonal cash flows and acts as insurance/security function (Morduch and Haley, 2001).

There are also limitations related to the choice of methods. Since I could only stay in field for a limited time, I was not able to observe the change over time on individual level. For all my variables (physical economic capital excluded) I chose to observe impact changes between clients with different length of time in FB. This has several drawbacks; e.g. the measurement of income at only one occasion includes an amount of uncertainty since the income of poor

usually fluctuate much. Another drawback is related to the fact that I, for comparison on physical economic capacity, had to rely on data collected by FB, which in some cases was insufficient

Most of the possible dilemmas expressed in chapter 2.2.4 "how to measure impact of micro credit", was considered, but some could not be corrected for due to time limitation. In particular, I was not able to trace all the drop-outs, which might somewhat overestimate the positive outcome of the impact assessment.

Further limitations had to be made regarding the collection of data. The women interviewed were poor and their workload was often immense. Therefore, from an ethical point of view, I did not want to take too much of the women's time. For this reason, the questions in the questionnaire had to be made rather few and short. Therefore, I could include only a few questions on each variable. The questions had also to be put very simple in order to minimize the risk of misunderstandings. Despite these precautions, the language barrier made it impossible for me to tell for certain whether the interpreters, and to an even lesser content, the client, fully understood the questions put to them. I want to add that most of the women expressed their gratitude towards us undertaking the study.

Furthermore, in this impact study, I do not attempt to measure the level poverty by any global based yardstick. I do not have the information required to do so. I do however know, from this investigation, observing the work of FB and from what has been told to me by the co-ordinator, that the women are poor, and therefore, my starting-point has been likewise.

This study does not attempt to give a total picture of the impact that FB has had on the interviewed women. Due to limited time and scope of this study, I have excluded several aspect of importance. One of the most important is health; even though it is a prerequisite for improving the situation of an individual it is excluded. Lastly I want to add that I have neither the intention nor possibility to judge the total poverty outreach of FB neither in Santiago nor in the other villages where they operate.

1.3 Paper outline

I will start by in section 2 by presenting the theoretical background of the subjects dealt with. Section 3gives a map of the research and the research questions. As a natural continuation after this, the context of the field study and further method will be developed. Thereafter, the variables are operationalised in order to suit the context in with the research has been taken place. In this part, my hypothesis are also stated. The results and analysis of these are given in the next section. After this follows the correlation analysis. As the last chapter of this essay, a discussion and conclusions are made.

2 Theoretical framework

2.1 The concept of poverty

Due to purpose of this study, I want to start with a discussion on poverty concepts and indicators. The discussion on poverty is central to the field of development, thus to the field of microfinance. Furthermore, it will help explain the character of the questions in the questionnaire as well as what they aim to capture.

The Concise Oxford Dictionary defines the adjective poor as "lacking adequate money or means to live comfortably" (cited in Boltvinik, 2005, p.2). By referring to several languages, and authors, Boltvinik concludes, that poverty is "a state of necessity in which freedom is absent" (ibid, p.2), associated with a state of want, with deprivation, which is related to the necessities of life. The concept of poverty contains one material and one structurally determined part as well as a nonmaterial or agent-determined part. (ibid, 2005)

In a review paper on different concepts of poverty, Los-Dessallien (2005) concludes that poverty possess a great variation in concepts, thus it is of a multidimensional nature, and consequently, it can be measured in varying ways. The methods used to measure it depends on the concepts chosen to define it, which in turn determines what policies and programme packages chosen to defeat it. Los-Dessallien distinguishes three pairs of perspectives:

1.   absolute-relative poverty
2.   objective-subjective perspectives
3.   physiological-social deprivations

Absolute poverty is defined as "subsistence below minimum, socially acceptable living conditions" (ibid, p.2). Normally, this is measured as nutritional requirements and essential goods. Relative poverty on the other hand estimates the difference between the upper and the lower segments of the population, by measuring income quintiles and deciles. The absolute and relative poverty is partly independent from each other – improving one of them will not automatically improve the other - and it is therefore important to consider both aspects. (ibid)

The second distinguied pair is between objective and subjective ways of measuring poverty. The objective perspective (sometimes called the welfare approach) involves normative judgements to what is needed for a poor to move out of poverty. The subjective perspective on the other hand, focuses on the preferences of people, and their value of goods and services by using participatory poverty assessment methodologies. It helps understand the perspectives of the poor, thus functioning as important background material in shaping policies and programmes measures. The disadvantage of this approach, compared to the objective, it that is does not allow aggregation of many different utilities across a population. The supporters and users of the objective perspective, argue that this way to measure poverty is preferred since people themselves do not always know what is best for them. For instance, if it would measure nutritional levels, it makes sure that one nutritional level is the same for all, thus avoiding individual preferences on food. Both measures are, however, important contributors to the measurement and analysis of poverty. The objective school do though totally dominates the work on poverty of today. (ibid)

Perceived causes of poverty can be either physiological or sociological. The former relates to lack of income, food, shelter and clothing. To reduce poverty, stemming from the physical approach, strategies such as increasing income or consumption, and their accomplishment of basic needs will be used. The sociological deprivation stems from "underlying structural inequalities and inherent disadvantages" (ibid, p.4) It focuses mainly on power-relations and government issues, and also the inequalities related to macro policy framework and distributional systems. It looks for structural impediments/constraints that hinder the poor from gaining positive outcomes from measures directed to them. (ibid, 2005)

When measures are taken to reduce poverty, they can be either ends or means. Means refers to "indicators of inputs intended to achieve an end result" (Lok-Dessallien, 2005, p.7), usually belonging to the money-metric family. Income, as an example of means. Ends measure ultimate outcome, such as the nutritional status. A combination of both is usually the most efficient approach. (Lok-Dessallien, 2005)

Furthermore Lok-Dessallien (2005), distinguishes between qualitative and quantitative ways to measure poverty. Quantitative data can be aggregated, while qualitative normally cannot. A note here is needed. The subjective and objective approaches can be a mix of qualitative and quantitative, even though the objective approach tends to mainly use quantitative data and the subjective approach mainly qualitative. (ibid, 2005)

There are different families of poverty indicators; income and human capability are two of these. I will shortly go through their advantages and disadvantages.

Income, is the most common way to measure poverty. The dominating ways to measure it are the headcount index and per capita GDP. By calculating the cost of a minimum basket of essential goods for basic human survival, using income, consumption or expenditure data of the nonpoor households, a poverty level is determined. The advantages of this indicator is that one with ease can aggregate multiple inputs, and that it way well-being inputs accordingly to the way the real world measure it. Furthermore, the World Bank motivate their use of income with it is most often available (WDR, 2000/2001). Its limitations relates to price and commodities differentials, as well as that it leave out non-cash and free items such as public goods and services. (Lok-Dessallien, 2005) The higher income does not necessarily mean that the basic essential needs will be required (Boltvinik, 2005). It only represents the capacity to consume. Income can fluctuate without it showing on the standard of living. Wright (2000) means that an increase of income does not equal poverty reduction stating. "if increased income is simply spent in the cinema or at the tea-stall or on alcohol, there is no increase in wealth and no reduction in poverty." (Wright, 2000, p.8). Thus poverty is not only to have an income below the poverty level; thereto it is about the "inability to sustain a specific level of well-being" (ibid, p.8).

The human capability indicator measure ends. It focuses on human abilities and opportunities to participate freely in the society and live long, healthy lives. Indicators such as literacy rate, malnutrition, and life expectance are utilized. Participation is more complex to measure. Its main advantages is that is measures the real outcomes that mostly are easy to find. There is, however, no way to aggregate them into one index. (Lok-Dessallien, 2005)

Poor people live during circumstances illustrated within the different concepts and indicators discussed above. One character that is usually highlighted when discussion the situation of

poor is vulnerability. They often have to stand up against hazards such as drought, livestock disease and unexpected sickness. Their marginal of security is not too surprisingly lower than that of richer persons. There are many fundamental services that do not reach the poor such as primary health, education and financial services. (Wright, 2000)

2.2 Poor peoples access to credit

Robinson (2001), amongst others, states that there is a strong demand among poor people for credit. Availability to credit is essential for capital investments to take place. Capital investments in turn, is a key determining factor for economic growth and raising income. (Hulme and Mosley, 1996) For several reasons the credit market does, however, tend to exclude the poor.

2.2.1 Sources of demand for credit

Ray (1998) presents several reasons of why the poor might demand credit:

a)   to start a small business
b)   to smooth out consumption expenditures in uncertain and/or fluctuating economic environment
c)   to buy inputs to their income activity
d)   to educate themselves or their children

The money that is demanded for business start-ups, or for a considerable development of existing activity, is called the market for fixed capital. Credit demanded for ongoing business, which is usually asked for to smooth the income between production and sale, is called working capital. (Ray, 1998)

The sector that is in greatest need of all sorts of capital is the agricultural, while it is characterised by seasonality, thus fluctuating incomes. The fixed capital is needed in order to start up an agriculture activity or make any large investment. Since the farmer often lacks sufficient funds in the beginning of the season to buy seeds, pesticides and fertilizers; working capital is needed. The loan can be repaid after the harvest. For farmers, consumption capital is needed also to smooth income due to the uncertainties connected to agriculture such as changing weather conditions. (Ray, 1998)

2.2.2 Why credit fail the poor
There are several explanations to why credit market fails the poor. One simple explanation is that marked-led approaches tend to serve the most profitable markets first. Therefore, the more rural areas, where most poor live, will not be served until the urban and suburban regions are served. Moreover, people who are already experienced in business or people who demand larger loans will be prioritised. Since the poor seldom belong to any of these groups they will be excluded (Simanowitz, 2002).

Another explanation is related to the legal system. Governments' regulation on banks does, to a large extent, reduce capital that is available to small business. The main reason for this is that the stability of the bank system is prioritised over a more widespread outreach. The regulators do often not allow banks to lend to poor. This is a main obstacle especially in

development countries where political interference in credit markets repeatedly results in money ending up in the hands of the rich people (corruption). Despite the fact that the legal system is an important aspect and explanation to why credit fail the poor, it will not be dealt with further in this study (Terry, 1999).

According to Hulme and Mosley (1996) most institutions regarding poor people as too poor to save money, and in case they would want to take a loan, they are looked upon as very high risk borrowers. While the poor are unknown to the banks, they are high-risk borrowers; they lack written book keeping and business plans and adding to this, they are too poor to pay collateral. Thus the lack of information, together with the difficulty to enforce loan repayment, are the great obstacles for financial services to reach the poor. In other words, it is not economically profitable for lenders to service poor with credits, since there is a large extra cost associated with lending small sums to unknown borrowers. The administrative costs of finding information on if the borrower is credit worthy or not is too high. (Hulme and Mosley, 1996)

According to Ray (1998), the issue of collateral is the main reason for finance failing the poor. Ray explains the reasons why collateral is asked for, being mainly two. First, it is insurance to the lender of default. The second and most important is however to prevent intentional default; to ask for a collateral reduces the risk of the borrower to runoff with the money. When the poor, as in most cases, are unable to pay adequate collateral, the possibility of insurance comes up. (Ray, 1998) Insurers, however, do not want to compensate for risk aversion of the lender and the borrower. The reasons for this are multiple. Again, the poor are regarded higher-risk individuals. The risk calculating of the insurer, therefore, usually results in such a high cost, that the cost of borrowing-plus insurance-premium becomes too high for the poor borrower. (Hulme and Mosley, 1996) The scope of this essay limits further deepening on the issue of insurance.

Ray has a theoretical explanation to why credit often fails to reach the poor. "What you have as collateral and the perceived extent to which you value the future relative to the present determines the degree to which you have access to the credit market." (Ray, 1998, p.227) The likelihood of people with relatively small collateral to be excluded from the credit market, is illustrated in the following formulas. The maximum size of loan is limited by: 1) how much wealth that is available as collateral, 2) what kind of punishment that is available in the case of default, and 3) how profitable the business will be. To explain this, Ray uses the example of an entrepreneur who wants to start up his/her business. Suppose that the sum of starting up the business is I. Then consider that the business idea requires hiring m workers to produce the output of q, and their wage is w. Applying these assumptions, the profit will equal q-mw. The loan will be repaid at an interest rate of r. The net output will therefore be: $(q-mw) - I(1+r)$. The wealth/collateral that is needed to cover the cost of initiating the business, is W. In order for the bank to give the loan, the amount of money that they will get if defaulting occurs, needs to be at least as large as the amount they lend. If the borrower defaults, he/she will loose the amount of the collateral plus interest, $W(1+r)$, and he or she will also loose the amount of money that is reflected by the punishment. Ray denotes the expected cost of defaulting as F, as the fine (maybe prison) and a fraction γ of the profits from the business. It is only fraction because the borrower might not be caught, and/or even if he/she would be caught, the lender would probably not demand the whole profit. Thus; the borrower will accept the loan only if:

$$W(1+r) + F + \gamma\{q\text{-}mw(t)\} \geq I(1+r)$$

Rearranging the terms gives us the requirement:

$$W \geq I - (F + \gamma\{q-mw(t)\} / (1+r))$$

It illustrates how moneylenders only will accept loans to borrowers with collateral high enough. If the borrower has collateral under the critical level, he/she will not be expected. The exclusion of credit market put limits to the choice of occupation and/or investments of poor, hence hinders them from finding a way out of the poverty trap. This inherent affects effect the evolution of inequality of a society in a negative way. (Ray, 1998)

Ray further argues, that even independent of the ability to pay collateral, the incentives for the poor to repay are smaller than for richer. This is explained by the principle of diminishing marginal utility. The marginal utility for the poor to repay is less, since each amount of money is worth more to the poor than to the rich, see figure 1.2. To compare the two incomes, Yp (income for the poor) and Yr (income for the rich), observe the equal loan size by each and than compare the utility loss from repayment for the poor, A, with the utility loss, B, of the rich. The utility loss of repayment for the poor is higher than for the rich, thus the incentives to repay will be lower for the poor. Since the bank is aware of this fact, it puts the poor in the situation of being less likely to receive a loan.

Utility

Income

Yp   **Yr**
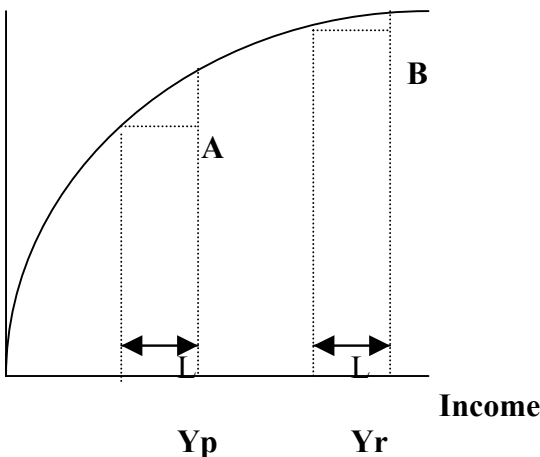
Figure 2.1. A comparison of incentives to repay between a person with high and low income (Ray, 1998, p.269)

Only judging from figure 1.2, Ray states that the reasoning is correct, but in it can at the same time be questioned, depending on the fact that the poor always get smaller loans. With smaller loan the utility loss of repayment will decrease, thus the utility difference between rich and poor will decrease. Adding to this, the figure excludes the poors´ cost of defaulting. It is reasonable to argue, Ray means, that the stakes for the poor are higher than for the rich, thus the poor have more to lose from missing the repayment, especially regarding the lack of future access to credit. In sum, Ray means that both observations might be correct. The poor might get smaller loans on average, but this is, at the same time, partly because of the poor have a higher utility of not repaying. Thus, it underpins the argument that poor have less access to credit markets. (Ray, 1998)

Hulme and Mosley (1996) raise the issue of a so-called break-even point. The break-even point is the same for any financial institution; the net income has to be at least equal to total expenditure.

| Income from loan portfolio | + | Other income | ≥ | Cost of borrowing (principal and interest) | + | Other expenditure |
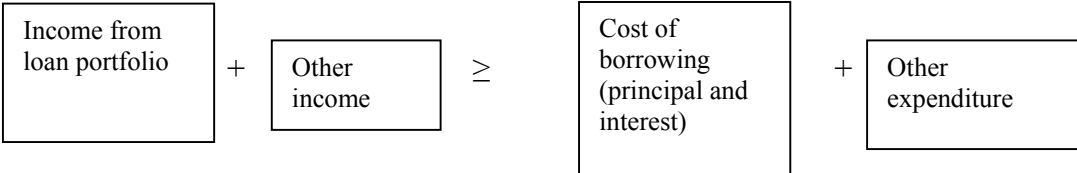
Figure 1.2. The break-even point for any financial institution (Hulme and Mosley, 1996, p.19)

This is a point that any financial institution has to reach in order to be financial sustainable. In the case of poor, the total expenditure connected to borrowing is high. Calculations from less developed countries financial institutions show that even if the default rate would be zero, the interest rate will be as high as 15 percent. And in reality the default rate for poor and/or new entrepreneurs very seldom is zero. According to World Bank's Sector Policy paper, (World Bank 1975) the average default rate for MFI is 38 per cent. By using this figure, the interest rate will be as much as 85 percent. Most countries, however, have regulations stating a maximum interest rate, preventing financial institutions from charging thus high of an interest rates. But this regulation in itself calls off the possibility for financial institutions to have poor as their clients. Important to note here, however, is that too high of an interest rate will make it harder to repay, and therefore maybe worsen the rate of default. (Hulme and Mosley, 1996)

To sum up, since the financial institutions need to move towards the break-even point (become financial sustainable/self-sufficient), the interest rate for serving poor will be very high. Thus, it seems as if there is a conflict between reaching the poor and being financially sustainable.

As we see here, the credit market is not perfect. Often, infant financial services that aim to reach the poor fail to survive due to reasons like inability to make accurate calculations of interest rate. There are, however, a number of possible techniques that can be used in order to reduce the risk of not surviving as a new financial institution of a developing country; but these are so far not used to any larger extent by formal banks. The methods are usually divided into direct and indirect methods. These will be dealt with further in coming sections. (Hulme and Mosley, 1996)

2.2.3 Who provides credit for the poor

There are different kinds of providers of credit. Since, as stated in the earlier sections, institutional lenders such as formal banks often fall short to reach poor with capital, there are some alternatives. One alternative to formal banks is informal money-lenders. The money-lender/book-keepers/traders are usually individuals that posses some "extra" money that they lend to people in their community. They tend to except collateral in more exotic forms, being interested in assets owned by the poor that the bank would not accepted as a collateral. It can, for instance, be commodities of the borrower's production. Adding to this, the money-lenders usually have much better information on the borrower regarding characteristics and activities

than is possible for a bank to obtain. These informal moneylenders, however, tend to serve a fixed, for him/her, well-known clientele. The greatest obstacle of them is, according to Ray (1998), that they are reluctant to lend to people outside of this circle. The moneylenders tend to lend to clients that he/she has lended to before – repeated lending, thus making it difficult for new clients to get credit. Adding to this, their outreach is not significant for all poor that could benefit from loans. (Ray, 1998)

Bouman (1995) discusses so-called self-helping groups that use lending and saving as ways of to improve their financial situation. They can be found in most places around the world, but their names and methodologies vary greatly. They are independent of legal structures, thus being informal groups. With objectives that are set up by them, they aim at helping people to get access to a sum of money faster than with individual savings. Some call them rotating saving and credit clubs. They are often formed by a homogenous (income level, occupation, age etc.) group of people that know each other well. It is built on social collateral hindering anyone from dropping out and/or run off with the money. As the name suggests the group of people deposit money (acting also like a saving) and afterwards it equally distributed among the members, or given as a loan to one of the members at a time, thus rotating. Bouman (1995) mentions that these types of groups recently have created connections to formal banks. Banks have opened up accounts available to groups that save for a specific purpose.

The methods presented above function under very precise circumstances and will not reach all poor. According to many scholars, there is one method - semi-formal - that has greater potentials than any of the methods mentioned so far; and that is micro credit.

2.3 Micro credit

Before I start, it is necessary to state the differences between micro finance and micro credit. Micro finance refer to the whole sector, defined as "the provision of credit, savings, and other financial services to lower-income groups" (Almeyda and Branch, 1999, p.1). Micro finance usually concerns either of the following characteristics (Ledgerwood, 1998):

- small loans that are given as working capital (loans for consumption exists also, but it is less common)
- informal appraisal of borrowers and investments
- substitutes for traditional collateral which often include either group collateral or compulsory savings
- the possibility to access repeated and larger loans that are based on the performance of repayment
- streamlined loan disbursement and monitoring
- secure savings products.

Despite the fact that it often includes different kinds of educations/trainings, this aspect is not generally included in the definition. Micro credit refers only to:

- the part of micro finance that deals with small credits.

Referring to the chapter on poverty, to my judgment, micro-credit is a policy tool stemming from the sociological deprivation concept. I look upon micro-credit as a means to avoid problems that cooperation with government entities or governmental agencies might include

(mainly corruption, but also inefficiency). Micro credit avoids, to a large extent, having to deal with macro-policy framework and distributional system of the country, instead it can directly work towards the poor.

2.3.1 Some history

According to Robinson (2005), micro finance has its roots far back in history. During, what she refers to as "the millennia of micro finance"; moneylenders, religious institutions, villages and kin-based organisations etc. were active far back in time; pawnbroking 3000 years ago in China is one example. Later in 1720 Jonathan Swifts Irish loan funds for poor started, which by the year of 1840 reached 20 percent of the Irish households. Furthermore she highlights Indonesia's commercial rural credit organisations that began in the 1890s by Dutch colonial authorities. (Robinson, 2005)

Hulme and Mosley (1996) refer to so called development finance institutions started during the 30 s. Financed by national governments and agencies their aim was to bridge the gap between the poor and financial services. They aimed at the agricultural sector, the rural poor or small enterprise development trusts. Having high debts, many of them were unsuccessful.

Micro finance gateway, on the other hand, state that micro credit is a rather new phenomena. During the 70s development aid changed from being characterised by a "top-down" and charity mode to become more focused on the donor receivers as partners in the process. In this climate the idea of giving the poor small loans developed. (Microfinance gateway, 2004)

2.3.2 Micro credit - by whom, for whom and for what reason?
MFI can be nongovernmental organisations (NGOs), credit unions, saving and loan cooperatives, government banks, or non-bank financial institutions. Particular to clients of MFI are that they live in either in rural or urban areas and are self-employed, low-income entrepreneurs. Often they engage in activities such as trading, small farming, street vending, seamstresses and small producers. Most micro finance institutions (MFI) lend money only to people with some kind of moneymaking micro-enterprise. The idea is that the lent money should be invested in the enterprise, resulting in an increase in earning. (Ledgerwood, 1998)

To increase earning and thereby reduce the income of the poor is thus the main goal of micro credits (Hulme and Mosley, 1996). Micro finance business has been regarded as one of the development aid's success stories. The main reason is that the impact is not only economical, but also socio-political or cultural and personal or psychological (Ledgerwood, 1998). For instance, MFI are known for empowering people (Micro Finance Gateway, 2004).

The range of opportunities for micro credit is huge; approximately 75% of potential clients are not reached. Furthermore, only about two percent of the global small entrepreneurs are serviced by banks (Micro finance gateway, 2004). At the end of 2001 more than 54 million families in all parts of the world were reached by micro credit. Out of these, Micro-credit Summit Campaign show that 26.8 million were among the poorest, thus living on less than a dollar a day (Yunus, 2003). Two of the first, biggest and most well known MFIs are the Grameen Bank in Bangladesh and the Action international in South America (Microfinance gateway, 2004).

Through the years female borrowers have become the major target of MFI (Microfinance gateway, 2004) Many MFI allow loans only to female borrowers. The role of women in the development process is a subject of concern for scholars all around the world. According to an increasing amount of research and studies completed by amongst others UNDP, UNIFEM and the World Bank, gender equality exceeds economic growth and development. As an example the World Bank states: "Gender inequality undermine the effectiveness of development policies in fundamental ways" (World Bank, 2001, p.6), stressing the importance of taking gender into account in the development process. Gender inequality results in slower economic growth, increased poverty, worse governance, and decrease living standard among people.

Furthermore, experiences have shown that the very poor women has a better credit discipline than men, thus their repayment rate is higher. According to micro credit summit (2004) this is probably partly due to their tendency of investing money in less-risky projects than men. Furthermore in most societies, women control the family budget, and tend to save money more regularly and invest the increased income in the welfare of the whole family (Wright, 2001)

According to Wright (2001), western feminist commentators have accused the micro finance industry of contributing to a weakening of the women's situation. The fact is, according to the critics; many of the female borrowers give their loans to their husbands. Defenders state that micro finance still strengthens the role and importance of the woman in the house, by reinforcing and enhancing her role as the family's head of budget, thus giving her a higher status.

2.3.3 Criticism against micro credit

The ideas of whether MFI in general has a positive or a negative impact are somewhat debated. Many development agencies and networks working with MFI tend to be supporters, while others such as Marr (2003); Månsson, (2004) are rather sceptical. I will present an short overview of these different arguments. In following sections, impacts of MFI will be investigated further.

Marr (2003) amongst others argue that micro finance by its pursuit of financial sustainability is destroying the very foundations of these schemes by disrupting the social fabric of communities, creating more poverty, and excluding the poorest and most vulnerable from any given group. The idea is based on the fact that sometimes, richer clients exclude the very poor from joining MFI, because they distrust the capability of the poorer to repay the depth.

Adding to this Månsson (2004), declare that the fast growing micro credit industry is one reason for why very little or nothing is done to get rid of the real reasons behind poverty, such as power and richness. There is a risk that this solution to poverty is used all over the world, without the consideration of the different demand in different places. Another risk, often forgotten, is that the woman is placed in the situation of dependency where she has to pay back the money, even though the money often are used for things benefiting the whole family. Often the man in the household decides where money is spent.

Another point of view is that micro credit will not reach the poorest of the poor, who usually lack the capability or possibility to have an income generating activity. (Garson, 1996). I will return to this discussion in the section on evidence of the impact of micro credit.

Another critique or risk with micro credit is that it might be given to those not demanding it. Micro credit should be supplied only to meet the existing needs, and not before a demand exists. Hence, micro credit should not be given to people that do not ask for it. The risk of falling into a dept trap is then high and dept is obviously not a good way of helping the poor. (Hulme and Mosley ,1996)

2.3.4 Methods to secure repayments

Micro finance use different methods to secure repayments. According to Aurell (2002) the methods commonly used by micro finance are:
• Frequent repayment
• Progressive borrowing
• Group lending
• Social collateral (also called peer monitoring)
• Gender targeting
These methods can be used together or separately.

According to Hulme and Mosley (1996), frequent repayment increases incentives to repay. It is quite simple, but might require high administrative costs. This, intensive loan collection is practised by the Grameen Bank amongst others. It reduces the borrowers' transaction cost and increases the pressure to repay. The MFI will cancel part of the interest rate from the ones who repay on time. They can also require that the clients pay a certain savings amount each month. This sum of money functions as an insurance of unexpected events that might cause failure of repayment.

Progressive borrowing implies that the lending institution increases the loan size progressively as the borrower demonstrates a good repayment rate. It works as an effective incentive to repay the loan. It functions well when the borrowers are not too mobile, such as in rural areas. In urban areas, where the mobility is likely to be higher, a loan without collateral might be misused, hence not repaid. Especially, there is a great risk that the last loan is not repaid, since there are no more incentives. (Morduch, 1999)

Group lending, in short, usually means that a groups of 4-5 people share one loan. If one fails to repay the other ones have to take responsibility of repaying the missing money; if they want to be able to take more loans. Thus, this method makes use of so-called social collateral. It can be regarded as an indirect reduction of risk, since it means delegating part of responsibility of repayment on the borrowers themselves. The reasons for doing this are: 1) that it will reduce the administrative cost for the borrower, and 2) that the probability of default is decreased by the consequence of peer pressure to repay loans that is put on one another in the group. These group schemes are common all around the world. (Hulme and Mosley, 1996)

Group lending has however two obvious difficulties. The first one relates to the fact that the lender wants to minimise the administrative costs, thus are tempted to increase the group sizes. This will include the risk of worse repayment rate while the peer pressure decreases

with the size of the loan group. The most efficient, proved by several studies, is it to keep the groups rather small (4-5 people) and like-minded. The second possible problem is that in-group member that is tempted to default, might ask a group-member to repay their part, pledging for misfortune. (ibid)

Comparing individual lending with group lending and adding the social penalty imposed on defaulting, group lending seems to be the most effective for poor borrowers. In order to avoid the second problem above, that the borrower temp to default and let richer group member pay their part, the groups should be put together with as "equal-poor" borrowers as possible. (ibid)

Gender targeting is related to aspects already mentioned. The women often show to be more reliable lenders and adding to this they are usually less mobile (that is to move from their home town), which decreases the risk of running off with the money. (ibid)

2.3.5 Chain of impact of micro credit

Simply put, the impact of any measure is the difference between the outcomes in the case of a program intervention and the outcome without any intervention. This is illustrated in figure.
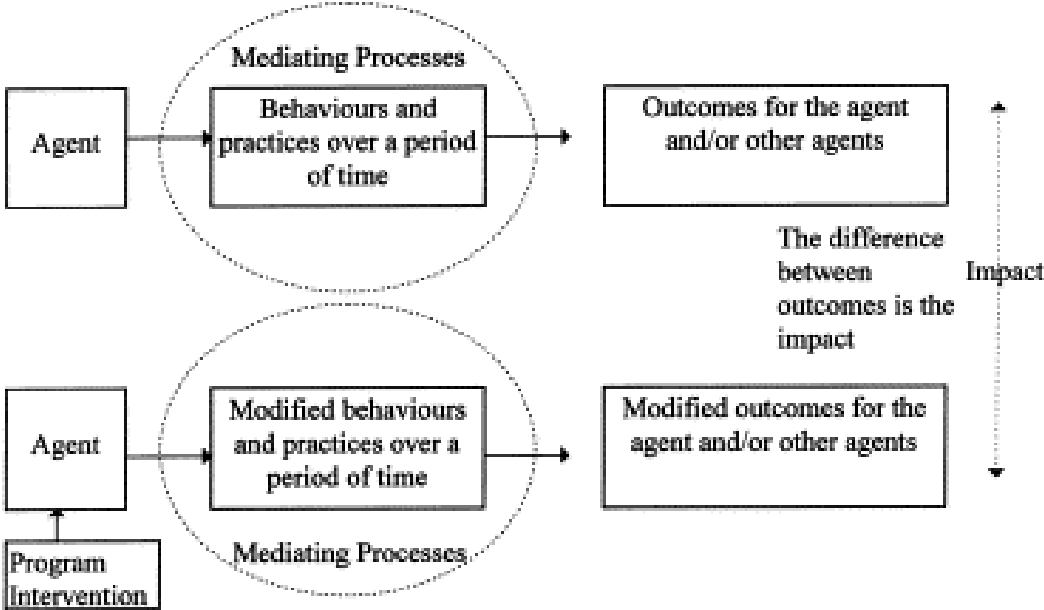
Figure 2.3. The conventional model of the impact chain. Hulme (1999), s.4

2.3.6 How to measure the impact of micro credit

2.3.6.1 Background – why conducting impact studies?

"Microfinance programs and institutions are increasingly important in development strategies but knowledge about their impacts is partial and contested." (Hulme, 1999, abstract)

In order for the participants in MFIs to determine what difference they make to their clients, and in what ways they can improve their activities, impact analysis (IA) are conducted. If impact analyses are not conducted, it is difficult to legitimate MFI as a poverty reduction tool. To carry out an impact study is however complex and it often involves large expenses. (Ledgerwood, 1998).

2.3.6.2 What kind and on what level?

Impact assessment focuses on different kinds of impacts. Similarly to the measurement of poverty, the economic indicator - income - has dominated despite the complexities of measuring changes in income. Other economic indicators such as patterns of expenditures, consumption and assets are also quite common. According to Hulme (1999) assets is a particular useful indicator since the level of assets do not fluctuate as much as many other economic measures. Other measures that became popular in the early 80s are social indicators such as access to health service, education status, use of contraceptive and nutritional measures. Later, these were put together with indicators of more socio-political character such as empowerment of the clients. This in turn lead to an increase in measures of individual control over resources, involvement and decision making in the household, and involvement in community issues, social networks and electoral participation. These were all connected to investigations of gender relations. (Hulme, 1999).

Moreover, IA focuses on altered level such as individual, enterprise, households, community, institutional impacts and household economic portfolio (Hulme, 1997). Since the focus of this master's thesis is on the impact on individual level, a thorough discussion on other levels will not be held.

Usually, what determines the focus of an impact analysis is the goal of the MFI. If the goal is to increase women empowerment, the impact assessment will focus of women empowerment. The narrower the goals of the intervention is, the less complicated the impact study becomes. Often factors like time, cost and inconvenience of the clients decide how the impact will look like. (Ledgerwood, 1998)

2.3.6.3 How to conduct an impact study

Hulme (1999) investigates the different methodologies of IA for micro finance. He distinguishes three different ways to conduct an IA; the scientific method, the humanities tradition and the participatory and action method (PLA). There are obvious similarities between these, and the methods used to measure poverty.

The scientific method has two common approaches. The first makes use of multiple regressions. This is quite rare, while it requires enormous demands of data on other possible factors causing a change. The second makes use of a control group. (Hulme 1999) It might be that the identified change would have happened irrespectively of the impact of the MFI. The control group should be a group of people with similar characteristics as the participants regarding characters such as gender, geographic location and income. If there are changes to this group, it is looked upon as changes that would have occurred among the clients irrespectively of the MFI activity. To find a control group with similar characteristics is often difficult and time consuming. One way to avoid this issue is to use a cross-sectional design to identify causal inferences. As an example the current differences between first year, second year and third year clients can be seen as results of the MFI activity. (Barnes and Sebstad, 2000). Similarly, Hulme (1999) means that a group of "clients-to-be" that have not received loans can act as a control group.

One common problem occurring in the use of the scientific method is the assumption of one-way causality. It is often expected that the intervention leads to an impact, which might be accurate in the case of laboratory experiments when cause and effect can be separated, but for human activity it is far more complex. To overcome this, the use of least squares technique

and regression analysis can be used. Another efficient way to cope with it is to trace the dropouts from both the treated and the control group, or to gather qualitative information about the complexity of causality by making in-dept interviews with clients. (Hulme, 1999)

The second method, the humanitarian tradition does not aim to prove impact with statistics. With its roots in humanities, this qualitative approach has its main features within inductive approach, focusing on key informants and keeping records of notes or images. This method contains a broad variety of approaches, such as sample surveys, rapid appraisal, participant observation and case studies. In order to seek validity, it is increasingly common to combine the humanitarian tradition with the scientific method. (ibid)

The last method, participatory learning and action (PLA), is being used to an increasing extent. Overall, just as in the case of poverty measurement, participatory methods are becoming increasingly common as methods not only of IA, but also as ways to conduct the continuous work within MFI. Within PLA, many different methods are used, contributing to the reliability of its results to vary greatly. Most of them, however, aim to make the clients themselves identify indicators, monitor changes and evaluate changes. Through working this way, the process itself contributes to empowerment. This method puts much critic towards the scientific method for amongst other things, ignoring complexity and diversity. Furthermore it accused of not admitting that there are multiple realities to be understood, and of reinforces the empowerment of the policy-makers and elites, thus rejecting the development goals. (ibid)

Hulme (1999) summarize some common assessment methods in the following table.

Table 2.1. Common assessment methods, reconstructed from Hulme (1999, p. 10)

Method	Key factors
Sample surveys	Collect quantifiable data through questionnaires. Usually a random sample and a matched control group are used to measure predetermined indicators before and after intervention
Rapid appraisal	A range of tools and techniques developed originally as rapid rural appraisal (RRA). It involves the use of focus groups, semi-structured interview with key informants, case studies, participant observation and secondary sources
Participant observation	Extended residence in a program community by field researchers using qualitative techniques and mini-scale sample surveys
Case studies	Detailed studies of a specific unit (a group, locality, organisation) involving open-ended questioning and the preparation of "histories"
Participatory learning and action	The preparation by the intended beneficiaries of a program of timelines, impact flow chart, village and resource maps, well-being and wealth ranking, seasonal diagrams, problem making and institutional assessments through group processes assisted by a facilitator

According to Ledgerwood (1998) and Hulme (1999) amongst others, the most efficient way to accomplish an impact study is to combine a quantitative with a qualitative investigation. Using the terms of Hulme (1999), a combination of the scientific, humanities and participatory method is the most efficient way to know the outcome of MFI.

2.3.6.4 Dilemmas of making impact studies

Despite what method is used, there are several dilemmas connected to conducting trustworthy IA. The issues of temporary impacts and hypothetical impacts that would have occurred even in its absence exists, is one of them, being further explored below. Adding to this "the dilemma of the human subject as a dynamic target" (Ledgerwood, 1998, p.50) is presented. Ledgerwood refers to the inherent complexity of human being concerning the culture, the society and the person her/himself. And further complicating the matter, these three commonly change at different speed. These aspects can erode positive outcomes of an impact. E.g. inequalities within a community might give the less well-off clients negative opinions of the MFI, even though their relative change is positive. Thus, if the MFI only had investigated the aggregated outcome, these effects would have been lost. (Ledgerwood, 1998)

Another difficult matter in measuring impact of MFI is transparency of the answers of the client, thus honesty. Aspects that might effect the truthfulness of the clients' answers are embarrassment, not wishing others in the community to know, wanting to impress the interviewer, wishing to please the interviewer, frightens of taxation and lastly that the client might not simply understand the question. (ibid)

"The vested interest of the assessment team" (ibid, p. 51), simply suggests that the wished outcome of the impact study unconsciously shines through in the way questions are put and in the way the sample selection is done. This is a risk especially in the case when the investigator is getting paid by the MFI to do the study. (ibid)

The dilemma of knowing whether the measured impact connects to the MFI is also relevant. In order to know for certain that the effect observed relates to the MFI and not to any other incident, the investigator needs to know all about all other sources of income as well as its uses. (ibid)

The issue of temporary impacts is also relevant. As mentioned fluctuations and thus vulnerability lies in the nature of the definition of poverty. Hence, a small increase of income, as one example, might quickly be wiped out. All the aspects related to dilemmas of observing effects of MFI should be carefully considered when doing impact studies. (ibid)

As mentioned, getting into the field of quantitative impact studies demands a great amount of effort. First of all, several scholars referred to in this thesis, stress the need of a control group towards which the impact of the MFI can be measured. This is a complex task since it is almost impossible to find a group of people having the exact same characteristics concerning income, business, education level etc. as the group of clients tested against. (ibid)

Hulme (1999) adds one important issue of IA, the issue of overestimating the positive impact by the failure of pursuing dropouts.

2.3.7 Evidence of the impact of micro credit

As mentioned, there is a debate on the impact of MFI. During the last 10 to 15 years the micro finance industry has been quite carefully studied, resulting in a huge amount of literature on the subject. According to Morduch and Haley (2002), most of the MFI tend to care more about their own financial subsistence than on how well they reach the poor and how well they succeed in poverty reduction. Despite the fact that there are several independent studies made

on MFIs, it is difficult to get a full picture of its effects, illustrated and introduced earlier in the chapter "Supporters and sceptics of micro credit".

There are very few studies comparing the impacts of micro finance with other possible alternative interventions. Therefore, it is often difficult to distinguish certain aid from the effects. Thus, making it difficult to say what micro finance actually succeeds with that other work would not have managed to. Morduch and Haley (2002) do, however, conclude that micro finance does have instantaneous impact on a broad range of poverty reductions such as income, health, nutrition and education. The authors have analysed the effects of micro finance on poverty reduction, summarising and referring to several larger studies. They state that the average repayment rate of MFI globally is estimated to be over 96%, which in itself can be seen as a proof of its effectiveness. Moreover, micro finance is often said to create a favourable environment for entrepreneurship for people with low income. Adding to this, it is also likely to build civil societies by strengthening the NGO sector by involving the clients in community activities and economic activities. Thereto, the increase in income helps improvement of education, health family planning, nutrition, water and sanitation and shelter. Micro finance is also often mentioned to have positive social as well as vulnerability impacts. To give small loans also increase work opportunities according to Simanowitz (2002).

Wright (2001) refers to data from the Grameen Bank, where it is stated that the bank members incomes were about 43% higher than the target group in the control village and about 28% higher than target group in the same village. Furthermore he cites data from the World Bank stating that the Grameen Bank both reduced poverty and improved welfare of its participating households; and in adding to this it also increased their capacity to sustain their gains over time.

Referring to Hulme and Mosley (1996), micro finance is "proven to be an effective and powerful tool for poverty reduction" (p.1). Similarly to other development assistance work, it does not however fully manage to reach the poorest. Some of the reasons for this have been raised earlier. Hulme and Mosley further develop this explanation by stating; there is a trade-off between being financial sustainable (that is to have a high rate of repayments) and reaching the poorest. The impact on a client is usually higher when the income is somewhat higher. Not surprising maybe that people with higher income have a greater scope of investment possibilities, Hulme and Mosley argue. They can obviously take greater risks without jeopardising their subsistence. As advice and conclusion, they emphasise the importance of having the poorest as the outspoken target. Robinson (2005), on the other hand, means that, it should no be regarded as a problem, that the MFI do not reach the poorest. The poorest should instead, be reached by subsidized poverty alleviation programs. Micro finance should focus only on economically active poor, defined as; "people who have some form of employment and are not severely food deficient or destitute" and that "can repay a small loan at an interest rate that enables the lending institution to be financially self-sustainable" (Robinson, 2004:1, s. 3). Most MFI today are not financial sustainable, which Robinson means is a great obstacle for the long run survival. MFIs need to be sustainable, and they will not be unless they are financially self-sufficient (FSS). When the level of FSS is reached they can start to increase the outreach, which is urgent. Today, the majority of MFI are not FSS.

Whether or not the MFI should or should not reach the poorest, they show positive impacts on income smoothing and level of income of its clients. Furthermore small loans help decrease vulnerability. Hulme and Mosley (1998, p.3) state: "While micro finance may not alleviate extreme poverty in terms of income measures, it may still provide important benefits such as

consumption-smoothing and income diversification which 'protect' the existing statuses of households by providing a safety net that contributes to crisis-coping capabilities." Similarly Robinson (2001, p.6) states that micro finance help "low income people improve household and enterprise management, increase productivity, smooth income flows and consumption cost, enlarge and diversify their micro-business and increase their incomes".

There are not as many studies on health, nutritional status and primary schooling attendance, but the existing data is unimpaired and incontestable (Morduch and Haley, 2002)

According to Anolin (2000), micro finance has also made societies better aware of their female problems. General evidences of positive effects are, however, less clear. One of the most influential studies on the subject by Goetz and Gupta (1995), made in Bangladesh, show that the women were not empowered. They conclude that only to give women small loans is not economic empowerment. These results, however, has been criticised to focus too much on the control over the loan, which cannot be considered as the empowerment factor.

The impact of micro finance on political capacity or participation is rather week. The connection can, however, be drawn to evidence on correlation between engagement in civic organisations and political participation (Björstrand, 2004)

2.4 Economic capacity

As stated earlier, the idea behind micro credits is that it increases the micro enterprise income. According to Hulme (1999) an income change will lead to an increase of household income, thus effecting household economic security. This will in turn affect the members of the household and its possibilities such as educational, health service possibilities and overall economic opportunities. These changes are likely to influence aspects of social and political character. This chain of impact illustrates quite well the purpose of investigating the multiple aspects of the situation of the women chosen in this dissertation.

The first step of change is, as mentioned, economic income. The term "economic capacity", (EC), is commonly referred to as a broad description of the capacity to increase the resources of a family, which is of outmost importance for food security, nutrition and health (MkNelly and McCord, 2002). MkNelly and McCord (2002) include the following:

Sales and profit in the business
Assets – financial, physical and human
Expenditures
Diversified income sources (for risk reduction)
Stability in working capital, inputs and earnings
Entrepreneurial skill and experience

Such a broad definition is, however, not room for in this study. Some of them will though be included in the four other aspects, which will be described more closely in the following sections.

Furthermore, Hulme and Mosley (1996, p. 105-106) mean that:

"...the many forms of deprivation that very poor people identify themselves as experiencing that are not captured by income-poverty measures. These include vulnerability to a sudden dramatic decrease in consumption levels…"

With this point of departure, a second part of economic capacity dealing with psychological aspects is included. In the literature I have not found any equivalence to my chosen variable. My variable aims to take a subjective perspective (Lok-Dessallien, 2005), thus being based of the preferences of the clients. It will be further operationalised in later sections.

2.5 Political capacity

The most commonly used term of political issues is political participation referring to "those activities by private citizens that….aim at influencing the government" (Teorell 2003, p.53) Since the level of actual political participation, such as to vote in the election, is close to zero among indigenous women in Guatemala the term was renamed to political capacity trying to catch some skills and patterns in behaviour that could be linked to a future political participation.

Political capacity was selected as an important measure of impact since Guatemala is a country with practically no real broad possibility for political participation, being a newly emerging democracy with all the obstacles that it includes.

2.6 Gender equality

The term gender equality can include a number of components. It often refers to equal rights and equal possibilities between men and women. As the situation look like today in many poor countries, as well as in rich, if there is far from equal rights for women and men. Gender equality can be discussed in terms of the respect the woman and man show against each other, the relative ownership of resources and lastly their voice in family decisions. Wright (2002) means that the status of the woman is closely related to the proportion of money that the woman can contribute with to the household. Thus, it should be related to the activity of micro credit. (Wright, 2002)

The choice to measure gender equality is supported by the fact that it is of outmost importance in development and economic growth. Thereto I believe that it can be an outcome of having more influence over the economic situation of the family. Adding to this, gender equality was one of the topics discussed and dealt with in the educational sessions of FB.

2.7 Human capital

Most scholars define human capital as some kind of education or skills. The definition used by Mankiw (1997) is quite universal, defining human capital as " the knowledge and skills that workers acquire through education, training, and experience" (p.242). The definition is; something acquired by an individual to enhance the production of the economic society.

Human capital was chosen as while education is one fundamental aspect behind all development. Furthermore, it played an important role in the work of FB.

2.8 Social capital

The World Bank (2003) defines social capital as "the institutions, relationships, and norms that shape the quality and quantity of societies social interactions." (Internet page). Social cohesion/solidarity is crucial for societies to be both economically prosperous and sustainable. It is further often stressed that social capital is not the institutions that build a society but rather the glue that makes it hold together (World Bank, 2003).

Social capital is often also defined as trust, attitudes and values in peoples interactions. (Anderson et.al., 2002) Well-functioning civic networks are thus what often are referred to when talking about social capital. Networks such as co-operatives, neighbourhood associations and even unions of sport or other hobbies are fundamental to the creation of social capital; thus it is mostly built as by-products of an activity. (Putnam, 1995)

Usually social capital is divided into horizontal and vertical or bonding and bridging. Horizontal/bonding refers to the social connections/associations between people that are already from the same social network with similar norms. This might have a positive impact on the productivity and well being by stimulating co-ordination and co-operation, but can also be disastrous if people choose to isolate others. Groups working only for its own common best making others suffer can hinder both the economic and social development. The vertical/bridging social capital refers to the connections/associations created across networks, which connects people to resources, relationships and information beyond their immediate environment. (Putnam, 1995)

I chose to study social capital since it is highlighted as a crucial factor behind development and because of my impression that it is often forgotten in development work. Adding to this, it is one of the foundations behind a well-functioning micro finance institution, since it depends on that the women in one loan group trust each other.

3. Research question & design

From the theoretical framework presented the following research questions, hypothesis and design was chosen.

The main research question of this thesis is;

With time, does the MFI, Friendship Bridge, Guatemala, succeed to increase the economic capacity among its borrowers in Santiago de Atitlán?

Economic capacity will be measured and divided in the following two ways:
1) Physical economic capacity; measured by observing income of the client, the construction of the house and assets of the household
2) Psychological economic capacity; measured as the individual perception of the economic situation

The reason for not only measuring the physical economic capacity, thus adding a psychological dimension to the concept is that several studies support the fact that income increase often correlates with the self-defined criteria of quality of life (Hulme and Mosley, 1996 amongst others).

Economic capacity is my dependent variable, illustrated in the map of the research design, hence it is the main variable that I aim at investigating and explaining.

It is my belief that micro credit does not only have the potential to impact on strictly economic aspects of life. Moreover, I want to include broader aspects of the situation of the women in my study in order to find out more about the impact of FB on its clients over time. I also believe that these other aspects can help increase the economic capacity. For this reason, I have chosen to examine four additional aspects – social capital, human capital, political capacity and gender equality. Furthermore, supported by literature, my hypothesis is that these aspects correlate with economic capacity. A correlation analysis will test this.

As illustrated in the map below, the independent variable, the variable that will explain the dependent one, is duration of time in micro finance institution. The hypothesis is that an increase in economic capacity might occur both directly by taking a loan, but also through changes in the other four variables, the intervening variables. Thus I expect correlation between the four intervening variables and my dependent variable.

Adding to this, I also test for one alternative explanation, an aspect that is not effected by the membership in the MFI. This is the level of schooling, measured by the ability to read and write.

┌───┐
│ INDEPENDENT VARIABLE   DEPENDENT VARIABLE   │
│ ┌──────────────────────┐   ┌──────────────────────┐   │
│ │ Duration of time in the │──────────────▶│   Economic capacity │   │
│ │ micro finance   │   └──────────────────────┘   │
│ │ institution   │   │
│ └──────────────────────┘   │
│   │   INTERVENING   │
│   │   VARIABLES   │
│   ▼   │
│   ╱────────────╲   │
│   ╱ Social capital ╲   │
│   │   Human capital   │   │
│   │   Political capacity│   ALTERNATIVE   │
│   ╲ Gender equality ╱   EXPLANATION   │
│   ╲────────────╱   │
│   ⋯⋯⋯⋯⋯   │
│   ⋮ Level of ⋮   │
│   ⋮ education ⋮   │
│   ⋮ of the client ⋮   │
│   ⋯⋯⋯⋯⋯   │
└───┘
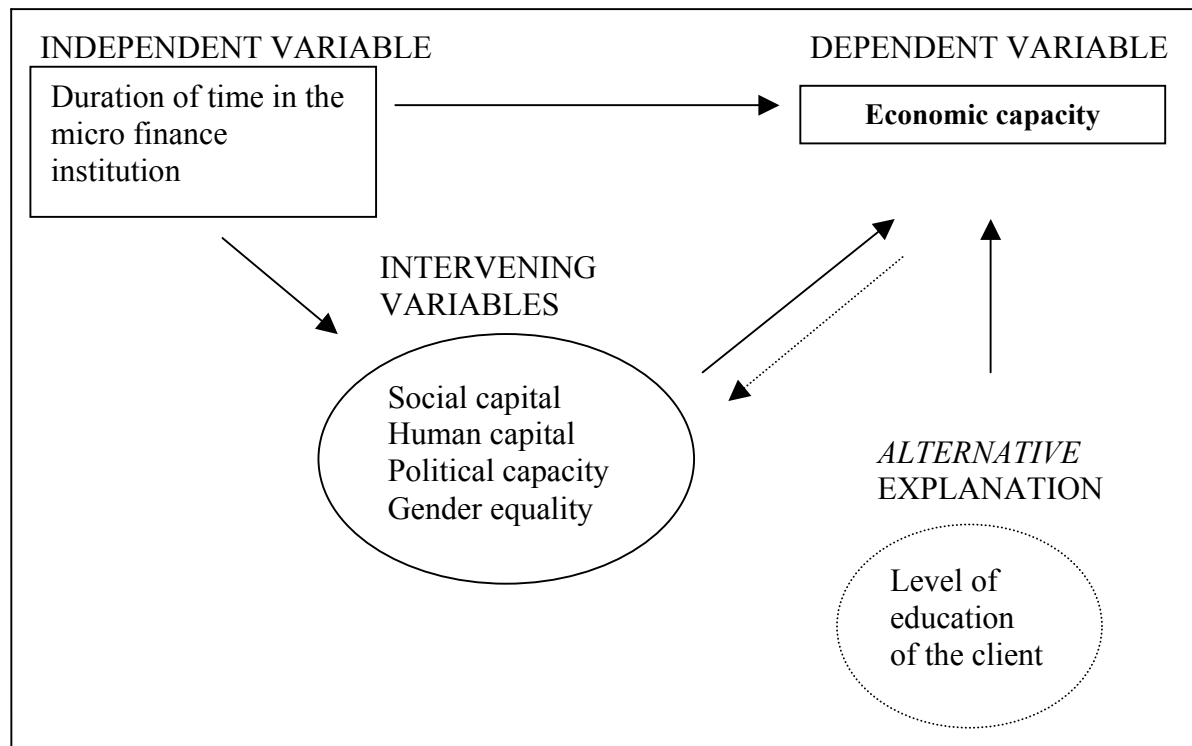
Figure 2. Map of research design.

As a concluding question I asked the clients how they felt in their homes today compared to before they joined. This will be used as a final control of the success of FB.

As mentioned, the most common way to measure the impact is to compare the size of the variables towards a control group. Since this includes a number of issues raised earlier, I suggest a new way to solve it (partly related to literature studied). I believe that using a control group contribute to a skewed data since the clients of MFI often differ from the average person in the same community. I believe they differ in characteristics such as self-confidence, independence and entrepreneurship. Generally it is likely they have a higher belief in their own capacity. I have excluded the bias that this would imply to the result by having a group of completely new clients as the control group.

One additional, embedded, purpose of this study is to develop and test:
- A concept of undertaking an impact assessment.
- Questions to measure the chosen aspects of impacts investigated in the study.

4. The field study

Now that the map of the research design has been given, I will turn to presenting a picture of the context of the field study. It is of outmost importance to get an idea of what the women in the study have gone through during their lives. Especially, it is of relevance for the political capacity and social capital aspect.

4.1 The Guatemalan context

Situated in Central America south of Mexico, Guatemala also neighbours Belize, El Salvador and Honduras. The dominant religion is Roman Catholicism, and there are also Protestant (about 30%) and traditional Mayan minorities. The official language is Spanish (about 60% of the people), but there are still many indigenous people that only speak one of the many indigenous dialects. (Encyclopedia, 2004)

For its about 11.4 million inhabitants, Guatemala has among the worst health outcomes in the whole of Latin America. It has one of the highest infant mortality rates, and one of the lowest life expectancies at birth. Related to this, Guatemalan children have the highest prevalence of chronic malnutrition in Latin America 2000, being among the highest in the world. It is, however, not equally dominated among all its inhabitants; socio-economic and geographic inequality is high. Here, ethnicity also plays an important determinant of child nutritional status. (Gragnolati & Marini, 2003)

These figures show to a great deal what is true for overall inequality of Guatemala. The economic inequalities are huge. At the same time as Guatemala has one of Central Americas highest average income per capita, 80 percent of its population live below the poverty line (two US dollars per day) and 69% below the extreme poverty line (one US dollar per day) Of the indigenous population, making up more than half of the population (State Government, 2004); 90 percent are poor. (Sida, 2004) The majority of the rural population lives in fragile and vulnerable conditions as a result of high levels of poverty, unemployment, low standards of living, lack of access to resources, unequal ownership and distribution, environmental degradation and slow economic growth. (UNDP, 2004)

The population consisting of more westernised Mayans and mestizos (mixed European and indigenous ancestry) are called Ladinos. The indigenous population have much higher incidence of poverty as well as illiteracy. They are socially, economically and politically excluded, and like many Guatemalans they lack access to public health and education. In other words, Guatemala is a country with enormous inequalities.
(State Government, 2004)

Explanations of the situation of today in Guatemala are to be found in history. From 1523 until 1821, the region was under Spanish rule. By 1821 it became independent, involved in the Mexican Empire of Agustín de Iturbide and thereafter a part of the Central American Federation. When the federation collapsed, Guatemala became a country of its own (1839). (Encyclopedia, 2004)

From the mid 19th century until the mid 1980s Guatemala have suffered a series of dictatorship, coups and military rule, which only some periods of representative governments. (State Government, 2004)

Guatemala suffered from a civil war for 33 years. Many of the historian scholars blame the start of the conflict on the US who started to support the leftist in 1954. The civil war was fought between a series of right-wing military governments and various leftist guerrilla movements. (Worldtravelguide, 2004) The worst conflicts occurred during the 80s. The military suppression of all antigovernment organisations and people were huge. Under the rule of General José Efraín Ríos Montt, an enormous amount of people, mostly indigenous men were killed, in the name of anti-communism and stabilisation. Over 400 villages with most of its inhabitants were massacred. It has been estimated that over 15,000 civilians died under the rule of Rios Montt, and over 100,000 refugees, again mostly Maya, had to flea to the boarder of Mexico during a long period. Rios Montt was deposed in a coup led by General Oscar Humberto in 1983, but the killings continued. Not until the beginning of the 1990 when the last big massacre occurred in Santiago de Atitlán (the village in focus of this study), ten Tzútuhil Maya men and three children were killed in the field, outrage and fighting back really started. By popular demand Santiago was the first village to drive out the army. Finally, in 1996 a peace accord was signed between the government and the guerrilla movement, URNG (Lonely Planet Guatemala, 2001). As of today the political situation is rather calm. The most common disasters that occur today, is natural; floods, landslides, hurricanes, droughts, bush fires, earthquakes, volcano eruptions, and traffic accidents. (UNDP, 2004)

The political and economic situation during the time of relevant for this study (five years) has been rather unchanged, thus assuring that the impacts observed in this study is not due to any macro economical external changes. Wolters (2002), who has been in Guatemala and Santiago since the start of FB supported this.

4.1.1 Micro finance in Guatemala

In the whole of Latin America, but especially in Guatemala, the demand of micro finance institutions exceeds the supply. The estimated market penetration in Latin America is 10%. At the same time Latin America suffers from too many small and weak MFIs that achieve too few results. By relying highly on subsidies many of them manage to exist despite low level of performance. (CGAP, 2001). Central America is the part of the world most densely populated by MFI. Two of the biggest micro finance institutions in Guatemala are credit unions, Unión Popular and Unión Progresista Amatitlaneca. Credit unions in Guatemala do not exclusively define their mission as serving the poor, but describe their client base as economically active, poor to middle income clients. Their goal is to diversify their membership income and wealth base to build a stable core membership (Almeyda and Branch, 1998).

4.2 The setting of the field study

By the setting of the minor field study, I refer to under what circumstances the field study was carried out. This chapter will describe the village of focus in this study, as well as the MFI.

4.2.1 Santiago de Atitlán

Guatemala is divided into departments. In the poorest department, Sololá, we find Santiago de Atitlán, situated on the lake Lago de Atitlán. According to UN figures Santiago with its approximately 15 000 inhabitants has the largest proportion of illiterate people in the whole department. (Naciones Unidas, 2000)

Santiago de Atitlán is a location of quite a unique history. From studying literature and conducting an interview with a person living in Santiago, I got an understanding of the history of Santiago. As stated above Santiago was the first village to drive the military out, making it an important place of history.

The conflicts sweeping all over Central America around the 70s was experienced by Santiago in 1979. The conflict between leftist and students from the university searching for co-operators in the countryside and the right-wingers that were desperately acting to keep the communists out started. The bad relations between people of Santiago and the military started from a misunderstanding, where 25 people were killed. When hearing a gun shot, a truckload of militaries thought they were under attack by the guerrilla. The shot did, however, come from a duck hunter by the lake. The military started shooting and torturing people in order to find the guerrilla. After this, the military set a base in Santiago that lasted for 10 years. The military looked for the guerrillas in the field, placing land mines in the ground, which forced farmers to stop their activities. (Santiagoatitlán, 2004) During the whole of this time, men were taken away in the middle of nights from their homes, tortured and forced into joining the government military forces. These forces in turn, had to torture and take new boys, men, brothers and husbands out of their families. (Gezelius, 2003) There was no logic behind who was taken away or killed. Names of people from Santiago who had been pulled into the conflict appeared on the right-wing death lists resulting in many disappearing or being killed. Other fled the country into exile in Mexico, or run off to the mountains to join the guerrilla. It was a long time of horror and terror, with gunshots every night. People could never feel safe with militaries breaking into their houses to steel all belongings they could find. In total over 1000 people from Santiago were killed or disappeared. Almost all people in Santiago of today lost someone in their family. (Santiagoatitlán, 2004)

Not until 1990 things started to change. It all started with a drunken military commander. Late at night he went by a girl whom he wanted to take home. When her family screamed for help, neighbours came by to drag the drunken commander away. For some reason the commander let off a shot in the air. His friends, back at the military base heard the shot and came to check things out. Seeing the commander being dragged away, one of them shot a boy in order to get him free. The village people went over to the big church to ring the bell to wake up the rest of the people in the village. All together they ended up being between 3000 and 6000 people gathered at the big plaza. They decided to walk over to the military base to put the commander to justice. With sticks and rocks in their hands, the military responded with fighting, killing 13 people, including kids. Well documented with photos and many witnesses the massacres was officially approved as a crime, making it possible for Santiago to have the right to keep the military out. First, it was done by men neighbourhood watching, and later they got a paper signed by the human rights ombudsman that they would be left alone by the military. Today there is a small park at the place of the massacre. (Santiagoatitlán, 2004)

4.2.2 The micro finance institution - Friendship Bridge

In difference to the two biggest MFI in Guatemala, Friendship Bridge focuses on breaking the cycle of poverty (Friendship Bridge, 2004). Some micro finance institutions have put up an upper limit of income in order to exclude rich borrowers. FB has in stead decided to keep the loan sizes rather small. According to Wolters (2003), this would make it less interesting for people with higher incomes to use FB.

In order for a person in Santiago to have a bank account a sum of 500 SEK is needed. Very few people have this amount of money. According to the manager Walter (2003), a significant collateral is needed to be able to have a loan. It was in this environment Friendship Bridge decided to start up its activities in 1998. (Wolters, 2003)

Friendship Bridge (FB) is a non-profit, non-governmental organisation currently serving around 2500 female borrowers, divided into 100 loan groups in 13 villages in two areas of Guatemala; the area around Lake Atitlán in the central volcanoes region, and in the department of Suchitepequez, closer to the east coast. FB use a combination of the methods mentioned earlier. They practice frequent repayment, progressive borrowing, group lending, social collateral and gender targeting.

FB gives loans starting at a sum of 110 US dollars. Each loan is called a cycle. After each loan cycle the clients can choose to raise the borrowed sum with 15 US dollars up to 200 US dollars. Today one loan cycle is six months. In addition to the loans, FB demands all of its clients to save at least ten percent of the loan size, in order to take a loan. (Wolters, 2003)

Before receiving a loan, all women must go through an education of how to manage a loan. Since most women are illiterate this education is carried out in a participatory manner using paintings and role-plays as methods of illustration. Here they are, amongst other things, taught that to use the loan only for consumption will heighten the risk of default. To invest it wisely in your small enterprise might however make them richer. (Own observation)

Group lending and social collateral is, as mentioned, also practiced. Each loan group consists of 20-30 women, who have common meetings, loan officers and usually also the same size of loan and duration of time in FB. Using group lending and social collateral, each group of 4 or 5 women join together to be responsible for one another's loans. If one woman fails to repay, the other women in her group of five - her co-guarantors - becomes responsible for repaying. If they do not, they are not allowed to take any new loans. The group of 20-30 come together to regular meetings every second week, when they repay part of their loan plus interest and hand in small amounts of savings. (Friendshipbridge, 2004)

At every meeting they have education training. The training consists of topics such as business administration and development, health and leadership training. Each group is lead by a local indigenous loan officer, trained by FB. Each group also select a group leader among the borrowing women. She is a contact person for all others in the group of 20-30 women, and acts as a spokesman of the group towards FB. (Friendshipbridge, 2004)

The documented results of FBs´activity, according to themselves and outside research is the following:
- Improvements in housing
- Increased solidarity and support among the women in the loan groups
- Increased awareness of family planning
- Decreased level of spousal abuse

- A larger amount of children attending school, especially young girls
- Improved nutrition for the whole family

(Friendshipbridge, 2004)

The business of the women varies much. Some make traditional blouses and/or tourist souvenirs, others are engaged in farming activities and/or street trading and a couple had stores of their own.

According to Wolters (2003), FB is economically sustainable to the level of 70 percent, thus they cover 70 percent of all their variable costs through the interests paid by the clients. Donors support the rest. The interest rate of FB is 20 percent. Furthermore, Wolters believed that in only a few years time, FB would become economically sustainable.

4.3 The data and the method of the data gathering

Our minor field study was conducted among women in the area around Lake Atitlán, and only in town Santiago de Atitlán. To increase the reader's understanding of the context, I will shortly present some general facts about the women participating in the investigation.

The average amount of children is more than 4. The women with the largest sum of children had 11. Most of the women that had between zero and 2 children was either quite young, not married or widowed. The average age of the women was slightly higher for cycle 1, 34 years old, than for cycle 4 and 7 (28 and 29 years old respectively). 77 percent of the women were married, 17 percent were together with someone, but not married and the rest were either widowed or single. The average literacy level among the interviewed women was 31 percent, which should be compared to 19 percent for the whole of Santiago (Naciones Unidas, 2000). Hence it seems as if the clients are more well educated then the average woman in the city.

There were approximately 500 clients in Santiago. Out of these 41 belonged to cycle one, 32 to cycle four and only 15 to cycle seven. Thus, the proportion investigated within each cycle was, respectively 39, 50 and 100 percent. These figures are used in calculation of the margin of error.

In order to fulfil the purpose of this study, I chose to use the scientific method of an extensive interview study, referring to table 2.1 (Hulme 1999). This made possible to draw statistically secure conclusions from the impact study. This way my thesis would be able to add something new to the field of micro finance. In order to obtain a deeper understanding of the changes and mechanisms behind the impacts, three qualitative, semi-structured interviews or what table 2.1 refers to as case studies, were also completed. The four women were selected on the basis of the answers from the first survey interviews.[2] In the scope of this thesis there was not, however, room for any in-debt analysis of these. In stead the findings are used trying to interpret the statistical data collected. By combining a scientific method with one of the methods used within the humanitarian tradition – case studies, I aim to get a trustworthy result.

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[2] See appendix 3 for more details on this matter.

Structured interviews were carried out with 47 indigenous women from Santiago de Atitlán. They were randomly singled out by stratified sampling using a random number table. 16 clients from three different cycles were chosen. I chose to take samples from only three strata of the whole population in order to be able to tell something about each cycle, and also to make sure that I got a significant amount of clients from both the completely new (control group) and from the longer-term borrowers. The three groups all had different length of time in the MFI, thus had taken different amounts of loan; 1,4 and 7 times/cycles (from now on I will call them cycles) respectively. One cycle was from the beginning 1 year, but for several reasons FB chose to change this into six months. This means that the cycle one was in the first six months, just having received their first loan, cycle four were in their second year and cycle seven in their fifth.[3] By letting cycle one act as my control group, I make it possible to control for characters that might differ women of the MFI from other women in the village. I thus assume that the average (or median) level of the investigated aspects of women in cycle one is the same as it was at the start for those in cycle seven and cycle four.

The clients did not speak Spanish for which reason I the interviews be done by local women, speaking their native tongue, Tzutuhil. Since the questions are fairly simple, my idea was that this would take less time from the women. By consultation with other researchers in field, it was made clear that the presence of "gringos" (the local word for white people or Americans) might skew the answers. Thus having local women as the interviewers hopefully would give me more truthful answers.[4] Before conduction the interviews I did a couple of pilot studies in order to see what questions functioned. Only a few small changes had to be made after that.

A lot of time was spent on explaining all the questions in the questionnaire to the interpreters. Together they agreed on a common translation.[5] The large majority of the interviews were conducted in the office as the women came to meetings to repay their money.

Before all the interviews were completed, I explained my purpose, saying I was interested in seeing how the program worked for them (see appendix 2). I clearly expressed that their identities and answers would be read by no one but me. The women were informed of that it was voluntary to take part in the interview and that this would not in any way affect their participation in the credit program. One women did not want to join the interview, due lack of time, a reaction that was expected and I was only surprised to find that not more women reacted that way.

Adding to the data I got through my interviews I used the figures that FB had collected in the start of each woman taking a loan. These included some questions that were the same as ours, making a comparison on individual level possible. Since cycle seven had joined, some questions of their questionnaire had been changed, excluding the possibility of comparison for a some of questions for clients in cycle seven.

When analysing the data statistically, I have used some different methods. Briefly, I have used cross tabulations as well as correlation matrixes in order to measure differences in the independent, dependent as well as the intervening variables between the cycles. Thereto, I have used factor analyses to reduce the number of measurements of the intervening variables.

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[3] The best situation would have been if the cycle one clients would not have received their loans yet, but unfortunately this was nothing I could influence. I do however; still think the results will be able to reveal a level impacts with time in FB.

[4] For further details see appendix 4

[5] For further details on this process see Appendix 5: About the interpreters.

A correlation analysis is used to see the correlation between the dependent and the intervening variables. I will describe the methods more thoroughly as they come along.

5. Operationalisation of the terms

Here, I will motivate the use and definition of each variable against the theoretical framework presented. All together, the variables measured aim to picture what impact FB have had on the situation of the women.

5.1 Definition of poverty in this study

In order for the word poverty not to loose its usefulness, and to avoid that poverty is confused with other dimensions, I will restrict it to mean economic capacity. Thus poverty will only include dimensions that depend on access to material resources in some way. If this distinction would not be made, poverty risks to become useless a toll for policy. Many authors mean that there needs to be a common acceptable way to measure poverty in order to fight it (Garson, 1996, Lok-Dessallien, 2005 & Boltvinik, 2005). This does, however, not mean that other aspects are unimportant determinants of poverty. Other aspects I have chosen - social capital, human capital, gender equality and political capacity – are important determinants of poverty. Thus, in case this study concludes that any of the intervening variables has increased, it is likely to, in some time, the poverty level will be reduced as well.

My study aims to take an objective perspective as well as a subjective perspective. Some questions, like questions on physical economic capacity, are of an objective character, while the ones on psychological are of a subjective character.

In addition to my variables, I added a couple of questions, which, in the end, were excluded from the formal analysis. These questions aimed to capture vulnerability, as referred to in the chapter on poverty as well as in the section on evidence of micro credit impacts as being one important indicator of poverty and a likely effect of micro credit.

In order to measure this, I included a couple of questions specifically aiming to capture the vulnerability. These are put outside any of the variables. I included aspects such as diversification of income sources and if they received money from any relatives' abroad. The literature (IADB, 2003 & Adams, 2004) suggests that it was very common in the whole of Central America to receive money/remittances from people or relatives abroad. Adams (2004) finds that remittances reduce the level, depth, and severity of poverty in Guatemala. In our case, however, this did not seem to be the case; none received money from outside. Probably it is less common in poor indigenous areas. Having more than one income source, thus decrease vulnerability is important especially for poor household, and as mentioned also in the former chapter, it is one of the main purposes behind micro credit. In our survey the clients' access to a diversified income sources was zero. Put together, these facts strongly suggest that the clients of FB in Santiago are vulnerable to risks and/or unexpected incidents. But for the sake of convenience in the analysis, this will be excluded, since they tell us nothing about the changes due to duration of membership. Vulnerability is, however, part of other questions in the variables.

The questions on vulnerability also worked to assure that the identified changes did not occur through money received from elsewhere than FB. In addition, a third question; "Have you taken loan from any other MFI before?" was included. It revealed that eleven of the clients

had taken loan in other MFI before. This question, however, was found not to contribute to my purpose, thus excluded.

5.2 The dependent variable

As mentioned, the dependent variable of this thesis is economic capacity, thus economic capacity is the impact of main focus of this investigation. Economic capacity refers to physiological deprivations of poverty. It contains both objective and subjective perspectives. It has been divided into one physical part and one part aiming to explain psychological economic capacity, where the physical part is an objective perspective, and the psychological part aims to be more of a subjective character; letting the clients themselves judge their situation regarding some physiological deprivations. Physical economic capacity could all be measured in economic terms (money). Due to lack of information on costs, however, the level of improvement stems from a grading of the different assets. The data on physical economic capacity is a quantitative; while the psychological part is of a more qualitative character. In the analysis all data, however, will be regarded as quantitative in order to measure the change and to do the correlation analyses.

5.2.1 Economic capacity

Due to limitation of scope of this masters´ thesis, the definition of economic capacity used in this study refers to a somewhat narrower concept than the one presented in the theoretical chapter. With capacity I refer to the stored value that can be drawn upon in times of need that the income, access to land, the house construction and its assets possess. As mentioned earlier poor people are vulnerable by definition. Once a shock or some kind of stress occurs, poor people use various ways to cope with it, according to Cohen (1999). Possibly, they might modify consumption or sell assets. Thus, this capacity is what I aim to capture. Hence it can be looked upon as the economic capacity to manage risks. Thereto, I add the psychological/emotional/feeling-based aspect of the economic capacity in order to capture the capacity based inside the mind of people.

5.2.1.1 Definition of physical economic capacity

From inspiration and input from literature, the following definition, was developed. It was found to be common questions put in impact assessments. Very similar questions were asked to the clients by FB themselves (before being able to join). In order to be able to do a comparison, I chose to use the same questions. According to the manager of FB, Wolters (2003), these questions well capture the communities own definition and perception of poverty.

My index of economic capacity:

A + H + L + E = Physical economic capacity

A = Assets of the house
H = House construction
L = Access to land

E = Earning

Assets, A, is kitchen, latrine, drinkable water, light, radio, television, stove, fridge, small animals, big animals. The more of these they have the higher is their value of assets. With the help of loan officers and the in country co-ordinator of FB, the assets have been ranked and divided into three categories with respect to the cost of obtaining it. The ranking is of an ordinal scale, thus does not aim to tell anything of the in-between values sizes nor if any of the assets can be regarded as more substitutable than any other. The ranking is as follows:

Available drinkable water and radio	1 point each
Kitchen (separate room), electricity, a stove, latrine, television, small animals	2 point each
Big animals and refrigerator	3 point each

L, access to land is regarded as an asset of extra importance since it can mean the difference between having and not having food, thus between life and death, in an extreme case. Furthermore it makes the family less vulnerable against disasters since it can mean food security. In many poor areas it is also one of assets that have the highest status (CGAP, 2004:2).

House construction, H, include the material that their house is constructed of today. These have also been ranked with the help of loan officers and of the in country co-ordinator according to their approximate building cost. In the order 1-6, where stone house is valued as the cheapest, and wooden house as the most expensive. Again, this is an ordinal scale. The ranking is as follows:

Stone	1 credit
Sun-dried bricks	2 credit
Sugar cane	3 credit
Terrace (having more than one level)	4 credit
Concrete	5 credit
Wood	6 credit

Earning, E, is the earning per week that the client has admitted during the interview. I argue that it is easier for the clients to be aware of the income during the last week. FB, asked for the monthly income when they conducted their study, thus to enable comparison I had to divide the sum with four.

The result of each of the components will be presented. The value of the physical economic capacity will also be calculated as one numeric value. In sum;

Physical economic capacity
Income of the client
Assets: the things in the house and ownership of animals (big and small)
Access to land
Construction of the house

5.2.1.2 Definition of psychological economic capacity

It is my firm belief that this, more "soft"/feeling related, figure is very important to capture since it is how the clients perceive their situation, rather than actual monetary figures, that is of great importance to them themselves. This will be measured by asking the client the following questions:

1. if they can imagine lending a friend money if she/he needed
2. how they perceive the cloths and the food that they buy today compared with the cloths they could buy before joining.

If a client express she cannot lend money to a friend in need, it is interpreted as vulnerability in deed. The cloths as well as the food are important measures of the economic situation. By letting them decide whether it has improved or worsen since joining FB, this is a subjective perspective on poverty.

5.2.2 Hypothesis of micro credit and economic capacity

As stated in the section "Evidence of impact of MC", there is evidence and empirical proofs that micro finance in general has a positive impact on poverty reduction (Simanowitz, 2002, Morduch and Haley, 2002 and Hulme and Mosley, 1996 amongst others). The mechanism behind a positive impact of micro credit on the economic capacity is explained in earlier sections. By using the credit to modify the micro enterprise, the income is expected to increase, thus improving their economic situation. To improve the outcome, the MFI usually explicitly demands that the credits are used for investments in the clients´ small enterprise. (Hulme, 2000)

In accordance with this theoretical reasoning, I expect that the clients' physical and psychological economic capacity will increase by duration of time in FB. It is also reasonable to believe that the physical and the psychological economic capacity correlate. It is however, also possible that the psychological EC is high at the same time as the physical EC is low, since only the fact that a poor person has access to loan make her/his perception/feeling of the EC improve.

5.3 The intervening variables

5.3.1 Political capacity

Definition
Political capacity is the variable defined and calculated by my college, Nina Björstrand. When nothing else is stated, this part will refer to conclusions of her masters thesis "How do micro finance associations affect political capacity?" (2004). Her point of departure: to most poor indigenous women of Guatemala, political participation seems irrelevant. Usually, poor do not have neither the money nor time to be politically active. Thereto, they might lack awareness of the national government policies. These phenomenon is illustrated by what one woman exclaimed in the conversation during the qualitative interview conducted by Björstrand: " Why would I vote, the parties only consist of stupid rich guys anyway!"

Adding to this, the fact of fear is highly relevant in the case of Santiago de Atitlán. This became obvious in a discussion with one client about problems to get running water. When the question of getting water cooperatively with neighbours was raised, the client expressed that both her husband and mother had told her to stay outside any talk that was not in the family. If not she would "get problems with the politicians". Apparently there was an experienced risk of the neighbours reporting her complaints to the politicians, which would make her risk to end up in a hazardous situation.

I would like to add one aspect to this and that is education, which is another important and major obstacle to political participation and capacity. Since few of the women (31percent) can read and/or write, it is difficult to get any information on political activities from written sources, thus making it easy for roomers that are not true to circulate.

With this background, political capacity is defined as "an expectation of future political participation" and "the requisite skills to identify the interest of the community and engage in collective decision making".

Björstrand has identified and operationalised two components of political capacity; psychological engagement and civic skills. The two components are composed of two indicators respectively: awareness and understanding and level of interest; knowledge of the political system and previous political experience. The indicators can be combined into an index, as shown in figure 4.

Political Capacity
{
  Psychological Engagement { Awareness and Understanding / Level of Interest
  Civic Skills { Knowledge of the Political System / Previous Political Experience
}
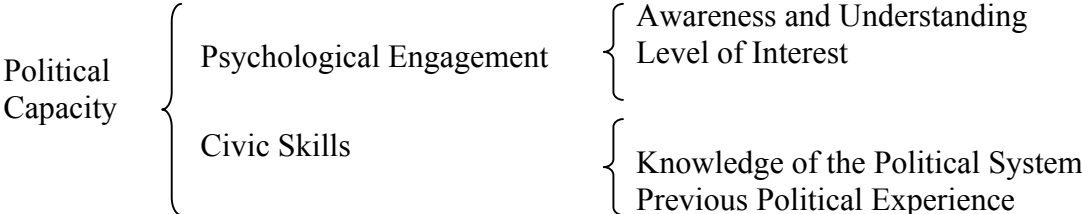
Figure 3. The index of political capacity, Bjorstrand (2004)

The questions that represent awareness and understanding are; "Can you think of any problem in your village which you think you could solve together as a group in your village? If so, could you tell me?" and "Do you think that the government protects the most important rights of the indigenous people of Guatemala?"

The questions that represent the level of interest are; "Have you discussed/can you imagine discussing such communal problems with somebody you know (e.g. clients of FB, relatives or close family)?", "Have you participated/can you imagine participating in any communal activity where people work together for the benefit of the village?" and "Have you voted/can you imagine voting in a national election?"

Civic skills are checked by observing the previous political experience which in turn is represented by the questions; "Have you participated in any communal activity where people work together for the benefit of the village?", "Have you asked for help or co-operation from some group or community leader in your village?" and "Have you voted in a national election before?"

Knowledge of the political system is represented by; "Do you know if it is necessary, according to the law, to be able to read and write in order to be allowed to vote in November?" [6]

By using statistics a statistical method called the Alpha (Cronbach), Bjorstrand shows that the items in the index are related to each other. She confirms that the different factors in the index match each other well. The index is the base for an additive scale, which gives each respondent a value of low, medium or high level of political capacity.

Hypothesis of micro credit, economic capacity and political capacity
Within political science today, there is big interest for the connection between civic engagement and political participation. Civic participation has been defined as being "in the heart of democracy" by Verba (et.al. 1995, p.1). Others are more sceptical stating that it depends on what kind of civic engagement. Seligson (1999) find, not too surprising, that engagement in community development groups is more effective in spurring demand making and problem solving than others. Even non-political organisations are shown to increase political participation. Verba (et.al. 1995) show empirical evidence of a strong support for a connection between civic skills incubated by organisations and political participation in the larger community. This is used as support of the hypothesis.

Income is often used as a predictor of political participation (Huntingon and Nelson, 1976). As discussed by Verba (et.al 1995) people of poor countries are probably more limited by their socio-economic status rather than by "check book participation", such as pure interest. According to this reasoning, political capacity and economic capacity are expected to correlate.

5.3.2 Gender equality

5.3.2.1 Definition
Gender equality (GE) is, to a large extent, defined as the term in itself indicates. I decide to let gender equality be represented by the level of collective decision-making within the household.

The starting-point of this argumentation is that men, per definition, are privileged. The clients had to answer four questions regarding if they made the decision by themselves, together with their husband or by themselves. The highest level of GE was given in the case of decision being made together. They were asked about whether their children should go to school, whether they should be a client of Friendship Bridge, whether to buy big things to their household (such as animals, stove etc.) and lastly how to vote in the national election. The intention was that the questions would capture aspects related to some of the intervening variables; human capital, economic capacity, and political capacity.

5.3.2.2 Hypothesis of micro credit, economic capacity and gender equality
Micro-finance is widely assumed to have a positive impact on women's livelihood in mainly three different ways. First, by the higher income that will help women to better perform their role in the household as care holders of the health, nutritional, and educational status of the other members in the household. Secondly, by increasing their employment in micro enterprises and in improving the productivity of the income-generating activities. Thirdly, by

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[6] [6] There was an election in November 2002. The correct answer to this is no, but the law was recently changed.

"enhancing their self-confidence and status within the family as independent producers and providers of valuable cash resources to the household economy." (ILO, 1998, p.7) Pillawa (2002), who conducted a study of FB one year earlier than us, conclude that micro credit contribute to empowerment of the women. Anolin (2000) came to similar conclusions.

Related to these facts, the following list illustrates explanations on how I expect gender equality to increase with duration of membership in FB.
• Through making more money, the women gain more control over the household budget, which should create a potential of increasing the capacity to make decisions in the home. This is supported by Wright (2001), amongst others.
• It is likely that the husband changes his view of the woman, when her role changes through becoming the breadwinner to a larger extent. The result should be a more respectful relationship between the gender.
• In the education meetings within FB the issue of open communication between the man and the woman in the relationship is raised. Good communication was referred to as having an open climate of discussion, being able to express one owns ideas and feelings regarding all kinds of issues in the relationship and household. FB reasoned, that by discussing this issue together with other women and talking about their rights to make their voice heard, empowerment of the clients hopefully would improve. Thus gender equality would rise.
• Since FB use rotating chairmanship, the members learn how to take responsibility and to act as a leader of a group, thus increasing her self-confidence, which in turn is likely to help the client become more gender equal to her husband.

There might however also be negative effects. In some cases the husband has difficulties to accept the new role of the women, and consequently feeling threatened of his position within the household. There are examples in the literature of husbands physically and psychologically punishing the woman. In other occasions, the husband might act to cement her role within household. I do, however, believe that the positive impact of micro credit is dominant.

5.3.3 Human capital

5.3.3.1 Definition
I define human capital as some kind of education that the client obtained by being a member of FB. By asking about questions relating to what they are supposed to have learned through the education meeting, I expected to capture how the level of human capital among the clients have been influenced by FB.

The first question relates to their knowledge of finding advises concerning their business and if they had been giving advises to someone else about their business. With questions, I tried to capture their level of knowledge of having a business. I believe that the last question concerning if they had been given advises to other, in particular, truly could show if they had good knowledge of how to run their micro enterprise. I would argue that it is when you can teach someone else about a subject that you really grasp/understand it.

5.3.3.2 Hypothesis of micro credit, economic capacity and human capital
To include human capital as an aspect likely to improve with duration in FB has several explanations. One is that FB includes education at their meetings. During the education meetings, the members learn specific skills and discuss certain subjects such as issues

concerning health and business. It is also likely that informal education will take place between the clients during the meetings and in the streets. Through sharing common problems and exchanging experiences, they will learn from each other about a number of different subjects. Mainly for these two reasons, human capital is expected to increase with duration in the FB. By exchanging ideas and experiences regarding the business, the economic capacity is also expected to improve.

Still, however, negative effects might occur due to competition between women with similar businesses. In that case they might share misinformation and thereby decrease the level of human capital among certain members. Thus also decreasing the economic capacity. I believe, however, that the positive effect on human capital, will dominate.

5.3.4 Social capital

5.3.4.1 Definition
In this study social capital is defined as trust, networks and community involvement. I measure trust by asking the clients what confidence they have in people of their village. This together with the question of whether they participate in any group in their village (usually the church) is put together to measure the bridging social capital (between groups) effect. Thus, the bridging effect has been measured by the following questions; "Do you participate in other groups in the village, which are not FB?" and "Generally, do you trust the people in your village?"

The level of confidence in the group of five, their loan group, was added. In order to reveal further information regarding their trust, a question of worries if members of their group did not repay, was included. These two last questions are considered as bonding capital (within a group).

5.3.4.2 Hypothesis of micro credit, economic capacity and social capital
According to Putnam (1995), civic networks foster norms of reciprocity that reinforce sentiments of trust within a society and improve the effectiveness of communications and social organisation. This, in turn, has positive effects on the economic activity. Thus, I expect the economic capacity to increase with an increase in social capital.

The relationship between social capital and MFI works in two directions:
•   One of the expected impacts of micro credit is increased social capital.
•   Social capital is a very important ingredient in making MF work efficiently (social collateral) (McGregor, 2000).

The connection between duration of membership association in FB and bonding social capital are manifold. The first and most obvious link is what makes up the major foundation of a well-functioning loan group. In order for people to join a loan group, the members have to trust each other. Thus with successful repayment the bonding social capital will increase over time, since they show that they are responsible and reliable. In the case of default it might, however, decrease social capital and in a worst-case scenario lead to social exclusion. Since FB has a very high level of repayment I expect the correlation to be positive. Moreover the bonding social capital might increase only by the fact that they meet other women in similar situation, women that they might not have met had they not been in FB. In some cases, however, the women might end up as rivals or competitors if they share the same business

idea. This might lead to suspicion and the women distrusting their rivals, thus decreasing the bonding social capital. This effect, however, I expect to be smaller than the positive one. Thus, the concluding hypothesis is that the bonding social capital will increase with time in the FB.

The bridging social capital, however, is of another character, since it has to do with women meeting new people outside the established group. It seems likely that women, by meeting the other women, also extend their social network, which probably lead to a higher general trust of people in the local area, thus increases the bridging social capital with time in FB. FB might tend to result in personal meetings only between certain women (bonding), which would exclude others and thereby hinder the bridging effect. The concluding hypothesis on the bridging effect is thus more uncertain.

6. Result and analysis

In this chapter I will present the result and analysis of my collected data. First, the results of the dependent variable – economic capacity - are presented, after which an analysis of the findings will be held. The same order will be followed for the intervening variables. Only the data of relevance will be presented in tables, other will only be referred to in the text. To complete the analysis, the statistical program SPSS, "Statistical Package for the Social Sciences" (the old name) or "SPSS inc" (the new name), is used. I will use a signifance level of 90 percent as lowest consequently through the statistical analysis.

6.1 The dependent variable - economic capacity

The data analysed so that, when there seem to be a correlation between two components, I will control for the alternative explanation of human capital (obtained before joining). When nothing is noted, human capital had no impact on the correlation.

6.1.1 Physical economic capacity

As mentioned, the physical economic capacity consists of income, assets of the house, the construction of the house and access to land.

6.1.1.1 Income
I will start by observing the clients' income difference between the start and today. One quetzales, the currency of Guatemala is worth the same as a Swedish crown, and therefore Swedish crowns will be referred to in the table.

First, the average income at the start and at the time of this investigation (referred to as "today" from now on);

Table 6.1. Average income of the clients at start and at the time of the study.

	Cycle 1	Cycle 4	Cycle 7
AVERAGE INCOME OF THE CLIENTS AT START AND OF TODAY	76 to 41	51 to 45	43 to 32

According to my data, clients of cycle had a higher income when joining than both cycle four and seven. Cycle seven had, by far, the lowest. This makes data on physical economic capacity not very fruitful to compare over cycle. Therefore I choose to only look at the individual differences and not compare between cycles of today. In other words, in the ultimate case there would be a higher increase of income among clients in cycle seven than cycle three and last cycle one.

In order to do so, I calculated the proportional changes of all clients´ income, thus comparing their income at start with the data of my investigation. The proportional changes were then divided into five change-groups. The high positive change represents a change that is 50% or more, the small positive income refers to a change larger than zero but less than 50%. The same patterns follow for the negative changes. Furthermore, I calculated the average

proportional change within each cycle. Table 6.2 presents the result, produced with the help of a cross tabulation which makes the number of clients and the percentage observable.

Table 6.2. Proportional changes of the clients´ income

		Cycle 1	Cycle 4	Cycle 7
High positive change	Count	1	2	3
	Percentage in cycle	7%	14%	33%
Small positive change	Count	1	3	0
	Percentage in cycle	7%	21%	0%
No change	Count	1	1	0
	Percentage in cycle	7%	7%	0%
Small negative change	Count	4	4	2
	Percentage in cycle	29%	29%	22%
High negative change	Count	7	4	4
	Percentage in cycle	50%	29%	44%
Total answers	Count			
	Percentage in cycle	14	14	9
Missing		2	2	6
Total number of clients		16	16	15
Average relative change of income		-44%	-20%	-17%

First, the high number of missing answers in cycle seven deserves to be commented. This is due to that FB changed its interview schedule somewhat for cycle seven, resulting in missing data on six clients´ starting income. Despite this fact, 9 clients for cycle seven are enough to represent the small number of clients in cycle 7, being 15 in total. This fact will apply several times during the presentation of results.

From table 1 one can observe an average decrease of proportional income for all three cycles. For cycle one, in particular, it is surprising since the survey done by FB (income at the start) took place only a couple of weeks before my study.

The proportion of the clients with a high positive change is highest for cycle 7; 20 percent. Observing the two upper income levels reveal that cycle four has the highest degree of positive changes, 32% of all clients. However, running a cross tabulation on the data in table 1 show no significant correlation between cycle and the change of income.

In order to be able to reveal other mechanisms I check for the differences of incomes of the husbands first, and then for the whole household. The whole household is represented by aggregated income from children, the husband and the client. But first, the husbands´ change income is presented in the following tables.

Table 6.3. The income of the husbands at the start and today.

	Cycle 1	Cycle 4	Cycle 7
Husbands´ average income at start and average income of today (difference)	176 to 185 (+9) *127 to 185[7]*	127 to 134 (+7)	136 to 94 (-42)

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[7] The accurate number, when the earning of one husband is excluded. This was done since he earned so much that he changed the figure from negative to positive.

Similarly to the clients, the husbands of cycle one have the highest income, both at the start and at the time of the study. Since joining, the average income has increased for cycle four and cycle one is positive, while it has decreased for cycle seven. For cycle one, however, I discovered that there was one husband, earning 1000 SEK per week, who raised the average significantly. When his income is excluded the average difference becomes negative. This is shown with italic in the same box. In the following table, I have conducted the same calculations and divisions of proportional income change as for the clients.

Table 6.4. The relative income difference of the husbands divided into five income groups

		Cycle 1	Cycle 4	Cycle 7
High positive change	**Count**	1	3	0
	Percentage in cycle	7,1%	21,4%	0%
Small positive change	**Count**	3	4	1
	Percentage in cycle	21,4%	28,6%	16.7%
No change	**Count**	0	0	0
	Percentage in cycle	0%	0%	0%
Small negative change	**Count**	8	5	2
	Percentage in cycle	57,1%	35,7%	33,3%
High negative change	**Count**	2	2	3
	Percentage in cycle	14,3%	14,3%	50%
Total answers	**Count**			
	Percentage in cycle	14	14	6
Missing		2	2	9
Total number of clients		16	16	15
Average relative income change		+3,2%	+35,7%	-37,7%

Table 6.4 show that 83% of the husbands in cycle seven have decreased their income. 50% have decreased their income with more than 50%, and 33% with less than 50%. 17% have increased their income with less than 50%. No one have increased their income with more than 50%, which must be regarded as quite an unsatisfactory result on the income development of cycle seven. For cycle four it is somewhat better, but not much. Half of the husbands have increased their income and half have decreased it. The majority have a small relative negative income change being less than 50%. In cycle one 71% of the husbands have decreased their income, of which a majority have a small negative change. Again, this is curious since it is quite unlikely that their income change this much in such a short period of time.

The total relative income change on average is calculated as the total percentage change of all clients in a cycle. In cycle one and four the husbands that had decreased their income had very large income decreases. For this reason the average is negative for the two first cycles.
In order to see how the income of the whole household has developed, the following table is presented. The household change of income (the income of children included) is presented in the following tables.

Table 6.5. The average income of the whole household at the start and of today

	Cycle 1	Cycle 5	Cycle 7
Average income of the whole household at start and of today (DIFFERENCE)	269 to 239 (-30)	189 to 183 (-6)	184 to 156 (-28)

As awaited, the level of average income for the different cycles is similar to that of the clients and the husbands. The cycle one, show the largest income and cycle seven the lowest. The average income within each cycle has decreased. The following table present the relative changes of income for each household.

Table 6.6. The relative income difference of the whole household divided into five groups of change

		Cycle 1	Cycle 4	Cycle 7
High positive change	Count	2	2	0
	Percentage in cycle	15.4%	16,7%	0%
Small positive change	Count	2	1	1
	Percentage in cycle	15,4%	8,3%	16,7%
No change	Count	0	1	0
	Percentage in cycle	0%	8,3%	0%
Small negative change	Count	6	6	2
	Percentage in cycle	46,2%	50,0%	33,3%
High negative change	Count	3	2	3
	Percentage in cycle	23,1%	16,7%	50,0%
Total answers	Count			
	Percentage in cycle	13	12	6
Missing		3	4	9
Total number of households		16	16	15
Average relative income change		-1,8%	+3,2%	-41,8%

From table 6.6, one can tell that none of the cycles seem to have succeeded well in increasing their income. Cycle one has the highest number of households with a positive change of income, 31%. At the same time, however, there are more than 50% of the households having a negative change of income (69%). Cycle four has three households (25%) increasing their income, but a large majority is decreasing their weekly income. The story is similar for cycle seven. In the best case scenario one would have expected the incomes of cycle seven to increased the most, but in stead the result is quite the opposite. More than 80% of households in cycle seven have increased their income. There is no correlation between time and household income.

Analysis of the result on income
There are quite a large proportion of the clients in all cycles that have decreased their income since the start in the MFI. Especially for cycle one, which is puzzling, since they recently answered the same questions. I argue for three main reasons. The first one is connected to misunderstanding or unawareness of income. In the interviews done by FB, the clients were asked of their income on monthly basis, while I asked for the weekly income. Since very few of these women can neither read nor write, it is likely they are either unaware of that one month salary is four times as much as for a week, or that simply do not calculate their income. The second reason is of a more psychological character. The clients might have expected that "foreigners" (that is my colleague and I) would help them if they told us how bad their situation was, hence understating their level of income. This might have been the case for clients of other cycles as well, thus explaining the decrease in average income. At the same time, this explanation put overall doubts into this type of investigation, stressing the risk of unreliable data. It is however still possible that the answers are true, implying an unsatisfactory development of the income. That would argue for the third possible

explanation; fluctuation of income. The women might have had lower income when my interviews were done.

As mentioned in the theoretical chapter, it is quite common that women give the loans the business of their husbands. By observing income differences by the husbands one would expect that the income of the husbands would increase instead of the client. Judging from the changes of average income, it seems as if the husbands´ income generation has developed somewhat more beneficiary than the clients´. Thus this suspicion cannot be excluded. It is strengthened by the fact that one client explicitly told me that since her business had failed, she had given the loan to the husband.

Finally, the investigation of income must conclude that there is no positive correlation between income and time in FB. The income of the women in cycle seven and cycle four have not improved significantly, neither on individual nor on household level. Rather my data suggests the opposite. The majority of clients, irrespectively of time in FB report a decrease of income.

6.1.1.2 Assets in the house
As stated in earlier sections, the assets in the house have been given a relative value, in accordance with the approximate value to obtain. A client who posses all assets examined receives the maximum value of 20.

A comparison of assets of today and assets when joining could not be made since data on cycle 7 at the start was insufficient. This was due to the fact that FB examined other assets in the early interview sheets. For cycle 4, however, it is noteworthy that there was a quite a clear improvement of the assets from the start until today, both measuring the median and individual level. More than 56% (9 clients) of the women in cycle four have approved their assets, while somewhat less, 25%, for cycle one. For both cycles, however, 44% revealed a decrease on the value of assets in the house since joining. While data on cycle seven is missing, no correlation analysis is completed. But while the data is missing, I will present the data of assets in the house today for all cycles.

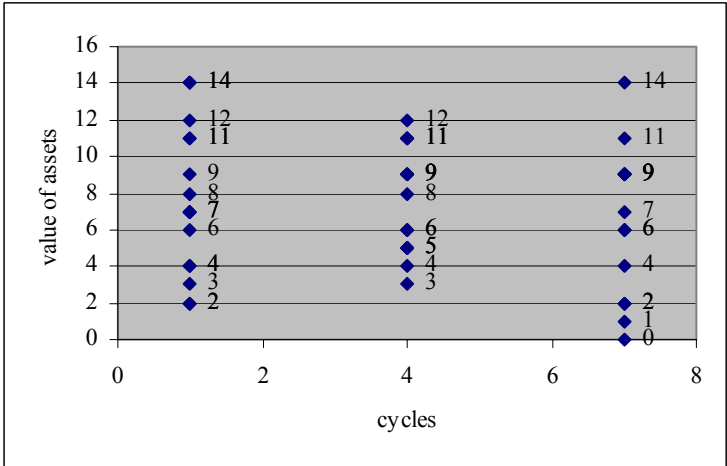*Figure. 6.1. Assets in the house for all cycles.*

Figure 6.1, clearly illustrate the value of assets of the different clients within each cycle. One easily observes that there is now clear correlation between cycle and the value of assets. Cycle

seven has the largest spread among its clients, at the same time as cycle seven has clients with very high value of assets it has quite a few obtain very little assets in their houses.

In order to better tell the difference, the average value of assets for the different cycles is calculated.

	Cycle 1	Cycle 4	Cycle 7
Average	7,56	7,69	6,53

Observing the table and the figure, it is again clear there is no significant correlation between time in the MFI and assets of today.

6.1.1.3 Access to land
The following table presents the percentage of clients in each cycle having access to land at the start and today. For all cycle, except for cycle 1, access to land has increased.

	Cycle 1	Cycle 4	Cycle 7
Percentage with land at the start and today	56% to 50%	56% to 81%	20% to 67%

To draw conclusions from this, we need to investigate the individual relative change of access to land further. In the following table data the change of access to land in the different cycles is presented.

Table 6.7. Change on individual level of access to land

Cycle		Increase	Decrease	NO CHANGE	Missing
1	% within cycle	12%	19%	69%	0
	Count	2	3	11	
4	% within cycle	25%	0%	75%	0
	Count	4	0	12	
7	% within cycle	20%	0%	40%	40%
	Count	3	0	6	6

Four women of cycle four have managed to get hold of land, and when examining my data more carefully, I noticed that two of these women at the same time have lost other assets such as TV and radio. It seems likely that they have exchanged these for land. Cycle seven show no decrease and a 20 percent increase, represented by three persons that have obtained land since joining FB. The majority of the clients in cycle seven have not changed their land holding, however. Again, the answers of cycle one, has changed remarkably since the last survey. Three persons have lost land, and two have received land during a very short time.

A correlation test shows a positive correlation between land and time in the MFI. It is very small, however, 0,147 and the two-tailed significance test show significance level of only 70 percent, which makes it hard to draw any statistical secure conclusions from.

6.1.1.4 Construction of the house
Construction of the house is measured by giving different materials different values depending on the cost of obtaining it. Many clients seem to have improved their housing since joining FB. As the following table illustrate, the average has increased significantly for all cycles.

Table 6.8. Construction of the house at the start and today

Cycle	Median/ Average at start	Median/Average of today
1	1/1,8	4,5/3,3
4	1/1,9	5/4,1
7	2/2,6	5/4,4

In order to get a more complete picture of the result on house construction the proportional change are presented below.

Table 6.9. Proportional change of house construction

Cycle	Change of median/ average	Increase	Decrease	No change	Missing data
1	+3,5/1,5	56,25%	6,25%	25%	12,5%
4	+4/2,2	75%	6,25%	18,75%	0%
7	+3/1,8	40%	0%	20%	40%

Clients in cycle four, again, show the best result. 75 percent of the women have increased their housing. The average has increased with a value of 2,2. This increase of cycle four is, however, not significant (95 percent level).

Clients in cycle seven have succeeded well too. 40 percent has increased their living, and the average has increased with a value of 1,8. Noteworthy is that no one of the clients decreased their level of housing. The increase in the level of housing is significant at 95 percent level.

56,25 percent of the individuals in cycle one has improved their housing, which again is a mystery, since it usually is nothing occurring over a night.

Cycle 1
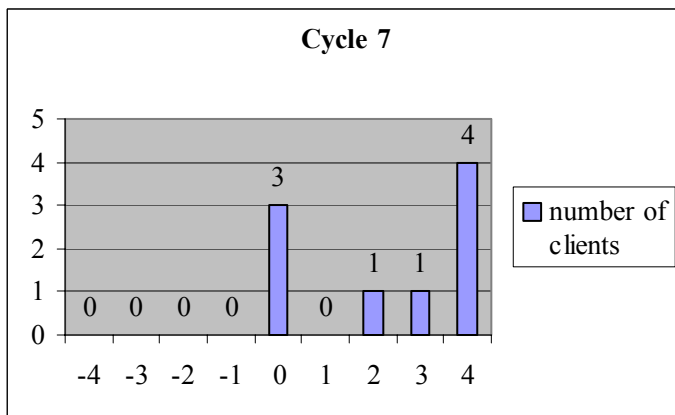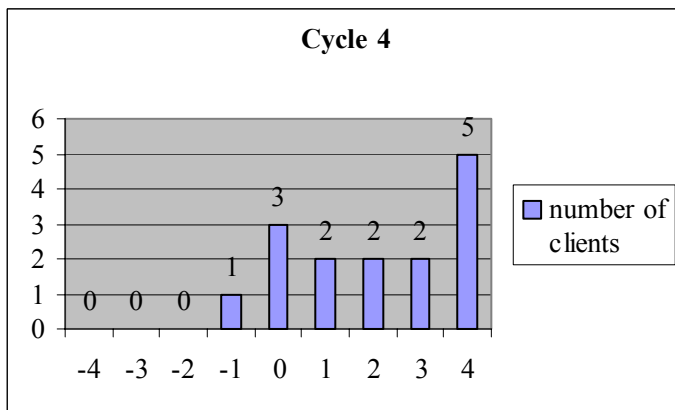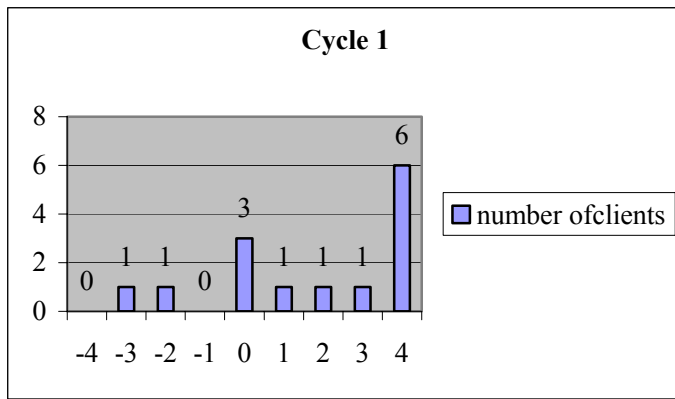
Cycle 4

Cycle 7

Figure 6.3. Change of house construction on individual level for the different cycles

When a comparison between the three cycles is done, such as in figure 5, no clear correlation between improvement of house construction and time in FB exist. The figures above, do however, show a positive result for approximately half of the clients, which must be considered as quite a satisfactory result.

Noteworthy is also that the house construction of today show a positive correlation with time in the MFI. The correlation coefficient is 0,264 and it is significant at a 90 percent level, see appendix 5.

6.1.1.5 Analysis of assets, land and housing

There was no support of my hypothesis for assets. Access to land suggests a positive correlation with time in FB, but with a low level of significant. Construction of the house, on the other hand, show more promising results.

For assets, there was no significant correlation between time in the MFI and assets of today. Noteworthy, however, is that 56 percent of the women in cycle four improved their level of assets.

There was a positive result (however with low significance) on access to land; time in FB seems to affect many of the clients´ access to land. Since the clients, to higher degree, had obtained access to land, than other assets, My hypothesis of land being of extra importance is fulfilled.

House construction seems to be a favoured area to most clients, since about half of the clients have increased their house since joining FB. Clients of cycle seven that have shown low performance on most factors measures so far, present quite a good result on housing. It might be that clients of cycle seven have put priority into building a nice house, thus explaining their low values on other measures. It is also, again, noteworthy that there is a statistically secured positive correlation between the house construction of today and time in FB.

My results show that women of cycle four have the greatest improvement, both when it comes to assets, land and housing.

The data of cycle one is somewhat mysterious considering they only a few weeks later did their first interview. It is more likely that the women told the truth in the first interview, since the loan officer at that time actually visited their homes. Similarly to the analysis on income, it is impossible to tell the certain explanation. But most likely, it is a mix between psychological factors during the interview situation and that the questions might have been put a bit differently from case to case. In difference to income, they now state they have improved certain aspects of their economic situation. It might be that they felt, against the interpreter, who in many cases were a bit richer than the clients, that they did not want to seem too poor. But then again, this argument is a counter argument to the one used to explain the expressed lower income. They have not chosen to answer consequently "better" or consequently "worse" than in the first interview. Thus, it is impossible to conclude that they, in general, if wanted to understate or exaggerate their answers in order to gain anything like the psychological explanations suggested earlier.

The concluding result of land, assets and house construction does, to a certain extent, question the idea upon which micro credit depends, since these aspects does not seem to increase to any significant level with time in FB. It is, however, possible to explain this to a certain extent. There were some important and interesting facts coming up during the interview with the in country co-ordinator, Sophy Wolters. According to Wolters, cycle seven have greater financial problems than the other. This is partly due to the fact that they have, to a large extent, accepted the increase of their loan size that has been offered to all clients when having completed one repayment. Without really needing it for their business, the clients of cycle seven seem to have accepted the higher loan. Instead, Wolters suspect, that the clients might have used the money for consumption, resulting in difficulties repaying. Consequently, the income expressed in the interview lowers.

Adding to this, clients of cycle seven were the first clients of FB, thus functioning somewhat as guinea pigs. They have had to go through many changes and adjustments of the organisation as well as of the rules for taking and repaying their loans. This have probably affected their opinion of the MFI in a negative way, a fact that was supported by one of the qualitative interviews I undertook. This woman expressed clearly: "I liked it better before!" To explain this, she expressed preferring taking loans with one ear cycle. This woman was the chairman of cycle seven, and according to Wolters (2003), she had a great impact on the other women in her group.

Hence keeping these facts in mind, the results might not seem as surprising as they first did. These facts might also explain the overall quite negative outcome of cycle seven; consequently, also why women of cycle four often show higher success. Nevertheless, FB probably needs to deal with the problems (of clients in cycle seven) stated above in order to avoid indebted and unhappy clients.

Analysis on all factors of physical economic capacity
The most likely explanation from this part of my study, I suggest, is that the clients have used their loans to improve their housing and as well to some extent obtained access to land. This would explain why their income has not improved as expected and desired.

The results could also be explained by a high degree of exchange of goods and services in the Santiago. Since my knowledge on the appearance of exchange in the community is very limited, it is plain speculation. I suggest that the clients might have invested the loans in the business, and that it turned out well but that it did not result in higher monetary income. Instead it is possible that it resulted in an increased exchange of goods and services with others in the community. In that case many seem to have exchanged goods and/or services from their own business for services like house construction and/or land access.

Factors included in the psychological economic capacity, such as the quality of food and clothes, might also explain parts of the physical economic capacity.

6.1.1.6 Physical economic capacity as one number
In order to obtain one value of the physical economic capacity I used SPSS. I divided the change of each aspect into five levels, numbering them from one to five. Thereafter these were aggregated and again divided into five levels. Thereby, by undertaking a cross tabulation , I obtained a five level scale for each client, and could count the number and percentage within each level for each cycle. In this calculation, each aspect was given the same importance. The cross tabulation revealed no correlation at all between physical economic capacity and duration of membership in FB. The Pearson correlation coefficient was 0,00. Cycle four had 57 percent of its client in the two upper levels, whereas, cycle seven had 33 and cycle one 40 percent. Thus, again, not too surprising, cycle four had the highest value. Since there was no correlation, there was no reason to do a partial correlation.

6.1.2 Psychological economic capacity

6.1.2.1 Changing quality of clothing and food since joining
The psychological economic capacity aims to capture how the clients perceive their economic situation, put together by three questions.

The following table presents a cross tabulation table of the answers on the questions on clothes and food.

Table 6.9.. The change of clothing and food that the clients have today compared to before joining Friendship Bridge

		Cycle 1			Cycle 4			Cycle 7		
		Clothes	Food	Total	Clothes	Food	Total	Clothes	Food	Total
Better	Count % within Cycle	2 13%	4 25%	6 19%	9 60%	9 60%	18 60%	6 40%	3 20%	9 30%
The same	Count % within Cycle	14 87%	12 75%	26 81%	6 40%	6 40%	12 40%	8 53%	12 80%	20 67%
Worse	Count % within Cycle	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	1 7%	0 0%	1 3%
Missing	Count % within Cycle	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%

In order to calculate the changes for the different cycles, I created a coding system, where "better" was represented by number of two, "the same" by one, and "worse" by zero. Table 9, clearly show that cycle four have the most satisfied clients with respect to food as well as cloths. The median of the different cycles also support this observation. The median was two (better) for cycle four for cloths as well as for food, while it for the other two cycles was only one (the same).

Table 5 shows that the majority (60 percent) of clients in cycle four have better clothes and food today, than they had before joining. In cycle one, 25 percent say they have better food, and 13 percent that they have better clothes, despite the short time period that has gone since joining FB. For cycle seven, where the clients have been member considerably longer time than the women in cycle one, the situation does not look too promising. 40 and 20 percent report better clothes and better food respectively. One woman even said her food was worse today compared to earlier. The majority, however, state their situation of food and clothes is not changed. Unlike cycle one and cycle four, they seem to have prioritised to get better cloths.

Thanks to the positive outcome for women in cycle four, the cross-tabulation on clothes, however, showed a small positive correlation, 0,169, with a quite high significance, 0,057, thus significant at a 90 percent level. We can therefore conclude that the quality of the clothes is affected by the time in FB.

For food on the other hand, the correlation is slightly negative, -,036, again with a high significance, 0,067, hence it is significant at the 90 percent level.

As mentioned, the psychological economic capacity also contains the measure of "the feeling of being able to lend money to a friend in a case of emergency", to which I will now turn. My idea was that this measure would be able to reveal the clients that are relatively rich.

Table 6.10. The feeling of being able to lend a friend money in case of emergency

	Cycle 1	Cycle 4	Cycle 7
No, I can not	11	13	13

Neither yes nor no	0	0	0
Yes I can	4	3	2
Median	2	2	1,5
Missing	1	0	0
Total	16	16	15

The data support the idea that very few clients are rich enough to give loans to friends in need. Clients with the shortest time in FB report the highest frequency of lending money. In cycle one four people say they could help a friend in need, while some fewer (three) in cycle four and only two in cycle seven. The cross-tabulation revealed a negative correlation between time in the MFI and being able to lend money to a friend in need, -0,136. It was however not significant.

6.1.2.2 Psychological economic capacity as one number

As with physical economic capacity, I calculated one number trying to grasp the whole psychological economic capacity. Since the answers that the client could choose from were three, the level of psychological economic capacity was divided into three. The cross tabulation showed that cycle four had 56 percent of its clients with the highest degree of psychological economic capacity, while cycle seven had only 28 and cycle one had 40 percent. This seems to correlate well with the calculated physical economic capacity, where cycle four also had the greatest achievement for many aspect measures. The data, however, revealed a very small negative correlation, –0,058, which however, was not significant. The likelihood of rejecting the null hypothesis, which states that there is no correlation between time and psychological economic capacity, was 0,703. Had it been zero, would there have been a significant negative correlation. Hence the result was highly insignificant. Therefore, I can say nothing on the effect that the time in FB have on the psychological economic capacity.

Analysis of the psychological economic capacity
For the quality of clothes and food, again the improvement for cycle one is mysterious. Together with the fact that they might have used their money directly to buy better food and cloths, the proposed explanations above are valid even here. For the willingness to lend money to friends in need the explanation of the high frequency might however been that they were richest to start with, plus that they feel richer since just having been given their first loan. The negative correlation between time and being able to lend money can probably also be explained by the fact that clients in cycle one had the highest absolute income at the start, cycle four number two, and cycle seven the poorest.

For cycle seven, the facts revealed by the in-country co-ordinator are relevant even in this case, hence explaining the rather low psychological economic capacity, resulting in lower values than for cycle four.

This analysis put together with the analysis on physical economic capacity, some new analysis can be made. The quite positive outcome on clothes might explain to some extent the negative development of income. As mentioned earlier, the clients might not be totally aware of how to count their income, thus instead they might have reported how much money there is left after things like clothes is bought. The explanation referring to exchange of goods and services might also apply here.

6.2 The intervening variables

In order to make the data analysis comprehensible, I reduced the amount of data by using factor analysis for some of the intervening variables. It attempts to find underlying variables, or factors, that explain different patterns of variations within a set of variables. The computer program calls these common patterns components. The analysis identifies a small number of factors that explain most of the variance observed in a much larger number of manifest variables. As an example, instead of using all responses to the "Social capital-questions", S1-S4, the analysis show which questions that explain most of the variation within certain correlations. It is important to note, however, that if the researcher does not see any theoretical connection between certain variables, it is better to use the theoretical reasoning to consolidate the different variables. In the case of social capital, the factor analyses confirmed my own theoretical interpretation. Thereby, the statistical analyses strengthened my theoretical reasoning. [8]

6.2.1 Results on political capacity

In accordance to the operationalisation of the measure on political capacity, Björstrand (2004) has calculated the following data. Too be able to see differences in the level of political capacity, she ran a cross tabulation between cycles and political capacity.

Table 6.11. Levels of Political Capacity in different cycles

		Cycle 1	Cycle 4	Cycle 7
low level	Count % within Cycle	2 33,3%	7 87,5%	3 42,9%
medium level	Count % within Cycle	4 66,7%	1 12,5%	1 14,3%
high level	Count % within Cycle	0 0%	0 0%	3 42,9%
Total	Count % within Cycle	6 100,0%	8 100,0%	7 100,0%

Table 6.11 illustrates that only clients from cycle 7 can be found in the category of high political capacity. Despite the low number of valid responses, the significance is still surprisingly high. The signifance level is 0,015, thus it is significant at the 95 percent level. Björstrand concludes that clients from cycle 7 are more likely to have high level of political capacity even if other clients would have been interviewed (ibid.).

Moreover, Björstrand concludes, that there are surprising different outcomes for cycle one and four. Cycle one actually has higher frequency of clients with high level of political capacity than cycle four. Thus, there is a curvilinear correlation. Björstrand means that "two variables can be perfectly related even if they are not linear, which the significance of the table 7 suggests" (ibid., p.23-24). There are probably many different explanations to the curvilinear correlation. I will be investigate further in the analysis.

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[8] In Appendix 5 all the data from the analysis is gathered.

6.2.2 Results on gender equality

Gender equality consists of four questions. To make the analysis easier I ran a factor analysis. SPSS helped me choose two questions that together best explained the variation in the questions on gender. These are: "Whether to buy big things (such as animals, stove etc) to your household or not" and "Whether your children should go to school or not". Moreover, this selection was suitable for theoretical reasons since the two questions manage to capture two different modes of decisions.

Cross-tabulations of each of these, revealed that as much 81 percent women in cycle one decided together with their men about whether to let the children go to school. For cycle four this number was 50 percent and for cycle seven it was 20. The correlation coefficient –0,384 is significant at a 0,05 level (2-tailed).[9]

The result for the second question; who regarding buying big things for the household, was similar. Cycle one again had the highest frequency of decisions made together; 70 percent. This time however, cycle seven had the second highest percentage, only slightly less than for cycle one, they had 67 percent of the decisions made together. In cycle four there were only 22 percent deciding together whether to buy big things for the household. The correlation negative, but highly insignificant.[10]

By running a bi-vitiate correlation analysis between the total gender equality and cycles, I found, not too surprisingly judging from the numbers above, a negative correlation at –0,159. It is not significant however, with only a 54 percent level. My result does however signal the case raised by Goetz and Gupta (1995) where the correlation between duration and empowerment is negative.

6.2.3 Results on human capital

The human capital is represented by two questions. The first question captures whether the client know where to find that information regarding business (H3) and the second if the client had given someone advise about their business (H4).

In the analysis, these two questions are put together by aggregating the data and then letting SPSS divide the data into three groups. The cross-tabulation gave the following table.

Table 6.12. Total human capital (H3+H4)

		Cycle 1	Cycle 4	Cycle 7
low level	Count	5	5	9
	% within Cycle	36%	33%	60%
medium level	Count	4	1	1
	% within Cycle	29%	7%	7%
high level	Count	5	9	5
	% within Cycle	36%	60%	33%
Total	Count	14	15	15
	% within Cycle	100,00%	100,00%	100,00%

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[9] See appendix 5.
[10] See appendix 5.

Like in many other measures, cycle four has the greatest human capital obtained through the membership in FB. Clients of cycle seven posses the lowest level of human capital of all cycles, despite the longest membership. The majority (60 percent) of clients in cycle seven have a low level of human capital.

The correlation is slightly negative, –0,121, with the significance of 0,174. It is thus not significant on a 90 percent level. This suggests that there is neither a support of the stated hypothesis, nor the opposite.

6.2.4 Results on social capital

Even though the factor analysis done on social capital confirmed my own theoretical interpretation, I found it relevant to present all the answers on social capital. Thus, a factor analysis is not used here.

Table 6.13. The bridging capital

Cycle	S1 – Participation in other groups (excluding FB)				S2 – Trust in people in the village				
	Yes	No	Missing	Margin of error [11] for yes*	Yes	Yes, somewhat	No	Missing	Margin of error for yes*
1	25%	68,8%	6,3%	+/- 13,9%	50,0%	25,0%	25,0%	0%	+/- 16,1%
4	63%	31,3%	6,3%	+/- 14,0%	56,3%	18,8%	25,0%	0%	+/- 14,5%
7	47%	53,3%	0%	0%	60,0%	20,0%	20,0%	0%	0%

** Significant to 0,10 level

According to table 6.13, there is a slight positive correlation between time and S1 (correlation coefficient 0,13). Clients in cycle four have the highest frequency of women participating in other groups than FB, 63 percent, somewhat less in cycle seven (47 percent) and in cycle one there was only 25 percent. The margin of error reveals that the confidence intervals do not overlap, thus there is a 90 percent probability that clients of cycle four and of cycle seven have a higher degree of participation in other groups than FB, than the new clients (in cycle one). Furthermore, clients of cycle four will have a higher value on S1 than clients in cycle seven.

Trust in people in the village (S2) has also increased slightly over time. The size of standard error, however, reveals that the increase is not significant, thus I cannot draw any conclusion of the trust in people in the village to increase over time. In total, is seems as if there might be a correlation between time and social capital, for what reason an analysis of the aggregated data will be completed.

Table 6.14. The aggregated bridging social capital.

		no + no (0)	no + somewhat (1)	no + yes (2)	yes + somewhat (3)	yes + yes (4)	total	average
cycle 1	Number	2	2	10	2	0	16	1,75
	% in cycle	12,5%	12,5%	62,5%	12,5%	0,0%	100,0%	
cycle 4	Number	2	1	5	2	6	16	2,56

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[11] See appendix 5 formula of standard error calculation.

% in cycle	12,5%	6,3%	31,3%	12,5%	37,5%	100,0%	
cycle 7 Number	0	2	9	1	3	15	2,33
% in cycle	0,0%	13,3%	60,0%	6,7%	20,0%	100,0%	

Aggregating the answers on S1 and S2 done in table 6.14, illustrate a trend of increasing bridging social capital with time, with a quite small correlation coefficient of 0,16. 37,5 percent of their clients give positive answers to both questions. Slightly less for cycle seven, 20 percent of the clients, and in cycle one zero. Thus, again similarly to many other measures, clients of cycle four report the highest values, illustrated also by the highest average of 2,56. Client of cycle seven have an average of 2,33 while cycle one have only 1,75. I expected an uncertain correlation between bridging social capital and time, but this result suggests a slight increase. The answers "yes + yes" show a significant increase (at 90 percent level).

Table.6.15. The bonding social capital

	S3 – Trust in group of five (loan group)				S4 – Worry that other in the group of five repay			
Cycle	Yes	Yes, somewhat	No	Missing	Yes	Yes, somewhat	No	Missing
1	87,5%	6,3%	6,3%	0%	100,0%	0%	0%	0%
4	81,3%	12,5%	6,3%	0%	100,0%	0%	0%	0%
7	80,0%	13,3%	6,7%	0%	80,0%	6,7%	13,3%	0%

Here table 6.14 reveals an unexpected decrease over time of trust in the group of five (S3). It is however not significant since the confidence intervals overlap. S4 shows a slight increase that is significant. Adding the two aspects, I get an interesting finding. The large majority say that they trust their group of five, but at the same time almost all worry about their repayment. Aggregating S3 and S4, result in a slight negative correlation with time, but it is not significant. In sum, the data on bridging social capital does not support of my hypothesis

6.2.5 Analysis of the intervening variables

After presenting the results on the intervening variables, it is now time for an analysis trying to explain the results. First, the reason for a curvilinear correlation between duration of the MFI membership and political capacity might be several. But one fact that might explain the low level of political capacity for cycle four is that they also have very low levels of education and of bonding social capital. While literature such as Putnam (1995) support the fact that especially social capital, but also education is of importance for political activity, this might be part of the explanation.

My hypothesis did not apply to gender equality. There was no correlation between gender equality and duration in the MFI. Since there is nothing to analyse, I will not deal further with gender equality.

The human capital is highest for clients in cycle four, suggesting no correlation between time in the MFI and human capital. This is somewhat surprising since FB have had many education meetings with the clients, and clients of cycle seven have had the largest number of meetings. This might be explained by some of the issues, referred to earlier, revealed by the in-country co-ordinator, Sophy Wolters.

For social capital both the bonding aspect fulfilled my hypothesis, while bridging did not. This is not too surprisingly. Being a member of a small group does not automatically influence the trust towards other people within the community. It has however increased the reliance within the group (bonding), which might have several positive side effects.

6.3 The alternative explanation

Since the alternative explanation of human capital at the start have been controlled for in all cases needed above (finding no impact by human capital), this chapter will only presents the data on human capital of today.

Human capital is represented by the two questions; "What level of education do you have?" and "Do you know how to read and/or write?". Not surprisingly, these two correlate almost totally with each other. There are three clients that have gone first level of school that can not read or write today and there is one that can read and write without having gone to school. Of greatest importance is, however, if they can read and/or write. Therefore, I will draw all my conclusions on human capital from that question.

Table 6.16. The literacy level, answering the question "Can you read and/or write?"

Cycle	Yes	No
1	37,5%	62,5%
4	18,8%	81,3%
7	33,3%	66,7%

Table 6.16 illustrate that cycle one has the highest education level, with 38 percent of the clients being able to and/or write, while only 19 percent of clients in cycle four.

6.3.1 Analysis of the alternative explanation

Having concluded earlier, that cycle four has the highest result in many of the measured aspects, it is surprising to see that they have the lowest level of education. Thus, literacy does not seem to be of any major importance to the aspects where cycle four has shown the greatest achievement.

Moreover, it is interesting to observe that at the same time as clients of cycle four have the lowest literacy level, they are the ones that seemed to have taken the most positive impact of education within FB. The reason for this would be purely speculative by me to guess upon and for that reason I will not do so.

6.4 The final control of achievement of FB

Finally, I asked how they clients felt in their household today compared to before joining FB. This question will function as an overall measure of how the situation of the clients has changed since joining FB. Certainly, their answer on this question could refer to a number of different aspects, however, since the questionnaire connects to their judgement related to the

FB, I will regard this question is their grade of the success of FB. Table 6.16, demonstrates the result.

Table 6.17. The feeling in the household, compared to before joining.

Cycle	Better	Worse	The same	Missing
1	63%	6%	31%	0
4	81%	0%	13%	6%
7	47%	0%	47%	6%

Equivalent to many other aspects, clients of cycle four are most satisfied. In cycle seven there are the number of satisfied are identical to the number of non-effected clients. Clients of cycle seven show the least proportion of satisfied clients, while cycle four have, by far the highest. There is no correlation between time in FB and the feeling in the house that the clients perceive.

In cycle one there is one client feeling worse, which I lack information to explain. That such a large number of clients in cycle one feel better so quickly, having just joined, probably support my earlier mentioned argument; that psychological economic capacity might increase only by having access to a loan. An increase of the physical economic capacity is unlikely to have occurred that quickly due to the loan. What probably also plays a role here, in explaining the answers of cycle seven is again, the facts mentioned by the in-country co-ordinator (Wolters, 2003)

Another important aspect that needs to be taken into consideration judging the total outcome of this impact study is the exclusion of drop-outs from the analysis. This worsens the total calculated outcome.

6.5 Correlation analyses

Most of the data collected is of an ordinal scale, for which correlation analysis is suitable. In this chapter I will check if there is any correlation between my dependent variable, economic capacity and my other four aspects of the situation of the women. I will only do the correlation analysis on the data from my own study. In order to reduce the amount of data in the analysis, I completed a factor analysis of social capital (as well as has been done earlier of gender equality). Thereby, I singled out the two most important components, thus the ones capturing most of the variance in social capital. The components that were singled out suited well with the division into bridging and bonding social capital made earlier. The two questions singled our were; "Generally, do you trust the people in your village?", representing bridging social capital and "Are you worried that people in the group of five might not repay their loans?", representing bonding social capital. On the latter questions all clients except from three answered "yes" (all from cycle seven). To make a correlation analysis on the data that differs only for three clients, I find questionable, why I chose to exclude bonding social capital.

In the analysis, each question of the economic capacity variable has been tested against the intervening variables.

6.5.1 Hypothesis of the link between the dependent variable and the intervening variables

My hypothesis is that an increase of economic capacity might occur both directly by the access to loan, but also through changes in the other four variables, my suggested intervening variables. The direction of causation is impossible to tell. My analysis will only speculate in this matter. Most likely, the variables correlate both ways, suggesting that there is no blue print explanation of the causation. The linkage between them has already been argued for in earlier chapters, and will not be repeated.

6.5.2 Result and analysis of the correlation analysis

Overall, the support of my hypothesis was weak. For all aspects with a correlation (and significant level of at least 90 percent), the alternative explanation human capital was tested for via a partial correlation test. In no case, however, it changed the correlation significantly, thus the level of human capital explain negligible little of the correlation between the intervening variables and economic capacity.

Income, house construction, quality of food, had no correlation with any of the intervening variables.

Table 6.18. Summary of the significant correlations. The numbers illustrate the correlation coefficient. Empty boxes illustrate no significant correlation.

Intervening Variables ⟍ Economic Capacity	Human Capital	Gender Equality (to buy large things)	Political Capacity	Bridging social capital (trust in people in the village)
Assets in the house	- 0,272 *	- 0,450 **		
Land access		- 0,447 **	-0,419 *	
The quality of clothes				+ 0,325 **
Lending money to a friend in need			+ 0,375 *	

Significant at 90 percent. ** Significant at 96 percent.

Assets in the house correlated with two of the intervening variables; the total human capital and the gender equality question regarding the purchasement of things to the house. There was a negative correlation coefficient for the aggregated human capital, -0,272 with the significance level 0,069. This means that a high level of assets is likely to correspond with a low human capital, thus they affect each other negatively. This finding is the total opposite of my hypothesis. I find no logical explanation of why this occurs. The correlation between gender equality and assets is –0,450 with a signifance level of 0,024. To a certainty of 97,6 percent gender equality (purchasement of large things to the house), influence the value of assets negatively, and vice versa. When there is a low level of gender equality, it is mainly the men that decide on their own. Therefore, the only explanation I find is that when men decide to a larger extent, they will buy more assets to the house. This would imply that the men prefer to buy assets more than the women, or at least more than what they would have done making the decisions together. To continue this investigation on mechanisms is, however, outside the scope of this study.

Land access correlates also with the gender equality question on purchasement, as well as to political capacity. When the household possess a high gender equality (regarding what large

things are bought to the household), the access to land is likely low or the opposite; low gender equality is likely to correspond with high access to land. The correlation coefficient is –0,447 with the significance 0,025. The connection seems quite obvious, and might be similar to the explanation given above. If the men decide more on what to buy to the house, they will get access to land. What mechanism that makes this occur, I can not tell. Even political capacity has a negative impact on access to land, according to my correlation analysis. The correlation coefficient is –0,419 and the signifance 0,066. Tendency to become political active is larger among the clients that do not have access to land. It might insinuate that the willingness to become politically active is higher when you lack access to land. It is possible that landlessness trigger political activity. This is not what was argued for as a hypothesis for this thesis, but still it is an interesting finding.

The qualities of clothes had a positive correlation with bridging capital. For bridging, the correlation was 0,325, and significance 0,028. To have a large bridging social capital is likely to correspond with a bettering of the quality of clothes. Regarding the quality of clothes as a sign of the economic situation, this result suggests that having trust in people in the village will correspond with a good economic situation. My hypothesis on this correlation was uncertain for which reason neither a support nor a rejection of it can be made.

There was positive correlation of 0,375 between helping a friend in need with a loan and political capacity. It was significant at 90 percent level (0,103). It supports my hypothesis of economic capacity and political capacity to correlate, supported by Verba (1995).

In sum, the majority of the aspects of economic capacity did not correlate with the intervening variables. There were, however, some interesting significant correlations. Despite this, I would not suggest any general support of my hypothesis.

7. Discussion and conclusion

Two women from the deep interviews are cited to illustrate two common views on the micro credit of Friendship Bridge:

"I worry a lot that the other four in my group will not repay. If they do not repay I have to pay all that money which I do not have."

"I am very happy to have joined Friendship Bridge. Since doing so my income has increased much. Now I have money to pay school material to my children…. I am sure of that, in the future, I will earn even more money"

The majority of the women I met during this study expressed their happiness about the possibility to take loans. I would argue that this is a positive contribution of Friendship Bridge as such. Adding to this, a majority of the clients did express that they felt better in their homes today than they did before joining. This general positive view, I experienced, does however not coincide fully with the results of my study. By time, the loans did not increase their economic capacity (except from house construction), neither their food quality, nor gender equality or human capital. In addition, as illustrated in the citation above, all women worried that the others in their group would not repay. In cycle seven, clients seemed to risk putting themselves in indebted situations by enhancing the loan size without needing it for their business. Taken together, these aspects should serve as a warning sign.

Clients of cycle four have the best outcome in most variables of economic capacity; house construction, access to land, quality of cloths and quality of food. Why clients that have taken loan during the longest time (cycle seven) do not show such a good of record, is probably, to a large extent, explained by the reasons raised by the co-ordinator Sophy Walter. Thus my data suggests a curvilinear relation between the economic capacity and time. This would imply that the first years of taking loan contribute to a larger improvement than the years to come. Why the clients of cycle four have a better economic situation of today than clients of cycle seven could be explained by that Friendship Brigde might have searched for the poorest clients first (cycle seven), and thereafter, the group of clients became less and less poor on average. My data on income at the start support this explanation. This could explain my results to a large degree.

Only judging from my collected data and analysis, quite a number of variables suggest an improvement over time of the situation of the women in Friendship Bridge:

Compared over time on individual level:
- Construction of the house

Compared between cycles at the time of the study:
- The quality of the clothes
- Political capacity

These are aspects of outmost importance in all development work, thus even though they are few, their contribution should be gratefully appreciated.

My hypothesis of the intervening variables to correlate with economic capacity was not fully supported. The correlations showing a positive result, hence fulfilling my expected outcome were:

The quality of the clothes – Bridging social capital
Being able to lend money to a friend in need – Political capacity

The direction of causation is impossible to tell, but most likely the aspects influence each other. Since a good economic situation (measured by being able to lend money) correlates positively with political capacity, and political capacity also correlates positively with time, it is likely that in some time the recorded political capacity will contribute to an overall increase in economic capacity.

Completing a study like this without being present during the interviews, and furthermore not understanding the native tongue, makes it very difficult to validate the reliability of the data collected. This is always a complex issue, but these aspects make it even more difficult. I began to suspect that something was wrong when completely new clients (cycle one, the control group) reported a large decrease of income in only a few weeks time. There could be many explanations to this. The psychological explanation of expecting help from me when understating their economic situation is one. Another one could be misunderstanding or unawareness of income, or that their income fluctuates much. The degree of understating, lying or exaggerating of the clients is impossible to tell. In general, however, these aspects make me conclude that a truthful picture of the impact on the women will be given only by a combination of an extensive, structured interview study and deep interviews. This will demand more time and financial resources from the micro finance institution, but in the long run, I am sure, it will repay.

When completing an impact study as well as when forming the activity of a micro credit institution, it is important to be aware of its moral power, i.e. how it influences the community of borrowers. By stating what is allowed and what is not allowed to do, it is in a considerable power situation. Thus, to be cultural sensitive is of considerable importance. By cultural sensitive, I mean that socio-cultural aspects are thoroughly considered. The activity needs to avoid a conflict with values, attitudes and customs of the culture where it acts. A genuine interest and sensitiveness towards the cultural context, will improve the likelihood to achieve this.

In a study like this, there are several risks related to cultural differences. It is likely that several of my questions were not the most suitable ones to capture my intended variables. To get better and more reliable impact studies, local people from the same cultural context should be involved in both construction and performance of the study. This likely minimizes the risks of misunderstanding, misinterpretation; misjudging and it will probably greatly improve the quality of the questions.

As with most things, micro credit activities have both advantages and drawbacks. Most problems do not have single simple solutions, not the least issues regarding poverty. All measures taken need to be carefully considered and adapted to the specific context – social, historical, cultural, economic and environmental. In some contexts micro credit works, in others it might not. At first glance, the business of micro finance seems like an effective universal way to help poor people improve their situation with numerous positive side effects in addition to a increased economic capacity. Increasing income gives people the capacity to

change their situation in a way that they themselves prefer, a way that not to any great extent is steered by the loan-giver. There are however also important drawbacks and risks of its activities. One obvious risk is that the poor are put in a debt-burden.

Another important issue when discussing micro credit is the trade-off between reaching the poorest and being financial self-sufficient. It is often argued that micro credit institution needs to be financially self-sufficient in order to have the great scale and outreach that is needed. And in order to be financial sufficient, they need to target only the economically active poor, which are usually not the poorest of the poor. This is based on the idea that, if a client does not have an economic activity, he/she will not be able to increase the amount of money enough to pay the interest that is needed to run the micro credit institution – which means that he/she will end up with a dept burden. Consequently, in most cases, the poorest are not reached by micro credits.

When highlighting micro credit as poverty reduction tool, it is important to take this trade-off into consideration. As I see it, the discussion is based in the discrepancy between if micro credit should be regarded as a development support activity, or as any commercial business not needing external money. This is a difficult and complex issue. To a certain extent, I support both opinions. For several reasons, equality/distributional aspects being the most important, I do think that money, in any society, should be transferred from the rich to the poor, which would imply a support of the development aid-view. I do however stress the need of it to be done in a sustainable manner. Thus, when a development support stops there has to be enough knowledge and resources built into the activity so that it survives on its own. So, at least to start with, the construction of MFI should get financial support from the outside, but to avoid an aid-dependency, it is possible that it needs to be financial self-sufficient in the long run; thus only or mainly reaching the economically active poor. Those working with development assistance must however be aware of that micro credit will not help the most vulnerable; instead these need to be targeted with other measures. They probably need to be reached by subsidized poverty alleviation programs.

To summarize; micro credit by Friendship Bridge in Santiago de Atitlán has positive impacts on a number of aspects important to determine the situation of its clients. The results are, however, not one-sided. There are many aspects needed to take into consideration when completing an impact study on micro credit, such as culture, time and reliability – aspects that might question some of the results of this study. If these aspects are taken into consideration globally, we would be able to more clearly see the real effects that micro credit could have on the situation of poor people.

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Appendix 1: The Millennium Development Goals

1.   Reducing poverty and hunger by half by 2015
2.   Ensuring all children complete Primary Education in 2015
3.   Increasing Gender Equality and Empowering Women
4.   Reducing Child Mortility by two-thirds by 2015
5.   Reducing Maternal mortality by three-quarters by 2015
6.   Stemming the spread of HIV/AIDS, Malaria and Other Diseases by 2015
7.   Ensuring Environmental Sustainability by 2015
8.   Developing a Global Partnership for Development
(www.milleniummalen.se, 2004-06-11)

Appendix 2: The questionnaire

Name of the client:	Date:
ID-number of the client:	
Group:	Name of the interviewer:

(After an introduction in group)
So, do you have any other questions before we begin with the questionnaire? If you want, please feel free to ask me anything during the interview.

Part 1: Background and Economic Capacity
To begin with, I would like to ask you some things regarding your household and your economic situation. And once again, I want to remind you that everything you say will be kept secret and not possible to trace back to you. Therefore I hope you will feel comfortable telling me the truth.

B 1. How many children do you have?
☐ None   How many: _____

B 2. What is your marital status?
☐ Married   ☐ Separated   ☐ Single
☐ Living together with someone   ☐ Widow

E 1. What of the following things do you have in your household?
☐ Kitchen   ☐ Electric   ☐ Radio   ☐ Small animals (such as chickens, rabbits)
                   light
☐ Latrine   ☐ Stove   ☐ Tele   ☐ Big animals (such as pigs, cows)
☐ Drinkable water ☐ Fridge   ☐ Terrain

E 2. What is your house made of?
☐ Small stone   ☐ Sugar canes   ☐ Bloc
☐ Wood   ☐ Two storeys   ☐ Other

E 3. How much do you earn a week? Q (quetzales) _____

E 4. Do you gain money in any other form?

☐ No   ☐ Yes. How?   1. _____

2. _____

3. _____

If the client is married/living together with someone:
E 5. How much does your husband/partner earn a week? Q _____

If the client has children:
E 6. How much do the children, who live at home, earn a week? Q _____

E 7. Do you receive any money from relatives abroad?

☐ No, nothing   ☐ Yes. How much?   Q _____ a week.

E 8. If a friend of yours would need some money, would you be able to help her out?

☐ Yes I could   ☐ Neither yes nor no   ☐ No I couldn't   ☐ Don't know

E 9. How are the clothes that you buy today compared to before you joined Friendship Bridge?

☐ Better   ☐ The same   ☐ Worse   ☐ Don't know

E 10. How is the food that you buy today compared to before you joined Friendship Bridge?

☐ Better   ☐ The same   ☐ Worse   ☐ Don't know

E 11. During the last months, have you saved money anywhere else than at Friendship Bridge?

☐ Yes   ☐ No

E 12. Have you borrowed money from anywhere else then Friendship Bridge?

☐ Yes   ☐ No

Part 3: Political Capacity
Now I would like to talk to you about other things… Sometimes people and villages have problems that they don't know how to solve.

P 1. Can you think of any problem in your village that you think you could solve together as a group in your village? If so, could you tell me?

☐ No   ☐ Yes. For example: _____

(If the client says "no": I am thinking of problems such as access to drinkable water or waste management.)

Some people try to solve these problems by discussing them with their friends or relatives.
P 2. How about you, have you discussed such communal problems with somebody you know (such as clients of Friendship Bridge, relatives or close family)?

☐ No, I have not   ☐ No

☐ Yes I have   Can you imagine doing it in the future (as well)?   ☐ Yes

☐ I don't know   ☐ I don't know

P 3. Have you participated in any communal activity where people work together for the benefit of the village?

☐ No, I have not   ☐ No

☐ Yes I have   Can you imagine doing it in the   ☐ Yes
                    future (as well)?

☐ I don't know   ☐ I don't know

And sometimes, people ask for help from some group or community leader to solve these kinds of problems.

P 4. Have you asked for help or co-operation from some group or community leader in your village?

☐ No, I have not   ☐ No

☐ Yes I have   Can you imagine doing it in the   ☐ Yes
                    future (as well)?

☐ I don't know   ☐ I don't know

In November (2003) there will be a national election in Guatemala, when people can vote for a government and a president. But a lot of people don't find the time to vote.

P 5. Have you voted in a national election before?

☐ No, I have not   ☐ No

☐ Yes I have   Can you imagine doing it in the   ☐ Yes
                    future (as well)?

☐ I don't know   ☐ I don't know

P 6. Do you know if it is necessary, according to the law, to know how to read and write in order to be able to vote in November?

☐ Yes, it is necessary to know   ☐ No, alphabets can vote too.   ☐ I don't now.
how to read and write.

P 7. Do you think that the government protects the most important rights of the indigenous people of Guatemala?

☐ Yes   ☐ Somewhat   ☐ No   ☐ Don't know

Part 3: Social Capital

S 1. Do you participate in other groups in the village, which isn't Friendship Bridge?

☐ No   ☐ Yes. Which ones?   ☐ Church   ☐ Community groups
                                          ☐ School committee ☐ Others, how many? ____

S 2. Generally, do you trust the people in your village?

☐ Yes   ☐ Yes, somewhat   ☐ No

S 3. Do you trust your group of five?

☐ Yes   ☐ Yes, somewhat   ☐ No

S 4. Are you worried that people in the group of five might not repay their loans?

☐ Yes   ☐ Yes, somewhat   ☐ No

Part 4: Human Capital

Thank you, now I would like to ask you some other things.

H 1. What level of education do you have?
☐ None   ☐ Básico   And/or   ☐ Alfabetizición o education for adults
☐ Primario   ☐ Diversificado

H 2. Do you know how to read and/or write?
☐ No   ☐ Yes, I can   ☐ read   ☐ write

H 3. When you need information to help or supervise your business, do you know where to find that information?
☐ Yes   ☐ Yes, more or less   ☐ No

H 4. Have you given anyone else advice on their businesses?
☐ Yes   ☐ No   ☐ Don't know

Part 5: Gender Equality
(If the client is married/living together with someone)
Thank you. Well, now I would like to talk a bit about your family. In different families, people make decisions in different ways. In your household, do you make decisions on your own, with your partner or does he decide on his own? For instance, in the following cases:

	Alone	Together with husband	Decide together	Don't know
G 1. Whether your children should go to school or not				
G 2. Whether you should be a client of Friendship Bridge or not				
G 3. How to vote in the national election				
G 4. Whether to buy big things to your household or not (such as animals, stove etc)				

G 5. Finally, how do you feel in your household today, compared to before you joined Friendship Bridge?
☐ Better   ☐ The same   ☐ Worse   ☐ Don't know

Thank you so much! Now I don't have any more questions. Is there anything else you would like to say to me?

Appendix 3: The oral introduction to the interviews

This appendix includes the oral introduction that Nina and I held to the women before starting the interviews. Our Spanish was translated to the local language, Tzutuhil. Lots of thoughts and arguments lie behind this text. There is not room to express all these. One aspect is, however, of relevance to the reader. That is the one of making ourselves understandable to the women. The women interviewed have very little education, thus not being aware of the map of the world and even less have education to grasp the purpose of our theses. Hence, the following text might, at first glance, seem basic and sometimes not satisfactory, but keeping the context in mind should help the reader to understand the motivation behind what is expressed below.

"Hello, our names are Hanna and Nina. We come from a university in Sweden, the north of Europe. We are here because we are interested in hearing what you think about Friendship Bridge. We are doing a study with Friendship Bridge. The study is part of our university studies. We are here because we are very interested in credits for women, in the future we hope to work with this. Before we start that work, we would like to know more about how it works for you, if it the project helps people or if it helps no one.

For this reason we hope that you have a little time to answer our questions. It will take about thirty minutes.

Lastly, we want to say that we are not part of Friendship Bridge, and, all that You answer will not in any way effect you participation in the program. Your names and identity will be kept completely secret."

Appendix 4: The choice of women for qualitative interviews

The women for the deep interviews were chosen according to the different characteristics of the cycles. Cycle four expressed more positively the way their economic situation and their situation in their home had changed since joining. In addition, they had a greater increase in income since joining, than the clients of cycle seven. This made me choose talking to a woman in cycle 4 that was representative for her group and who also, according to our interviewer talked very openly about her situation. There was also a one client expressing surprisingly low income in comparison to her assets, hence making me interviewed her. Since the most interesting is talking to women with a long experience in the micro finance institution I also chose interviewing two women in group 7 – one with a positive experience and one with a slightly more negative, according to the first interviews. I tried to chose women who all had quite a representative situation according to family size, marital status and house construction.

Appendix 5: About the interpreters

The interpreters were found in different ways. About half of them (4) were employees in a Tz'utuhil language school. Three of them were students of ninth year of school. Via a woman at the catholic church we manage to get hold of another three. They all spoke good Spanish

and could read and write. Due to that Tz'utuhil only has been written for a couple of years, it was difficult to get a full document with the questions translated to Tz'utuhil. I did, however, let the women sit down in groups writing down the questions in Tz'utuhil and then go through them all together. I spent half a day going through the interview questions with the women, and gave them lots of time discussing the questions in between themselves. The importance of the women interpreting the questions in the same manner cannot be exaggerated. I explained to them our purpose of the study, carefully explaining the different meanings of the questions and certain expressions. The communication seemed to go well, even though it is impossible to be totally certain that all of them understood everything.

The large majority of the interviews were done in the office of FB. In some cases, however, the women did not show up at the meeting, for which reason, a couple of interviews had to be performed in the homes of the clients. In these interviews it was made more or less impossible for me not to be present. It became obvious that is would be very rood for me not to be there. They were though aware of us not understanding what they answered. From what we could tell our presence did not in any larger extent affect the answers. Our interpreters were of the same opinion. The bias we could notice were that it might have led to the women talking a bit more, explaining their ideas of FB and of their situation.

Unfortunately, in three cases in interviews in the homes of the women the husbands of the women demanded to be present. These interviews were excluded in the gender equality data.

After all the interviews, we also had small interviews with the interpreters. One of them expressed that she thought the women might feel worries that some other women were overhearing their answers, and therefore not answering as openly. This occurred despite us trying to put them with great distances from each other. Since the questions were quite basic, however, I believe this has not of any greater problem, effecting the outcome of the impact study to any great degree.

Appendix 6: The statistical data analysis

Statistical Data on Economic Capacity

Cross tabs on physical economic capacity calculated as one number

Physical economic capacity	Cycle			Total	
		1	4	7	
Very low level	Count	3	3	2	8
	% within Cycle	20%	21%	13%	18,2%
Low level	Count	3	2	4	9
	% within Cycle	20%	14%	27%	21%
Medium level	Count	3	1	4	8
	% within Cycle	20%	7%	26,7%	18%
High level	Count	3	45	2	9
	% within Cycle	20%	29%	13%	21%
Very high level	Count	3	4	3	10
	% within Cycle	20%	29%	20%	23%
Total	Count	15	14	15	44
	% within Cycle	100%	100%	100%	100%

Cross-tabulation on psychological economic capacity calculated as one number

Psychological economic capacity		Cycle			Total
		1	4	7	
Low level	Count	8	5	8	21
	% within Cycle	53%	31%	53%	46%
Medium level	Count	1	2	3	6
	% within Cycle	7%	13%	20%	13%
High level	Count	63	9	4	19
	% within Cycle	40%	56%	27%	41%
Total	Count	15	16	15	46
	% within Cycle	100%	100%	100%	100%

Correlation on house construction

Correlations

		Cycle	house constr today
Cycle	Pearson Correlation	1	,264
	Sig. (2-tailed)	.	,073
	N	47	47
house constr today	Pearson Correlation	,264	1
	Sig. (2-tailed)	,073	.
	N	47	47

Statistical Data on Political Capacity

The index of Political Capacity
The following table is presented by Bjorstrand (2004). She added the following variables together in order to enable a quantitative index of the responses on political capacity.

Variable	Question(s)	Highest possible outcome
Awareness and understanding	P1+P7	1+1=2
Level of interest	P2a+P2b+P3a+P3b+P5a+P5b	1+1+1+1+1+1=6
Knowledge of the political system	P 6	=1
Previous political experience	P3a+P4a+P5a	1+1+1=3
		Sum=12

The index ranges from 0 (no positive answers)-12 (all positive answers). Thereafter, the index was divided into three levels; low level (0-3), medium level (4-8) and high level of political capacity (9-12). Bjorstrand raises the issue of the indicators not being weighted against each other. However, she reasons that since she has not found any previous theoretical reasoning on how such weighting would function, she keeps to the model of an additive scale.

Statistical Data on Gender Equality

Correlation

Correlations

		Cycle	decision on child's education
Cycle	Pearson Correlation	1	-,384*
	Sig. (2-tailed)	.	,017
	N	47	38
decision on child's education	Pearson Correlation	-,384*	1
	Sig. (2-tailed)	,017	.
	N	38	38

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		Cycle	decision to buy big things to the family
Cycle	Pearson Correlation	1	-,062
	Sig. (2-tailed)	.	,770
	N	47	25
decision to buy big things to the family	Pearson Correlation	-,062	1
	Sig. (2-tailed)	,770	.
	N	25	25

Factor Analysis

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3,567	71,338	71,338
2	,751	15,027	86,365
3	,422	8,433	94,799
4	,172	3,438	98,237
5	,088	1,763	100,000

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component
	1
decision on child's education	,943
decision to join FB	,804
decision to vote	,814
decision to buy big things to the family	,921
feeling in the house after joining FB	,721

Extraction Method: Principal Component Analysis.
a 1 components extracted. The solution cannot be rotated.

Component Matrix(a)

	Component
	1

decision on child's education	,943
decision to join FB	,804
decision to vote	,814
decision to buy big things to the family	,921
feeling in the house after joining FB	,721

Extraction Method: Principal Component Analysis.
a 1 components extracted. The solution cannot be rotated.

Statistical Data on Human Capital

Cross tabs – Human capital and cycle

Cycle	H3			H4		
	% yes	% no	% neither yes nor no	% yes	% no	missing
1	43,75	37,5	18,75	50	37,5	12,5
4	62,5	37,5	0	62,5	18,75	18,75
7	40	46,67	13,33	60	40	0

Table 1. Answers in percentage of the individuals on each question.

Factor Analysis
Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	1,237	41,225	41,225
2	,979	32,640	73,865
3	,784	26,135	100,000

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component
	1
knowledge of where to get help to the business	,733
has advised others on their businesses	,763
has been a president	,343

Extraction Method: Principal Component Analysis.
a 1 components extracted. The solution cannot be rotated.

Component Matrix(a)

	Component
	1
knowledge of where to get help to the business	,733

	,763
has advised others on their businesses	
has been a president	,343

Extraction Method: Principal Component Analysis.
a 1 components extracted. The solution cannot be rotated.

Statistical Data on Social Capital

Cross tabs on social capital

	S1			S2			
Cycle	Yes	No	Missing	Yes	Yes, somewhat	No	Missing
1	25%	68,8%	6,3%	50,0%	25,0%	25,0%	0,0%
4	63%	31,3%	6,3%	56,3%	18,8%	25,0%	0,0%
7	47%	53,3%	0,0%	60,0%	20,0%	20,0%	0,0%

Table 2. The bridging capital

	S3				S4			
Cycle	Yes	Neither yes nor no	No	Missing	Yes	Neither yes nor no	No	Missing
1	87,5%	6,3%	6,3%	0%	100,0%	0%	0%	0%
4	81,3%	12,5%	6,3%	0%	100,0%	0%	0%	0%
7	80,0%	13,3%	6,7%	0%	80,0%	6,7%	13,3%	0%

Table 3. The bonding capital

Standard Error
For each cycle, I calculated the margin error of answering yes.

Margin of error = +/- 1,65* $\sqrt{((((p*(1-p))/n)*(1-n/N))))}$, where

p = the calculated proportion answering yes
n = the number of women interviewed
N = the number of women in the whole cycle

Factor Analysis

Total Variance Explained

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	1,643	41,082	41,082
2	1,101	27,535	68,618
3	,788	19,711	88,329
4	,467	11,671	100,000

Extraction Method: Principal Component Analysis.

Rotated Component Matrix(a)

	Component	
	1	2
participation in other groups	-,856	,009
confidence in the village people	,701	-,101
confidence in the group of five	,417	-,711
worried about the repayment of the group loan	,119	,904

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 3 iterations.

Component Matrix(a)

	Component	
	1	2
participation in other groups	-,656	-,551
confidence in the village people	,598	,380
confidence in the group of five	,779	-,267
worried about the repayment of the group loan	-,499	,763

Extraction Method: Principal Component Analysis

Pris: 100:- (exkl moms)

Distribution:

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