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The Microcredit Purpose Gap

MIX insights

Author : Alexander Vangeneugden

Thesis Director : William Parienté

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Université catholique de Louvain - Economics School of Louvain - Place Montesquieu 3, 1348 Louvain-La-Neuve
Université de Namur – Economics School of Namur – Rempart de la Vierge 8, 5000 Namur

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ABSTRACT

The purpose of this thesis is to measure the definition and purpose gap of today's microcredit compared to the microcredit launched by Dr. Muhammad Yunus 45 years ago. The different components of the definition are analyzed through study of the relevant literature and analysis of the MIX market data of The World Bank after having applied a thorough replicable data cleaning exercise. The seven different components that will be discussed in this thesis are the following: average loan balance per borrower, collateral, male vs female, rural vs urban, enterprise finance vs household financing, poor people's access to microcredit and poor people empowerment. Although some of the original components are still applied today in some cases, we observe that since its conception different types of microcredit developed and spread over the world. Results about microcredit are often mixed: in some cases it can be beneficial, while in other cases microcredit can have harmful effects.

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ABBREVIATIONS

ANN	Annual reporting
GLP	Gross loan portfolio
GNI	Gross national income
M	Modified z-score
MAD	Median absolute deviation
Max	Highest observation
MFI	Microfinance Institution
Min	Lowest observation
MIX	Microfinance Information Exchange
NBFI	Non-bank financial institution
NGO	Non-governmental organization
Obs	Observation
QRT	Quarterly reporting
SME	Small and medium-sized enterprise
St Dev	Standard deviation
USD	United States Dollar
Z-score	Standard score

1. INTRODUCTION

The origin

In the chapter ‘The Stool Makers of Jobra Village’ from his book “Banker to the Poor, Micro-lending and the battle against world poverty”, Muhammad Yunus describes the origins of modern micro-credit.

Microcredit has existed for centuries. However, modern micro-finance started in the 1970s during a famine in Bangladesh. Dr. Muhammad Yunus, an economics professor, visited multiple local villages to try to find a solution to help the poor people. In the village called Jorba, Yunus found 42 hard-working and skilled women who were making bamboo stools. Those women did not have enough money to buy the raw materials to make the bamboo stools. Therefore, they needed to lend money from local traders to buy the materials. However, the local traders would only lend the women money if they agreed to sell their stools at a price barely higher than the price of the raw materials. Due to the lack of money to buy the raw materials themselves, the women found themselves in a poverty trap: their tiny profit was barely sufficient to survive. Yunus found out that the total amount of money the 42 women would need to avoid being dependent on the local traders was only the equivalent of US$27. He gave that amount to the women as a loan at a zero interest rate. Thanks to this very small loan, it enabled the women to sell their bamboo stool at a higher price and therefore significantly increase their income which enabled them to get out of poverty. Modern microcredit was born (Yunus, 2007) (MicroWorld, 2021).

In 1983, Muhammad Yunus founded the Grameen Bank (“Village Bank”) to be able to give micro-loans on a larger scale. Grameen Bank has had a huge success: it has been active in tens of thousands of villages and has given loans to millions of poor people. Built on the principles of trust and solidarity, 97% of Grameen Banks loans are paid back (Grameen Bank, 2021). In 2006, Muhammad Yunus and Grameen bank were jointly awarded with the Nobel Peace Prize for “their efforts to create economic and social development from below” (The Nobel Prize, 2006). Most institutions (excluding Grameen Bank) who started with microcredit were NGOs. However, due to the rapid growth in demand for microcredit, there are now not only many NGOs, but also a lot of large banking institutions (including Credit Suisse and Deutsche Bank) and for profit institutions involved in micro-finance. There are now more than 10,000 micro-finance institutions and more than 150 million people directly or indirectly benefiting from micro-finance (MicroWorld, 2021).

The success of Grameen Bank was followed by many other Microfinance Institutions or MFIs, each of them with their own purpose, balancing between profit targets and economic and social development goals. There are now more than 10,000 micro-finance institutions and more than 150 million people directly or indirectly benefiting from micro-finance (MicroWorld, 2021).

Although a lot of research is done, there’s still a large debate on the effectiveness of microcredit, partially created by the lack of data completeness, consistency, accuracy, and integrity on the subject.

The question

Through granting small loans without collateral, the purpose of Muhammad Yunus’ microcredit is to empower mainly poor women in rural areas to become entrepreneurs to get out of poverty. Is this still largely the case 45 years after Yunus gave a zero-interest loan to 42 women to make their little bamboo stool business? Or is there a purpose gap? That's the research question of this paper. The aim of this study is to measure the gap between the definition given above and the current microcredit practices.

The method

My research is based on a 3 phased approach. First, I decompose the definition of microcredit by Muhammad Yunus into 7 individual features, questions, and hypotheses. Second, I choose the MIX Market data, which is available for the public on the World Bank's Data Catalog (The World Bank, 2021)[1], as my main data source. Being reported by MFIs active in different regions of the world between June 1999 and September 2019, the MIX Market data encompasses information on financial & social performance, operating model, products and clients. Although the data is collected and reported in line with recognized reporting standards, the quality of the data is variable. Therefore, I designed a replicable data quality cleansing exercise to produce a first basic layer of robust data. This is a differentiating factor compared with other research studies. Third, I analyze my research question and each hypothesis based on the insights given by the data complemented with literature study.

The 7 insights

Applying the above method resulted in the following key insights for the 7 features which are explained into more detail as well as in statistical terms, tables and figures in the main structure of this paper.

1. The average loan balance per borrower has evolved: it has grown compared to the past.
2. The goal of providing loans without collateral is not respected anymore: a significant amount of loans given today require collateral.
3. Women do receive most of the microcredit loans, but are still often discriminated. Therefore, microcredit has had a positive impact on women's access to credit, but there is still more progress needed.
4. Rural people still receive most of the loans, but there has been an evolution in this feature as well: urban people receive a considerable amount of the loans too now.
5. The majority of the gross loan portfolio still goes to finance entrepreneurship. But again, here has been an evolution as well: today, a considerable amount of loans go to household financing too.
6. A considerable amount of poor people have access to microcredit now.
7. Whether microcredit empowers people and reduces poverty depends on the circumstances: sometimes it benefits the borrowers, while it can also negatively impact or have no impact at all on the lives of the borrowers in other cases.

[1] The MIX market data is available via this URL: https://datacatalog.worldbank.org/dataset/mix-market

2. LITERATURE REVIEW

This thesis aims to research whether microcredit today is still implemented as how it was designed by Muhammad Yunus in the 1970s and 1980s. The purpose of the literature review is to get a broad overview of the existing literature about the seven different aspects of microcredit that will be researched in this thesis. Then, my research of the MIX database will be compared to the existing literature.

Average loan balance per borrower

The goal of microcredit was to give very small loans to poor people (especially in low-income countries) who were not able to get a loan from traditional banks. According to Investopedia, microcredit ranges from $10 to $100 and rarely exceeds $2000 (Hayes, 2020).

Collateral

The borrowers of microcredit loans are often not able to get loans from traditional banks, because they usually – among other things – do not have collateral (Hayes, 2020) (Jack, et al., 2017) (Corporate Finance Institute, 2021). Due to the lack of collateral, microcredit borrowers usually do not have the ability to get a lower interest rate. However, if a SME has a good reputation (by paying previous loans back) it can get a new loan at a lower interest rate (Comeig, et al., 2015). Sometimes, institutions give group loans instead of individual loans as a way to get some sort of collateral. In a study, group lending led to more people owning a business (compared to individual lending) and also had a positive impact on consumption (including food consumption) (Attanasio, et al., 2015).

Male vs Female

One of the goals of microcredit is to give loans to women to empower them. In microcredit, there is a big focus on giving loans to women, because a vast amount of women around the world do not have access to credit (Shrestha, 2020). A study has found that when institutions have women as their target market it has better business performances. Therefore, sometimes social performance and business operations can go hand in hand (Husain & Pistelli, 2016). A study has found that the annual household consumption expenditure increases more when the microloan is given to women than when it is given to men (Pitt & Khandker, 1998). People in favor of microcredit often mention the benefits microcredit has on the empowerment of women. However, studies have found that microcredit has only a small or even no impact at all on the empowerment of women (Poverty Action Lab, 2015).

Rural vs Urban

One of the goals of microcredit is to provide credit to rural people (in particular poor rural women), because it was thought that those people were not bankable. MFIs, especially Grameen Bank, want to prove the opposite and provide microcredit loans to rural people. Moreover, in the past, it was believed that a bank that would provide loans to rural people would fail due to the rural power structures. Again, Grameen Bank and other MFIs want to prove the opposite (Grameen Bank, 2021).

In 2017, Grameen Bank was active in almost 93% of the country's villages providing loans to countless rural people (Grameen Bank, 2017).

Enterprise finance vs Household financing

In microcredit, there is a big focus on entrepreneurship, because one of the goals of microcredit programs is to alleviate poverty by giving small loans to people who want to start their own business or become self-employed (ICDF, 2002) (D'Angelo, 2020). This new business should enable them to earn a higher income in the future. In developing countries, small entrepreneurs have high returns to capital (Field, et al., 2013). As expected, a study has found that giving people access to microcredit increases entrepreneurship, because people start more businesses, are more likely to become self-employed and go away from wage work (Augsburg, et al., 2015). This is the case as long as microcredit is reasonably priced (Banerjee, 2013). Another study found that increasing the credit supply is beneficial and improves welfare (Karlan & Zinman, 2010). There are also people who do not use the microcredit loan that they receive for entrepreneurship: they use it for consumption and are therefore unlikely to increase their future income thanks to microfinance. However, there are some exceptions: in some cases it can be beneficial to receive microcredit even if it is not to invest in a business. One of the positive aspects of having access to microcredit is the increased freedom people have: thanks to having more money they have more choice in how they earn and spend money. If the money is used for example to absorb economic shocks (for example a family health emergency) it can allow people to keep their job and thus increase their income compared to if they did not have access to microloans (Poverty Action Lab, 2015). A study has found that especially with high-interest loans, people use it because they have an urgent need (a broken car for example that needs to get repaired) (Banerjee, 2013). Another study found that people significantly increased their living standards thanks to asset accumulation they were able to get through microloans (Adjei, et al., 2009).

Poor people's access to microcredit

Microcredit institutions increase the access to credit to poor people. As mentioned previously, 150 million people directly or indirectly benefit from microcredit. Therefore, a lot of poor people have had access to microcredit. In section 6 (Poor people's access to microcredit) this will be explained in more detail.

Poor people empowerment

Arguably the main goal of microcredit is of course to empower people and to help them get out of poverty. The literature has different points of view when it comes to the effectiveness of microcredit in reducing poverty. In some cases microcredit benefits the borrower, in some cases it has no effect on the borrower and sometimes it even hurts the borrower. In section 7 (Poor people empowerment) these different points of views will be discussed in more detail.

3. RESEARCH QUESTION

Through granting small loans without collateral, the purpose of Muhammad Yunus' microcredit is to empower mainly poor women in rural areas to become entrepreneurs in order to get out of poverty. Is this still largely the case 45 years after Yunus gave a zero-interest loan to 42 women to make their little bamboo stool business? Or is there a purpose gap?

The aim of this study is to measure the gap between the definition given above and the current microcredit practices. Additional features of the original definition as well as the vision and mission of Mr. Yunus are still on the website of the Grameen bank (Grameen Bank, 2021).

In the next chapter (Definition Composition), I will explain which components I will research and analyze in this thesis. In the following chapter (MIX Insights) I will set up the MIX dataset for this analysis and thereafter I will analyze and comment on each with complementary insights from literature where relevant. Special attention is given to the build-up of the dataset for this analysis in order to have insightful conclusions as well as to be able to replicate this robust dataset for future research.

I hope that this outcome will help to better understand microcredit in all its dimensions and to enhance the design of future research in order to provide policymakers and microcredit stakeholders the right information to decide upon how to further improve the microcredit ecosystem for the betterment of poor people.

4. DEFINITION COMPOSITION

The main definition 'Through granting small loans without collateral, the purpose of Muhammad Yunus' microcredit is to empower mainly poor women in rural areas to become entrepreneurs in order to get out of poverty' can be composed in the following features set, questions or hypothesis:

Average loan balance per borrower

Is the amount of microcredit still small? I suspect that the amount an average is higher because the widespread of microcredit over different developing regions with each their respective characteristics which are different from Bangladesh, the country of origin. It is probably also higher due to the increased GNI of the world (The World Bank, 2021).

Collateral

Are microcredit loans still granted without collateral? At the start microcredit was given without collateral because the institutions had "helping people" as their main focus, but because there are a lot of for profit institutions involved now, it could have changed because for profit institutions might want more guarantees to be paid back. I suspect that – when there are more commercial institutions in the microcredit business – there will be a higher percentage of loans with collateral.

Male vs Female

Is microcredit primarily targeted to poor women? I suppose that most microcredit institutions will put less emphasis than Grameen Bank on targeting women. Especially other for profit institutions might want to target both women and men, as long as their clients give them a profit. Therefore, I suspect that women will still be a considerable amount of the people receiving loans (especially because a study that was mentioned in the literature review has found that institutions who focus on giving loans to women perform better). However, I suspect that men receive a lot of the loans too now.

Rural vs Urban

Are microcredits still primarily given in rural instead of urban areas? There's a natural trend of urbanization over the world meaning that automatically more poor people are also heading to city centers where there will be an increased need for microcredits. Therefore, I suspect that the amount of microcredit has risen a lot in urban areas.

Enterprise finance vs Household financing

Is the microcredit loan used for entrepreneurial development or for other reasons like consumption? I suspect that the amount of loans given to consumption has increased. People use microcredit for other reasons (besides entrepreneurship) for – it seems to me – mainly two reasons. The first reason would be that people are so poor that they do not have another choice and need money immediately to finance their most basic and essential needs. The second reason would be that not everyone has enough financial knowledge to make the best financial decisions possible to get out of poverty. And therefore, many people might borrow money to spend it on consumption that satisfy them in the short term, but that will not help them in the long run. However, it is important to keep in mind (as mentioned in the literature review) that money from microcredit spent on consumption is not necessarily bad in all cases. Sometimes it can be beneficial.

Poor people's access to microcredit

Do poor people have access to microcredit loans, and can they get out of poverty? I suspect that poor people indeed have access to microcredit, because – as mentioned previously – there are now more than 10,000 micro-finance institutions (a significant amount!) (MicroWorld, 2021). Whether they are NGOs or for profit institutions they both have the goal of targeting a many people as possible (to either help them or to make a profit). Therefore, I suspect that a lot of people do have access to microcredit.

Poor people empowerment

Is microcredit a means to empower poor people and to reduce poverty? Being able to access microcredit increases your options: compared to the scenario where a person cannot have a loan, being able to get a microloan is a new opportunity that can be taken on if that person wishes to do so. I suspect that microcredit is indeed empowering for people, because when you have more choices, it is more empowering. People who can benefit from microcredit could take on a loan an improve their life while those who cannot benefit from microcredit can ignore and not take on a loan. However, in some cases microcredit might not be empowering (if there is predatory lending for example).[2] I also suspect that microcredit could reduce poverty, because people can increase their income with a loan to start a business or take up a loan to finance an emergency which could be very helpful. However, high interest rates, bad financial decisions and bad luck could prevent people from getting out of poverty with microcredit. Therefore, I suspect that there will be both people who benefit and people who do not benefit when it comes to microcredit. It will all depend on the circumstances.

5. MIX INSIGHTS

Methodology

In this chapter, I will analyze my research question and each hypothesis based on the insights given by the MIX Market data which is available for the public on the World Bank's Data Catalog (The World Bank, 2021).[3] Being reported by MFIs active in different regions of the world between June 1999 and September 2019, data encompasses information on financial & social performance, operating model, products and clients.

Although the data is collected and reported in line with recognized reporting standards, the quality of the data is variable. Therefore, I designed a replicable data quality cleansing exercise to produce a first basic layer of robust data. This exercise will be explained first.

Thereafter in the analysis section, for each hypothesis, I will describe additional data cleansing steps, if necessary, descriptive statistics and the results of the MIX insights analysis.

Data Cleansing

The MIX Market data is provided in the following Excel files:

- MIX Market Financial Performance Field Definitions
- MIX Market Financial Performance Dataset in USD
- MIX Market MFI Company Metadata

The MIX Market Financial Performance Field Definitions file describes the definitions of 270 out of the 276 columns headings or fields in the MIX Market Financial Performance Dataset in USD. The 6 headings which are not explained are MFI ID, MFI Name, Fiscal Year, Currency, Period Type and As of Date.

The MIX Market Financial Performance Dataset in USD counts 41.258 rows (without column headings) and 276 columns of data resulting in a total of 11.387.208 cells of which 3.617.398 (32%) cells contain non-blank information; 7.769.810 (68%) cells are empty. It contains data from 3.116 MFIs.

[2] Predatory lending has unfair or abusive loan terms that are imposed on borrowers. The lenders take advantage of the circumstances or lack of financial knowledge of the borrowers in order to receive benefits for them (Hayes, 2021).

[3] The MIX market data is available via this URL: https://datacatalog.worldbank.org/dataset/mix-market

The MIX Market MFI Company Metadata contains additional information on the country, region, legal and profit status of each MFI. To facilitate further analysis, I merged the Financial Performance and Company Metadata. The additional 4 columns of information result in a total of 11.552.240 cells of which 3.782.430 (33%) cells contain non-blank information; 7.769.810 (67%) cells are empty.

On this merged file, I applied the following data cleansing steps:

- The 8 rows of 2 MFIs for which no metadata is found are deleted.
- In view of yearly analysis and in order to prevent duplicates, only rows with period type 'ANN'(Annual reporting) are kept; the rows with period type 'QTR'(Quarterly reporting) are removed resulting in a dataset with 20.117 rows.
- Some MFIs have multiple rows for the same fiscal year, only the row with the most recent reporting date is kept, resulting in the removal of 24 duplicates.
- Only as of 2008, details of the gross loan portfolio are reported in the MIX dataset, therefore this year is the first year of the analysis. Grameen Bank submitted from 2008 until 2017 an annual reporting. As Grameen Bank is the baseline or reference for our analysis, this time horizon is kept for all MFIs giving 12.330 rows of observations over a time span of 10 years.
- The average loan balance per borrower (= Gross Loan Portfolio / Number of Active Borrowers) is considered as the best simple proxy measurement for depth of outreach to the poor. Therefore, the ability to calculate this value is set as a minimum requirement for data quality in general as well as for data completeness specifically. The 256 Gross Loan Portfolio cells equal to blank and the 1.073 Number of Active Borrowers cells equal to blank or zero are removed, resulting in a dataset of 11.001 rows.
- At least three data points or fiscal years are required per MFI, in view of performed analysis and degrees of freedom. Therefore the 451 MFIs with one year of reporting and the 290 MFIs with two years of reporting are removed.

After having applied the above data cleansing steps, the MIX Market Financial Performance Dataset in USD counts 9.970 rows (without column headings) and 280 columns of data resulting in a total of 2.791.600 cells of which 1.426.968 (51%) cells contain non-blank information; 1.364.632 (49%) cells are empty. It contains data from 1.637 MFIs.

No data of Grameen Bank is removed because of the data cleansing exercise, giving a complete set of reference data for the comparative analysis.

In order to have an overall sense of the geographical spread of the MFIs, the number of MFIs per country (of the MIX database) are given on the world map below:

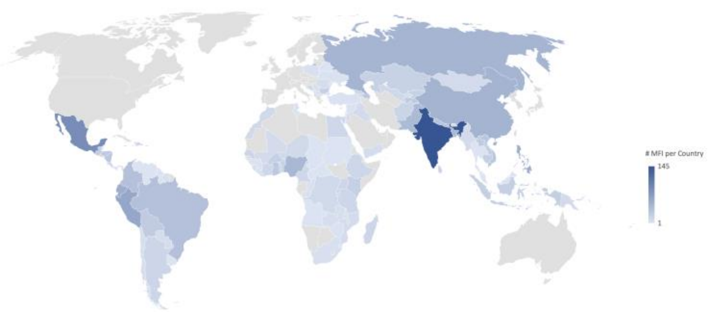

Figure 1: World map with the number of MFIs per country

Analysis

Data quality, statistics and MIX insights will be described for each of the hypothesis.

1. Average loan balance per borrower

The goal of microcredit was to give very small loans to poor people who were not able to get a loan from traditional banks. According to Investopedia, microcredit ranges from $10 to $100 and rarely exceeds $2000 (Hayes, 2020) The numbers $10 and $2000 are often used as the minimum and maximum to describe microcredit, because Grameen Bank gives loans between that interval (Corporate Finance Institute, 2021). In this section, it will be looked at if the loan amounts given as microcredit are still very small or if they have increased. This is an important insight because the average loan balances are the best simple proxy measurement for depth of outreach to the poor (Gonzalez, 2008).

Data & Statistics

For this analysis, I will analyze the 'Average Loan Balance per Borrower' which is the ratio of the variables 'Gross Loan Portfolio' and 'Number of Active Borrowers'. As I use the MIX Market Financial Performance Dataset in USD, these variables are already normalized as converted to one common currency (USD). Moreover, I will also put into perspective the 'Average loan balance per borrower / GNI per capita', which is a further normalization of the loan balances comparing them to some measure of local income.

I applied the following steps to prepare the data for the analysis:

First, I designed and applied an outlier analysis on Gross Loan Portfolio with the purpose to eliminate extreme values due to typo errors and/or erroneous exchange conversions to USD. A typical example is an MFI that reports an extreme G ross Loan Portfolio value in one year compared to the Gross Loan Portfolio values in all other years. As an extreme value could impact the mean, a Z-score outlier detection method based on the mean could lead to misleading results. Therefore, I used a modified Z-score outlier detection method which is based on the median.

The modified Z-Score for an MFI_i and a fiscal reporting $year_j$ is defined as (Williams, 2018):

$$M_{ij} = 0.6745*(GLP_{ij} – GLPmedian_i) / MAD_i$$

where GLP_{ij} is the Gross Loan Portfolio value for MFI_i and fiscal reporting $year_{j,}$ $GLPmedian_i$ is the median value of the Gross Loan Portfolio for MFI_i over its full reporting period and MAD_i is the Median Absolute Deviation for MFI_i, which is defined as the median of the absolute difference of GLP_{ij} and $GLPmedian_i$:

$$MAD_i = Median(|GLP_{ij} – GLPmedian_i|)$$

This method was repeated for each of the 1.637 MFI's and their respective reporting periods, resulting in removing 6 rows of observations with a modified Z-score greater than a threshold of 70, which was defined as such to remove the largest Gross Loan Portfolio value. If I would have applied a threshold of 3,5, as recommended by Iglewicz and Hoaglin (Williams, 2018), then 298 potential outliers would have been removed, which based on back-testing and business insights would have been too many. Finally, the one Gross Loan Portfolio variable with zero value is removed too.

The ‘Average Loan Balance per Borrower’ could have potential outlier values because of very low values in the denominator ‘Number of Active Borrowers’. However due to the skewness to the right of the ‘Number of Active Borrowers’ distribution, no potential outliers are detected in the lower values.

There are ‘Average Loan Balance per Borrower’ values which are difficult to explain based on business knowledge. For example, the maximum value amounts to 1.531.625 USD, which could be the consequence of a high proportion of ‘Large Corporations’ loans. However, this information is not given in the data.[4] Furthermore, the nominator and denominator of this MFI are not selected as outliers even not with the threshold set at 3,5 as described above. This MFI operates in China, and I found that multiple Chinese MFIs have these large values, in contrast to the other MFIs in their Ease Asia and the Pacific region, therefore I decided to isolate the Chinese MFIs as a separate region.

Because of the above, I applied a Z-score outlier detection method on the ‘Average Loan Balance per Borrower’ per region or similar operating environment, and defined observations as an outlier if it has a Z-score less than -4,5 or greater than 4,5; selecting 69 potential outliers (or 0,7% of the total observations), leading to the following descriptive statistics represented in Table 1:

Table 1: Descriptive statistics about the average loan balance per borrower

Region	Median	Mean	St Dev	Min	Max	Obs
Africa	397	716	854	0,0001	6.382	1.620
China, People's Republic of	1.283	19.259	50.833	84,9130	306.601	197
East Asia and the Pacific	324	726	1.048	0,0646	7.294	1.041
Eastern Europe and Central Asia	1.714	3.396	4.943	0,8831	56.063	1.496
Latin America and The Caribbean	1.018	1.862	2.608	86,6825	27.564	3.294
Middle East and North Africa	576	866	882	64,9834	6.235	389
South Asia	168	208	150	0,3225	1.332	1.857

As can be seen from table 1 above, the median average loan balance per borrower is the smallest in South Asia ($168), while it is the highest in Eastern Europe and Central Asia ($1.714). There are therefore big differences in amounts between the different regions of the world because the biggest median is more than 10 times the amount of the smallest median. As can be seen above, the results of China seem excessive compared to the other regions (with a mean of more than $19.000 and a maximum value exceeding $300.000).

In table 2, you will find the descriptive statistics for the ‘Average loan balance per borrower / GNI per capita’ variable:

[4] It could be assumed that the amount of Large Corporations is limited though. According to a recent MIX report, the percentage of Large Corporation loans outstanding (compared with – among other things – loans for microenterprises) is very small in all regions of the world: between 0,0% and 0,2% (MIX, 2017-2018).

Table 2: Descriptive statistics about the average loan balance per borrower per GNI per capita's variable

Region	Median	Mean	St Dev	Min	Max	Obs
Africa	0,5815	1,0928	1,7614	0,0000	28,7408	1.594
China, People's Republic of	0,2421	3,8603	10,1811	0,0148	58,9639	194
East Asia and the Pacific	0,1977	0,5235	0,8955	0,0000	7,6779	1.025
Eastern Europe and Central Asia	0,5107	0,8663	1,1032	0,0006	14,8708	1.485
Latin America and The Caribbean	0,2378	0,4857	1,0181	0,0091	22,3620	3.269
Middle East and North Africa	0,1486	0,3045	0,3862	0,0269	3,1483	383
South Asia	0,1394	0,2132	0,2541	0,0006	2,9238	1.826

In table 2 above, we can see that Africa has the highest median (despite only being fourth (excluding China) in table 1), while South Asia has the lowest.

The Chinese operating environment is very different to the one in other regions, and distorts the overall conclusions, therefore the insights below will be drawn from all regions excluding the observations from China.

Insights & Conclusions

In this section we will analyze the 'Average Loan Balance per Borrower' and 'Average loan balance per borrower / GNI per capita' over a 10-year time horizon for Grameen Bank, the MFIs in the same operating environment as Grameen Bank (which is the South Asia region) and also the MFIs in the world.

First, I will show the different insights before making a conclusion:

In figure 2, we see the linear increase of the average loan balance per borrower at Grameen Bank from 103 USD in 2008 to 198 USD in 2017, which is a 92% increase.

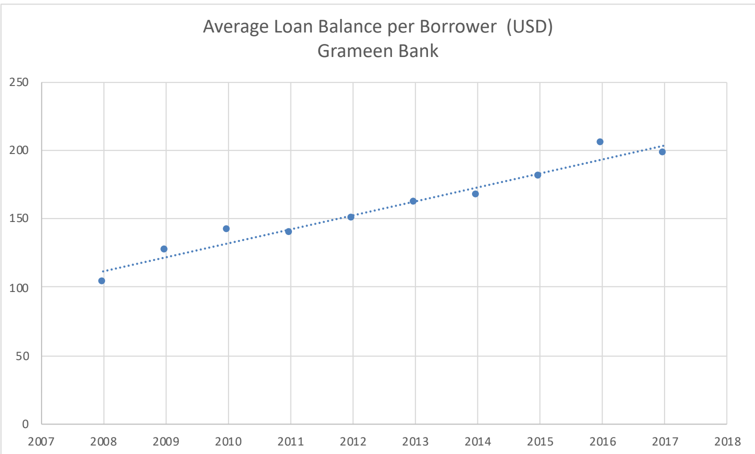

Figure 2: Average loan balance per borrower at Grameen Bank

In figure 3, we see the increase of the average loan balance per borrower of the MFIs in the South Asia region for both the mean and median values. The mean increased from 158 USD in 2008 to 302 USD in 2017, which is a 91% increase. This is very close to the 92% increase at Grameen Bank. The median increased from 121 USD in 2008 to 260 USD in 2017, which is a 115% increase.

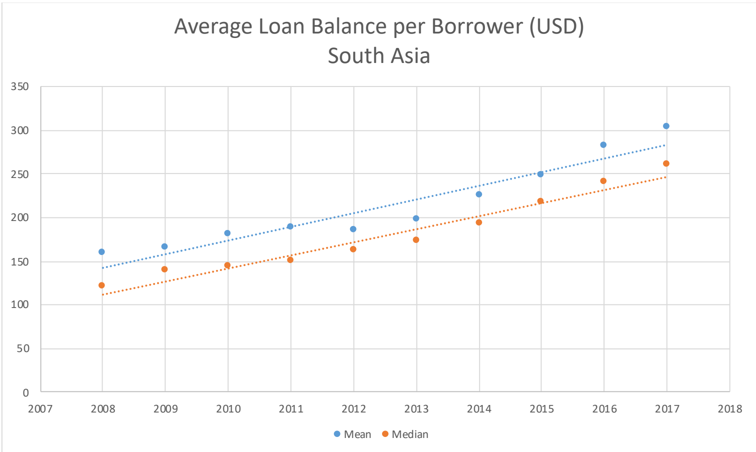

Figure 3: Average loan balance per borrower in South Asia

In figure 4, we see the increase of the Average Loan Balance per Borrower at the MFIs in the world for both the mean and median values. The mean increased from 1.185 USD in 2008 to 1.545 USD in 2017, which is a 30% increase. The median increased from 474 USD in 2008 to 654 USD in 2017, which is a 38% increase.

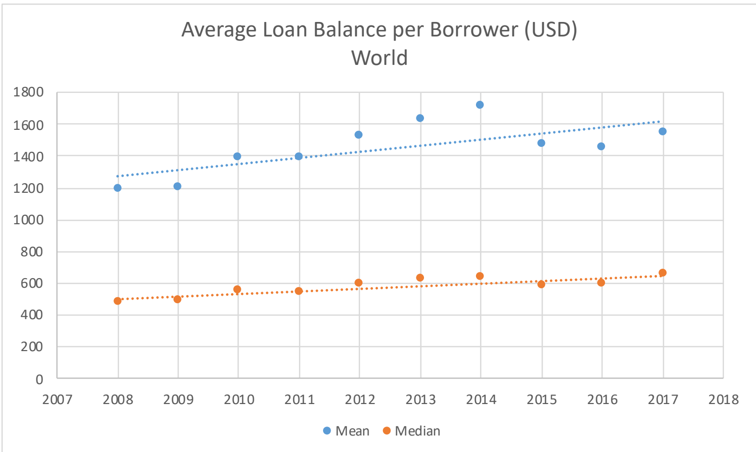

Figure 4: Average loan balance per borrower in the world

In figure 5, we see the change in the Average loan balance per borrower / GNI per capita at Grameen Bank from 0,1989 in 2008 to 0,1960 in 2017, which is a 1,45% decrease.

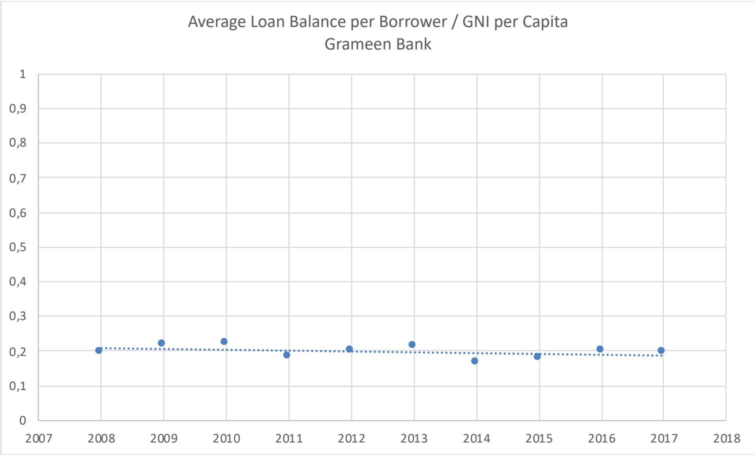

Figure 5: Average loan balance per borrower per GNI per capita at Grameen Bank

In figure 6, we see the change in the Average loan balance per borrower / GNI per capita at the MFIs in the South Asia region for both the mean and median values. The mean increased from 0,2422 in 2008 to 0,2742 in 2017, which is a 13,21% increase. The median increased from 0,1459 in 2008 to 0,1933 in 2017, which is a 32,49% increase.

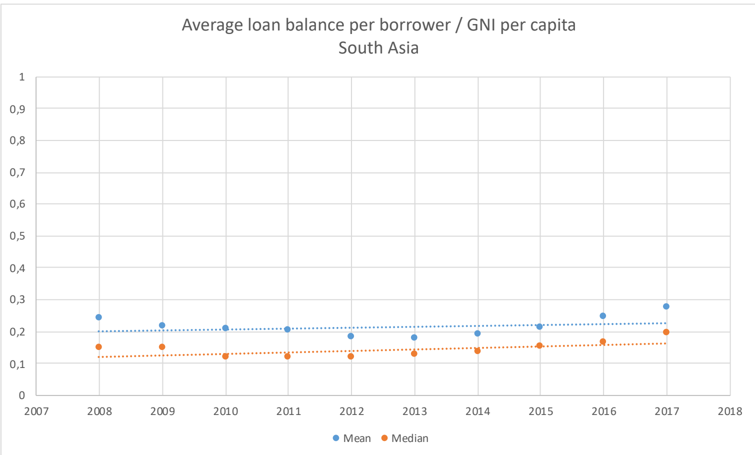

Figure 6: Average loan balance per borrower per GNI per capita in South Asia

In figure 7, we see the change in the Average loan balance per borrower / GNI per capita at the MFIs in the world for both the mean and median values. The mean increased from 0,5952 in 2008 to 0,6061 in 2017, which is a 1,83 % increase. The median increased from 0,2773 in 2008 to 0,2868 in 2017, which is a 3,42% increase.

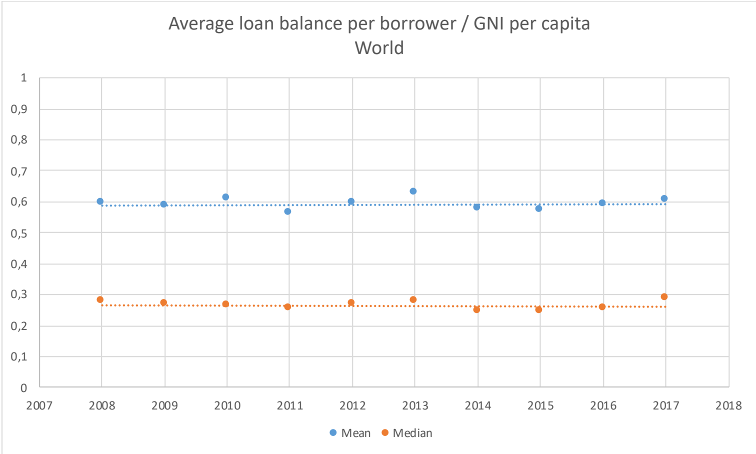

Figure 7: Average loan balance per borrower per GNI per capita in the world

Based on the above figures and insights, we can conclude the following:

Although the average loan balance per borrower at Grameen Bank almost doubled during the 10-year horizon, the average loan balance per borrower / GNI per capita stayed stable, meaning that Grameen Bank didn't change the depth of outreach to the poor.

At the world-wide level, we see the same pattern.

However, in South Asia, we see also a double digit increase in the average loan balance per borrower / GNI per capita meaning that the average loan balance per borrower grew faster than the GNI per capita. One of the reasons could be that the MFIs in South Asia raised the loan amount to reduce their costs and to increase their profitability. Granting very small microfinance loans is expensive because it requires a lot more time and effort to process and to follow up on ten loans of 100 dollars compared to only one loan of a 1000 dollar (Thomas, 2014) (MicroWorld, 2011).

Based on the MIX Market Data, we see that the ratio 'Operating expense / loan portfolio' decreased with almost 39% in South Asia over the studied 10-year period, confirming the above hypothesis.

In the literature review, it was mentioned that microcredit ranges from $10 to $100 and rarely exceeds $2000 (Hayes, 2020). However, as can be seen in figure 4, the median average loan balance per borrower in the world was higher than $600 in 2017. Therefore, the amounts given for microcredit today (despite staying low compared to traditional loans) are often higher than $100, but lower than $2000. However, the high mean of $1600 suggests that a considerable amount of microcredit loans are now given above $2000 as well.

Finally, one more insight:

In 2008, the World Bank published a study called 'International Comparison of Loan Balance Per Borrower', in which you will find a ranking of the regions based on their depth of outreach for the year 2005, see table 3 (Gonzalez, 2008). Based on the outcome of my analysis, I added the figures for 2017. Interesting to see the large increase of the Loan Balance / GNI per Capita ratio for the East Asia and the Pacific region. As a consequence thereof, this region changed its position in the ranking.

Table 3: World Bank's international comparison of loan balance per borrower

	2005		2017	
	Loan Balance (% GNI per Capita)	Ranking	Loan Balance (% GNI per Capita)	Ranking
Middle East and North Africa	12	1	14	1
South Asia	15	2	19	2
East Asia and the Pacific	23	3	35	4
Latin America and The Caribbean	27	4	25	3
Africa	55	5	52	5
Eastern Europe and Central Asia	74	6	55	6

2. Collateral

The original goal of microcredit was to give loans to people who were not able to get one from traditional financial institutions, often because they lacked collateral. Therefore, the goal of microcredit was to give loans to people without collateral. In this section it will be explored how much collateral has been asked between 2008 and 2017. Collateral can be a lot of different things, for example a house. In this analysis, compulsory deposits will be taken as a measure to find out how much collateral there is.[5] The MIX database describes compulsory deposits as "Deposits that a financial institution's clients are required to maintain as a condition of an existing or future loan." Therefore, people who are not able or not willing to give a compulsory deposit as a collateral will not be able to get a loan. The amount of compulsory deposits could therefore be seen as a good proxy to see to how many people collateral is asked.

There is the self-evident fact that having to have a compulsory deposit is detrimental because it prevents borrowers to spend that money now if they have a need for it. Furthermore, compulsory deposits cause the effective interest rate to rise and therefore borrowing money becomes more expensive (Fernando, 2006) (Rosenberg, et al., 2013).[6] Therefore, because of this increased costs, some borrowers decide to loan a smaller amount than they would have wanted or do not loan any amount at all (CGAP, 2005).

Data & Statistics

For the collateral insight, I will analyze the ratio 'Compulsory deposits / Gross Loan Portfolio', in which the compulsory deposits are a certain 'hidden collateral' for each of the five legal status (bank, cooperative, NBFI, NGO, rural bank) within each of the six regions.

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[5] Because compulsory deposits are only one form of collateral, the number of people who are required to have a collateral is underestimated by only looking at compulsory deposits (because some people might not be required to have a compulsory deposit, but are required to have another form of collateral). Therefore, the percentage of people who need a collateral to get a loan is even higher than discussed in this section.

[6] The effective interest rate rises due to compulsory deposits, because the borrower can use less money of the loan while the borrower still has to pay interest on the total amount of the loan (Rosenberg, et al., 2013).

I applied the following steps to prepare the data for the analysis:

First, I removed the 6 MFIs and their 19 observations for which the legal status is unknown as well as the 30 MFIs and their 179 observation for which the legal status is other. Thereafter, I removed the 23 values above 100% as well as the 33 outlier observations (or 0,99% of the total observations, after having removed 6.237 empty compulsory deposits) from 21 MFIs by applying a z-score outlier exercise (with a boundary of 3,87 in order to keep the Grameen Bank values), which I designed and applied per region and per legal status as each legal status in each region is considered as a separate operating environment. Moreover, I withheld only those operating environments with more than five MFIs. These actions resulted into the descriptive statistics represented in Tables 4, 5 and 6.

In table 4 below, the mean of the compulsory deposits per gross loan portfolio of the different regions of the world for the different institutions is represented. On average, NGOs have the highest mean. These results will be explained in more detail on the basis of the figures used in this section.

Table 4: The mean of the compulsory deposits per gross loan portfolio of the different regions of the world for the different institutions

	Mean				
Region	Bank	Cooperative	NBFI	NGO	Rural Bank
Africa	0,0695	0,1372	0,1690	0,2555	
East Asia and the Pacific		0,0777	0,0521	0,2438	0,1136
Eastern Europe and Central Asia	0,0095	0,0106	0,0077		
Latin America and The Caribbean	0,0148	0,0373	0,0821	0,1173	
Middle East and North Africa				0,1289	
South Asia	0,0905	0,2899	0,1434	0,2521	0,1446

In table 5 below, the standard deviation of the compulsory deposits per gross loan portfolio of the different regions of the world for the different institutions is represented. Here again, NGOs have the highest number on average.

Table 5: The standard deviation of the compulsory deposits per gross loan portfolio of the different regions of the world for the different institutions

	St Dev				
Region	Bank	Cooperative	NBFI	NGO	Rural Bank
Africa	0,1073	0,1297	0,1612	0,2053	
East Asia and the Pacific		0,1282	0,0838	0,1577	0,1871
Eastern Europe and Central Asia	0,0232	0,0254	0,0263		
Latin America and The Caribbean	0,0570	0,0511	0,0879	0,1180	
Middle East and North Africa				0,1754	
South Asia	0,1302	0,2454	0,1489	0,1393	0,0809

In table 6 below, the number of observations of the compulsory deposits per gross loan portfolio of the different regions of the world for the different institutions are represented. Rural Banks (173) have the lowest amount of observations, while NGOs (915) have the most. Banks (589), cooperatives (717) and NBFIs (891) also have a lot of observations.

Table 6: The number of observations of the compulsory deposits per gross loan portfolio of the different regions of the world for the different institutions

	Obs				
Region	Bank	Cooperative	NBFI	NGO	Rural Bank
Africa	120	203	255	194	
East Asia and the Pacific		41	149	293	124
Eastern Europe and Central Asia	143	90	54		
Latin America and The Caribbean	218	341	353	62	
Middle East and North Africa				29	
South Asia	108	42	80	366	49

Insights & Conclusions

In this section, I will analyze the variable 'Compulsory deposits / Gross Loan Portfolio' over a 10-year time horizon for Grameen Bank, the MFIs in the same operating environment as Grameen Bank (which is the South Asia region) and also the MFIs in the world.

First, I will show the different insights before making a conclusion.

In figure 8, we see the values of 'Compulsory deposits / Gross Loan Portfolio' at Grameen Bank, a for profit bank which reported this value only for a few years, with also an outlier value in 2011.

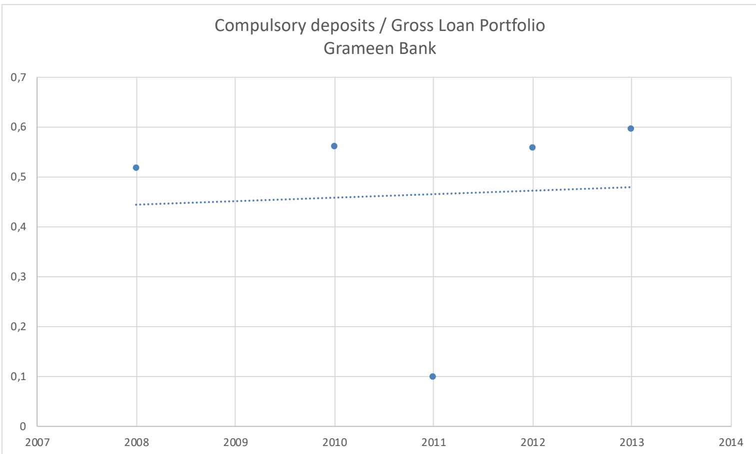

Figure 8: Compulsory deposits per gross loan portfolio at Grameen Bank

In figure 9, we see the values of 'Compulsory deposits / Gross Loan Portfolio' in the South Asia region for both the profit (as Grameen Bank) and non-profit MFIs.

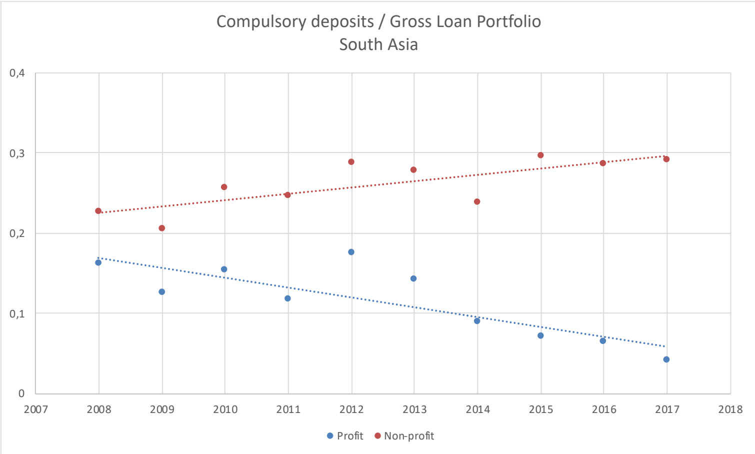

Figure 9: Compulsory deposits per gross loan portfolio at profit and non-profit institutions in South Asia

In figure 10, we see the values of the 'Compulsory deposits / Gross Loan Portfolio' at the MFIs in the world for both the profit and non-profit MFIs.

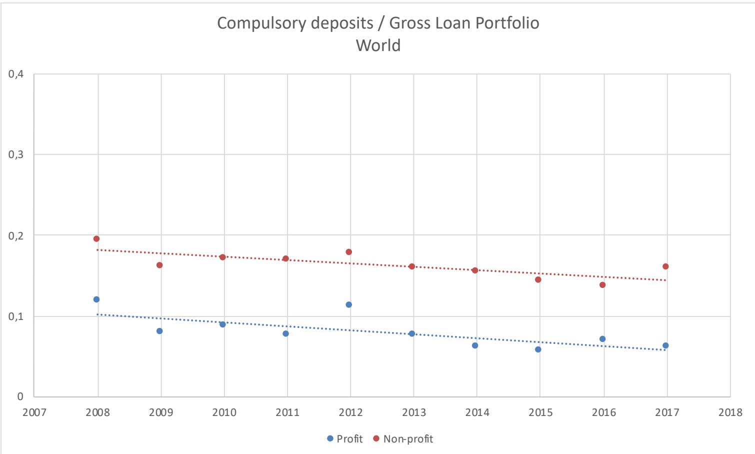

Figure 10: Compulsory deposits per gross loan portfolio at profit and non-profit institutions in the world

In figure 11, we see the values of the 'Compulsory deposits / Gross Loan Portfolio' at NGOs and cooperatives, both non-profit institutions.

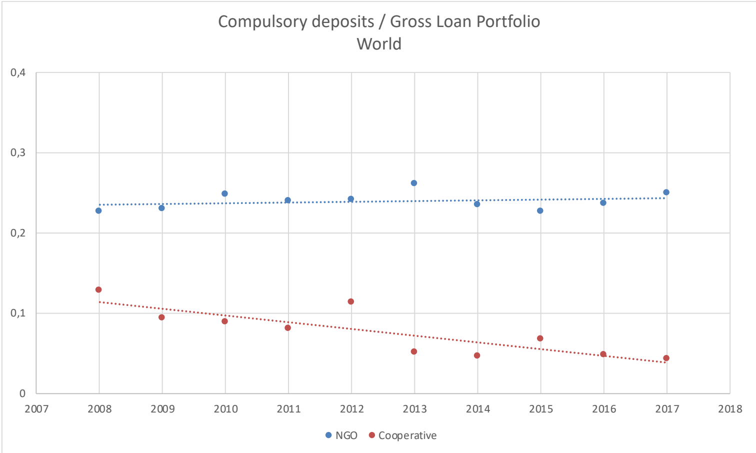

Figure 11: Compulsory deposits per gross loan portfolio at NGOs and cooperatives in the world

Based on the above figures and insights, we can conclude the following:

In the literature review, it was mentioned that the borrowers of microcredit loans are often not able to get loans from traditional banks, because they usually – among other things – do not have collateral (Hayes, 2020) (Jack, et al., 2017) (Corporate Finance Institute, 2021). Therefore, it seems that MFIs would massively give microcredit loans without collateral. Some MFIs, like Grameen Bank, outright claim to not require collateral (Grameen Bank, 2021). The results from the MIX database suggest otherwise: MFIs do indeed ask a significant amount of collateral.

Grameen Bank has very high compulsory deposits compared to other for profit institutions in South Asia and compared to the world. Surprisingly, non-profit organizations ask much more collateral than for profit organizations. This could be the case, because – as mentioned previously – there exists a lot of different types of collateral: it could be that non-profit organizations ask more compulsory deposits while for profit institutions ask other types of collateral that are not taken into account in the MIX data. If this is the case, for profit institutions might still ask more collateral from its borrowers than non-profit institutions. For the same reasons it could be that Grameen Bank asks less collateral than other for profit institutions. Especially since it is mentioned on the Grameen Bank's website that the characteristics of Grameencredit is not based on any collateral (Grameen Bank, 2021).[7] Therefore, excluding compulsory deposits, Grameen Bank probably does not ask other types of collateral.

If we only look at compulsory deposits (and not even take other types of collateral into account), the amount of collateral asked is high. We can conclude that when it comes to collateral, there is a difference between the original goal of microcredit (which is 0 collateral) and the reality (significant amount of collateral).

In some cases, it is even getting worse: the amount of compulsory deposits at Grameen Bank and at non-profit institutions in South Asia is rising ! Luckily, in all other cases (excluding NGOs in the world where it stays almost flat) the amount of compulsory deposits is decreasing. Therefore, in most cases, the amount of collateral is decreasing and thus coming closer to 0 (which means coming closer to the original goal of microcredit where poor people can get access to loans without giving collateral).

[7] On Grameen Bank's website they define Grameencredit as featuring no collateral, thus insinuating that they do not consider compulsory deposits as collateral (Grameen Bank, 2021).

There is also a big difference between NGOs and cooperatives when it comes to compulsory deposits. I assume that the amount in cooperatives is a lot lower due to the different characteristics of NGOs and cooperatives. Two of the characteristics of cooperatives are the fact that they are open to all (people can become member of a cooperative if they wish to do that) and it is democratic (every member has exactly one vote, irrespective of the amount of shares the person controls) (Chand, sd). Therefore, it seems likely that when people have control of the organization (i.e. in a cooperative) they will try to get the most advantageous situations for the borrowers and try to reduce the amount of collateral (including compulsory deposits). In NGOs, the borrowers have less power and the NGO lenders can impose compulsory deposits on the borrowers.

Finally, one more insight: the group loans.

In this section, I have put a focus on compulsory deposits, because they are a physical form of collateral, while this is not the case with group loans. However, I will briefly mention group loans, because group loans give more guarantees to MFIs to be paid back and could therefore be seen as something similar to collateral. Especially, because similarly to collateral, group loans are not advantageous to borrowers, because if one member of the group defaults, the others have to pay that member's loan back (Andersen & Nina, 1998). Moreover, group loans are interesting, because when Muhammad Yunus started microcredit, he gave a group loan. Group loans are also often mentioned in microcredit literature and it seems that they are very popular because (as mentioned previously) they give the bank more guarantees to be paid back. In figure 12 below, the proportion of individual, group and village banking loans are represented. The proportion of village banking loans are insignificant. The amount of group loans is decreasing, which is arguably a good thing for the borrowers. Group loans only represented only approximately 10% of the loan proportions with almost 90% being individual loans. Therefore, despite the fact that Yunus started with a group loan, they are now not used very often anymore on a worldwide scale.

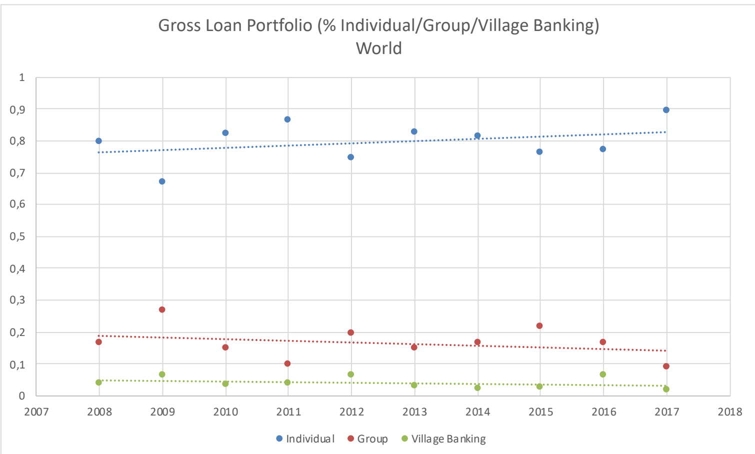

Figure 12: Gross loan portfolio of the world (distinction between individual, group and village banking loans)

3. Male vs Female

When Muhammad Yunus gave his first loan of microcredit, he gave it to a group of women. One of the goals of microcredit is to give loans to women to empower them. In this section, it will be looked at whether or not women still receive a considerable amount of the microcredit loans.

Data & Statistics

For the Male vs Female insight, I will analyze the fields 'Gross Loan Portfolio' and 'Active Borrowers' for both male and female.

I applied the following steps to prepare the data for the analysis:

Both gross loan portfolio and active borrowers are detailed in separate columns for male, female and legal entity and the sum of these three details must equal the total amount of the two respective variables. If the sum of the three components was not within an interval with as outer limits the total amount with a positive or negative deviation of 1% than the observation was removed. As such, 3.768 observations were removed. Moreover, on the ratio's average loan per male borrower and average loan per female borrower a Z-score outlier exercise was applied to remove 38 potential outliers (or 0,7% of the total observations) because certain combinations of a large gross loan portfolio and a tiny amount of active borrowers impact the mean drastically.

In the table 7 below, you will find the descriptive statistics for the 'Average loan balance per Borrower excl. Legal Entities' or in other words the 'Average loan balance per Natural Person (being Male and/or Female)'. It is interesting to compare this table with table 1 discussed in the chapter on the average loan balance per borrower as well as with the following tables giving information on the 'Average Loan per Male Borrower' and 'Average Loan per Female Borrower'. Here again, the mean is the smallest in South Asia and the highest in Eastern Europe and Central Asia.

Table 7: Descriptive statistics about the average loan balance per borrower excluding legal entities

Region	Mean	St Dev	Min	Max	Obs
Africa	674	758	0,12	4.765	695
East Asia and the Pacific	631	881	0,00	6.254	584
Eastern Europe and Central Asia	2.483	2.746	0,00	20.285	1.079
Latin America and The Caribbean	1.745	1.789	89,91	15.748	1.830
Middle East and North Africa	860	777	84,57	4.815	260
South Asia	206	144	0,00	1.328	1.443

In the table 8 and 9 below, you will find the descriptive statistics for the 'Average loan balance per Male Borrower' and the descriptive statistics for the 'Average loan per Female Borrower' respectively. A remarkable result (that will be explained in more detail in the following paragraphs of this section) is the fact that the mean of male borrowers is higher than the mean of female borrowers in every single region.

Table 8: Descriptive statistics about the average loan balance per male borrower

Region	Mean	St Dev	Min	Max	Obs
Africa	854	945	0,00	7.151	695
East Asia and the Pacific	743	1.129	0,00	6.719	584
Eastern Europe and Central Asia	2.684	3.043	0,00	26.598	1.079
Latin America and The Caribbean	1.971	2.008	0,00	16.456	1.830
Middle East and North Africa	1.005	958	0,00	7.236	260
South Asia	241	381	0,00	3.512	1.443

Table 9: Descriptive statistics about the average loan balance per female borrower

Region	Mean	St Dev	Min	Max	Obs
Africa	575	657	0,12	5.567	695
East Asia and the Pacific	575	776	0,00	5.859	584
Eastern Europe and Central Asia	2.254	2.621	0,00	19.009	1.079
Latin America and The Caribbean	1.565	1.608	0,00	15.031	1.830
Middle East and North Africa	768	745	11,38	4.685	260
South Asia	189	114	0,00	1.032	1.443

Insights & Conclusions

In this section, I will analyze the 'Gross Loan Portfolio' and 'Active Borrowers' for both male and female over a 10-year time horizon for Grameen Bank, the MFIs in the same operating environment as Grameen Bank (which is the South Asia region) and also the MFIs in the world.

First, I will show the different insights before making a conclusion:

In figure 12, we see the values of 'Number of Active Borrowers' for male and female at Grameen Bank. The number of male borrowers grew from 193.752 borrowers in 2008 to 298.913 borrowers in 2017, which represents a 54% increase. In the same timeframe, the number of female borrowers grew from 6.016.248 to 8.635.961 borrowers, representing an increase of 43%.

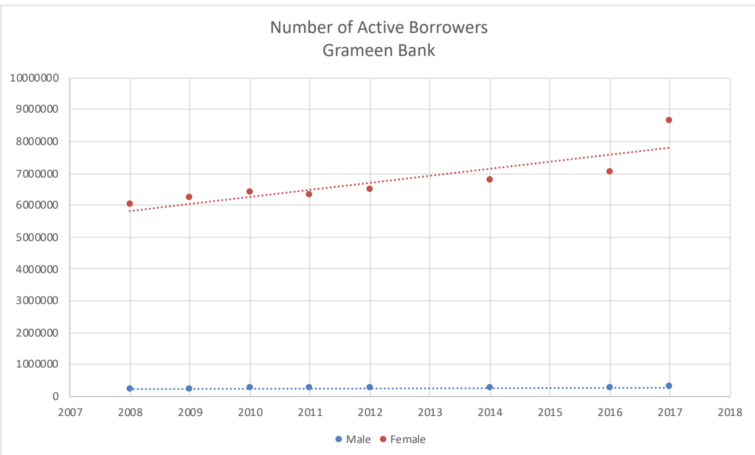

Figure 12: Number of active male and female borrowers at Grameen Bank

It is clear that Grameen Bank sticks to its initial vision to borrow for a large majority to female borrowers. In figure 13 below, we see that during the 10-year period the mix of the number of male and female borrowers stays relatively constant: 96,5% female borrowers and only 3,5% male borrowers.

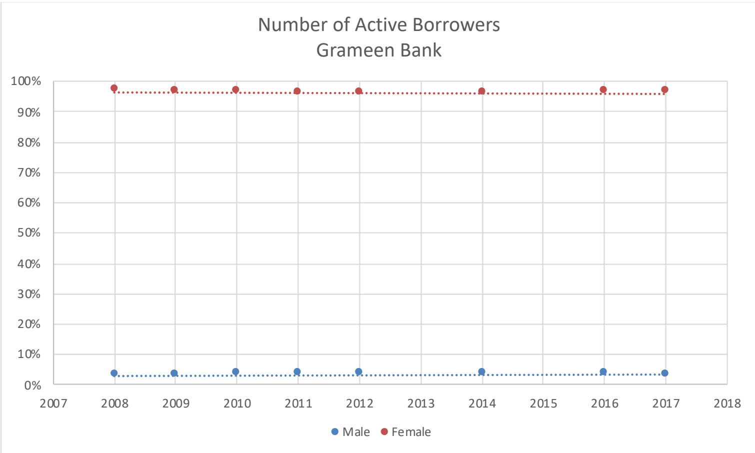

Figure 13: Number of active male and female borrowers at Grameen Bank (in percentage)

Grameen Bank does not disclose the 'Gross Loan Portfolio' values for the different genders and therefore the loan per male or female borrower cannot be calculated.

In the South Asia region, where Grameen Bank is servicing the largest number of female borrowers, there is still a large representation of the female borrowers (91,4%) compared to the male borrowers (8,6%). However, the female majority is less dominant than at Grameen Bank (see figure 14 below). The number of male borrowers grew with 29% and the number of female borrowers grew with 36% from 2008 to 2017. However, we need to take these numbers with some caution as, because (similarly to Grameen Bank in 2013 and 2015), certain banks do not report their gender specific numbers yearly. When one bank with a lot of borrowers does not report its gender specific numbers, it could have a significant impact on the results of that one specific year.

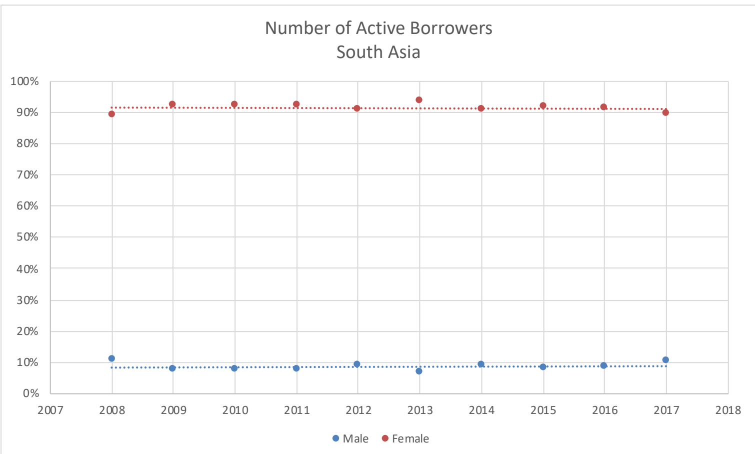

Figure 14: Number of active male and female borrowers in South Asia (in percentage)

In figure 15 below, we see the values of 'Average Loan Balance per Borrower' for male and female borrowers in the South Asia region. If we take the values on the trendline (because of the potential outlier in 2017), the 'Average Loan per Male Borrower' grew from 95 USD in 2008 to 402 USD in 2017, which represents a 324% increase. In the same timeframe, the 'Average Loan per Female Borrower' grew from 126 USD to 260 USD, representing an increase of 106%. We can conclude that male borrowers are less numerous than female borrowers but they are granted larger loans. Moreover, although the increase of number of female borrowers (36%) is larger than those of the male borrowers (29%), the gross loan portfolio of female borrowers grew less than the one of the male borrowers (260% vs 615%). This leads to a widening of the loan value granted to the male and female borrowers as can also be seen in figure 15 below.

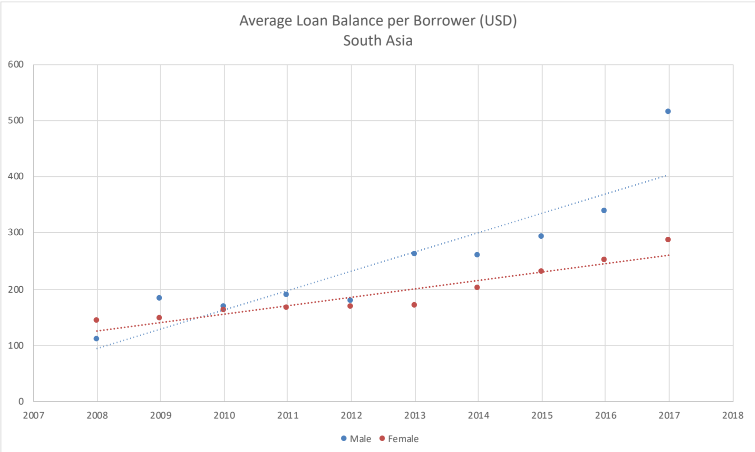

Figure 15: Average loan balance per male and female borrower in South Asia

In figure 16 below, the average number of male and female active borrowers in the different regions of the world over the 10-year period are represented. Compared to South Asia, the mix of male and female borrowers is more balanced in the other regions, and even 51%-49% in the region 'Eastern Europe and Central Asia'. South Asia could have a vast majority of female borrowers due to the influence of Grameen Bank. The lesser portion of female borrowers in other regions of the world might be the case, because despite many MFIs wanting to empower women, they probably put a lesser focus on it than Grameen Bank and just want to give loans to people (whether they are female or male) who need it.

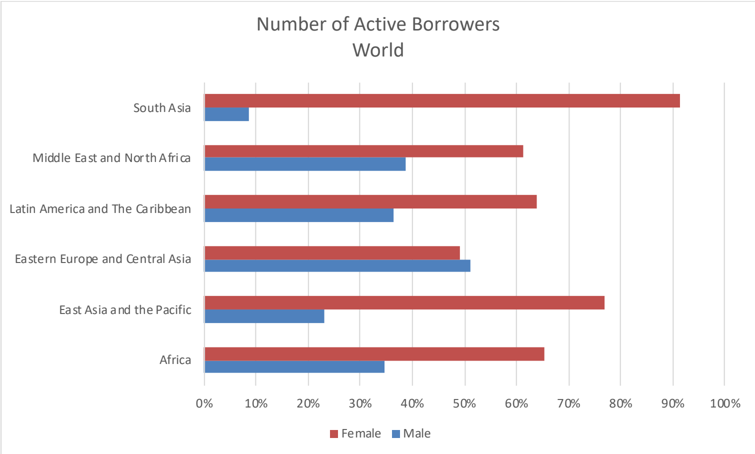

Figure 16: Number of active male and female borrowers in the different regions of the world (in percentage)

In figure 17, the average loan balance per male and female borrower in the different regions of the world over the 10-year period is represented. In all regions, the loan balance per male borrower is higher than the loan balance per female borrower, ranging from 19% more in Eastern Europe and Central Asia up to 48% more in Africa.

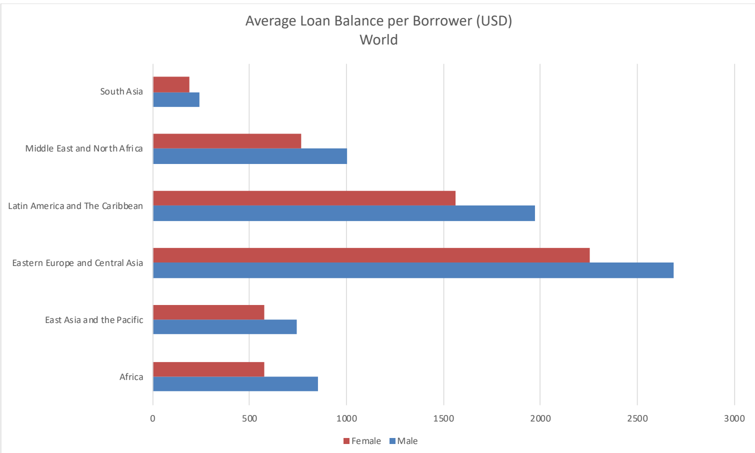

Figure 17: Average loan balance of males and females in the different regions of the world

The previous tables and figures leads to the following conclusions:

As mentioned in the literature review, one of the goals of microcredit is to give loans to women to empower them. The results about whether or not women are empowered thanks to microcredit are mixed.

MFIs – on average – have more active female borrowers than active male borrowers.[8] Women also have a higher gross loan portfolio than men. These two facts are in line with the original goal of

[8] It is important to mention that studies have shown that in some cases women receive a microcredit loan, but it is actually a man (for example a male family member) who decides how the money is spent (Ganle, et al., 2015). Therefore, the amount of loans that are really given to women (the amount of loans of which women are in control of) is overestimated.

microcredit (to give women access and empower them thanks to microcredit) and seem to be a good sign because there is a relatively high women outreach in microcredit.[9] This is a big improvement compared to the past because giving access to credit to women was often not the case in a lot of regions of the world (Goetz & Gupta, 1996). However, the average loan balance is higher for males in every single region of the world. A study has shown that it could be partially explained by the fact that women have a lower demand for microcredit. But the smaller average loan balance for women could also be due to discrimination towards women. The same study has shown that women can be discriminated when they ask for a loan. As a consequence, they have to put up more collateral and have to pay higher interest rates (Brana, 2013). Having to put up more collateral and having to pay higher interest rates seem to lead to the same conclusion: getting smaller loans. When a female borrower is forced to put up collateral, she might not want to have a high loan amount if she wants to reduce her risks of losing her collateral in case there are repayment problems. And when a female borrower is forced to pay a higher interest rate, she might not want, be able or allowed to have a high loan amount and is therefore forced to settle for a smaller loan size. This is in line with my findings that men have a higher average loan balance than women. Therefore, despite the progress made to give a lot more women access to (micro)credit, there are still improvements needed to reduce the discrimination women face when they request a loan. Further research has to look at solutions to reduce the discrimination of women in microcredit in order to enable them to get the same loan terms (i.e. the same amount of collateral and the same interest rate) as men.

In part 7 (Poor people empowerment) the empowerment of both women and men will be discussed in more detail.

4. Rural vs Urban

One of the purposes of microcredit was to empower people in rural communities. In 2018, there were still 80% of poor people living in rural areas (The World Bank, 2021). In this section it will be looked at if people in rural communities still receive most of the microcredit loans.

Data & Statistics

For the Rural vs Urban insight, I will analyze the fields 'Gross Loan Portfolio' and 'Active Borrowers' for both rural and urban. Unluckily, these fields are not reported to MIX by Grameen Bank, but I will reference to the annual report of Grameen Bank to fill-in this gap (partially).

I applied the following steps to prepare the data for the analysis:

Both 'Gross Loan Portfolio' and 'Active Borrowers' are detailed in separate columns for rural and urban and the sum of these two details must equal the total amount of the two respective variables. If the sum of the two components was not within an interval with as outer limits the total amount with a positive or negative deviation of 1% than the observation was removed. As such, 3.972 observations were removed. Moreover, on the ratio's average loan per rural borrower and average loan per urban

[9] One study is sceptical about the enthusiasm about the amount of women borrowers. It argues that MFIs do not target women because they want to empower women, but because of patriarchal social relations: women are seen as submissive and therefore – according to bank staff – are easier to work with than men (Parmar, 2003).

borrower a Z-score outlier exercise was applied to remove 38 potential outliers (or 0,7% of the total observations) because certain combinations of a large gross loan portfolio and a tiny number of active borrowers impact the mean drastically. Moreover, one MFI reported in one year a significant number of active borrowers solely as active urban borrowers, although in all other years, this number was split between rural and urban. Therefore, I assumed that this was a reporting error and consequently I removed this observation as it was impacting the mean.

In the tables 10 and 11 below, you will find the descriptive statistics of the 'Average loan per Urban Borrower' and the descriptive statistics for the 'Average loan per Rural Borrower' respectively. A remarkable result is the fact that the mean of the average loan per urban borrower higher is in every single region than the mean of the average loan per rural borrower. This result will be discussed in the following paragraphs of this section.

Table 10: Descriptive statistics of the average loan per urban borrower

Region	Mean	St Dev	Min	Max	Obs
Africa	805	947	0,0000	6.763	641
East Asia and the Pacific	963	1.908	0,0000	15.357	540
Eastern Europe and Central Asia	3.413	4.603	0,0000	36.408	1.061
Latin America and The Caribbean	1.797	2.056	0,0000	17.078	1.842
Middle East and North Africa	836	769	0,0000	4.499	248
South Asia	196	215	0,0000	2.957	1.353

Table 11: Descriptive statistics of the average loan per rural borrower

Region	Mean	St Dev	Min	Max	Obs
Africa	490	1.363	0,0000	18.265	641
East Asia and the Pacific	613	843	0,0000	5.591	540
Eastern Europe and Central Asia	2.398	3.290	0,0000	30.971	1.061
Latin America and The Caribbean	1.543	1.995	0,0000	19.274	1.842
Middle East and North Africa	728	794	0,0000	5.282	248
South Asia	191	164	0,0000	2.089	1.353

Insights & Conclusions

In this section, I will analyze the 'Gross Loan Portfolio' and 'Active Borrowers' for both urban and rural borrowers over a 10-year time horizon for Grameen Bank, the MFIs in the same operating environment as Grameen Bank (which is the South Asia region) and also the MFIs in the world.

First, I will show the different insights before making a conclusion:

In the figure 18 below, the number of villages covered by Grameen Bank is represented.[10] In 2008, Grameen Bank was active in 83,566 villages. This number dropped slightly to 81,400 in 2017 (a

[10] Unlike the MIX database, Grameen Bank does not make a clear distinction between rural and urban. Grameen Bank does not put a big emphasis on explaining its impact on urban borrowers (probably because Grameen Bank's focus is to give loans to rural people). Therefore, in figure 18, the number of villages covered by Grameen

decrease of 2,6%). Despite the slight decrease in the number of villages they give microcredit to, Grameen Bank was active in almost 93% of the country's villages (Grameen Bank, 2017). This very high number means that Grameen Bank is indeed respecting the original goal of giving loans to as much rural people as possible. However, the number of villages served by Grameen Bank stayed relatively constant, especially between 2010 and 2017. Therefore, it seems unlikely that Grameen Bank will go closer to 100% (at least not in the near future). This might be explained by the fact that some villages are so small (with a very low amount of inhabitants) that it could be very impractical to be present in that village (especially if the few people living there are not even interested in microcredit). When there is a low density of the population, it often becomes too costly to provide microcredit (Schreiner & Colombet, 2001).

Grameen Bank also gives loans to some urban borrowers, but that number is more limited than the amount of loans that are given to rural people (Kumar, et al., 2013). Therefore, it could be assumed that Grameen Bank also helps a few urban people, but that it does not distract them from their main goal of giving microcredit loans to rural people.

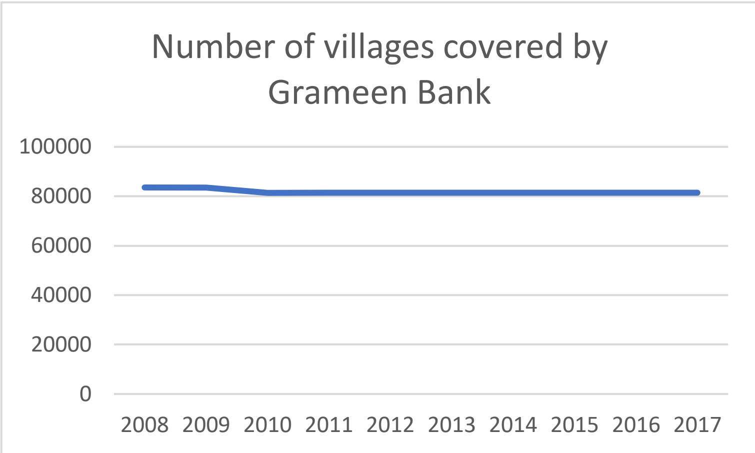

Figure 18: Number of villages covered by Grameen Bank in Bangladesh

In figure 19 below, the number of active borrowers in South Asia over the 10-year period is represented. Every year, the amount of active rural borrowers was significantly higher than the amount of urban borrowers. The years 2008 and 2017 are both outliers. If we look at the period 2009 to 2016, the urban average was 31% and the rural average was 69%. Despite the big difference between the rural and urban, the gap is becoming smaller: the number of rural borrowers is decreasing while the number of urban borrowers is increasing.

Bank is used to discuss Grameen Bank's outreach to rural communities. These results can be found in the annual report of Grameen Bank (Grameen Bank, 2017).

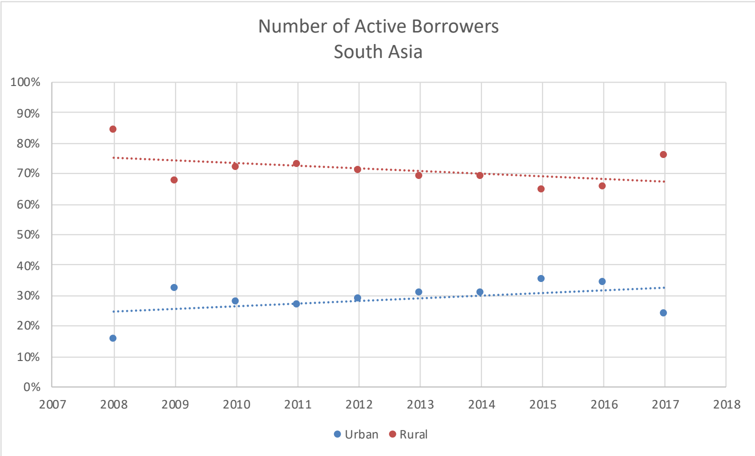

Figure 19: Number of active urban and rural borrowers in South Asia

In figure 20 below, the average loan balance of urban and rural borrower in South Asia over the 10-year period is represented. The average loan balance is increasing in both cases (as could be expected from part 1 ('Average Loan Balance per Borrower') where it was discussed that the average loan balance per borrower increased). Interestingly, the average loan balance between urban and rural borrowers is almost identical every year (contrary to the results of part 3 ('Male vs Female') where it was discussed that the average loan balance per male borrower was significantly higher than that of female borrowers). Therefore, it seems that there is no discrimination between urban and rural borrowers in South Asia.

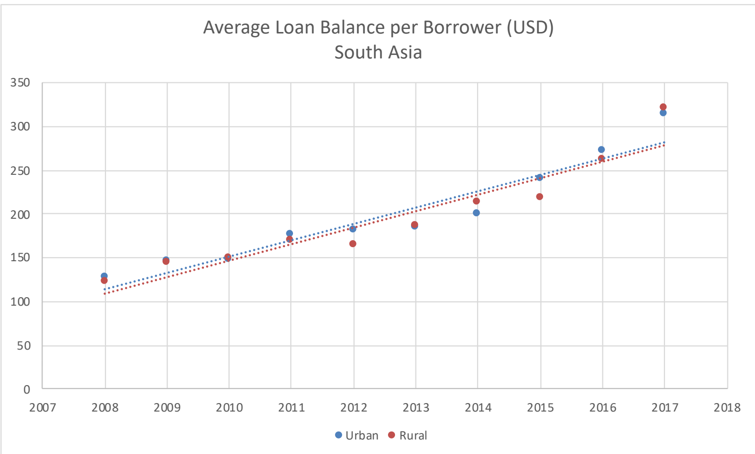

Figure 20: Average loan balance of urban and rural borrower in South Asia

In figure 21 below, the number of active rural and urban borrowers in the world over the 10-year period is represented in percentage. As can be seen in the figure, 'Africa', 'Eastern Europe and Central Asia' and especially 'East Asia and the Pacific' have a considerable amount more of rural borrowers (just like 'South Asia' as had been discussed in figure 19). These regions therefore respect the original goal of microcredit of putting a bigger focus on giving loans to rural people. However, the last two regions ('Middle East and North Africa' and 'Latin America and The Caribbean') have more urban borrowers than rural borrowers. These regions therefore seem to not respect the focus on rural people. Especially not 'Latin America and The Caribbean' where there are more than twice as much urban borrowers. However, later (in figure 24) it will be explained that the results in figure 21 are a little bit deceiving and that there is – despite what this figure suggests – a focus on rural people in those two regions.

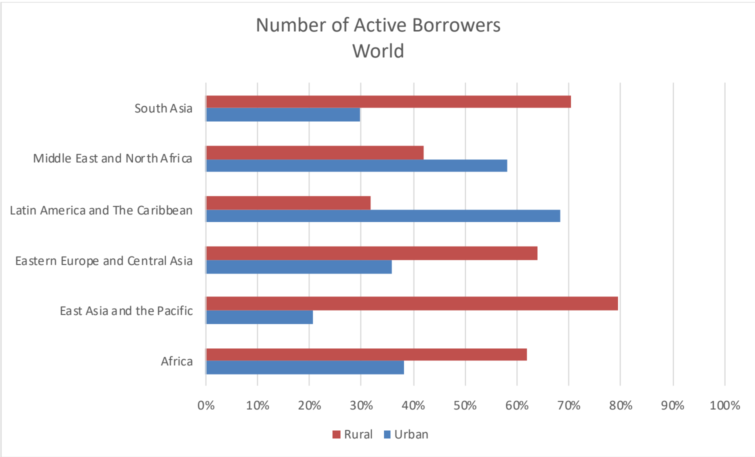

Figure 21: Number of active rural and urban borrowers in the world (in percentage)

In figure 22 below, the average loan balance per rural and urban borrowers in the world over the 10-year period is represented. As discussed in figure 20, the amount in South Asia is almost identical. However, in all other regions there is a difference and every time it is the average loan balance of urban borrowers that is higher than that of rural borrowers. This could indicate that rural people either only need a smaller loan amount on average or that there is some type of discrimination that does not enable rural people to loan the same amount as urban people. Further research might need to be done to find out why rural people receive a smaller loan amounts than urban people.

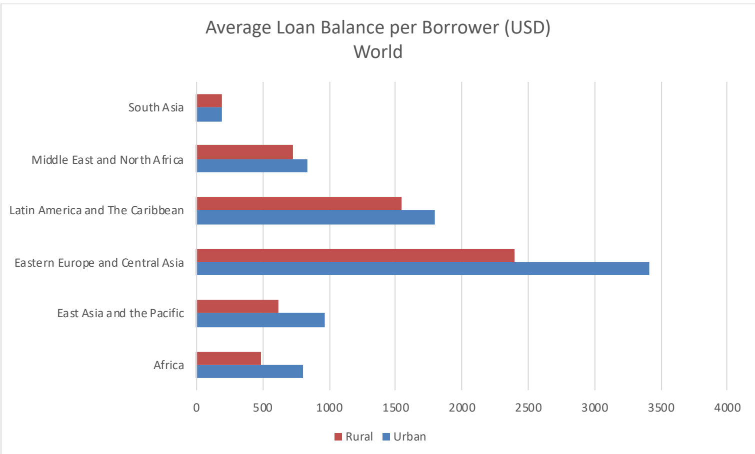

Figure 22: Average loan balance per rural and urban borrowers in the world

Finally, one more insight:

The previous figures discussed do not take into account the proportion of people living in either urban or rural areas. Therefore, in figures 23 and 24 below, it will be discussed how taking those differences into account influences the insights that can be taken from analyzing 'Rural vs Urban'.

In figure 23 below, the urban population in the different regions of the world over the last 45-year period is represented. As can be seen in the figure, there has been a significant amount of urbanization: more and more people leave rural areas to go live in urban areas. I grouped the countries together to form comparable regions as applied in the MIX database (for example excluding high income countries of Europe to make it comparable) (The World Bank, 2021).

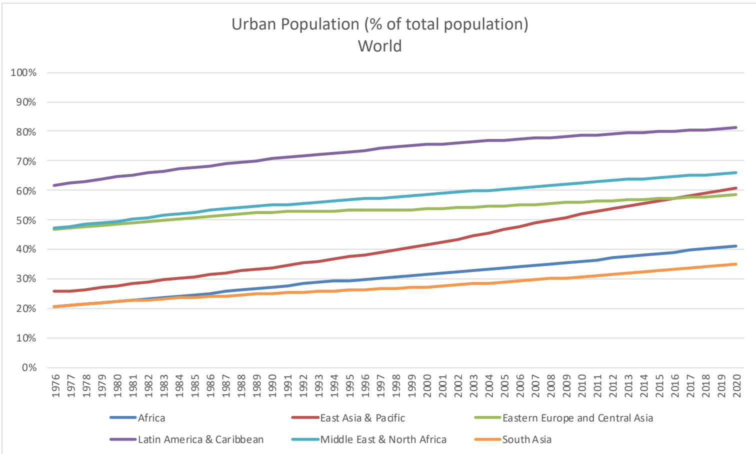

Figure 23: Urban population in the different regions of the world (in percentage)

In figure 24 below, a comparison between the amount of rural population and the amount of rural borrowers in the different regions of the world over the 10-year period is represented in percentage. It is interesting to compare this figure with figure 21 discussed previously. In figure 21 it looked as if rural people were less targeted by two regions ('Middle East and North Africa' and 'Latin America and The Caribbean'). However, as can be seen in figure 24, when the proportion of people living in both rural and urban areas are taken into account it can be seen that in every single region (except in Africa with a small difference in favor of urban) rural people are targeted more than urban people because rural people receive more loans than the amount of population that they represent. 'East Asia & Pacific' is the region where there is the most focus on rural people because there rural people receive almost 80% of the loans while only representing approximately 45% of the population. The differences are often not exceptionally high in favor of rural borrowers.[11] However, the fact that they are in favor of rural in 5 of the 6 regions proves that – still today – there exists a focus on providing microcredit to rural people, which is in line with the original goal of microcredit.

[11] There are more for profit institutions now, and giving and monitoring loans to people living in urban areas might be cheaper than giving loans to people living in rural areas because everyone lives closer to each other in urban areas. This could explain why there are a significant amount of loans given to urban areas despite the goal of giving it mostly to rural people. This assumption is confirmed in a study that mentioned that one of the keys to the success of microcredit in rural Asia was thanks to dense populations (Schreiner & Colombet, 2001).

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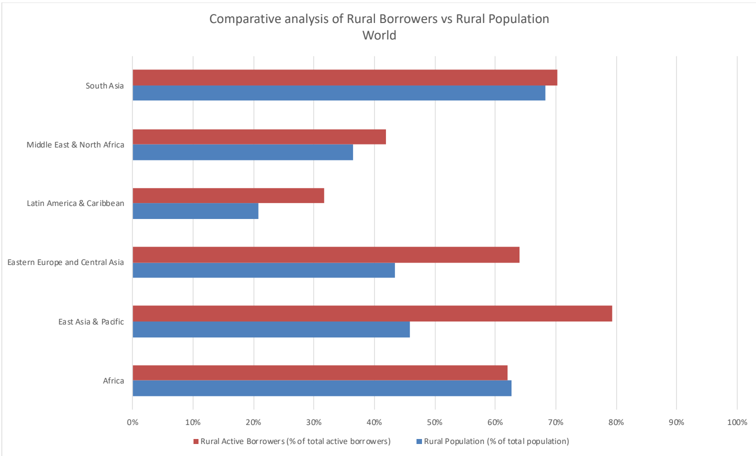

Figure 24: Comparison between the amount of rural population and the amount of rural borrowers in the different regions of the world (in percentage)

Based on the above figures and insights, we can conclude the following:

Grameen Bank is active in a staggering 93% of rural villages in Bangladesh. It is therefore extremely close to the original goal of microcredit of being able to provide loans to everyone living in rural areas. South Asia seems to have a big focus on rural people with approximately a big 70% of active borrowers coming from rural areas. However, when taking the proportion of people living in rural areas into account, South Asia is actually not doing well: it has barely more loans given to rural people than to urban people. Other regions (including 'East Asia & Pacific') are doing better with a lot of focus on rural people. On average in the world, rural people do receive more microcredit loans than urban people, meaning that the original microcredit goal of focusing on rural people is still respected today.

Finally, there was also the result that on average around the world, urban people receive a higher loan amount than rural people.

5. Enterprise finance vs Household financing

As mentioned in the introduction, microcredit originally started with Muhammad Yunus who gave microloans to women for their bamboo stool microenterprise. The goal of microcredit was to give loans to people to start their microenterprise to alleviate poverty. Starting a microenterprise can potentially be very beneficial because when people start a business it can generate revenue for a long time. A loan given to start a microbusiness could therefore reduce poverty. However, a negative aspect of starting a microbusiness is the uncertainty: starting a microbusiness takes risks and if the revenues from that business are very small it will be hard to repay the loan back. Some people need to repay their loans back from other sources of income (Tundui & Tundui, 2013).

Microcredit is now sometimes also given for consumption, which was not the original goal of microcredit. Because if you get a loan to finance consumption, it is often only beneficial for the short term and it often does not generate revenue. Therefore given microcredit to finance consumption is often criticized because it could put people in a debt trap[12]. Many people – not only in poor countries – also tend to get loans for consumption that are not beneficial because of a lack of financial literacy[13]. Therefore, having a mentor can be beneficial when it comes to receiving microcredit. However, given microcredit to finance consumption is not negative in every scenario, sometimes it can be very beneficial. As mentioned in the literature review section, people who get a microloan to finance consumption can use it to finance an emergency (for example to repair a broken car) which can be very beneficial if the financing of that emergency helps them to keep their job or business activity.

Despite the potential benefits of using microcredit to finance consumption, it will be looked at whether or not the vast majority of microcredit loans are still used to finance entrepreneurship (as was originally intended).

Data & Statistics

For the enterprise finance vs household financing insight, I will analyze the fields 'Number of loans outstanding Enterprise Finance', 'Number of loans outstanding Household Financing', 'Gross Loan Portfolio Enterprise Finance' and 'Gross Loan Portfolio Household Financing'.

The categories enterprise finance and household financing have multiple subcategories:[14]

- Enterprise finance consists of:
    - Microenterprises
    - Small and medium enterprises
    - Large corporations

[12] A debt trap is the situation where a person has to take on new loans to pay previous loans back. Because taking new loans increases the amount of interest that has to be paid back it increases the amount that has to be paid back each time a new loan is taken on. This could lead to a situation where a person has so much debt that he or she will unlikely be able to ever pay it back and is therefore 'trapped' in debt. A debt trap puts a person in a bad financial situation and can also put a person in a situation that feels overwhelming which can increase stress and have negative consequences on mental health (Angel Broking, 2020).

[13] According to Investopedia, financial literacy is "the ability to understand and effectively use various financial skills, including personal financial management, budgeting, and investing". One of the important things of financial literacy is knowing which debts are beneficial and should be taken (and how they should be paid off) and which debts should be avoided. Knowledge of compound interest and the time value of money are beneficial when making these decisions. Financial literacy is crucial for people to enable them to have financial success in the long-term (Fernando, 2021) (Williams, 2020). There is a positive correlation between a lack of financial literacy and with over-indebtedness (Gathergood, 2012). Among the 40% poorest people around the world, only 25% are financially literate (Milena, 2021).

[14] Originally, my goal was to only research the subcategories microenterprises and consumption. The subcategory microenterprise, because the point of microcredit is of course to finance microenterprises. Loans to SME and large corporations are therefore less relevant. Nevertheless, SME are also very important: a study has shown that sometimes SMEs have a much higher productivity than microenterprises (Bateman, et al., 2018). But luckily, a MIX report has shown that the amount of loans to SME and large corporations are a small minority compared to microenterprises (MIX, 2017-2018). Therefore, including them in this research will (hopefully) not influence the conclusions that will be made thanks to the results that will discussed in this section. I also wanted to focus solely on the subcategory consumption, because it could be argued that it is more likely that people will spent loans of consumption on short-term consumption that will not benefit them in the long run than when people get a loan for mortgage/housing (because financing a home can benefit people in the long run). Unfortunately, only looking at microenterprises and consumption would reduce the amount of observations considerably and therefore reduce the quality of the results. Therefore, I decided to research enterprise finance (including SME and large corporations) and household financing (including mortgage/housing and other household finance). Looking at these results will definitely also give useful insights for the purpose of this thesis.

- Household financing consists of:
    - Consumption
    - Mortgage/housing
    - Other household finance

I applied the following steps to prepare the data for the analysis:

If the sum of 'Number of loans outstanding Enterprise Finance' and 'Number of loans outstanding Household Financing' was not within an interval with as outer limits the 'Number of Loans Outstanding' with a positive or negative deviation of 1% than the observation was removed.

The same exercise was applied to the variables 'Gross Loan Portfolio Enterprise Finance' and 'Gross Loan Portfolio Household Financing' in comparison with the 'Gross Loan Portfolio'. As such, 2.723 observations were removed.

When calculating the 'Enterprise Finance per Loan Outstanding' as the ratio of 'Gross Loan Portfolio Enterprise Finance' and 'Number of loans outstanding Enterprise Finance' the results are sensitive to tiny values in the denominator. Same goes for 'Household Financing per Loan Outstanding'. To solve this problem, I ranked the MFIs based on the 'Number of Loans Outstanding', both for Enterprise Finance and Household Financing, and calculated the cumulative 'Number of Loans Outstanding' until I reached the number of MFIs covering 99,7% of the total 'Number of Loans Outstanding'. Thereafter I removed the 'non-significant' MFIs representing only 0,3% of the total 'Number of Loans Outstanding'. As such, 1.220 observations were removed, contributing to both relevant and more stable results.

It is important to mention that there is a potential bias in the database when it comes to the numbers reported on "enterprise finance" and "household financing". Some people might ask for an "enterprise finance" loan to increase their likelihood of receiving the loan, but are actually financing their household consumption.[15] When banks are paid back by the people that took on the loan, it does not really matter for the bank whether that person had actually spend the money of the loan on a business or not. Therefore, it could be that the enterprise finance loans are overestimated and the household financing loans are underestimated. However, even if the database might not be 100% accurate, it can still provide a lot of interesting insights.

In the table 12 and 13 below, you will find the descriptive statistics for the 'Enterprise Finance per Loan Outstanding' and the descriptive statistics for the 'Household Financing per Loan Outstanding' respectively. 'Eastern Europe and Central Asia' is the only region in the world where the mean of enterprise finance is higher than the mean of household financing.

[15] People might be more likely to receive a loan to finance a business, because if the business created thanks to microcredit generates cashflow, the borrower will be able to pay the loan back (contrary to the situation where borrowers use the money of the loan on consumption that does not create cashflow and therefore increases the default risks).

Table 12: Descriptive statistics for the enterprise finance per loan outstanding for the different regions in the world

Region	Mean	St Dev	Min	Max	Obs
Africa	750	1.005	6,96	7.427	687
East Asia and the Pacific	579	834	0,05	6.009	588
Eastern Europe and Central Asia	3.406	5.419	241,98	39.519	654
Latin America and The Caribbean	1.569	1.789	62,69	20.210	2.201
Middle East and North Africa	736	739	65,87	5.311	253
South Asia	207	214	9,13	3.958	1.368

Table 13: Descriptive statistics for the household financing per loan outstanding for the different regions of the world

Region	Mean	St Dev	Min	Max	Obs
Africa	717	832	11,25	5.833	687
East Asia and the Pacific	1.013	1.285	9,05	9.341	588
Eastern Europe and Central Asia	1.523	1.965	0,15	28.805	654
Latin America and The Caribbean	2.234	2.223	25,44	17.800	2201
Middle East and North Africa	999	814	80,32	4.903	253
South Asia	211	272	0,00	1.609	1368

In Grameen Bank's 2017 annual report, it has listed its top 25 items for which borrowers had taken a loan for. The top three are paddy cultivation, land lease and farming. Remarkably, excluding land lease (where it is not 100% clear whether the land is leased for business activities (farming) or whether it is used for private reasons), every single item in the top 25 is used for business activities! Grameen Bank is therefore truly on course of the original microcredit goal to give loans to people to start their own business. Fun fact: 'bamboo works', the activity for which Muhammad Yunus had given his first microcredit loan is still in the top 25 (at place 20). Next to giving loans for businesses, Grameen Bank also gives other types of loans. Among others, they give higher education loans as well (to enable people can pursue the highest level of education) (Grameen Bank, 2017).

In figure 25 below, the number of enterprise finance and household financing loans outstanding in South Asia are represented. As can be seen in the figure, the vast majority of microcredit loans are given to finance enterprises and are not to spent on consumption. There is a very slight trend of the number of enterprise finance loans going down, but despite a few little changes over the years it stayed very constant over the ten-year period. This is in line with the original goal of microcredit to give loans to people to start their own business.

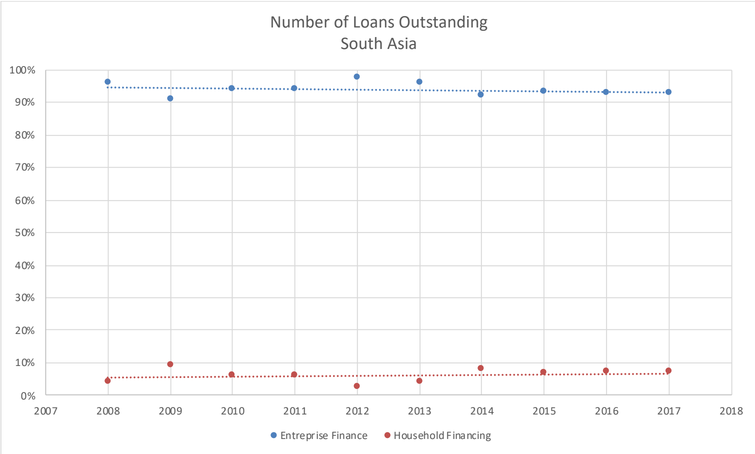

Figure 25: Number of enterprise finance and household financing loans outstanding in South Asia (in percentage)

In figure 26 below, the gross loan portfolio of enterprise finance and household finance in South Asia is represented in percentage. Analogous with the previous figure, the vast majority of the gross loan portfolio goes to enterprise finance and there are sometimes a little bit of variations (in 2012, for example, the household financing gross loan portfolio was almost zero).

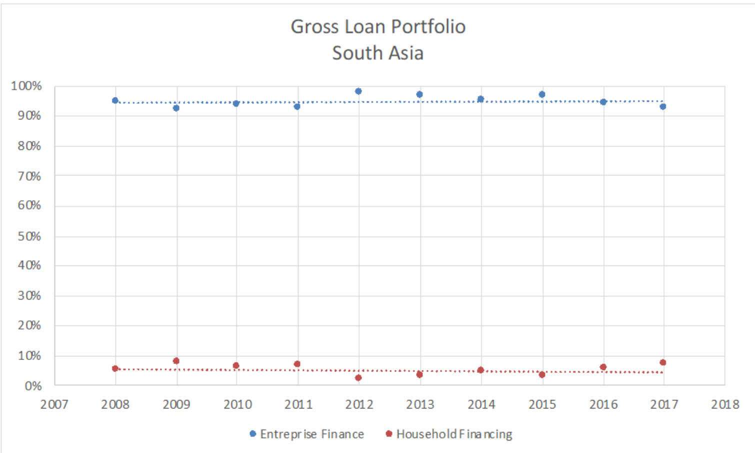

Figure 26: Gross loan portfolio of enterprise finance and household financing in South Asia (in percentage)

In figure 27 below, the average loan balance per loan outstanding of both enterprise finance and household financing in South Asia is represented. As could have been concluded from the two previous figures: both enterprise finance and household financing are kind of close together every single year. This can come as a surprise, because it would have seem more logical that enterprise finance would be (much) higher than household financing, because it can cost a lot of money to start a business. The fact that the average balance per loan outstanding of enterprise finance is so low could be a good sign: it could be that it is indeed – just as Muhammad Yunus had done with giving a $27 loan (see introduction) – still possible to start a lot of businesses with little amount of capital today. On the other hand, it could also be negative that consumption is so high: because if people are not careful and use too much money to spend on consumption they could end up in a debt trap.

There is also a significant trend of both growing through the years. This is unsurprising, because as has been seen previously (in figure 3: Average loan balance per borrower in South Asia) the average loan balance overall is increasing.

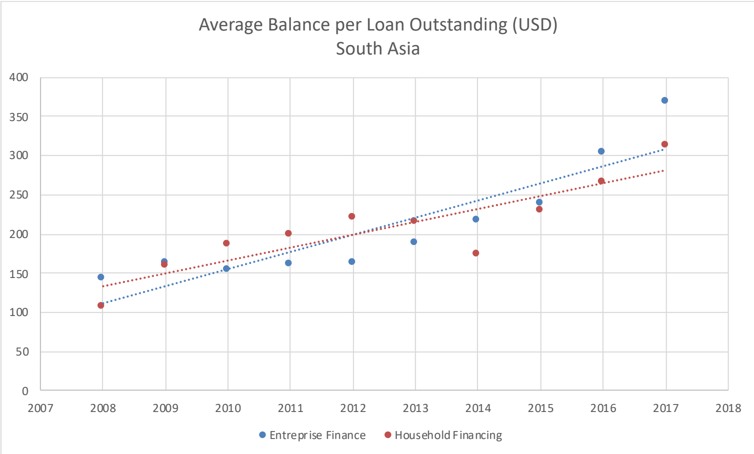

Figure 27: Average balance per loan outstanding for enterprise finance and household financing in South Asia

In figure 28 below, the number of enterprise finance and household financing loans outstanding in the different regions of the world are represented in percentage. As can be seen, surprisingly, in 'East Asia and the Pacific' the amount of loans given for household financing is greater than the amount of loans given for enterprise finance! This is far from the original goal of microcredit to give loans for entrepreneurial reasons. However, in every other region there are more loans given to enterprise finance, with South Asia (the region of Yunus) being the leader in the amount of enterprise loans.

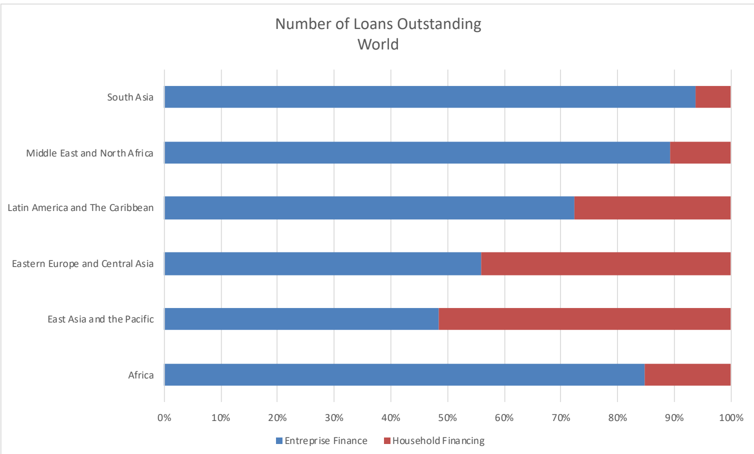

Figure 28: Number of enterprise finance and household financing loans outstanding in the different regions of the world (in percentage)

In figure 29 below, the gross loan portfolio in the different regions of the world are represented with a distinction between enterprise finance and household financing. We see very similar results with the previous figure. The region 'East Asia and the Pacific' is doing even worse in the proportion: the gross loan portfolio of enterprise finance represents less than 40%.

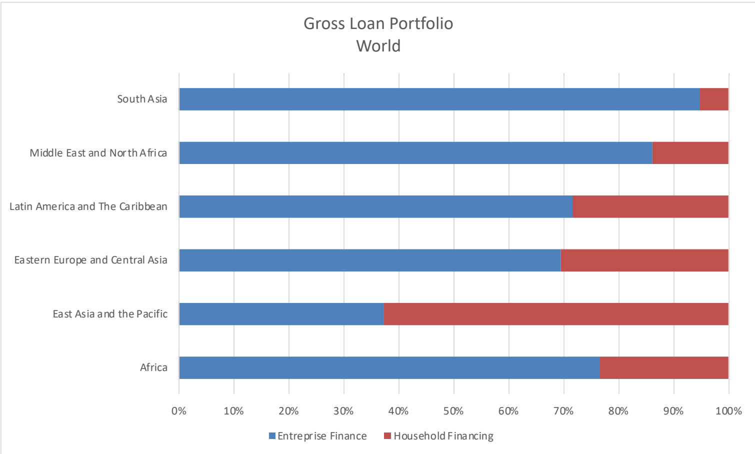

Figure 29: Gross loan portfolio of enterprise finance and household financing in the different regions of the world (in percentage)

In figure 30 below, the average balance per loan outstanding in the different regions of the world is represented with a distinction between enterprise finance and household financing. Only in Africa, the amounts are more or less equal just like in South Asia. In the regions 'Middle East and North Africa', 'Latin America and The Caribbean' and 'East Asia and the Pacific' the average balance of household financing is significantly higher than the amount of enterprise finance. Only in 'Eastern Europe and Central Asia' is there a significantly higher average balance of enterprise finance. In that region, the enterprise finance is more than twice the amount of household financing.

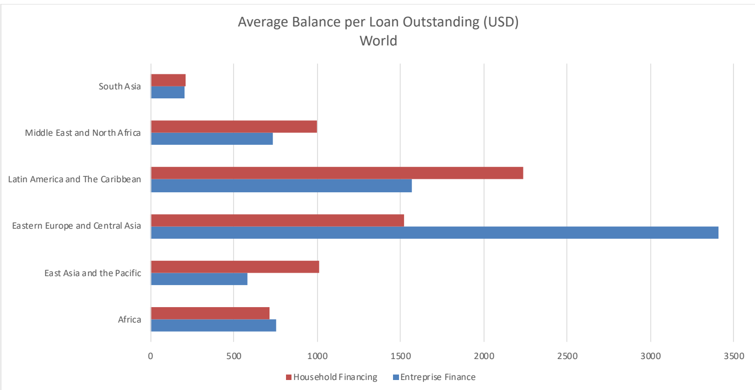

Figure 30: Average balance per loan outstanding for enterprise finance and household financing in the different regions of the world

Based on the above figures and insights, we can conclude the following:

These findings lead to believe that the majority of loans that are given for microcredit are indeed used to finance long term entrepreneurial investments (through among other things microenterprises) and not for household financing (which includes short term consumption). These results are in contrast with a study that found that when people who have access to microloans are very likely to use it for consumption (immediate needs) and that only ten percent of people used a loan for self-employment micro-enterprises (Sooryamoorthy, 2007). Grameen Bank and South Asia put a very big focus on enterprise finance. The other regions put less focus on giving enterprise finance loans. The region 'East Asia and the Pacific' has the least amount of enterprise finance (it only represented 40% of its gross loan portfolio). Therefore, we can conclude that when it comes to the entrepreneurial aspect of microcredit, it is still the case today, that most loans go to finance enterprises.

The fact that so few loans go to consumption seems to be a good sign at first glance. However, there are two important things to mention that limit the positive aspects of these results. Firstly, when there are new enterprises (which seems to be a good thing), the problem is that most new businesses (a vast majority of around 75%) do not survive in the first two years (Gómez, 2008). Therefore, even if people receive a loan to build an enterprise, it might not benefit them in the (long) run. Secondly, as mentioned previously, sometimes it is also beneficial to receive a loan for other reasons than to built an enterprise. Some people do not want to start a business, but might need a loan for another reason that can help them in the long run (for example to finance housing). Only wanting to give microcredit loans to people who want to start a business might therefore limit microcredit's effectiveness. Microcredit could increase its positive impact of helping poor people if it would give more loans for other things than business loans as well if it benefits the borrowers in the long run.

6. Poor people's access to microcredit

One of the goals of microcredit is of course to give poor people access to loans. In this section it will be looked at whether or not poor people actually get access to microcredit. It seems logical that only poor people take up microcredit, because people who have more money either take up bigger loans or do not take up any loans. However, it could be that financial institutions ignore the poorest people and only target people who – despite being poor – still have a some income or money.

Data & Statistics

To find out how much poor people have access to microcredit, I will look at the existing literature on the subject and not do an analysis in the MIX database. The reason why I decided not to do an analysis myself on this topic is because it would be unlikely that I would have found reliable results on this topic in the MIX database.

Insights & Conclusions

Microcredit has become a worldwide phenomenon and it has rapidly grown in the last decades. There are now more than 10,000 micro-finance institutions and more than 150 million people directly or indirectly benefiting from micro-finance (MicroWorld, 2021). Despite the very big amount of people using microcredit, studies have found that demand for microcredit was surprisingly low: there are actually only between 13 and 31 percent of people who were offered microloans who took one (Poverty Action Lab, 2015). If we combine these two previous insights, it means that between around 480.000.000 and 1.150.000.000 people have access to microcredit (but most decide to not take a microcredit loan). Almost 700 million people live in extreme poverty. Of those 700 million, around 67% are children (World Vision, 2021). This means that there are approximately 233 million adults living in extreme poverty. If the previous minimum number of 480.000.000 is accurate, we can conclude that a vast amount of (extremely) poor adults do indeed have access to microcredit.

There are multiple reasons why people do not want microcredit even if they are able to get a loan. The most obvious reason seems to be the often very high interest rate asked in microcredit. In the last three decades, there has been an increased focus in making microloan operations financially sustainable. To make it sustainable, the interest rate has to be high enough to cover all the costs. Because giving microloans is very costly relative to its size, interest rates can be high (Rosenberg, et al., 2009). However, when interest rates are very high it is probably also because they are given by for profit institutions who want to maximize revenue (Kneiding & Rosenberg, 2008). The interest rates are often higher than 20% and can even go above 100% (Poverty Action Lab, 2015)! Institutions that provide microcredit therefore often have the principle of double or even triple bottom lines. Double bottom line refers to companies who think both about profit and social impact. Companies with a triple bottom line think about environmental impact as well (Beck, 2015).

Besides the high interest rate, there are also other reasons why not everyone wants to become a microcredit borrower. Even if people have a project with a high enough return to pay back the interest on the loan (which is often not the case), a lot of people prefer to borrow money from other sources (for example family and friends) (Duflo, et al., 2015). Some people also do not want to have their own business, because it is stressful or because they are risk averse (Crépon, et al., 2015). Some people lack financial literacy which reduces the chances of them asking for a loan. And some people are not willing to get involved with interest-bearing contracts due to their religion (Beck, 2015). This means that poverty can be reduced thanks to microcredit, but that it cannot be eliminated with microcredit alone due to the fact that microcredit is not valued by everyone.

7. Poor people empowerment

The goal of microcredit is to empower poor people (especially women in rural areas). In this section it will be looked at if poor people (with a focus on women) are actually empowered by microcredit and whether or not the people that take on microloans can get out of poverty. Having access to microcredit increases your options compared to the situation where a person does not have access to microcredit. When someone has access to microcredit he or she can decide whether or not to take on the loan. And being able to have more choice seems to be more empowering. Similarly, when someone has access to microcredit that person could only take up the loan when it is expected to increase his/her revenue. Therefore, it seems that microcredit can reduce poverty, because it seems intuitive to assume that people who will not benefit from microcredit will not take up a microloan. This section will focus on finding out how empowering microcredit is and if there are some circumstances (for example with predatory lending) where microcredit is not benefiting the borrower at all. It will also focus on the poverty aspect. Microcredit could definitely reduce poverty if people use it to finance a profitable income generating business or if they need to finance an emergency. However, in some cases, microcredit could also lead to more poverty if for example people get stuck in a debt trap if they do not manage to repay their first loan. Therefore, it seems that microcredit has both winners and losers and in this section it will be looked in which cases people win and in which cases people lose because of microcredit.

Data & Statistics

Analogously with the previous section, to find out how empowering and poverty reducing microcredit is, I will look at the existing literature on the subject and not do an analysis in the MIX database. The reason why I decided not to do an analysis myself on this topic is because it would be unlikely that I would have found reliable results on this topic in the MIX database.

Insights & Conclusions

It is not easy to define empowerment. However, empowerment can be seen as a situation in which a person gets more choice, freedom and power and who is able to improve his or her well-being thanks to that increase in choice, freedom and power (Ganle, et al., 2015). Reducing poverty can be considered as part of empowerment, but it is more specific: it is the fact of increasing the material level of living (sensagent, 2012).

Empowerment

A study of rural women in Ghana found that there were all three possible results when it came to empowerment: women who got microcredit got either more empowered, got no effect at all or got less empowered. Those who got empowered got it by having – among other things – more choice. Some microcredit loans had no effect on the empowerment of women if the woman has no control of the loan (in some cases men controlled how the money from the loan was spent and therefore the women in that situation did not gain empowerment with microcredit because they were not able to decide how the money was going to be spent). Lastly, some women got less empowerment because – when they were unable to pay the loan back – they got harassed and abused. To ensure that women got more empowered thanks to microcredit it was thus important that they were in control of their finances (to increase their choice) and that they were able to repay the loans (to avoid the harassment and abuse) (Ganle, et al., 2015). Additionally, the higher repayment rate of women does not necessarily mean that it is positive for women. In a lot of places where microcredit is given, women have a lower status. In many cases, loan officers put more pressure on women to pay back their loans (Isserles, 2003).

Another study found that microcredit – despite its benefits – has a lot of negative consequences on empowerment. Especially when it comes to the men-women dynamic. The study argues that microcredit reinforces gender stereotypes. Firstly, careless spending of the microcredit loans by men is excused. Secondly, women are assumed to be more caring and responsible for the unpaid home labor. If women are not allowed to spent less time at home and more time in the fields or at a paid job, then giving women access to microcredit might not be enough to empower them. Women also had additional negative consequences: domestic violence increased in a lot of households with access to microcredit loans. One of the reasons for the violence was when women refused to give their loan to a male family member (Isserles, 2003).

A relatively old study found that microcredit was on the one hand empowering women because it gave women access to credit, which was often not the case in a lot of regions of the world before. But on the other hand, that empowerment was limited, because only 37% of women had full or significant control of the loan. The paper acknowledged that improving plenty of factors (including social status of women and their ability to control household decisions) that would enable more empowering of women takes time (Goetz & Gupta, 1996).

One empowering aspect of microcredit, is when women come together in lending groups. Not only does it avoid social isolation, it also creates gender based solidarity between women which enables them to challenge institutionalized gender oppression. However, in some cases, lending groups can have the opposite effect! This is the case, because group lending has as primary goal to reduce the default risks to enable institutions to avoid losses. This has a consequence that there is peer pressure in lending groups on every member to pay her loan back. Therefore, women in lending groups can experience intense pressure because they need to pay their loan back and if they are unable to pay it back they could get humiliated. This can lead to women being divided and not empowered, on the contrary. Additionally, forcing women to be part of a lending group could also feel disempowering, because some women do not necessarily want to be part of one of those groups. And therefore, forcing someone to be in a group (reducing her choice) is disempowering. Moreover, another disempowering effect is the fact that women who take on microloans have little input in how they want social change: policies are determined by highly centralized administrations. Therefore, the changes implemented will always differ to a greater or lesser extent than what the people actually want (Parmar, 2003).

A study argues that empowerment of women is limited thanks to microcredit due to self-selection: women who are already relatively empowered take on microcredit while those who are not empowered do not take on microloans. Therefore, even the positive empowerment effects that are observed in women who have microcredit might already have been there and the microloan would in that case not have an effect (Mahmud, 2003).

Microcredit can have a lot of surveillance and regulation, which restricts the freedom of the borrowers and therefore also limits their empowerment (Keating, et al., 2010).

To conclude, microcredit can be empowering, but unfortunately it often has the opposite effect and causes less empowerment for the borrowers. One of the solutions (which is implemented by some, but not yet by everyone) to increase the empowerment of women would be for MFIs to work together with both women and men to change attitudes in order to enable women to increase their contribution to the household economy. There needs to be a shift from focusing mainly (and sometimes only) on the financial sustainability side to focusing more on assessing whether or not the microloans have a useful impact (Johnson, 2005).

Poverty reduction

Microcredit can be a powerful tool to reduce poverty, but it would be even more effective if it is combined with other tools as well. One of the advantages of microcredit is that it helps poor people with consumption smoothing and in asset building too. Some micro-credit programs also encourage investments in human capital (for example schooling). Sometimes it is difficult to know what the impact of microcredit actually was. For example, it could be that people who get microcredit are able to increase their income, but if those people live in an area with high economic growth, then their increased income might not have been thanks to microcredit (Latifee, 2003).

A World Bank study in Bangladesh found that microcredit contributed more to reducing extreme poverty compared to reducing moderate poverty. This seems to suggest that - contrary to popular belief – it is possible for MFIs to give loans to extreme poor people and still be profitable (Latifee, 2003).

Studies that have looked at Grameen Bank found that borrowers can get out of poverty thanks to their microloans. One study found that 5% of borrowers get out of poverty each year. A second study found that 70% got out of extreme poverty in 4.2 years. Another study found that 50% of Grameen Bank's borrowers crossed the poverty line while 25% were close to crossing it. The remaining 25%, who were unfortunately not close to getting out of poverty, had mostly health problems. Other studies looking at other institutions in different villages in multiple countries found that 35%, 38.4%, 60% (twice) and even 75% in one village of people crossed the poverty line thanks to microcredit and that in one case 76.8% of the borrowers had a significant reduction in poverty (Latifee, 2003). The increase in living standard can come from asset accumulation. It can be financial, human and even physical capital (Adjei, et al., 2009). When microcredit benefits borrowers, it is often financially (with for example increased consumption), but it can also benefit people mentally (Karlan & Zinman, 2010). In some cases though, microcredit slightly decreased well-being (Karlan & Zinman, 2011). Microcredit sometimes even benefits the local economy (Khandker, 2005). Other studies found no significant reduction in poverty, increase of income or the improvement of other socioeconomic indicators thanks to microcredit (Roodman & Morduch, 2014) (Tarozzi, et al., 2015). Sometimes the reason was that if borrowers had an increase in profit in their business thanks to microcredit, they reduced – among other things – their wage labor which had as a consequence that their total income did not change. (Poverty Action Lab, 2015) (Crépon, et al., 2015). It could be argued that in those cases – despite not seeing an increase in total income – those people are better off: they probably get more fulfilment working on their own business and/or had to work less (because otherwise they would not start a business, they would just keep doing their wage labor). Another reason why sometimes it seems that there is no increase in income, is because it takes time before a new business becomes profitable. In some cases, people who had access to microcredit did not have an increase in income in the first few months, but had or could have had an increase later (Augsburg, et al., 2015). One study found that most businesses did not have an increase in profit (Duflo, et al., 2015). This could be the case, because in some cases the production function is S-shaped: returns fall very fast once the business grows a little bit and the big increase in returns only comes again once the business is a lot bigger. But achieving a big business is by definition not possible with microcredit. Another factor is that many poor people do not wish to start their own business (Banerjee, 2013). Even when the potential returns for small entrepreneurs in developing countries are high, the profits can be small because of the low interest rate grace period (Field, et al., 2013). And for rural women it happens that wage labor has a higher return than self-employment. In those cases microcredit cannot increase revenues (Mahmud, 2003).

Some studies are not really optimistic about microcredit and claim that the increased business activities thanks to microcredit rarely meant that it would also increase profits. In some cases microcredit even reduced profits! The reduced profits can be the consequence of a lot of different reasons: using the money to consume instead of investing, not having the know-how to increase the size of a business profitably, a bigger business means more revenues but also more costs,… Even when microcredit increases the profit of the business it could have zero impact on the total revenue, because some people chose to reduce their wage labor and household asset sales which means that their income does not change (or does not change much) (Poverty Action Lab, 2015). Whether microcredit reduces poverty or not depends on different circumstances: sometimes microcredit has a positive impact, sometimes it has a negative impact and in some cases it seems to have no impact at all. Some studies have found no evidence that microcredit reduces poverty (Banerjee, et al., 2015) (Tarozzi, et al., 2015) (Meager, 2019). One of the reasons why it doesn't reduce poverty is when people use the loan for consumption and not for an investment that will increase future revenues (Zaman, 1999). Another reason could be the high interest rates on microloans. Lowering the interest rate (something politicians could do by making sure that there is enough competition between the MFIs) would be helpful to alleviate poverty (Al-Azzam & Parmeter, 2021). Microcredit sometimes also doesn't increase consumption and educational enrollments for children (Morduch, 1998). However, other studies – as mentioned previously – have found that microcredit reduced poverty significantly and even had a positive impact on the local economy (Khandker, 2005) (Beck, 2015) (Thanh, et al., 2019) (Félix & Belo, 2019). And finally, there is a study that did not find a lot of evidence to support the claim that microcredit reduces poverty (Roodman & Morduch, 2014).

Over-indebtness caused by microcredit is rare. But because the consequences of over-indebtness are huge (sometimes even suicide) it should be taken very seriously (Bédécarrats, et al., 2020).

Recent research has found that microcredit can undermine the lives of the poor and even have negative consequences on the economy (Bateman, 2020). This is in line with what microcredit opponents have been saying in the past. One study claimed that microcredit used poor communities (who have to take risks and carry the burden of the costs) to enable a few to gain wealth (Bateman, 2010). One study even argues that microcredit is used to manage and control poor people, because it takes a lot of effort to repay the loans with a high interest rate (Mader, 2015). Contrary to another study mentioned previously, other studies claim that microcredit does create poverty traps (Bateman & Chang, 2012). In one study 51% of borrowers said that they had struggled to repay their loans (Liv, 2013). This leads many people to refinance their loans. Many new enterprises created thanks to microcredit do not survive for long and even if they survive they have a smaller positive impact than it seems: some of the new 'microcredit' enterprises bankrupt existing enterprises. In the case were one new enterprise is created but one old enterprise stops existing, the net result thanks to microcredit is zero (Bateman, 2020). And even if a new business (that was started thanks to microcredit) does not bankrupt another business, it does increase its competition and therefore reduces the profits and wages of the existing businesses (Bateman, et al., 2018). Moreover, people who are critical of microcredit fear that giving microloans may have a lot of harmful effects. Among other things, microloans could lead people to fall into debt traps and increase their levels of stress or depression. There are cases where people who were not able to pay back their loans (for example farmers who do not have a revenue after a bad harvest due to droughts) get depressed and sometimes even commit suicide (Sarkar, 2020). This has been the case in India, were the financial institutions put a lot of pressure on people to get paid back (Levin, 2012). This is luckily not always the case: a study in Mexico has found no evidence that microcredit would cause these negative consequences. There, microcredit did not have a negative impact on profits or stress (Poverty Action Lab, 2015). Another study found that there is actually little evidence that people endured the negative consequences of debt traps (for example asset sales) after gaining access to credit (Angelucci, et al., 2015).

Mentorship is important to make microcredit a success (Garrity & Martin, 2018). This could be explained by the fact that most people around the world do not have the financial expertise to make financial choices that benefit them in the future (National Financial Educators Council, 2020). A good relationship between the borrower and the institutions is good to avoid the high default rates that are common in microcredit (Nawai & Shariff, 2010). Another important factor to make microcredit a success is the terms of the loan. A study done in Mali found that balloon loans[16] instead of classical loans increased investments in agriculture (Beaman, et al., 2014). Another study found that giving borrowers a grace period of two months (instead of having to pay back the loan immediately) increased investments in short-run businesses and also increased long-run profits. However, a grace period also increases the default rates (Field, et al., 2013).

[16] A balloon loan is a loan where the monthly payment is relatively very small and by the end of the loan term the borrower needs to pay back the remaining sum (a relatively very big amount) all at once (Kagan, 2020).

To conclude, microcredit has both positive and negative outcomes for borrowers depending on the situation. Therefore, MFIs should look at success stories of microcredit and try to replicate those success stories themselves. A study recommends the following to reduce poverty thanks to microcredit: reasonable costs, competent staff, minimize knowledge gap between stakeholders, reduce gap between words and actions, having a good environment where microcredit can thrive (Latifee, 2003).

Potential biases

The potential biases mentioned during this thesis will be summarized here.

In section 2 (Collateral), the amount of collateral was underestimated because only compulsory deposits were looked at. Some borrowers are probably required to give another form of collateral to get a loan.

In section 3 (Male vs Female), the amount of loans 'really' given to women is overestimated, because sometimes a woman receives a loan, but it is actually a man who is in control of the loan and decides how the money is spent. Again in section 3, there is a potential bias in the results, because certain banks do not report their gender specific numbers yearly.

In section 5 (Enterprise Finance vs Household Financing), the amount of enterprise finance could be overestimated and the amount of household financing could be underestimated.

6. CONCLUSION

The aim of this thesis is to research whether microcredit today is still implemented as how it was designed by Muhammad Yunus in the 1970s and 1980s. The results were found by looking at the existing literature and by doing my own research in the MIX database. The overall conclusion is that microcredit is still today staying true to its original goals in a lot of cases, but that some MFIs (or even whole regions) have changed considerably or evolved in one or more cases.

Firstly, the average loan balance per borrower: Muhammad Yunus gave his first loan with a value of $27 (MicroWorld, 2021). Today, most of the loans are a lot higher (with a median around $600 and a mean around $1600). The median indicates that most loans are indeed between $10 and $2000 (as was suggested by the literate review) (Corporate Finance Institute, 2021). The high mean of $1600 suggests that a considerable amount of microcredit loans are now given above $2000 as well. Therefore, the average loan amount has evolved in microcredit.

MFIs around the world ask a considerable amount of compulsory deposits (one form of collateral). This is unfavorable for the borrowers, because it increases the effective interest rate (Fernando, 2006) (Rosenberg, et al., 2013). Therefore, the microcredit's goal of giving loans without collateral is often not respected.

MFIs around the world, on average, have more active female borrowers than active male borrowers. Women also have a higher gross loan portfolio than men. These results are positive because it means that a lot more women have access to credit now compared to the past. However, the average loan balance is higher for males in every single region of the world. This could be the case because women are discriminated against when they ask for a loan (Brana, 2013). Therefore, the microcredit's goal of empowering women through giving them microcredit loans has made a lot of progress, but there is still more progress to be done to fully achieve its goal of empowering women.

Grameen Bank is active in a staggering 93% of rural villages in Bangladesh (Grameen Bank, 2017). It is therefore extremely close to the original goal of microcredit of being able to provide loans to everyone living in rural areas. The other MFIs around the world also, on average, give rural people more microcredit loans than urban people (even if the differences between rural and urban are not always very high). Therefore, despite staying true to its original goal of providing loans to rural people, microcredit evolved, because it started to give a considerable amount of loans to urban people as well.

When it comes to enterprise finance and household financing, microcredit evolved as well: there is now a considerable amount of household financing. However, the majority of the gross loan portfolio is still going to enterprise finance thus staying true to the original microcredit goal.

Microcredit has grown considerably with now 150.000.000 people benefiting from microcredit (MicroWorld, 2021). This means that a vast amount of people now have access to microcredit. However, a lot of people do not value microcredit and do not ask for a microcredit loan even if they could get one (Poverty Action Lab, 2015).

The existing literate has mixed insights when it comes to the empowerment and the ability to reduce poverty thanks to microcredit. Microcredit can have positive, negative and even no effect on empowerment or poverty reduction. It all depends on the situation of the people involved.

Further research

The opportunities of future research mentioned during this thesis will be summarized here.

As mentioned in section 2 (Collateral), it was surprising that NGOs asked more compulsory deposits than for profit institutions. Further research could investigate whether for profit institutions ask different types of collateral to see whether or not non-profit actually ask more collateral or if it was just a coincidence that NGOs only ask more of one type of collateral (compulsory deposits) and that therefore it could be that it is actually the for profit institutions who ask more collateral.

As mentioned in section 3 (Male vs Female), some women face discriminations when they ask for a microcredit loan. Further research could investigate to find solutions about how to reduce the discrimination of women in microcredit in order to enable them to get the same loan terms (i.e. the same amount of collateral and the same interest rate) as men.

As mentioned in section 4 (Rural vs Urban), the average loan balance of rural people is smaller than that of urban people. Further research could investigate why this is the case.

As mentioned in section 5 (Enterprise finance vs household financing), sometimes household financing (including consumption) can have a positive aspect on the lives of the people. Further research could investigate how many borrowers use consumption loans to finance things that have long term benefits and how many do not have long term benefits (and even long term problems due to consumption loans).

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