

A Work Project, presented as part of the requirements for the Award of a Master's degree in
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Microfinance Meets the Market

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Abstract

Microlenders despite subsidies typically charge interest rates much higher than normal bank rates. This paper examines the reasonableness of these interest rates in a trend analysis by collecting and analyzing data from more than 3000 microlenders on their determinants of interest rates from 2007 to 2018. The analysis in conjunction with a background study of the market characteristics indicates that the majority of microlenders have become for-profit microlenders, who operate with reasonable levels of interest rates given their associated costs; if the reasonable level is defined as a level where interest rates yield a yearly profit of ~ 3 percent.

Keywords: Microfinance, Financial Inclusion, Commercialization, Microcredit Interest Rates

1. INTRODUCTION.....	3
1. RESEARCH QUESTIONS	4
2. METHODOLOGY.....	5
2.1 DATA GATHERING.....	5
2.2 DATA VALIDITY AND LIMITATIONS	6
3. A PORTRAIT OF THE MICROFINANCE INDUSTRY	6
3.1 CHARACTERISTICS OF MICROFINANCE INSTITUTIONS.....	6
3.2 THE CLIENTELE	8
3.3 COVERAGE	9
3.4 LOAN SIZE.....	11
3.5 THE EVOLUTION OF MICROFINANCE.....	12
4. MICROCREDIT INTEREST RATES AND THEIR DETERMINANTS	14
4.2 LEVEL AND TREND OF INTEREST RATES	14
4.3 COST OF FUNDS.....	16
4.2 LOAN LOSS EXPENSE	18
4.3 OPERATING EXPENSE (EFFICIENCY).....	19
4.4 PROFIT.....	21
4.5 OVERVIEW AND SUMMARY	24
5. CONCLUSION.....	25
6. FUTURE RESEARCH	26
7. BIBLIOGRAPHY	27
8. APPENDIX.....	29

1. Introduction

The origins of the modern microfinance industry can be traced to a \$27 loan in 1974, when Ph.D. in economics Muhammed Yunus worked on ways to alleviate poverty. Situated in the small town Jobra in Bangladesh he encountered farmers too poor to qualify for traditional bank loans and thus set out to help finance the village's businesses by providing small loans at low-interest rates. To do so he developed a scheme where he calculated the total debt of the village's business owners and lent that amount to 42 women who were willing to become co-guarantors (Finch 2022). The method demonstrated success as a poverty reduction tool and proved that it is entirely possible to provide profitable collateral-free loans at low-interest rates to poor people. The model consisting of small loans at low-interest rates to groups of borrowers became the template for Grameen bank, which was later founded by Yunus and launched a worldwide movement. Fast forward to 2022 and the global microfinance market has reached a value of ~ \$175Billion (Appendix 1), and for-profit microlenders now constitute the bulk of the market. According to the World Bank, financial inclusion is an enabler for 7 of the 17 Sustainable Development Goals and a key enabler to reducing extreme poverty and boost shared prosperity (World Bank 2022). However, as small loans have become big business there has been a rising critique from non-profit microfinance institutions and Human Rights Organizations regarding the practices of for-profit microfinance institutions (Pablo 2020). In 2007 Mexico's Banco Compartamos was the first microfinance company to do an IPO. Compartamos began operating in 1991 as a small non-governmental organization but became a self-sufficed regulated financial institution in 2001. The transformation was partly facilitated with financing from the World Bank and Accion International. When Compartamos went public in 2007, it had an implied valuation of more than \$1.5 billion, providing a substantial return to founders and early investors. Accion, who invested \$1 million it received from the U.S. government, saw the value

of its stake increase to \$350 million, which it used to fund more profit-seeking microlenders (Finch 2022). The high return came at the expense of poor borrowers who paid interest rates much higher than those at other conventional Mexican banks. The IPO sparked global attention in microfinance from banks and impact investors alike and set the precedent for profit-seeking microfinance companies. With the rising inflow of more traditional capital, there has been an increase in the scope and outreach of microfinance which is to the greater benefit of the recipients of microcredit. Although alongside the greater scope non-profit microlenders and UN experts fear that poor borrowers will be exploited by excessive interest rates, given that those borrowers have limited bargaining power and that an increasing proportion of microcredit is becoming for-profit where higher interest rates translate to higher returns for shareholders (Gonzalez 2009). The objective of the paper is to address the market developments by assembling empirical data that would address the reasonableness of microcredit interest rates to facilitate an objective discussion based more on facts and less on ideology.

1. Research Questions

This paper addresses the impact of microfinance on financial inclusion with a focus on the utility and shortcomings of microcredit evolving into a more regulated and commercial market. Since the commencement of modern microcredit, its most controversial dimension has been profit-generation qua interest rates charged by microlenders. These rates are often much higher than normal bank rates and it thus raises the fundamental question of which degree microcredit interest rates are justified. To answer this question, it is important to know the market characteristics and the determinants of interest rates. The microfinance industry will thus be characterized, and possible factors that impact microfinance institutions (MFIs) interest rates

will be analyzed and described. The main objective of this paper leads to the following research questions:

- What lenders and borrowers constitute the microfinance market?
- What are the trends and structural changes in microfinance?
- How has commercializing affected interest rates?

While other papers have examined the sustainability of microfinance this paper focus on commercializing qua profitability and social value creation as they are the fundamental factors before a truly sustainable microfinance industry can prosper.

2. Methodology

The approach applied to the paper in collecting and analyzing data with respect to MFIs market characteristics and interest rate determinants, consists of an analytical and system-oriented problem-solving method. The mixed method design allows for the use of open-ended qualitative data, and close ended quantitative data, which provide the most unbiased study. The need to make interpretations are limited, as the background study is objective and the empirical analysis will provide its own conclusions (Creswell 2014, 215-218).

2.1 Data Gathering

To achieve a reliable analysis of the microfinance industry it is crucial to remain critical when gathering and selecting data. It is imperative since the aim of the analysis is to understand and answer the aforementioned research questions objectively. The principal amount of data applied

in this paper stem from the World Banks Data Bank which contains financial data from more than 3000 of MFIs collected by the Microfinance Information Exchange (MIX).

2.2 Data Validity and Limitations

The data from the MIX database were collected and reported in line with broadly recognized reporting standards within inclusive finance and the data reported were for a given period and at a given point in time between June 1999 and September 2019 (Mix Market 2022). Despite MIX being the largest and most reliable microfinance database, it has its limitations. The actual interest rate charged to borrowers would be the annual percentage rate (APR) on borrowers' particular loan product. It is not possible to obtain APRs from the MIX database, instead the database provides "interest yield" which is a product of interest, fees, and other loan charges, given as a percentage of the microlender's average annual gross loan portfolio (GLP). The limitations of the MIX interest yield measure should not pose a significant data validity problem as the majority of the analysis, which deals with the determinants of interest rates, is composed of namely cost of funds, loan losses, operating expenses, and profit.

3. A Portrait of the Microfinance Industry

A background study of the market characteristics is essential to adequately understand the concept of commercializing in the context of the subsequent empirical analysis of the determinants of interest rates and their evolution.

3.1 Characteristics of Microfinance Institutions

Microfinance institutions commonly refer to financial institutions that have a primary objective of making financial services accessible to poor households and small or medium-sized

enterprises. To do so MFIs typically offer advice and training to their clients, for example might business management training make a loan more valuable to the borrower and also enhance the chances of repayment (IMF 2015). The objective of financial inclusion may be supplemented or replaced by additional private or public objectives, such as the maximization of shareholder value, investments in priority sectors, or the enablement of the financing of governmental functions. Microfinance institutions fundamentally operate within the same industry, but with vast differences in the scale of operations and the financial performance. Loan sizes can be \$50 or even less for microlenders targeting the very poor to several thousand for microlenders that target SMEs, while deposits typically are considerably lower. For the borrower, the loan and/or deposit is typically large relative to their average income and assets or the GDP per capita in their residing country, yet considerably small in relation to typical financial transactions involving conventional financial institutions (FINCA 2022). Table 1 illustrates the variation in types of microfinance institutions. The most distinct difference between MFIs from an economic standpoint is their ability of allocating profits. If nonprofits earn revenues greater than costs, they are legally obliged to invest their retained earnings in order to foster their social

Table 1

Distribution of Microfinance Institutions by Institutional Type

	<i>% of institutions</i>	<i>% of assets</i>	<i>% of borrowers</i>	<i>% of female borrowers</i>
Bank	13	41	23	18
Credit union	10	8	3	3
Nonbank financial Institution (NBFI)	44	41	38	41
Nongovernmental organization (NGO)	30	10	33	36
Rural Bank	2	1	2	2
	100	100	100	100
Grand Total	737 institutions	\$136,5 billion	113,6 million	53,8 million

Source: MIX database, 2018.

Note: The sample include 737 insitutions. Data on assets are available for 672 institutions; on male borrowers for 402; on female borrowe for 481.

mission. In contrast, for-profits can do as they desire with profits. The institutions that have nonprofit status are Nongovernmental Organizations while typically Banks, Rural Banks and to some extent Credit Unions have for-profit status. Nonbank financial institutions are in a broad category that includes both for-profits and nonprofits. The sample illustrates that despite banks only constitute 13 percent of institutions, they still account for 41 percent of total assets. In contrast, Nongovernmental Organizations constitute 30 percent of institutions and serve 33 percent of borrowers with only 10 percent of the total assets. This indicates that non-profit microlenders still matter immensely as they serve a large part of borrowers in relation to their size.

3.2 The Clientele

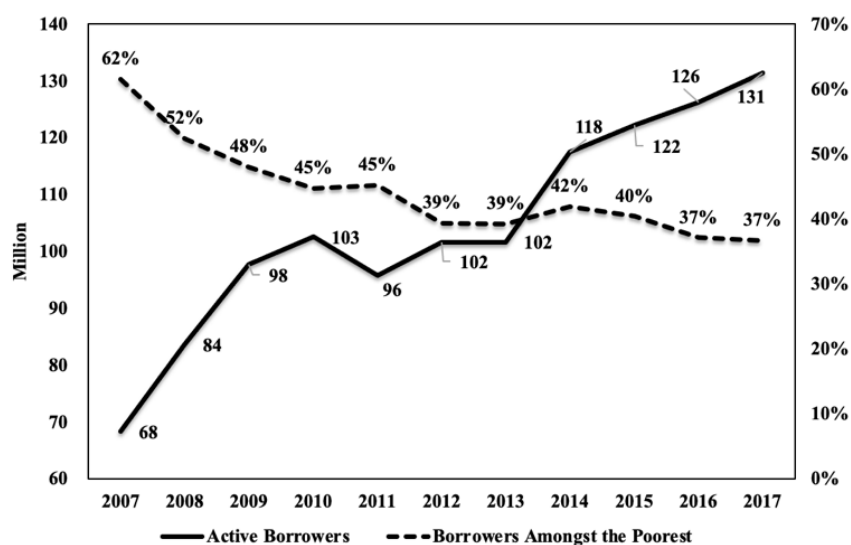
Microfinance institutions clients consists virtually by definition of people who excluded from access to financial services and products from traditional banks. MFIs thus focus on the poor part of the population. As of 2022 the international poverty line set by the World Bank is \$2,15, implicitly stating that people living on less than \$2,15 a day is considered to be living in extreme poverty (World Bank 2022). There are legitimate concerns that \$2,15 is too low to identify the poor part of the population in all regions and the World Bank thus reports on two higher-value poverty lines: \$3,20 and \$5,50 per day (Schoch 2020). These lines, which are typical of standards among lower-and upper-middle-income countries, are designed to complement and not replace the \$2,15 international poverty line. The poverty lines can serve as a threshold that represent the potential microfinance market. However, as data since covid is scarce the pre-covid population level and the Poverty Line of \$1,90 better represent the current market. In 2018 the world population was estimated to be 7,6 billion. With respect to the given poverty lines, it is possible to provide a perspective on poverty in the world within the context of

microfinance. It illustrates the percentage and size of the population that constitute possible markets for MFIs. About 660 million people live for less than \$1,90 per day in extreme poverty, which is approximately 9 percent of the world population. The two higher-value lines represent an enormous microfinance market potential with approximately 23 percent and 43 percent of the world's population living in poverty (Appendix 2). The numbers are a clear indication of the necessity of microfinance as almost half of the world's population constitutes a segment of potential customers that traditional financial institutions typically neglect.

3.3 Coverage

Since the first MFI IPO in 2007, there has roughly been a twofold increase in the number of active borrowers globally. Figure 1 shows that the upward trajectory for the number of active borrowers is countered by a downward trajectory for clients under the poverty line. From 2007 to 2017 the number of active borrowers has increased by 63 million to 131 million and the percentage of clients that are amongst the poorest has decreased by one-quarter from 62 percent to 37 percent. The numbers portray a greater outreach in clientele, but with less concentration

Figure 1
Microfinance Borrowers, 2007-2017



Source: Mix database, 2007-2017.

Note: Borrowers amongst the poorest is the percentage of clients whose income is estimated to be at or below the "poverty line considered." The year 2018 was excluded as the data on borrowers contained considerable errors.

on the extremely poor. Proponents of the commercialization of microfinance might argue that the greater outreach benefits all, while opponents might argue that MFIs experience mission drift as they increasingly cater to customers who are better off than their original customers. In an in regional context, there is a level of dissimilarity with respect to client outreach, the number of clients below the poverty line, and other key characteristics. The vast majority of reporting MFIs stem from the Latin American & The Caribbean region, which also represent the largest number of total assets. Table 2 shows that the region represents 36 percent of reporting MFIs and accounts for 39 percent of all assets, which is equivalent to 299 institutions and 59 billion in assets. Conversely, the South Asian region represents more clients than the Latin American and the Caribbean region, with more than half the world's total clients in contrast to 19 percent, respectively. This indicates a greater outreach in South Asia with a lesser average loan size than in Latin America and the Caribbean. Clients below the poverty line in South Asia likewise represent more clients than Latin America and the Caribbean.

Table 2

Distribution of Microfinance Institutions by Region

	<i>% of MFIs reporting</i>	<i>% of Assets</i>	<i>% of Clients</i>	<i>% of Female Clients</i>	<i>% of Clients Below Poverty Line</i>
Africa	15	13	5	3	2
East Asia and the Pacific	10	16	15	17	12
Eastern Europe and Central Asia	13	5	2	1	1
Latin America and The Caribbean	36	39	19	12	15
Middle East and North Africa	3	1	2	2	1
South Asia	23	26	58	64	70
	100	100	100	100	100
Grand Total	830 institutions	150,1 Billion	131,2 million	64,2 million	48,7 million

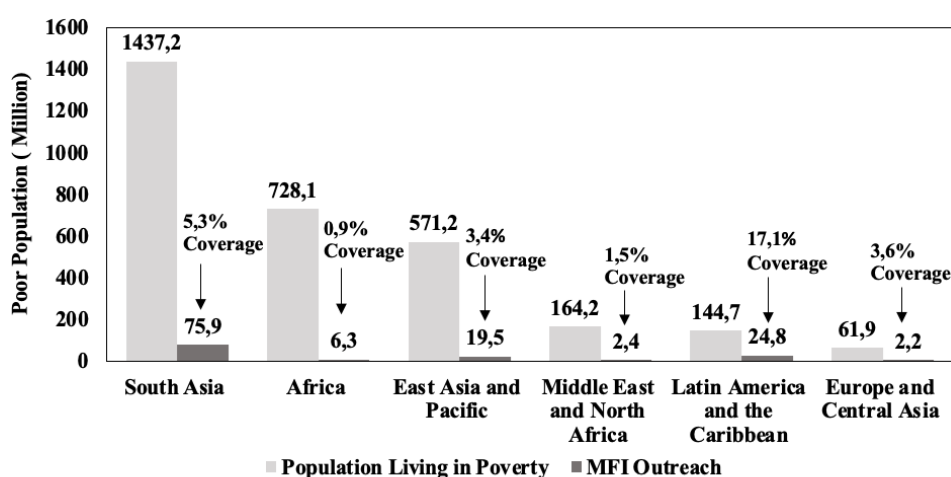
Source: MIX database, 2017.

Note: The sample include 830 institutions. Data on assets are available for 766 institutions; on total clients 771; on female clients 586. Data on clients below poverty line is based on regional averages derived from 122 institutions.

Figure 2 indicates that MFI outreach is by far greatest in the South Asian region. Still, in relation to the size of the population living in poverty, the outreach is relatively insignificant, with

coverage of just 5,3 percent. In contrast, the Latin American and the Caribbean region account for just 144 million of the world's poor population but obtain a coverage of 17,1%. The least developed microfinance market is the Middle Eastern and North African region, with a coverage of just 1,4 percent. The overall low level of coverage demonstrates that financial inclusion still has a long way to reach its full potential, as the vast majority of the world's poorest lack access to useful and affordable financial products and services.

Figure 2
Regional Breakdown of Access to Microfinance



Source: MIX database, 2017; World Bank Development Indicators, 2017.

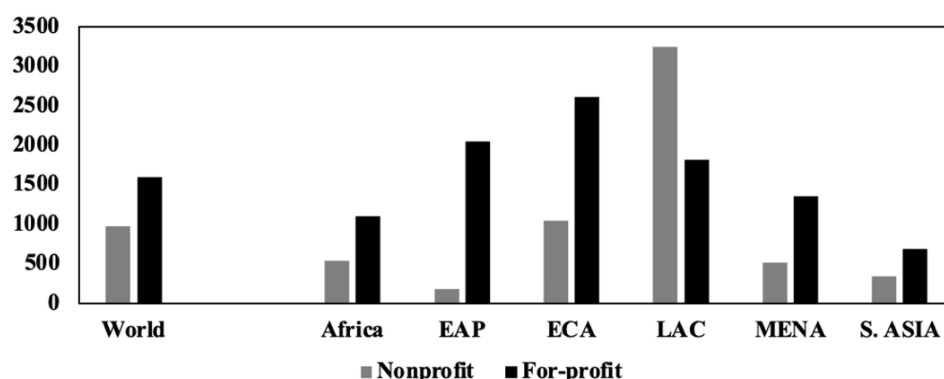
Note: The sample include 914 institutions. Coverage is derived as the total number of clients per region. Poor Population is defined as people living on less than \$5,5 per day.

3.4 Loan Size

Figure 3 shows that the world average loan size in 2018 for nonprofit and for-profit microlenders was 978 and 1604 dollars, respectively. The data indicates that it is not certain that the average loan size for non-profits is lower for-profits in a regional context. The average loan size for nonprofit microlenders in The Latin American and the Caribbean region is 3238 dollars which is significantly larger than the average loan size of for-profit at 1818 dollars. Similarly, is the Middle Eastern and North African region's average loan size larger for non-profit MFIs. On the other end of the spectrum is the East Asia and the Pacific region, where the

average for-profit loan size is approximately 11,3 times larger than the average non-profit loan size, while the average for-profit loan size is 2 times larger in South Asia. The average loan size for microlenders yields a vital finding: microloans might not be that “micro”, especially for nonprofit microlenders in Latin America.

Figure 3
Average Loan Size by Region for Nonprofit and For-profit MFIs, 2018



Source: Mix database, 2018.

Note: Average loan size is the average gross loan portfolio divided by the average active borrowers, 1987 MFIs reporting to MIX. EAP = East Asia and the Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MENA = Middle East and North Africa.

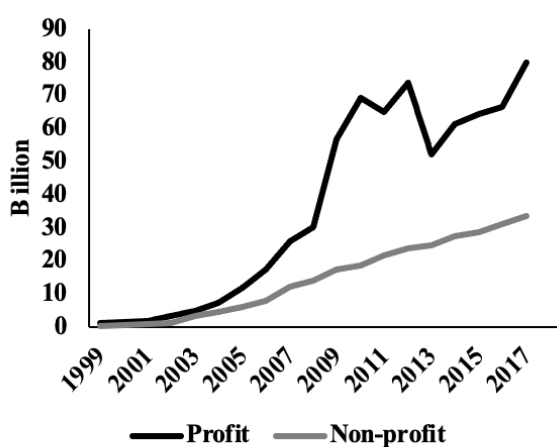
3.5 The Evolution of Microfinance

In the context of microfinance, transformation refers to the process of a “non-profit” or an NGO converting to a regulated financial institution. This transformation is commonly referred to as commercialization. The process entitles a move toward a financially self-sufficient corporate structure that relies on commercial principles and regulation (CGAP 2011). Figure 4 and 5 indicates that from 1999 to 2017, microlenders in the MIX database have increasingly been comprised of for-profit entities with respect to gross loan portfolio and the number of active borrowers, with a considerable jump in the year 2007. The dilemma with commercialization is that it could potentially enable wealthy investors and financial institutions to profit from the poor. It could be the case that in order to obtain funding from investors with no social incentives, microlenders would have to increase interest rates such that the expected return would outweigh

the perceived risk. International financial institutions still associate investments in developing countries with a great deal of uncertainty; the perceived risk of microloans is, therefore, likely high. As a testimony to the power of profit, the case of Compartamos demonstrates the dilemma, from 2000 to 2007 the microlender experienced an aggressive expansion, fueled largely by retained earnings, and grew from 60.000 customers to over 800.000, rapidly making it one of the largest microlenders in Latin America (CGAP 2007). At the time of the public offering, Compartamos charged its lenders an average interest rate of 93 percent per year (Appendix 3). It is clear from the preliminary market analysis that MFIs outreach and the financial coverage of especially the world's extremely poor is lacking. Proponents of the commercialization of MFIs point to Compartamos and its massive expansion as a success. They conclude that microlenders must adapt to the free market to attract the money needed to obtain global outreach. In comparison, opponents argue that a social mission should drive MFIs and that Compartamos could have substantially reduced interest rates and still been able to expand its business although at a more conservative pace. It is therefore important to understand the drivers of interest rates to assess if they have, in fact, become more excessive parallel to the expansion of commercialization.

Figure 4

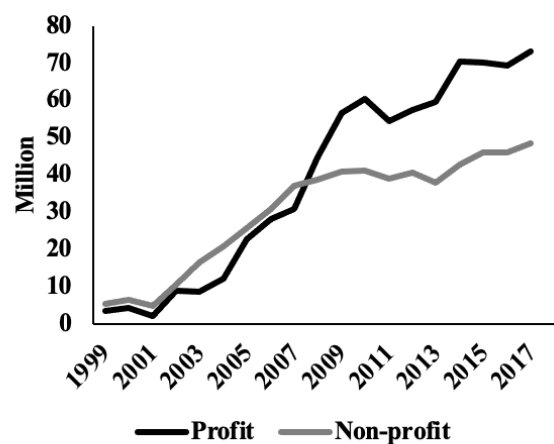
Gross Loan Portfolio, 1999-2017



Source: Mix database, 1999-2017

Figure 5

Active Borrowers, 1999-2017



Source: Mix database, 1999-2017

4. Microcredit Interest Rates and Their Determinants

Microlenders and lenders, in general, obtain interest income to cover costs, so to understand the percentage of borrowers' interest payments that constitute microlenders' profits it is crucial to not only look at interest rates, but also the components that determine how high interest rates are. According to the Consultative Group to Assist the Poor (CGAP) there are four main components reflected in an MFI's interest rate: cost of funds, loan loss expenses, operating expenses, and profits (Gonzalez 2009).

$$\textit{Income from loans} = \textit{Cost of funds} + \textit{Loan loss Expenses} + \textit{Operating Expenses} + \textit{Profit}$$

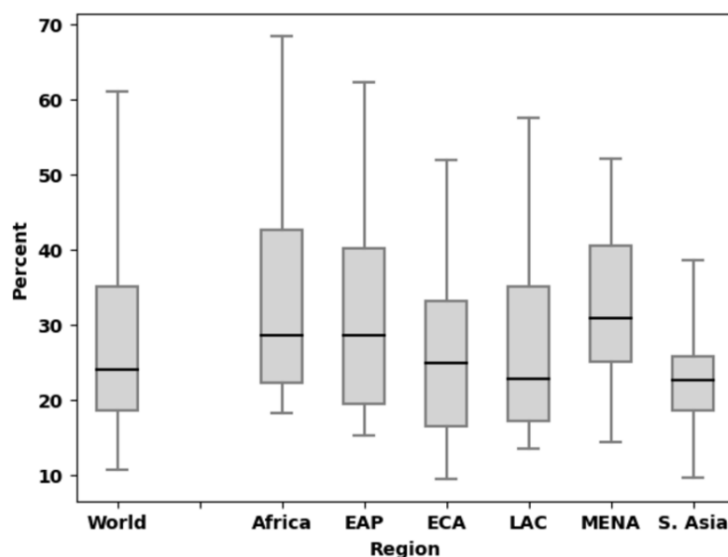
To address if interest rates are reasonable, an approach would be to analyze the inherent determinants of the interest income to identify if they are at a reasonable level. This section assesses the determinants of interest rates in a trend analysis from 2007-2018. This period was chosen due to the significant increase in for-profit microlenders.

4.2 Level and Trend of Interest Rates

The vast majority of microlenders charged substantially lower interest rates than those that provoked controversy in the case of Compartamos. In 2006, the year before it went public, microlenders' median interest income in the MIX database, weighted by GLP, was 26,4 percent of loans outstanding (Appendix 3). The notion that the success of Comparators sparked an interest in microcredit for international investors and that the free market without subsidies would increase interest rates can therefore be analyzed with respect to the pre-and post-IPO median interest income. Figure 6 illustrates the global and regional distribution of interest yields in 2018, more than a decade after the IPO. It indicates that there has been a slight decrease in

the median interest income to 24,0 percent. The move towards commercializing has thus not increased the global median interest rates but has, in fact, cut global interest rates by 2,4 percentage points. However, observing figure 6 it is obvious that there are vast regional differences. Any statements regarding a median (or average) world interest rate are thus associated with a high level of underlying uncertainty. The data shows that 95 percent of the MFIs in the sample are collecting an interest below approximately 60 percent. The regional distribution indicates a higher variation in interest yields in Africa and East Asia compared to the other regions, while they are considerably lower in South Asia.

Figure 6
MFI Interest Yield Distribution, 2018



Source: MIX database, 2018.

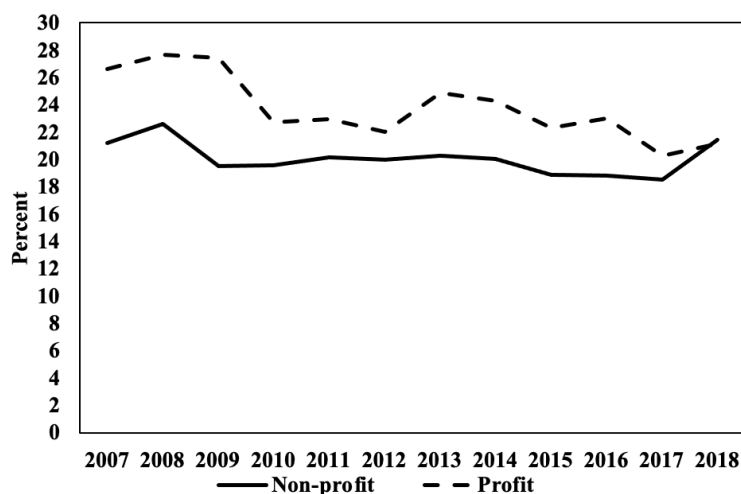
Note: Interest and fee income from loan portfolio as % of average GLP, 516 MFIs reporting to MIX. The black horizontal bars represent medians; the top and bottom of the grey boxes represent the 75th and 25th percentiles, respectively. EAP = East Asia and the Pacific, ECA = Europe and Central Asia, LAC = Latin America and the Caribbean, MENA = Middle East and North Africa

The for-profit and nonprofit interest yields in figure 7 illustrate that during the entire 2007-2018 period, the for-profit interest yield has considerably decreased, while the nonprofit interest has slightly increased. The interest yield experienced great volatility in the period, with a significant

drop in for-profit interest yield from 2009 to 2010. Figure 7 illustrates the remarkable finding that for-profit and nonprofit interest yields converged in 2018; nonprofit MFIs now charge a slightly higher interest yield than for-profit MFIs. This is a vast contradiction to popular belief and a strong arguing point for the commercialization of microfinance. However just observing the interest yield of the for-profit and nonprofit MFIs and provide conclusions to the effectiveness of commercialization is misleading. The average global loan size for nonprofit MFIs is approximately 40 percent smaller than for-profit, as shown prior in figure 3. Indicating that nonprofit MIFs are more likely to target the poorer clientele (if smaller loan size is a proxy for poorer borrowers). Smaller loans tend to require higher operating costs per dollar lent and the interest yield for non-profit MFIs is, therefore, more affected by inherent costs than for-profit MFIs. The trend in figure 7 likely reflects some shift in clientele.

Figure 7

For-profit vs. Nonprofit Interest Yields, 2007-2018



Source: MIX database, 2007-2018.

Note: Yield on gross portfolio (nominal) weighted by GLP.

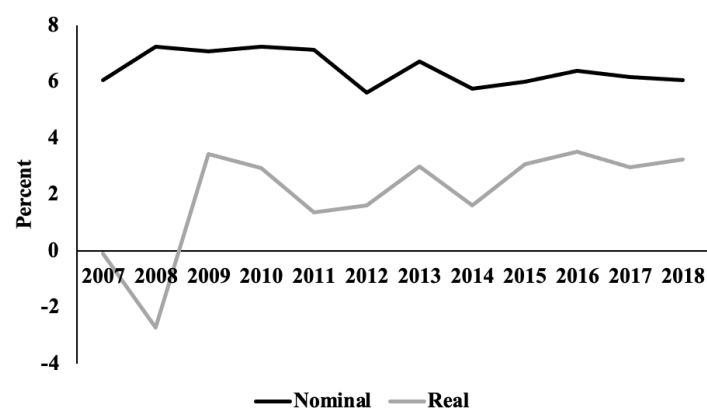
4.3 Cost of Funds

Loans are funded with some combination of equity and debt. There are no costs associated with equity for lenders without dividend-collecting shareholders, while debt requires interest

payments. A substantial part of the interest charged by microlenders stems from the relatively high price they have to pay for the money they borrow. Figure 8 shows that the nominal costs at which microlenders can borrow money to fund their loan portfolios are within proximity to 6 percent from 2007 to 2018. Within the period, the maximum variability in costs is 1,64 percent, with 2012 and 2010 having the lowest and highest costs, respectively. With respect to the real (i.e., net of inflation) cost of funds, it is more fluctuating, especially in the initial years of the given period. The strong volatility for real interest rates from 2007 to 2009 is explained by the high inflation spike admits the financial crisis in 2008. Post-2011, the gap between the real and nominal cost of funds has decreased and is at its lowest in 2018. The extrapolation is that MFIs lending rates are becoming less sensitive to inflation, which is especially positive as MFI's typically operate in countries exposed to high levels of inflation. It is a remarkable finding that borrowing costs did not increase from 2007 to 2018 while more MFIs have become commercialized. When microlenders expand and become commercialized, they can fund less of their portfolio from subsidized liabilities acquired from international development aid and have no other option than to increasingly operate with more expensive commercial and quasi-commercial debt from local and international markets. At 6 percent, MFIs cost of borrowing

Figure 8

Cost of Funds, Nominal and Real, 2007 - 2018



Source: Mix database, 2007-2018.

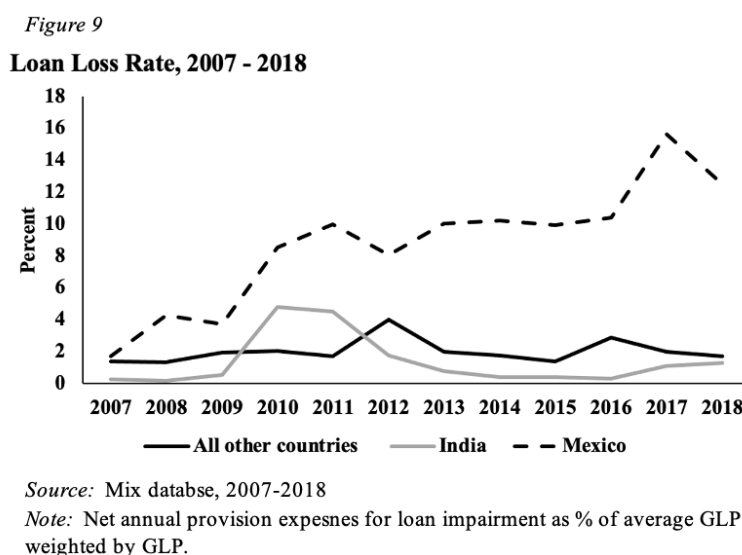
Note: Financial expense as % of liabilities, weighted by liabilities, both nominal and adjusted for regional inflation.

money is much higher than it is for traditional retail banks, whose cost of funds resided close to zero in the same period (Appendix 4 & 5). It would be unfair to criticize MFIs for the higher cost of funds as even large and more developed microlenders targeting the high-end clientele have limited influence over the rate of their cost of funds.

4.2 Loan Loss Expense

Microloans are generally backed by no collateral or collateral that is unlikely to cover defaulted loan amount once collection expenses are considered. Consequently, late payments or defaults are exceptionally hazardous for a microlender, as they can become uncontrollable rather quickly. Loan losses due to borrower default have, however, a limited influence on microlenders' interest rates on a global scale, as loan losses are modest for most microlenders, particularly large-sized microlenders. According to CGAP, the rule of thumb in microcredit is that annual loan losses of more than 5 percent tend to become unsustainable. Above that level, loan collection must be improved quickly and substantially, or it will spin out of control. Compared to conventional banks MFIs typically have default rates at much lower levels in their countries. There is even evidence that suggests that MFIs are more resilient to economic shocks than traditional banks (Gonzalez 2007). As shown in figure 9 the global loan loss rate when excluding India and Mexico has indeed been residing at low levels well below 5 percent for almost all years, although with a worrisome peak in 2012 at approximately 4 percent. Country-specific data suggest that Indian microlenders were facing serious problems in 2010 and 2011, but managed to greatly reduce their loan loss rates, which in 2018 was slightly below the global average. There seems to be a structural issue with respect to Mexican lending practices as loan losses have been on a positive trajectory from approximately 2 percent in 2007 to the peak in 2017 at approximately 16 percent. Mexico is often used as the prime example of

commercialization, and it is certainly the market with the highest coverage (access to microfinance). It is therefore worrisome that the most commercialized market is faced with such high loan loss rates as it depicts a structural issue in the lending practice. On a global scale, minor improvements in the loan loss rate might be attainable, however, the improvements will be too low to have a significant influence on the interest rates microlenders have to charge their clients. In fact, loan loss rates can become too low. Microlenders without any loan losses are likely too risk-averse in their selection of clients and thus harm the potential of financial inclusion by not being able to expand their operations adequately.



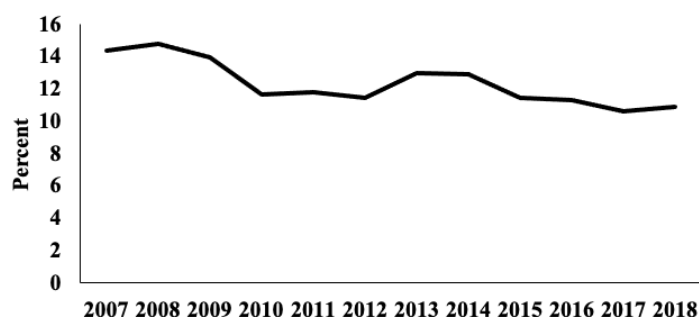
4.3 Operating Expense (Efficiency)

Operating expenses constitute the cost associated with facilitating loan activities such as payroll, rent, marketing, depreciation of fixed assets, and other administrative costs. It is the one expense that constitutes the majority of income costs associated with the loan portfolio for microlenders and thus it is the predominant determinant of the interest rates charged to borrowers. Interlinked to microlenders' small loan size is a fundamental justification for high microcredit interest rates due to the claim that administrative costs are inevitably higher when administering a lot of small loans compared to a few large loans. That, South Asia has the

smallest average loan sizes while charging the lowest interest rates (figure 3 & 4) illustrates that there must be a range of factors that affect microlenders' operating costs, including not only the loan sizes. The scale and type of loans provided (e.g., individual lending or group), infrastructure, salary levels, and urban vs. rural location etc. have an influence over the level of operating costs. Implicitly, there are substantial regional differences in the operating expense ratio. South Asia by far has the lowest median operating expense ratio at approximately 10 percent, while Africa has the highest median operating ratio at approximately 20 percent (appendix 6). Figure 10 indicates that microlenders average operating costs globally was considerably reduced from 2008 to 2012, however with an interruption of the downward trend in 2012. Standard economic theory states that young industries as they mature should see cost improvements as firms gain more experience and with time competition should force lenders to obtain more efficient business practices. The downward trajectory in operating expense suggests that microlenders on a global level have been able to conduct their operations more efficiently. The consequence of increased operating efficiency is obviously that microlenders would be able to charge lesser interest rates and still remain profitable. It is important to note that some of the increased efficiency is likely a result of microlenders having increased their outreach (have more borrowers), but with less concentration on the extremely poor, as seen in the aforementioned figure 1.

Figure 10

Operating Expense Ratio, 2007-2018



Source: Mix database, 2007-2018.

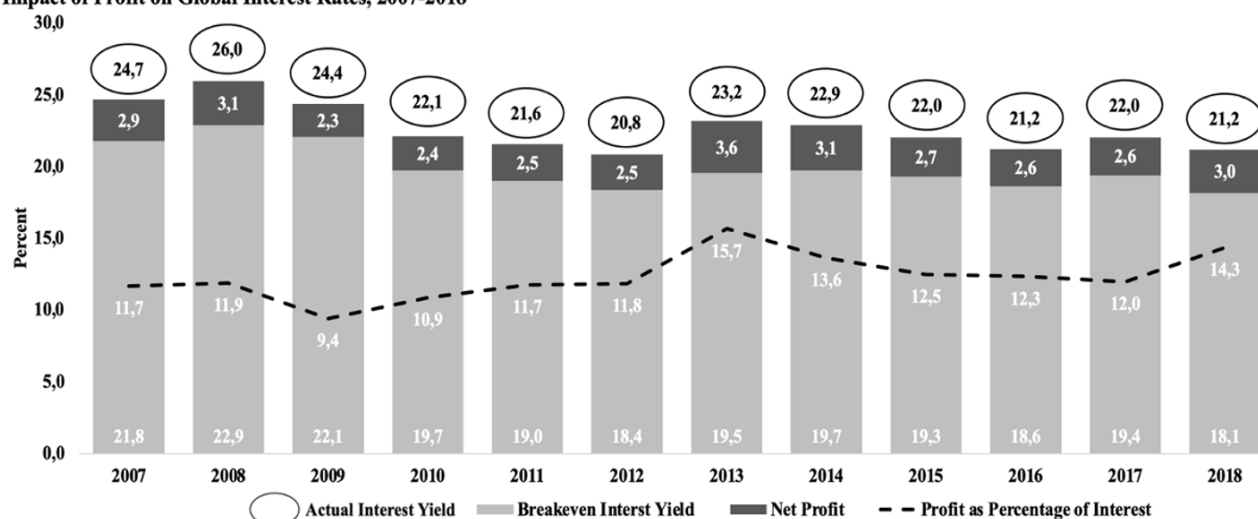
Note: Operating (i.e., staff and administrative) expense as % of average GLP weighted by GLP

4.4 Profit

Profit is a product of income exceeding expenses, and financial institutions usually measure net profit as a percentage of the shareholder's equity investment. The analysis on profitability showcase that earning profits do not necessarily mean that microlenders are for-profit. A large portion of MFIs having total revenues exceeding total cost have, in fact, nonprofit status. The microlenders are producing profits in an accounting sense, but as nonprofits are not able to distribute those profits to investors. The distinction is essential, as it indicates that microlenders' pursuit of profitability does not necessarily mean a pursuit of commercialization. Of the four components constituting the interest rates charged by microlenders, profit is the one most affected by their strategy and the most controversial. Figure 11 shows the “Breakeven Interest Yield” which identifies to the extent microcredit interest rates would decrease if all lenders chose to forgo any return. Such a proposition is extreme and would result in MFIs not being able to expand their business with the retained earnings from profits they otherwise would have made. As seen in figure 11, the impact of profits on interest rates is not significant and only constitutes about 3 percent yearly in the given period from 2007 to 2018.

Figure 11

Impact of Profit on Global Interest Rates, 2007-2018

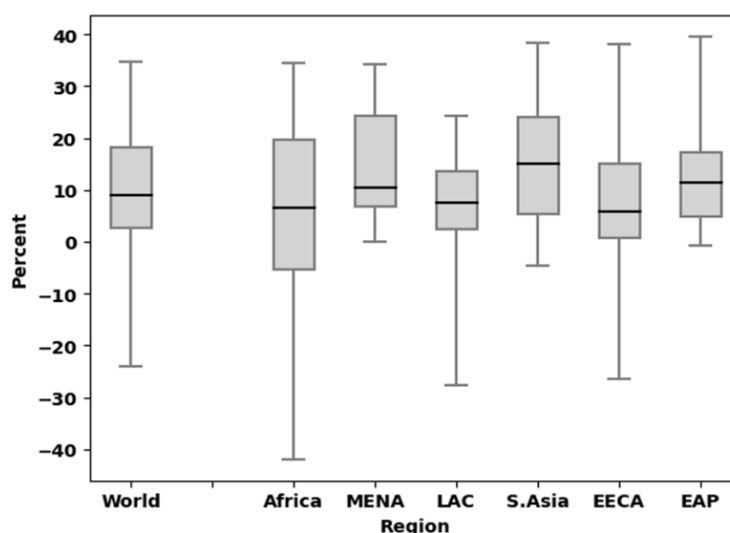


Source: Mix database, 2007-2018.

Note: Profit (net income-taxes) is computed as % of GLP; all results weighted by GLP. The bubble states the actual interest rates and the break even interest yield is computed as the difference between actual interest yield and net profit

However, profits' impact on interest has been increasing. Profit as a percentage of interest income has risen from 11,7 percent to 14,3 percent for the period. This implies that, on average, on a global scale, interest rates would still be very high if microlenders choose not to take any profit. However, there has been a slight increase in profit as a percentage of interest income. Certainly, some microlenders' profits constitute a much higher percentage of the interest that they charge, as within the industry, profit levels vary widely. Figure 12 shows that in 2018 close to a quarter of microlenders earned annual returns greater than approximately 20 percent on shareholders' investment, while only 5 percent made returns in excess of 35 percent. In total numbers that accumulate to 31 MFIs of the 596 MFIs in the sample who achieved returns on equity higher than 35 percent and only 8 of those were large lenders with more than 100.000 clients. In contrast, a lot of MFIs were losing money at a high rate, especially in Africa, Latin America, and Eastern Europe. In total 95 MFIs were losing money at their given interest rates, which constitutes about 16 percent of all MFIs in the sample.

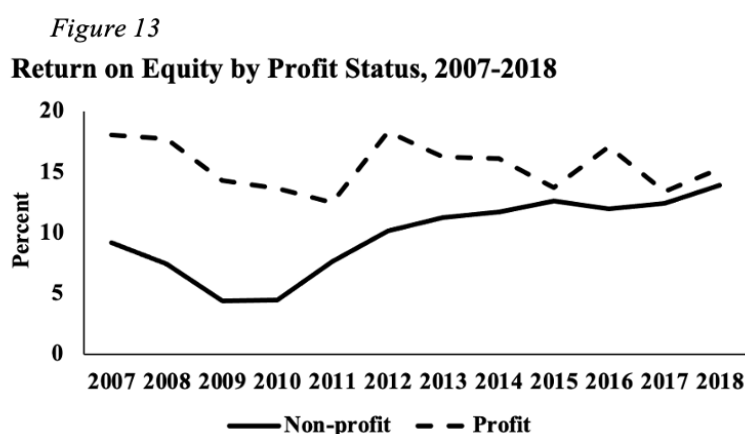
Figure 12
Return on Average Equity 2018, World and Regions



Source: Mix database, 2018.

Note: After-tax net profit as % of average shareholders' equity or non-profit net worth, unweighted. The horizontal bars represent medians, the top and bottom of the solid boxes represent the 75th and 25th percentiles, respectively; and the high and low whiskers represent the 95th and 5th percentiles, respectively.

That Africa, despite having the highest interest rates (figure 6), has the lowest returns of the sample, depicts in this case a nonlinear relationship between profit and interest rates. Consequently, high interest rates do not necessarily translate into high returns and even in some cases fail to break even. The notion that microlenders have no right to claim they are pursuing a social mission while charging high interest rates to their borrowers, is thus not applicable in all cases, when in fact some microlenders fail to make a return and produce a profit despite charging borrowers very high interest rates. Sustainable microlenders need to generate capital to support long-term growth without ongoing subsidies, including soft loans. The development of the return on average equity from 2007 to 2018 for nonprofit and for-profit reveal a remarkable finding. Figure 13 indicates that return on equity have been converging for nonprofit and for-profit microlenders. In 2007 for-profit microlenders had a substantially higher return on average equity than non-profits, but in 2018 they share an almost similar return on average equity. The relatively high return achieved by for-profit microlenders for all years despite the financial crisis depicts the microfinance industry's exceptional capability of tolerating economic shocks. Compared to the return on average equity for US banks, for-profit MFIs were far less affected by the financial crisis and have, in the 2007-2018 period achieved a yearly return on average equity at approximately 7-8 percent above US banks (Appendix 7).



Source: Mix database, 2007-2018.

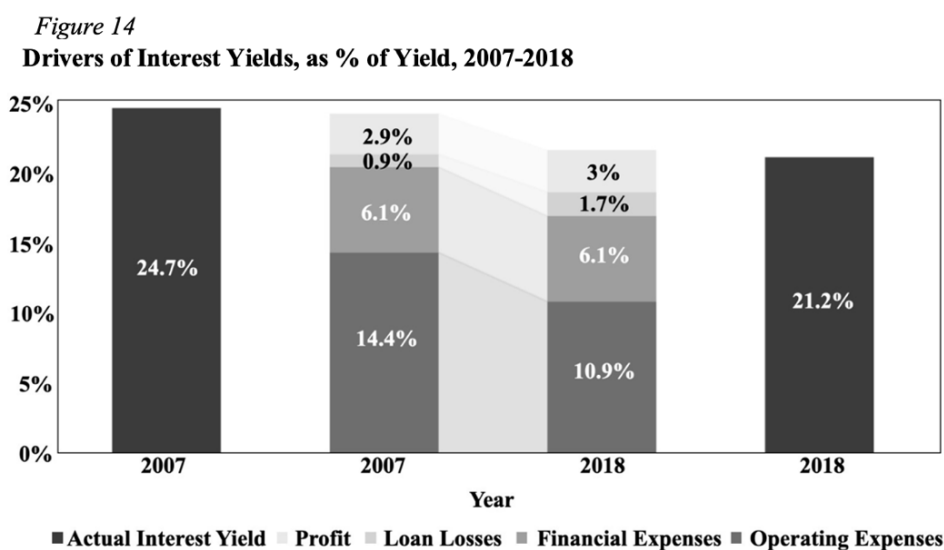
Note: After-tax net profit as % of average shareholders' equity or non-profit net worth, weighted by equity.

It is therefore unsurprising that in the past two decades, international capital markets have become aware of the attractiveness of investing in microfinance. When managed responsibly, microcredit is a profitable, low-risk investment that facilitates financial inclusion. (Swanson 2019).

4.5 Overview and Summary

The analysis of the interest yield's main components reveals their evolution from 2007 to 2018, in a period where commercialization has become more predominant. In figure 14, the drivers of interest yield, as a percentage of yield is showcased. What happened over the period, on average, is that

- Operating expenses declined as microlenders became more efficient
- Financial expenses stayed at par despite microlenders took on more commercial funding
- Loan losses increased due to the significant loan losses in Latin America
- Profits increased slightly, despite that
- Interest yields dropped by 3,5 percentage points over the period.



Note: Actual Interest Yield, Profit, Loan Losses, Operating Expenses as percentage of average GLP, weighted by GLP. Financial Expenses as percentage of average Liabilities, weighted by Gross Liabilities.

5. Conclusion

Microfinance has experienced a structural change towards commercialization in particular since 2007, coinciding with the first MFI becoming publicly traded. Contrary to what was feared by numerous non-profit MFIs and UN-experts, commercialization has not led to higher interest rates for the average poor lender, in fact, interest rates have decreased by 3,5 percentage points from 2007 to 2018, mainly as a result of declining operating costs. The microfinance market is now predominantly constituted of large and more efficient for-profit microlenders that target the high-end clientele, which leaves non-profit microlenders with a more challenging segment of clients to serve. Consequently, for-profit microlenders have been able to reduce their interest rates or were required to due to competition, while non-profit microlenders have had to increase their interest rates to cover costs. The strongest utility of commercialization has been for-profit microlenders' capability to increase client outreach while continuing to become more operationally efficient, which has led to serious improvements in global financial inclusion. Profit, the most controversial dimension of interest rates, does not constitute a significant part of interest rates charged by microlenders, as it only constitutes about 3 percent yearly from 2007 to 2018. Even if microlenders choose to forgo any profit, microcredit interest rates would still be considerably higher than conventional interest rates. This is a consequence of higher costs as microlenders have to pay more for the money they borrow to fund their operations and, despite improvements have much higher operating costs. The high interest rates for the majority of microlenders are thus not due to microlenders profiting from poor people, and it is therefore not fair to critique microlenders for the high interest rates on a global scale. It is important to note that there are certainly those microlenders that charge substantially higher interest rates than the global weighted average of ~ 21,2 percent in 2018. The extrapolation is not that all microlenders that charge interest rates far above the weighted average benefit from the poor by

having high profits or even turn a profit. The data indicates that there are vast regional differences in the interest rates charged by microlenders and no direct correlation between high interest rates and profits. South Asian microlenders, despite having the lowest average loan size, charge considerably lower interest rates than their competitors in other regions and still achieve the highest return on average equity. Therefore, any statements regarding the reasonableness of individual microlenders' interest rates must be made in a regional and client-specific context. In conclusion, the evidence from the empirical analysis suggests that the average microlender operates within seemingly fair levels of interest rates given their associated costs: if the fair level is defined as a level where interest rates yield a relatively low level of profit for microlenders at ~ 3 percent.

6. Future Research

Several important findings have arisen from the empirical analysis that due to the limited size of the paper, have not been examined. The causation of the apparent structural problem regarding loan loss rates in Mexico ought to be analyzed, as it is the most developed and commercialized market. Therefore, it might be a potential indicator of an association of higher loan loss rates with higher degrees of commercialization. Also, it should be examined why cost of funds for microfinance institutions remains at a ~ 6 percent premium to traditional financial institutions, when in fact, the data show that microfinance institutions are more resilient to economic shocks. Finally, future research is required to quantify and assess the factors that have been most crucial in achieving better operational efficiency. This future research could potentially facilitate a benchmark for microcredit practices, that would allow less efficient microlenders to learn from the most efficient microlenders and thus be a catalyst for more financial inclusion.

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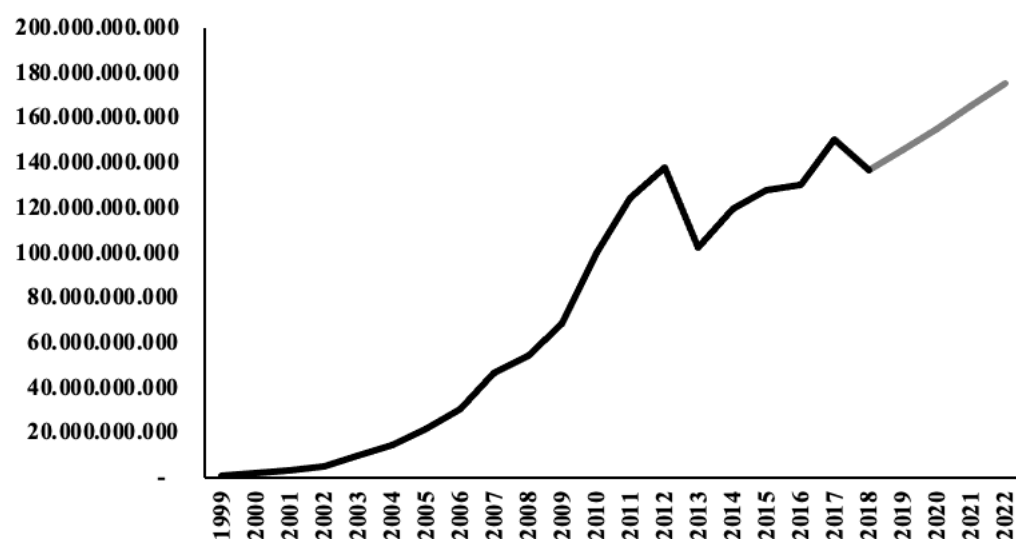
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8. Appendix

Appendix 1 – Expected Assets, 2019-2022

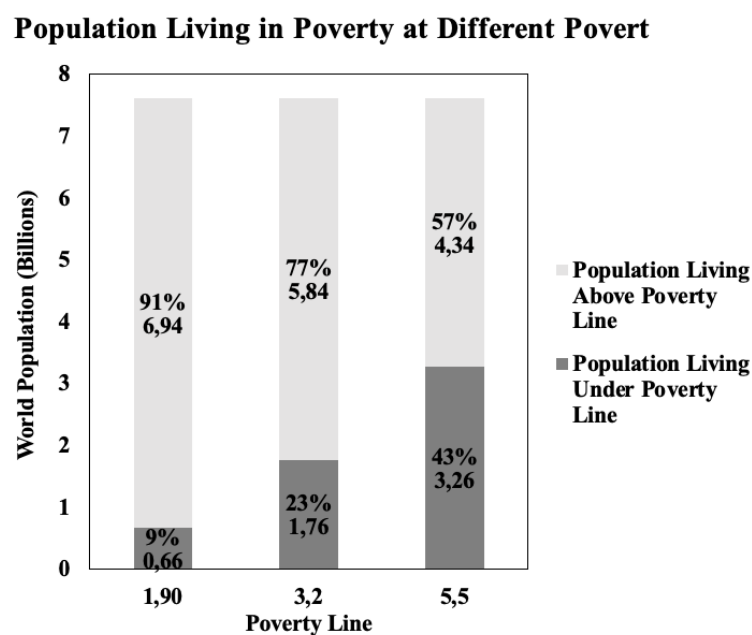
Expected Assets, 2019-2022



Source: Mix Database, 1999-2018

Note: The grey line indicates the expected assets from 2019-2022 and is based on the average growth rate from 2014-2018, yielding an average yearly growth rate of ~ 6 percent.

Appendix 2 – Population Living in Poverty at Different Poverty Lines

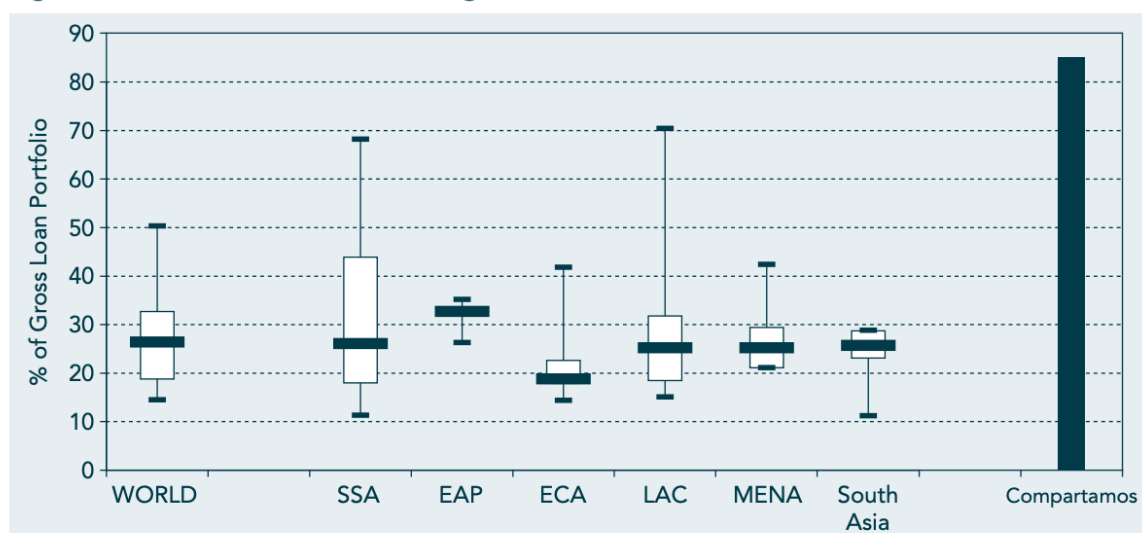


Source: World Bank Development Indicators, 2018

Note: Made by Author

Appendix 3

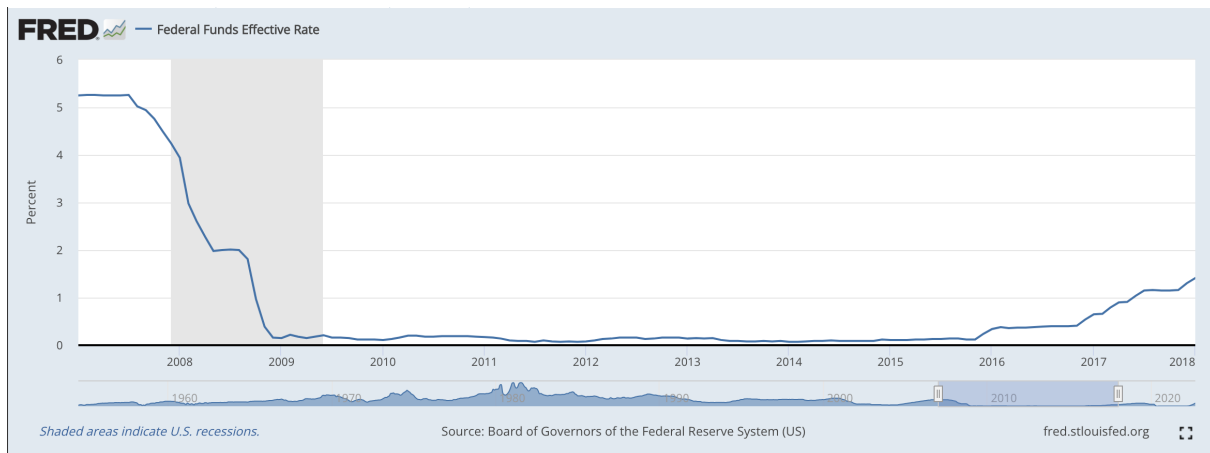
Figure 1: Interest Income as Percentage of Gross Loan Portfolio, 2006



Note: 555 sustainable MFIs reporting to MIX, distribution weighted by gross loan portfolio. The thick horizontal bars represent medians; the top and bottom of the white boxes represent the 75th and 25th percentiles, respectively; and the high and low short bars represent the 95th and 5th percentiles, respectively.

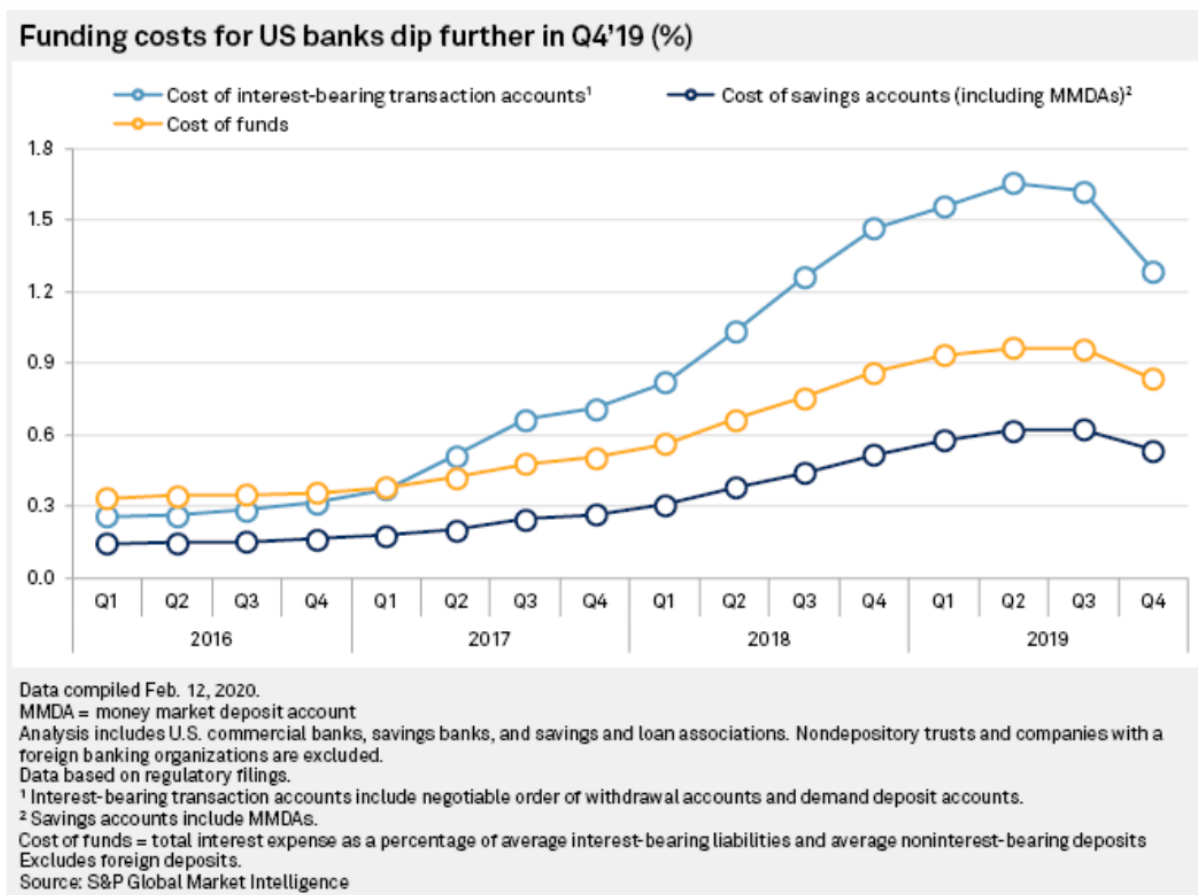
Source: <https://www.cgap.org/sites/default/files/CGAP-Occasional-Paper-The-New-Moneylenders-Are-the-Poor-Being-Exploited-by-High-Microcredit-Interest-Rates-Feb-2009.pdf>

Appendix 4 – Federal Funds Effective Rate (USA), 2007-2018.



Source: <https://fred.stlouisfed.org/series/FEDFUNDS>

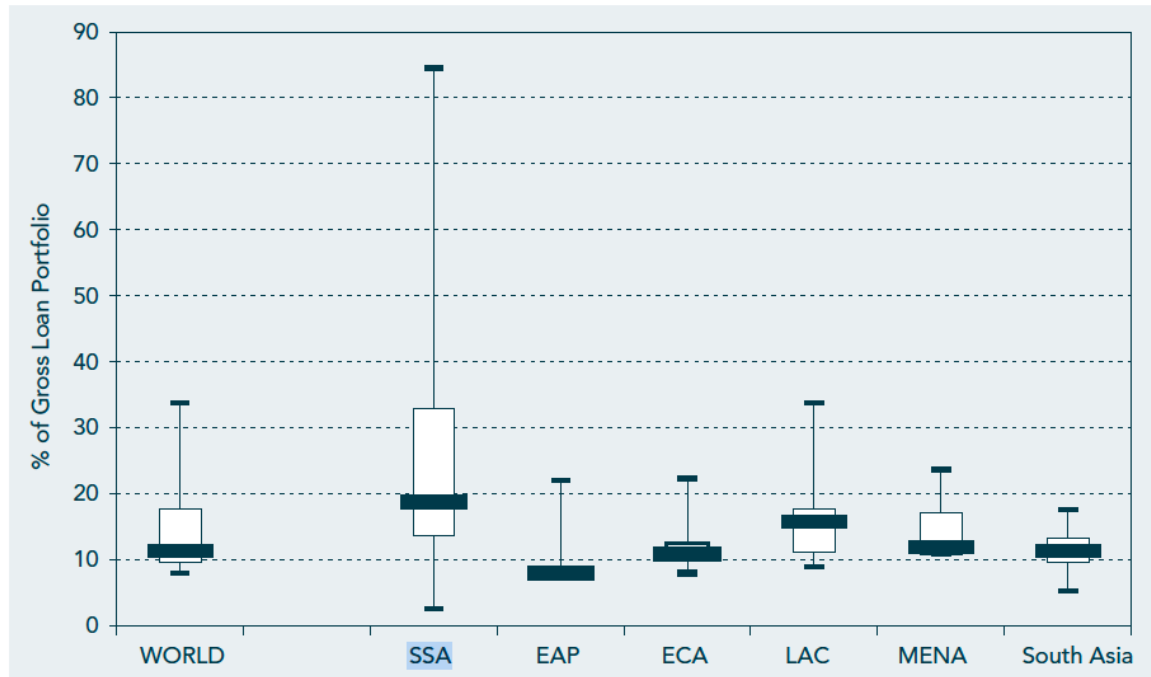
Appendix 5 – Funding Costs for US Banks



Source: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-bank-deposit-costs-plummet-with-some-room-to-run-57124891>

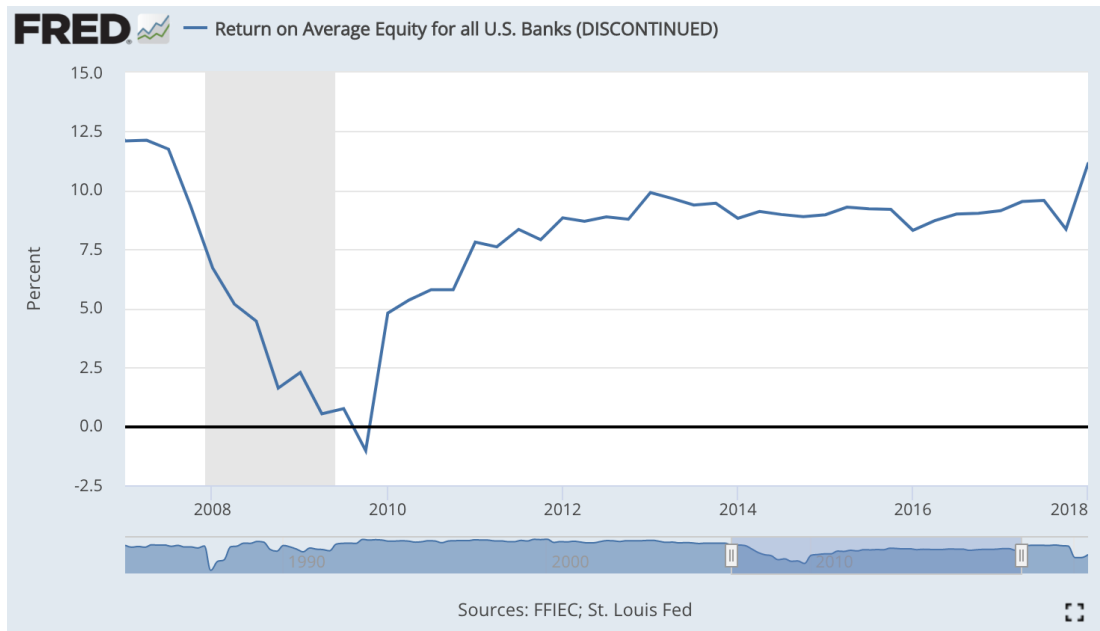
Appendix 6

Figure A-1: Distribution of Operating Expense Ratio, 2006



Note: 555 Sustainable MIX MFIs, weighted by GLP. The thick horizontal bars represent medians; the top and bottom of the white boxes represent the 75th and 25th percentiles, respectively; and the high and low short bars represent the 95th and 5th percentiles, respectively.

Appendix 7 – Return on average equity for all US. Banks



Source: <https://fred.stlouisfed.org/series/USROE>