

# Bachelor Thesis

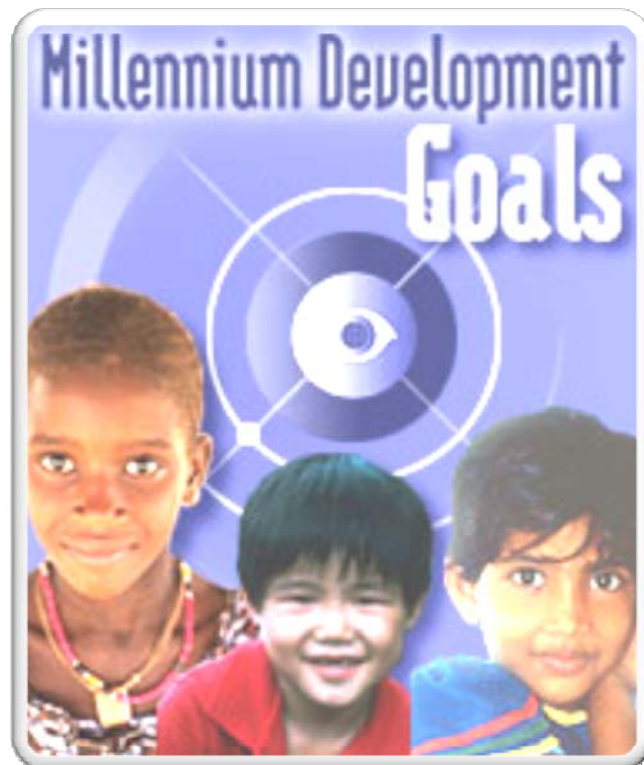
**Date:** Juni 2009

**Author:** F.W. Van der Kooy

**Student number:** 294932

**Supervisor:** Vladimir Karamychev

**Eramus University**



**MICROFINANCE HELPS TO ACHIEVE THE MILLENNIUM  
DEVELOPMENT GOALS**

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## Chapter 1: Introduction

“The poor stay poor, not because they are lazy but because they have no access to capital” quoted: Milton Friedman when he won the Nobel Prize in 1976.

For commercial banks it is often not profitable to serve people with low incomes. High transaction cost, high risk etc. are a barrier to those people and their desire for capital is often met with disappointment.

A way to serve these people is through microfinance, this type of credit enables people with low incomes to borrow money and start or expand their own business to make money. Microfinance is often defined as financial services for poor and low-income clients with little or no collateral. The term is used to refer to loans and other services from providers; the “microfinance institutions” (MFI’s). According to Daley Harris the number of people who receive microfinance increased from 13,5 million in 1997 towards more than 113 million in 2005 (Daley-Harris, S., 2006 p 6).

More than a billion people live in extreme poverty, spending less than one dollar a person a day. There is a need for structural changes in the long term. For many years the leaders of wealthier countries are trying to find solutions to overcome poverty. Many ideas’s have been put forth: Financial aid, construction of schools, multinational’s offering jobs.

In September 2000 various world leaders established the Millennium Development Goals (MDG’s). The goals consisted of eight objectives to reduce poverty covering the the following subjects: extreme hunger, poverty and primary education. Furthermore they promoted gender equality and maternal health.

Microfinance and MDG’s have almost the same target group. Both are focusing on people with very low incomes. Case studies have been done in microfinance, whether it is a good instrument to overcome poverty. In this thesis microfinance is discussed as an instrument for reaching the MDG’s. That is why the research question is as follows:

## *IS MICROFINANCE AN EFFECTIVE INSTRUMENT TO REACH THE MILLENNIUM DEVELOPMENT GOALS?*

This question is examined by means of empirical research as by doing a simple regression analyses it is investigated that microcredit is a significant predictor for the progress of the MDG's.

The research is organized as following:

Chapter 2 starts by examining the theoretical framework by reviewing first the Millennium Development Goals (MDG's), followed by Microfinance, which will include issues, such as the beginning of microfinance the risks of offering microfinance, what part women play in microfinance and empirical studies. Lastly the connection between the MDG's and microfinance will be looked at and the hypotheses and a research model which will be used in chapter 3 are set up.

Chapter 3 is the empirical part of this research. The collected data is presented and discussed and in order to investigate whether the hypotheses are supported, the simple regression (OLS) method is used. This chapter then concludes with providing the analyses and results of the empirical research, in search of whether microfinance is an apt instrument to reach the MDG's.

Chapter 4 summarizes and concludes the findings in this research. Also the limitations of the empirical results are discussed.

## Chapter 2: Theoretical framework

### 2.1 The Millennium Development Goals

According to the World Bank, the poverty rate is 18 percent (The World Bank). This means that 18 percent of the world population lives with less than 1.08 dollar a day. The governments of developing countries have recognized this bad situation and have started looking for instruments to fight this poverty. They recognized that only donations and subsidized projects are not enough, and came up with new approaches to decrease poverty.

Although on average the human material condition has improved, the situation in some countries is still worrisome. Hunger, gender inequality, lack of education, lack of access to clean water, environmental degradation, infant mortality etc. In order to find a solution for these problems, the member states of the United Nations established in September 2000 the Millennium Declaration. The Millennium Declaration has eight chapters and key objectives, accepted by 189 world leaders (United Nations, 2007).

As a result these world leaders established eight goals, the Millennium Development Goals (MDG's), each with quantified targets, to motivate the international community and provide a mechanism for accountability. The MDG's are eight goals that have to be achieved by 2015. These goals were formulated in response to the world's main development challenges.

The eight Millennium Development Goals are:

1. Eradicate extreme poverty and hunger;
2. Achieve universal primary education;
3. Promote gender equality and empower women;
4. Reduce child mortality;
5. Improve maternal health;
6. Combat HIV/AIDS, malaria and other diseases;
7. Ensure environmental sustainability;
8. Develop a global partnership for development;

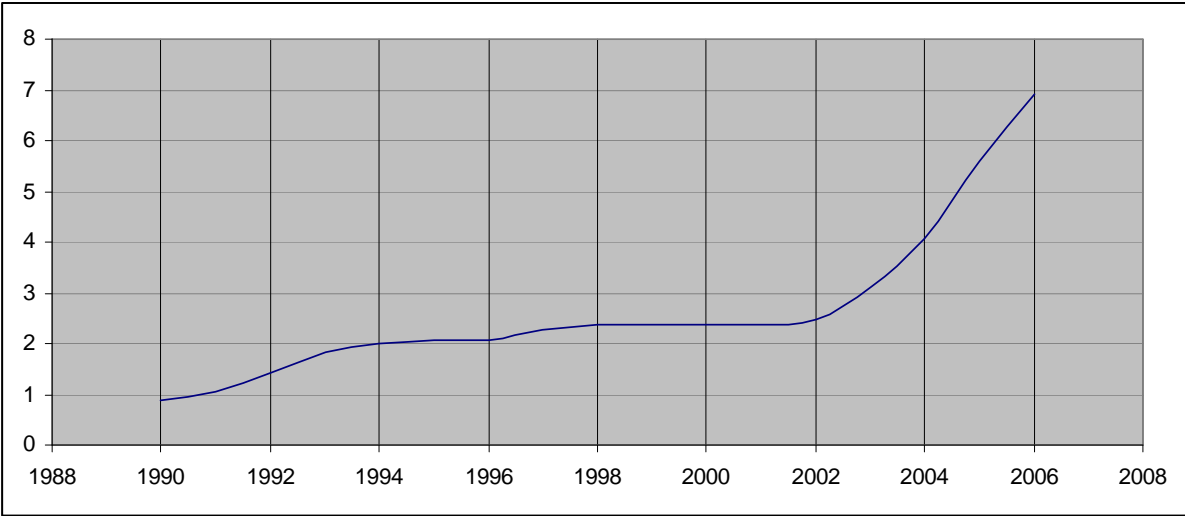
The quantified targets of the goals are enumerated in the appendix 1. To reach these MDG's there are several instruments. In this research, the microfinance instrument is investigated.

### 2.2 Microfinance

Microfinance is the supply of loans, savings, and other financial services to poor people. In order to run their own businesses people need capital and financial services, like savings, money transfer systems, insurance, pensions and information for helping stabilizing their consumption and shield themselves against risks.

Microfinance is founded in more than one place. In different places were comparable microfinance projects initiated. The best known story is that Muhammad Yunus started in 1974 in Bangladesh by lending a total of \$27 to 42 people (Yunus, M., 1999, p 16). Two years later he started the Grameen Bank. This bank provides microcredit. Besides offering microcredit, they offer nowadays also financial services and education services. In 97% of the villages in Bangladesh they provide education services for improvement of the writing and reading skills, healthcare, stimulating position of the women and investing strategies (Pitt, M.M and Khandker S.R., 1998, p 959-960). Last years, the use of microfinance has risen at the Grameen Bank (see graph 1). Nowadays the bank is one of the biggest microfinance institutions.

Graph 1: Number of Clients Grameen Bank (millions)



Source: Grameen Bank

Graph 1 shows the growth in clients of the Grameen Bank. The clients are the people who are receiving microfinance. This means that the amount of people who are receiving microfinance has risen by more than seven times (from 1990 till 2006).

The definition of microcredit refers to loans made to borrowers who lack collateral. These borrowers need more than just a loan. With only money it is difficult to start up or expand businesses. There is a need for services like insurance, transactions services, self-employment services and instructions for starting up small businesses. The term 'microfinance' covers microcredit and those financial services.

Special institutions deliver this microfinance to people, who lack collateral. The countries where these people have the upper hand, is in developing countries. Commercial Banks see developing countries not as a profitable market. High transaction costs and risks are the main problems why microfinance is not yet a product of commercial banks. Transaction cost is a cost incurred in making an economic exchange. The high transaction costs come into existence through the many miniscule loans.

In addition to the transactions costs there are numerous risks involved in extending microcredit. The first risk is adverse selection; the individuals hide information or supply the wrong information. The reason is that they now can meet the needs of the criteria of the financial institutions for receiving a loan. Secondly, the possibility that moral hazard problem exist. This is that Financial Institutions are unaware of the intentions of the clients. Maybe the clients will not conduct the full effort required for their investment projects to be successful. The client could have an incentive to take unnecessary risks in a desperate attempt to earn a profit before paying back to the financial institution.

For decreasing these risks several solutions exist. One of them is group lending. Group lending refers specifically to arrangements by individuals, without collateral who get together, and form groups with the aim of obtaining loans from a lender. The special feature is that the loans are for each individual, but the consequences are for the whole group. For example, if an individual has problems with repayments, the whole group will have consequences.

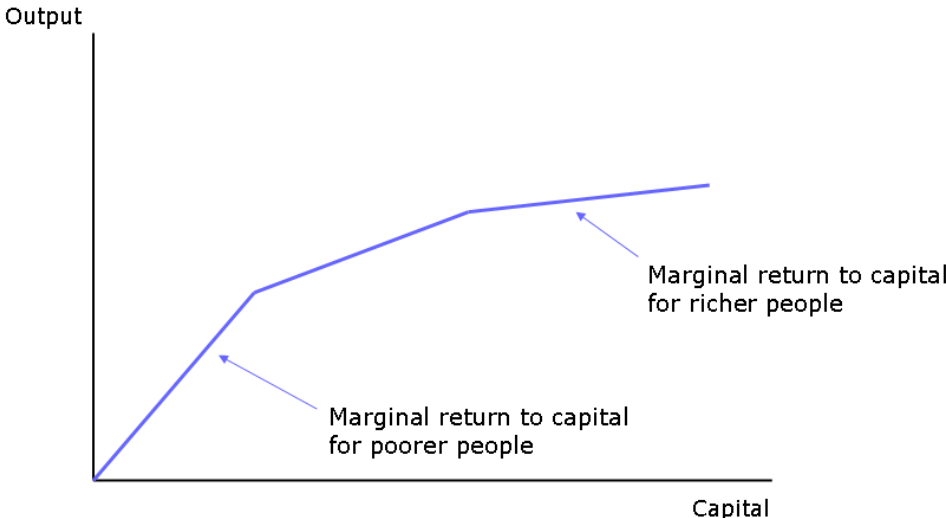
Group lending overcomes the moral hazard problem. The group members, who often live closely together, can impose social and/ or economical sanctions on each other. For the bank these possibilities are impossible to do (Armendariz, B. and Morduch, J., 2005, p 85-88). Besides overcoming the moral hazard problem, group lending is also effective for Adverse Selection. This problem exists when lenders cannot distinguish risky borrowers from safer borrowers. With joint responsibility this problem can be overcome.

For big companies, in the wealthier countries it is easy to obtain financing from commercial banks. Because of the risk, the banana seller in Bangladesh has more problems to receive a loan from the commercial banks. With a loan they can invest money in the company to grow for exporting bananas and being more efficient. The reason why the banana seller cannot get a loan easily is the problem of risk that is discussed. Investing in a wealthy company is less risky than a prospect in Bangladesh or other developing countries. In wealthy countries these risks can be solved through the judicial systems. However in developing countries the judicial systems are not sufficient to handle this. There is no trust in the judicial systems. The commercial bank can gather all the information by them self, which is really expensive. That is why microfinance will be delivered through special institutions; Microfinance Institutions, who are dealing with this risks much better than commercial banks. They provide loans and financial services. These institutions can survive in developing countries through the financial support by gifts from individuals, foundations, Non Governmental Organizations (NGO's) and to drive up the interest rates to the clients. The microcredit institutions finally lend it to the people (Hermes, N., en Lensink, R., 2007, p 389). Nowadays the discussion arises whether these institutions can make profit. With making profit, it becomes more attractive for commercial banks to offer microfinance. With more suppliers, it is easier to reach more borrowers.



From the viewpoint of basic economics, it is surprising that poor people need microfinance. Theoretically, the money should flow from rich to the poor (Armendariz, B. and Morduch, J., 2005, p 5). This is because of the principle of diminishing marginal returns to capital (see graph 2). This principle says that smaller capital should be able to earn higher returns on their investments than bigger capital. Instead of investing more money in New York, London and Paris, the money should be invested in Bangladesh, Bolivia, India and other low income countries. In reality this is not what is taking place.

Graph 2: Principal of diminishing marginal returns to capital



Source: Armendariz, B. and Morduch, J., 2005 pp. 5

Microfinance is used by men and women. It is generally accepted that women have the upper hand among the world's poorest people. In its 1995 Human Development Report, the UNDP reported that 70 percent of the 1.3 billion people living on less than \$1 per day are women (UNDP, 1996). According to the World Bank's gender statistics database, women have a higher unemployment rate than men in almost every country (World Bank, gender statistics). In general, women are lower paid and man has a higher representation rate in the economic sector. These facts say that women are relatively more disadvantaged than men in having an access to capital. That is why it is obvious that women have the same chances to receive microfinance. Poor women in particular, benefit from microfinance services. Women's status, both in their homes and in their communities, is elevated when they are responsible for managing loans and savings. The ability for women to increase the income level, and control over

income is leading to greater levels of economic independence. Research shows that credit extended to women has a significant impact on their families' quality of life, especially their children (see table Appendix 2).

The research of Pitt and Khandker (1998) shows that the economic impact of households in Bangladesh is larger when women receive microfinance, than when the men do (see table in Appendix 2). From this table you find that if women receive microfinance, the effects on the spending per capita, the rate of school enrollment and growth of children is increases faster than when men are borrowing. Besides the effect from the performance of women compare with man, it has also been proven that women have more discipline to repay the loan. The loan repayment rates were above 90 percent (Daley-Harris, S., 2006, p 6).

Princess Maxima famous as the queen for microfinance also agreed that microfinance is especially for women a good service. Women become more independent and take care of their families. She is the ambassador for microfinance and stimulates the growth of the people who receive microfinance. She is traveling around the world to meet many micro-entrepreneurs.

Figure 1: Princess Maxima is speaking with a micro-entrepreneur



## *Empirical Literature*

In literature, microfinance is most of the time discussed in relation with developing countries (Daley-Harris, S., 2006, p 24). The World Bank gives three characteristics for developing countries: One, there is a low gross domestic product. Second, there is a low life standard like the insufficient healthcare and as third a slow economic growth. The United Nations defined fifty countries as developing countries. They are mentioned in the appendix 3.

Many case studies are executed on the relation between microfinance and poverty reduction. Some people are convinced that microfinance is a good tool against poverty. Khandker is convinced that providing microfinance is an effective instrument to reduce poverty and even to overcome it (Pitt, M.M and Khandker S.R., 1998, p. 960).

Not everyone shares the optimism of Khandker. Buckley is one of them. He researched microfinance enterprises in Kenya, Malawi and Ghana and is in doubt whether microfinance is a problem or a solution. He says that people who take advantage of microfinance are not the people who really need it (Buckley, G., 1997, p 1081). He researched how businesses start. The microfinance entrepreneurs set up their business with finance from themselves and their families and/or friends. They benefit from larger economics of scale through microfinance. He says 'just capital is not enough'. The people who live in extreme poverty need fundamental structural changes of the socioeconomic conditions. They need savings, business relations, knowledge, discipline and connections. Just financial services without these connections are not enough. Probably microfinance would not be the best manner to overcome the extreme poverty.

Morduch is even more radical in his conclusions (Morduch, J., 2000, p 620). He says that Khandker makes a mistake in measuring the amount members. 30 percent of the people he uses for his research would be too rich to be part of the sample. He says that after adjustments, he cannot find any proof of increase in income.

This paragraph discussed different issues around microfinance. Microfinance is an instrument against poverty. But, this instrument is not only an intelligent idea; there are several risks as well. In the next paragraph we will link microfinance and MDG's to each other.

## 2.3 Connecting Microfinance and MGD's

In most studies, microfinance is linked with GDP growth or poverty reduction. The general aim of the MDG's is to reduce poverty. That is why the empirical research in this research links microfinance and the MDG's with each other.

The millennium Development Goals exists of eight goals. Eradicate extreme poverty and hunger; will increase the amount children who are achieving universal primary education; decline gender disparity and depended position of the women's; will reduce child mortality; improve maternal health; distribution of HIV. Aids, malaria and other diseases will decline; expand environmental sustainability; develop a global partnership for development.

Microfinance can have direct influence on the first four goals. That is why the first four MDG's act as the testing criteria for the research. The first goal has two targets. The three others goals have one target each. These goals and targets will be measured by several indicators. The indicators can be found in the appendix 1.

To investigate the research question the following hypotheses and research model is drawled up in figure 2.

### *Hypothesis 1*

The evolvment of reaching the first target, which is to halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day; can be predicted by the growth of people that use microfinance.

### *Hypothesis 2*

The evolvment of reaching the second target, which is to halve the amount of people who suffer from hunger, between the period 1990 and 2015; can be predicted by the growth of people that use microfinance.

### *Hypothesis 3*

The evolvment of reaching the third target, which is that in 2015 the whole world can complete primary school; can be predicted by the growth of people that use microfinance.

#### Hypothesis 4

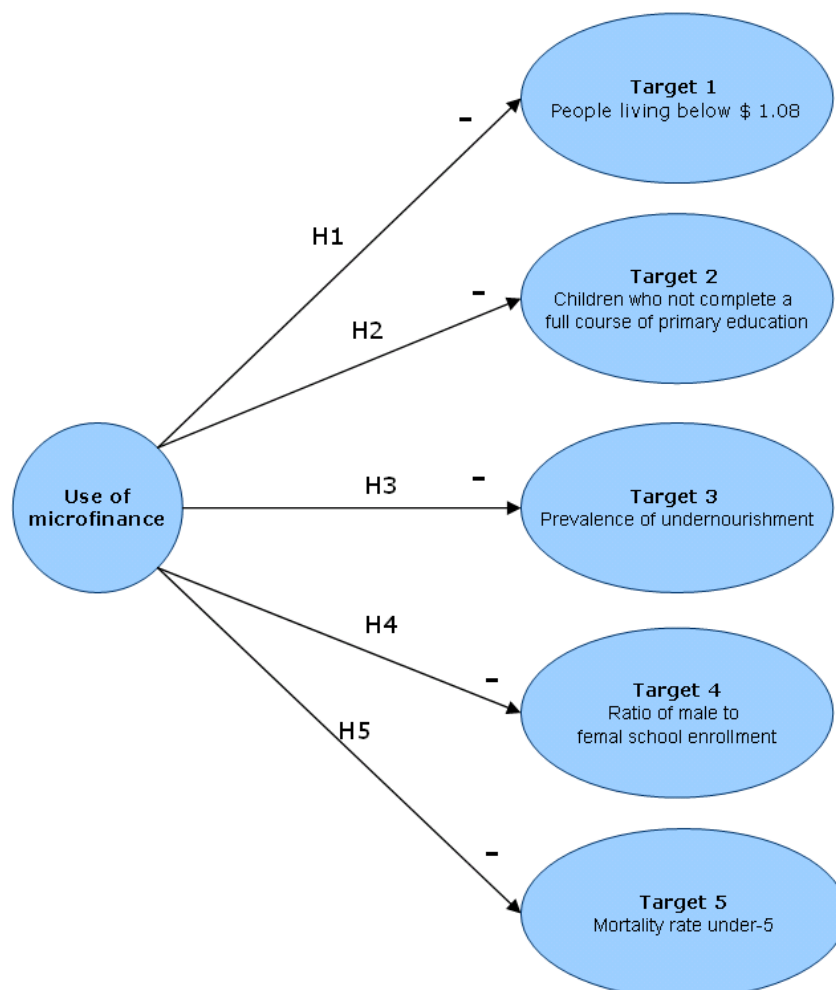
The evolvment of reaching the fourth target, which is eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015; can be predicted by the growth of people that use microfinance.

#### Hypothesis 5

The evolvment of reaching the fifth target, which is to reduce by two-thirds, between 1990 and 2015, the under-five mortality rate; can be predicted by the growth of people that use microfinance.

In figure 2 the empirical part of this research is defined in a model. The five hypotheses are split up. This research model is used in the next chapter.

Figure 2: Research model



This chapter started with the explanation of the MDG's. After the features around microfinance is discussed. The last paragraph makes something clear why this research connects microfinance and MDG's. The research model is given. The next chapter will proceed with this research model.

## Chapter 3: Empirical Research

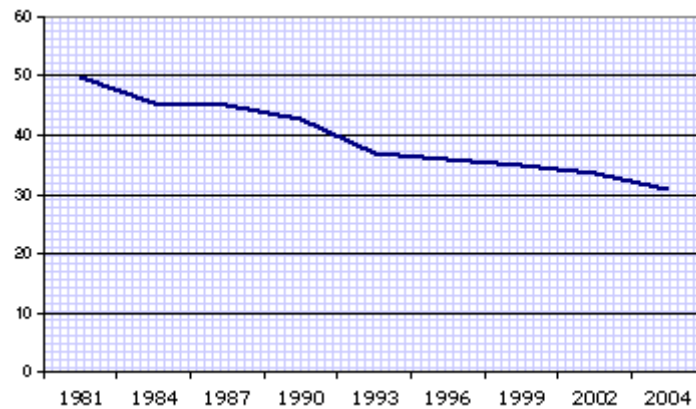
### 3.1 Data description

To find out whether the hypotheses which are given in chapter two are supported data is needed. Required data for this empirical part is the evolvement of the targets and the percentage of people who receives microfinance. The region used in this research is South Asia. The countries in this area are: India, Pakistan, Nepal, Sri Lanka, and Bangladesh. The reason for choosing one region is for the reliability of the research. By choosing different regions, there is more doubt in the data. These countries are more comparable with each other, than when you take one country from Africa and one out of South Asia. First the data description of the five targets is discussed. Second the microfinance data is given.

#### 3.1.1 Description relevant Millennium Development Goals

*Target one* is about decreasing extreme poverty. Under poverty falls: hunger, lack of shelter, inability to visit a doctor (World Bank). A person is considered poor if his or her consumption or income level falls below some minimum level necessary to meet basic necessities. This minimum level is usually called the "poverty line". Many countries make use of different definitions for poverty lines. The World Bank uses 1.08 dollar a person per day as the extreme poverty line (adjusted to account for differences in purchasing power across countries). The first target is to halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day. In graph 3 is shown the percentage of the population in South Asia who lives below the poverty line. The graph gives a decline of twenty percent in twenty-five years.

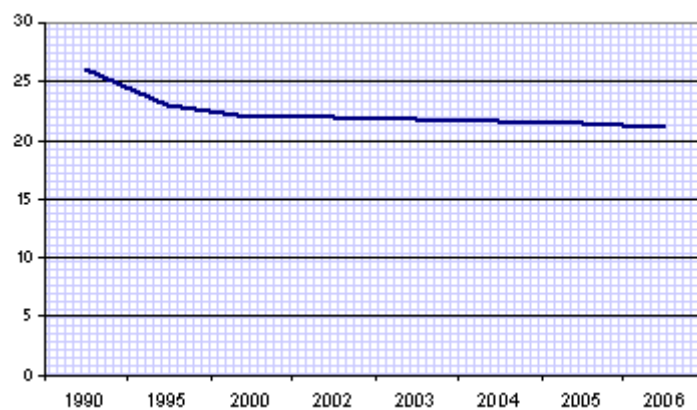
Graph 3: People living below \$ 1.08 (% of total population)



Source: The facts and figures from World Development Indicators 2007 (World Bank)

*Target two* is about decreasing people who suffer from hunger. The target is to halve the amount of people who suffer from hunger, between the period 1990 and 2015. The World Bank describes hunger as the proportion of people who have less than the recommended amount of daily food. In graph 4 is given, the percentage of the population in South Asia who suffer from hunger (undernourishment). There is a small decline over the years.

Graph 4: Prevalence of undernourishment (% of total population)



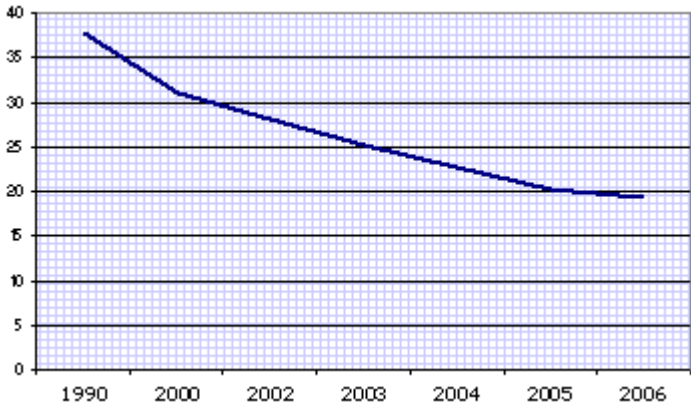
Source: The facts and figures from World Development Indicators 2007 (World Bank)



*Target three* is about primary education. At the primary school children learn to read, write and calculate. It is the basis for reducing poverty, improving health, reducing inequality, enabling the use of new technologies and creating and spreading knowledge. In an increasingly complex, knowledge-dependent world, primary education as the gateway to higher levels of education must be the first priority.

The aim is that in 2015 the whole world can complete primary school. To reach universal primary education by 2015, school systems with low completion rates will need to start to train teachers now, build classrooms, and improve the quality of education. Most important, they will have to remove such barriers to attendance as fees and lack of transportation, and address parents' concern for the safety of their children. In graph 5 is given the numbers of children in South Asia who not complete primary education. The number is declined to nineteen percent of the total children in South Asia who not completed primary education.

Graph 5: Children who not complete a full course of primary education (% of total children)



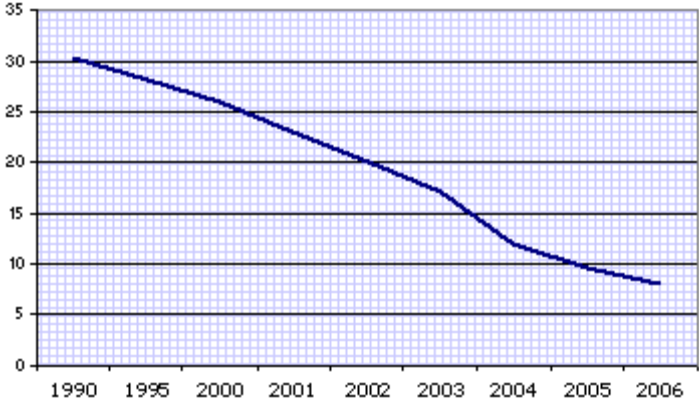
Source: The facts

World Development Indicators 2007 (World Bank)

and figures from

*Target four* is about gender disparity. Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015. Gender equality and empowerment of women will increase when women make money. Then they will become more independent. Microfinance gives women the opportunity to generate income. (Pitt, M.M. and Khandker S.R., 1998, p 958). Gender equality can be measured through the ratio of male to female in primary, secondary and tertiary education. Graph 6 shows the ratio of male to female in South Asia. When the numbers of female and male of school enrollment are even the ratio is one. The graphs show that the ratio in 2006 is around eight. It declined over the years.

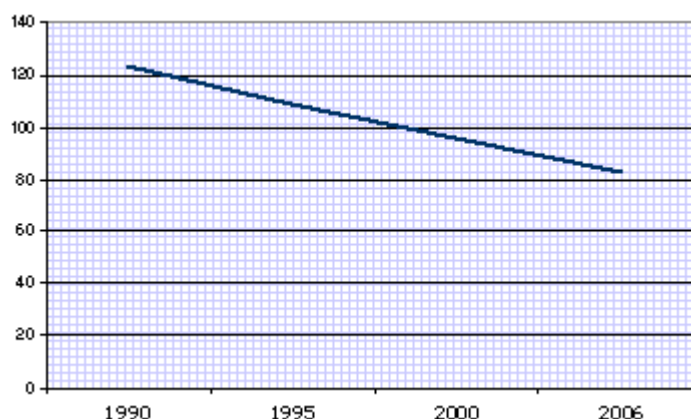
Graph 6: Ratio of male to female school enrollment



Source: The facts and figures from World Development Indicators 2007 (World Bank)

*Target five* is about infant mortality. Every year almost 11 million children in developing countries die before the age of five. Most die from causes that are readily preventable in rich countries: acute respiratory infections, diarrhea, measles, and malaria. The target is to reduce by two-thirds, between 1990 and 2015, the under-five mortality rate. This will be measured by the under-five mortality rate per country. Graph 7 shows the mortality rate in South Asia before the age of five. There is a decline over the years.

Graph 7: Mortality rate per 1000 under 5



Source: The facts and figures from World Development Indicators 2007 (World Bank)

### 3.1.2 Microfinance data

The relationship between the MDG's and the amount of microcredits will be investigated. Microcredit is the main component of microfinance. The amount of data for microfinance is small. The MDG's goals were initiated in 1990. For this research there is no data from 1990 till now. That is why there is a selection of years where data is complete; the years 2002-2006. The data is collected of the leading Microfinance Institutions (MFI's) in South Asia. These leading MFI's (see table 1) are presenting the region South Asia.

Table 1; Leading Microfinance Institutions South Asia

Bangladesh	India	Nepal	Pakistan	Sri Lanka
AFSA	Basix	Nirdhan Bank	NRSP	SDB
BRAC	Share	SBB	Khushhali Bank	
Grameen Bank	Spandana		Kashf Foundation	
	SKS			

The data collected from these institutions is the growth rate of microloans, which is the elementary component of microfinance. The source for the data used is the MIX MARKET, it is a global, online microfinance information platform. It provides information about different issues around microfinance. They exchange information with MFI's.

## 3.2 Data analysis

### *Method*

The five hypotheses given in chapter two are tested with the simple regression (OLS). A regression with one variable; 'use of microfinance' (MC), to predict the progress of the MDG's. There might be many factors that can explain the progress of the MDG's, but this model will only look at one predictor.

From the research model in figure 2 come clear, that the hypotheses are supported whether, there is a significant negative correlation between the use of microfinance and what the target represents. So if the numbers of the targets involvement is going down that means that the goals are making progress.

For every hypothesis a simple regression is performed. The dependent variable is one of the five targets of the MDG's and the independent variable is the amount growth microcredit.

Testing the hypotheses the simple regression is used. Five times the same regression to predict T (1,2,3,4,5) with the variable, use of microfinance (MC).

### *Analyses and results*

For the research, whether there is a significant negative correlation between the progresses of the millennium development targets and the use of microfinance than the hypothesis are supported.

#### ***Hypotheses 1***

Target 1 =  $35,756 - 0,534 (p < .05) MC$ , see table in appendix 4

The first hypotheses is supported because, there is a significant negative correlation between people whose income is less than one dollar a day and the use of microfinance.

#### ***Hypotheses 2***

Target 2 =  $22,560 - 0,114 (p < .05) MC$ , see tables in appendix 5

The second hypotheses is supported because, there is a significant negative correlation between, people whose suffer from hunger and the use of microfinance.

### *Hypotheses 3*

Target 3 = 32,648 -1,11 ( $p < .05$ ) MC, see tables in appendix 6

The third hypotheses is supported because, there is a significant negative correlation between, children who not complete a full course of primary education people and the use of microfinance.

### *Hypotheses 4*

Target 4 = 26,685 - 0,1556 ( $p < .05$ ) MC, see tables in appendix 7

The fourth hypotheses is supported because, there is a significant negative correlation between the ratio of male to female in school enrollment, and the use of microfinance.

### *Hypotheses 5*

Target 5 = 9,303 - 0,075 ( $p < .05$ ) MC, see tables in appendix 8

The fifth hypotheses is supported because, there is a significant negative correlation between Mortality rate (%), and the use of microfinance.

All the hypotheses are supported. Two of them show MC as a strong predictor. Hypothesis one with a predictor rate of -0.534 and three with a rate of -1.11. This means that for every percentage growth, the development of de MDG's will grow with .534 and 1.11 unit (in this case percentage).

Correlating with all five targets and MC, appendix 9 shows that all five targets correlate significant positive very strongly with each other. Besides that, the correlation shows a negative correlation with MC and the five targets. This is consistent with the regression analysis.

## Chapter 4: Conclusion

Poverty in the world is high. To overcome this poverty 189 members at the United Nations set up eight Millennium Development Goals (MDG's). There are several instruments to reach those MDG's. One of these instruments has been examined in this research; Microfinance. Microfinance is the supply of small loans, savings, and other financial services to poor people. Through these financial services people can overcome poverty (which is the general goal of the MDG's). Over the years, the people who receive a microfinance loan between 1997 and 2005 increased from 13,5 million to 113,3 million. This growing population could be an effective instrument to reach the MDG's.

A large part of research is being conducted concerning the effectiveness of microfinance. Some literature argues that microfinance is a good tool to serve the poor people. On the other hand there is some criticism in the literature, which argues that the poorest people cannot be reached with microfinance.

The amount of people, who are receiving microfinance, is growing over the years. Besides that the MDG's made a significant progress. This research investigated whether those effects can be connected to each other. The research model in figure 2 shows the five hypotheses that are formulated. Whether there is a significant negative correlation between the use of microfinance and what the target represents the hypothesis are supported. In this model the use of microfinance (MC) is the predictor.

The results show that the five hypotheses are supported. This means that microfinance have influence on the evolvment of the targets: First target, to halve the proportion people living below \$ 1.08. Second target, to halve the amount of people who suffer from hunger. Third target, that the whole world can complete primary education. Fourth target, to eliminate gender disparity in primary and secondary education. Fifth target, to reduce by two third the under-five mortality.

This model is useful to predict the evolvement of the five Millennium Development Targets with the variable MC. Microfinance *is an effective instrument to reach the MDG's*. Microfinance has an influence on all five targets. But the strongest influence is by target one, people who are living under the poverty line. And target three, for children to complete the primary education. For these two targets microfinance has the biggest impact.

Besides the influence of microfinance on the MDG's, there is also a correlation between the targets. The targets help each other to improve. E.g. when the extreme poverty declines will this have a positive effect on the other targets.

### Limitations of the empirical research

The first limitation is the data; it is a small amount of data. Only the years 2002-2006 are completed. The registrations of microfinance of the MFI's are not complete. That is why the data is almost impossible to complete.

Second, we only use one variable (MC) to predict this model. There are more variables that may influence the development of the MDG's.

Third, the missing part of causality. This research is primarily focused on the influence on the development of the MDG's. The research is not about the impact of microfinance on the development of the goals. It is possible that the development of the goals influence the growth of microfinance. This, however, has not been investigated.

### Further research

More research can be done by an extended model, which will make the model more reliable. For example by including variables like, amount growth of aid, labor, knowledge, infrastructure etc.

Furthermore additional research can be done into the relationship of women and microfinance. The political and development organizations are really enthusiastic about women organizations. There are even MFI's who only focus to women as the target group. Research into the affectivities of these MFI's would be interesting.

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# Appendices

## Appendix 1: Millennium Development Goals

<b>Millennium Development Goals (MDGs)</b>	
<b>Goals and Targets (from the Millennium Declaration)</b>	<b>Indicators for monitoring progress</b>
<b>Goal 1: Eradicate extreme poverty and hunger</b>	
<b>Target 1:</b> Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	<ul style="list-style-type: none"> <li>1. Proportion of population below \$1 (PPP) per day<sup>a</sup></li> <li>2. Poverty gap ratio [incidence x depth of poverty]</li> <li>3. Share of poorest quintile in national consumption</li> </ul>
<b>Target 2:</b> Halve, between 1990 and 2015, the proportion of people who suffer from hunger	<ul style="list-style-type: none"> <li>4. Prevalence of underweight children under-five years of age</li> <li>5. Proportion of population below minimum level of dietary energy consumption</li> </ul>
<b>Goal 2: Achieve universal primary education</b>	
<b>Target 3:</b> Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	<ul style="list-style-type: none"> <li>6. Net enrolment ratio in primary education</li> <li>7. Proportion of pupils starting grade 1 who reach grade 5</li> <li>8. Literacy rate of 15-24 year-olds</li> </ul>
<b>Goal 3: Promote gender equality and empower women</b>	
<b>Target 4:</b> Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015	<ul style="list-style-type: none"> <li>9. Ratios of girls to boys in primary, secondary and tertiary education</li> <li>10. Ratio of literate females to males of 15-24 year-olds</li> <li>11. Share of women in wage employment in the non-agricultural sector</li> <li>12. Proportion of seats held by women in national parliament</li> </ul>
<b>Goal 4: Reduce child mortality</b>	
<b>Target 5:</b> Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	<ul style="list-style-type: none"> <li>13. Under-five mortality rate</li> <li>14. Infant mortality rate</li> <li>15. Proportion of 1 year-old children immunised against measles</li> </ul>
<b>Goal 5: Improve maternal health</b>	
<b>Target 6:</b> Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	<ul style="list-style-type: none"> <li>16. Maternal mortality ratio</li> <li>17. Proportion of births attended by skilled health personnel</li> </ul>
<b>Goal 6: Combat HIV/AIDS, malaria and other diseases</b>	
<b>Target 7:</b> Have halted by 2015 and begun to reverse the spread of HIV/AIDS	<ul style="list-style-type: none"> <li>18. HIV prevalence among 15-24 year old pregnant women</li> <li>19. Condom use rate of the contraceptive prevalence rate<sup>b</sup></li> <li>20. Number of children orphaned by HIV/AIDS<sup>c</sup></li> </ul>
<b>Target 8:</b> Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	<ul style="list-style-type: none"> <li>21. Prevalence and death rates associated with malaria</li> <li>22. Proportion of population in malaria risk areas using effective malaria prevention and treatment measures<sup>d</sup></li> <li>23. Prevalence and death rates associated with tuberculosis</li> <li>24. Proportion of tuberculosis cases detected and cured under directly observed treatment short course (DOTS)</li> </ul>
<b>Goal 7: Ensure environmental sustainability</b>	
<b>Target 9:</b> Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	<ul style="list-style-type: none"> <li>25. Proportion of land area covered by forest</li> <li>26. Ratio of area protected to maintain biological diversity to surface area</li> <li>27. Energy use (kg oil equivalent) per \$1 GDP (PPP)</li> <li>28. Carbon dioxide emissions (per capita) and consumption of ozone-depleting CFCs (ODP tons)</li> <li>29. Proportion of population using solid fuels</li> </ul>
<b>Target 10:</b> Halve, by 2015, the proportion of people without sustainable access to safe drinking water	<ul style="list-style-type: none"> <li>30. Proportion of population with sustainable access to an improved water source, urban and rural</li> </ul>
<b>Target 11:</b> By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	<ul style="list-style-type: none"> <li>31. Proportion of urban population with access to improved sanitation</li> <li>32. Proportion of households with access to secure tenure (owned or rented)</li> </ul>

<b>Goal 8: Develop a global partnership for development</b>	
<p><b>Target 12:</b> Develop further an open, rule-based, predictable, non-discriminatory trading and financial system</p> <p>Includes a commitment to good governance, development, and poverty reduction – both nationally and internationally</p> <p><b>Target 13:</b> Address the special needs of the least developed countries</p> <p>Includes: tariff and quota free access for least developed countries' exports; enhanced programme of debt relief for HIPC and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction</p> <p><b>Target 14:</b> Address the special needs of landlocked countries and small island developing States</p> <p>(through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)</p> <p><b>Target 15:</b> Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term</p>	<p><i>Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked countries and small island developing States.</i></p> <p><u>Official development assistance</u></p> <p>33. Net ODA, total and to LDCs, as percentage of OECD/DAC donors' gross national income</p> <p>34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation)</p> <p>35. Proportion of bilateral ODA of OECD/DAC donors that is untied</p> <p>36. ODA received in landlocked countries as proportion of their GNIs</p> <p>37. ODA received in small island developing States as proportion of their GNIs</p> <p><u>Market access</u></p> <p>38. Proportion of total developed country imports (by value and excluding arms) from developing countries and LDCs, admitted free of duties</p> <p>39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries</p> <p>40. Agricultural support estimate for OECD countries as percentage of their GDP</p> <p>41. Proportion of ODA provided to help build trade capacity<sup>e</sup></p> <p><u>Debt sustainability</u></p> <p>42. Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative)</p> <p>43. Debt relief committed under HIPC initiative, US\$</p> <p>44. Debt service as a percentage of exports of goods and services</p>
<p><b>Target 16:</b> In co-operation with developing countries, develop and implement strategies for decent and productive work for youth</p>	<p>45. Unemployment rate of 15-24 year-olds, each sex and total<sup>f</sup></p>
<p><b>Target 17:</b> In co-operation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries</p>	<p>46. Proportion of population with access to affordable essential drugs on a sustainable basis</p>
<p><b>Target 18:</b> In co-operation with the private sector, make available the benefits of new technologies, especially information and communications</p>	<p>47. Telephone lines and cellular subscribers per 100 population</p> <p>48. Personal computers in use per 100 population and Internet users per 100 population</p>

## Appendix 2: Impact of microcredit borrowing

**Table 2 Impacts of microcredit borrowing on household outcomes**  
(percentage change for a 10 percent increase in borrowing)

<i>Household indicator</i>	<i>Grameen Bank</i>		<i>BRAC</i>		<i>RD-12</i>	
	<i>Male borrowing</i>	<i>Female borrowing</i>	<i>Male borrowing</i>	<i>Female borrowing</i>	<i>Male borrowing</i>	<i>Female borrowing</i>
Per capita spending	0.18	0.43	0.19	0.39	0.23	0.40
Net worth	0.15	0.14	0.20	0.09	0.22	0.02
Boys' school enrollment	0.07	0.61	-0.08	-0.03	0.29	0.79
Girls' school enrollment	0.30	0.47	0.24	0.12	0.07	0.23
Boys' height for age	-2.98	14.19	-2.98	14.19	-2.98	14.19
Girls' height for age	-4.92	11.63	-4.92	11.63	-4.92	11.63
Recent fertility	-0.74	-0.35	0.54	0.79	-0.74	0.50
Contraceptive use	4.25	-0.91	0.40	-0.74	0.84	-1.16

Source: Khandker 1998.

## Appendix 3: List of least Developed Countries and Regions

### List of Least Developed Countries and Regions

- 1 Afghanistan: [South Asia](#)
- 2 Angola: [Sub-Saharan Africa](#)
- 3 Bangladesh: [South Asia](#)
- 4 Benin: [Sub-Saharan Africa](#)
- 5 Bhutan: [South Asia](#)
- 6 Burkina Faso: [Sub-Saharan Africa](#)
- 7 Burundi: [Sub-Saharan Africa](#)
- 8 Cambodia: [East Asia & Pacific](#)
- 9 Cape Verde: [Sub-Saharan Africa](#)
- 10 Central African Republic: [Sub-Saharan Africa](#)
- 11 Chad: [Sub-Saharan Africa](#)
- 12 Comoros: [Sub-Saharan Africa](#)
- 13 Democratic Republic of the Congo: [Sub-Saharan Africa](#)
- 14 Djibouti: [Middle East & North Africa](#)
- 15 Equatorial Guinea: [Sub-Saharan Africa](#)
- 16 Eritrea: [Sub-Saharan Africa](#)
- 17 Ethiopia: [Sub-Saharan Africa](#)
- 18 Gambia: [Sub-Saharan Africa](#)
- 19 Guinea: [Sub-Saharan Africa](#)
- 20 Guinea-Bissau: [Sub-Saharan Africa](#)
- 21 Haiti: Latin America & Caribbean
- 22 Kiribati: [East Asia & Pacific](#)
- 23 Lao People's Democratic Republic: [East Asia & Pacific](#)
- 24 Lesotho: [Sub-Saharan Africa](#)
- 25 Liberia: [Sub-Saharan Africa](#)
- 26 Madagascar: [Sub-Saharan Africa](#)
- 27 Malawi: [Sub-Saharan Africa](#)
- 28 Maldives: [Sub-Saharan Africa](#)
- 29 Mali: [Sub-Saharan Africa](#)
- 30 Mauritania: [Sub-Saharan Africa](#)
- 31 Mozambique: [Sub-Saharan Africa](#)
- 32 Myanmar: [East Asia & Pacific](#)
- 33 Nepal: [South Asia](#)
- 34 Niger: [Sub-Saharan Africa](#)
- 35 Rwanda: [Sub-Saharan Africa](#)
- 36 Samoa: [East Asia & Pacific](#)
- 37 São Tomé and Príncipe: [Sub-Saharan Africa](#)
- 38 Senegal: [Sub-Saharan Africa](#)
- 39 Sierra Leone: [Sub-Saharan Africa](#)
- 40 Solomon Islands: [East Asia & Pacific](#)
- 41 Somalia: [Sub-Saharan Africa](#)
- 42 Sudan: [Sub-Saharan Africa](#)
- 43 Timor-Lesté: [East Asia & Pacific](#)
- 44 Togo: [Sub-Saharan Africa](#)
- 45 Tuvalu: [East Asia & Pacific](#)
- 46 Uganda: [Sub-Saharan Africa](#)
- 47 United Republic of Tanzania: [Sub-Saharan Africa](#)
- 48 Vanuatu: [East Asia & Pacific](#)
- 49 Yemen: Middle East & North Africa
- 50 Zambia: [Sub-Saharan Africa](#)

## Appendix 4: Output

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	Amount Microcredit Loans	.	Enter

a. All requested variables entered.

b. Dependent Variable: Target 1

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937 <sup>a</sup>	.877	.836	.70426

a. Predictors: (Constant), Amount Microcredit Loans

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.624	1	10.624	21.420	.019 <sup>a</sup>
	Residual	1.488	3	.496		
	Total	12.112	4			

a. Predictors: (Constant), Amount Microcredit Loans

b. Dependent Variable: Target 1

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	35.756	1.042		34.322	.000
	Amount Microcredit Loans	-.534	.115	-.937	-4.628	.019

a. Dependent Variable: Target 1

## Appendix 5: Output

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.995 <sup>a</sup>	.990	.987	.03971

a. Predictors: (Constant), Amount Microcredit Loans

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.483	1	.483	306.436	.000 <sup>a</sup>
	Residual	.005	3	.002		
	Total	.488	4			

a. Predictors: (Constant), Amount Microcredit Loans

b. Dependent Variable: Target 2

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.560	.059		384.042	.000
	Amount Microcredit Loans	-.114	.007	-.995	-17.505	.000

a. Dependent Variable: Target 2

## Appendix 6: Output

### Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	Amount Microcredit Loans <sup>a</sup>	.	Enter

a. All requested variables entered.

b. Dependent Variable: Target 3

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946 <sup>a</sup>	.894	.859	1.34265

a. Predictors: (Constant), Amount Microcredit Loans

### ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.852	1	45.852	25.435	.015 <sup>a</sup>
	Residual	5.408	3	1.803		
	Total	51.260	4			

a. Predictors: (Constant), Amount Microcredit Loans

b. Dependent Variable: Target 3

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.648	1.986		16.438	.000
	Amount Microcredit Loans	-1.110	.220	-.946	-5.043	.015

a. Dependent Variable: Target 3



## Appendix 7: Output

### Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	Amount Microcredit Loans <sup>a</sup>	.	Enter

a. All requested variables entered.

b. Dependent Variable: Target 4

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936 <sup>a</sup>	.877	.836	2.05600

a. Predictors: (Constant), Amount Microcredit Loans

### ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.119	1	90.119	21.319	.019(a)
	Residual	12.681	3	4.227		
	Total	102.800	4			

a Predictors: (Constant), Amount Microcredit Loans

b Dependent Variable: Target 4

**Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.685	3.041		8.774	.003
	Amount Microcredit Loans	-1.556	.337	-.936	-4.617	.019

a. Dependent Variable: Target 4

## Appendix 8: Output

### Variables Entered/Removed<sup>b</sup>

Model	Variables Entered	Variables Removed	Method
1	Amount Microcredit Loans <sup>a</sup>	.	Enter

a. All requested variables entered.

b. Dependent Variable: Target 5

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946 <sup>a</sup>	.895	.861	.08990

a. Predictors: (Constant), Amount Microcredit Loans

### ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.208	1	.208	25.704	.015 <sup>a</sup>
	Residual	.024	3	.008		
	Total	.232	4			

a. Predictors: (Constant), Amount Microcredit Loans

b. Dependent Variable: Target 5

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.303	.133		69.951	.000
	Amount Microcredit Loans	-.075	.015	-.946	-5.070	.015

a. Dependent Variable: Target 5

## Appendix 9: Output

Correlations

		Target 1	Target 2	Target 3	Target 4	Target 5	Amount Microcredit Loans
Target 1	Pearson Correlation	1	.961**	.999**	.996**	.997**	-.937*
	Sig. (2-tailed)		.009	.000	.000	.000	.019
	N	5	5	5	5	5	5
Target 2	Pearson Correlation	.961**	1	.966**	.964**	.969**	-.995**
	Sig. (2-tailed)	.009		.008	.008	.007	.000
	N	5	5	5	5	5	5
Target 3	Pearson Correlation	.999**	.966**	1	.993**	.995**	-.946*
	Sig. (2-tailed)	.000	.008		.001	.000	.015
	N	5	5	5	5	5	5
Target 4	Pearson Correlation	.996**	.964**	.993**	1	.995**	-.936*
	Sig. (2-tailed)	.000	.008	.001		.000	.019
	N	5	5	5	5	5	5
Target 5	Pearson Correlation	.997**	.969**	.995**	.995**	1	-.946*
	Sig. (2-tailed)	.000	.007	.000	.000		.015
	N	5	5	5	5	5	5
Amount Microcredit Loans	Pearson Correlation	-.937*	-.995**	-.946*	-.936*	-.946*	1
	Sig. (2-tailed)	.019	.000	.015	.019	.015	
	N	5	5	5	5	5	5

\*\* . Correlation is significant at the 0.01 level (2-tailed).

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