



Munich Personal RePEc Archive

# **Sustainability, Growth and Impact of MFIs in Africa**

Agbloyor, Elikplimi and Asongu, Simplice and Muriu, Peter

August 2021

Online at <https://mpra.ub.uni-muenchen.de/111752/>  
MPRA Paper No. 111752, posted 29 Jan 2022 18:25 UTC

# A G D I Working Paper

WP/21/083

## **Sustainability, Growth and Impact of MFIs in Africa**

**Elikplimi K. Agbloyor**  
Department of Finance  
University of Ghana Business School  
E-mail: [ekagbloyor@ug.edu.gh](mailto:ekagbloyor@ug.edu.gh)

**Simplice A. Asongu**  
African Governance and Development Institute,  
P.O. Box 8413, Yaoundé  
E-mails: [asongus@afridev.org](mailto:asongus@afridev.org)  
[asongusimplice@yahoo.com](mailto:asongusimplice@yahoo.com)

**Peter Muriu**  
Department of Economics  
University of Nairobi  
E-mail: [pmuriu@gmail.com](mailto:pmuriu@gmail.com)

Research Department

**Sustainability, Growth and Impact of MFIs in Africa****Elikplimi K. Agbloyor, Simplice A. Asongu & Peter Muriu**

August 2021

**Abstract**

This study provides insights into the sustainability of microfinance institutions (MFIs) in Africa with specific emphasis on documented measures of MFI sustainability, stylized facts surrounding the phenomenon, perspectives on the growth of MFIs, determinants of the growth of MFIs and the impact of MFIs.

*Keywords:* Sustainability; Growth; MFIs; Africa

**1. Introduction**

Microfinance refers to the provision of financial services to the poor or those at the bottom of the economic pyramid. These services include savings, loans, remittances, insurance, investment, pensions amongst others. Muhammad Yunus is often credited with pioneering modern microfinance. Yunus who was then working at the University of Chittagong tested a scheme where he was giving small loans to vulnerable people/groups. The scheme proved to be successful and Yunus formed the Grameen (Village) Bank which expanded this scheme across Bangladesh. Muhammad Yunus and Grameen Bank were awarded the Nobel Peace Prize in 1996 for their contribution to the microfinance revolution in the 1970s. In Africa, microfinance has existed for a long while through susu (savings schemes) and Rotating Savings and Credit Associations (ROSCAs) where members save money for a given period and a member of the group receives a loan based on the savings of the group.

Microfinance intrinsically pursues both social and economic objectives. The social objectives (welfarist/poverty lending approach) are aimed at improving the livelihood of the customers and therefore they charge low interest rates whilst the profit motive (institutionalist/capitalist approach/financial systems approach) is aimed at making an economic return that is sufficient to cover operational expenses and to provide a return to the shareholders of the MFI (see Chikalipah and Makina, 2019). It is important to note that MFIs who pursue solely social objectives may not be sustainable in the long run. This is because the income they generate may not be sufficient to cover their expenditure. MFIs such as non-governmental organizations who pursue solely social objectives will have to rely on the benevolence of donors or providers of subsidies to keep operating. Further, the pursuit of financial sustainability may reduce the outreach potential of MFIs (see Cull, Demirguc-Kunt, and Morduch, 2007 and Hermes, Lensink, and Meesters, 2011). Pursuing financial sustainability and charging realistic interest rates to poor borrowers could mean that less borrowers can access microfinance services thus reducing the ability of MFIs to reach many more borrowers. Apart from providing financial services such as loans to their clients, MFIs also provide services such as education and training on business management (examples include working capital management, marketing and bookkeeping), financial literacy, as well as other information such as information on education and health to their clients.

Microfinance is important because without it the poor may not be able to access financial services and live a decent and fulfilling life. One of the biggest contributions of microfinance finance to the development agenda in Africa is its contribution to promoting financial inclusion with its attendant benefits. This is particularly important given the low levels of financial inclusion in Africa. Microfinance allows the poor to educate their children, to take care of the health needs of their family, to take care of the housing needs of their family, to take care of the nutrition needs of their family and to get out of poverty (see Dunford, 2006). Further, microfinance has helped to empower women (see Rai and Ravi, 2011) by giving them access to financial services. In some traditional African settings, women are marginalized and are not able to own assets such as land and other properties. Microfinance allows women to access financial services such as loans thus promoting the economic empowerment of women. Indeed, women tend to be one of the largest recipients of support from MFIs. This is because women have been known to be more faithful borrowers compared to men and they are largely found in the informal where MFIs are more active. In sum, those at the bottom of the economic pyramid may not be able to accumulate assets,

smooth consumption across time, and manage risk without access to the financial services provided by MFIs.

Traditional financial institutions shun the poor because they consider them to be very risky. This is because these people usually operate in the informal sector with irregular income patterns. In addition, a lot of poor people live in rural areas with very low population densities making it expensive and uneconomical for traditional providers of financial services such as banks and insurance companies to reach them. Further, the poor usually have little or no collateral that they can offer to a financial institution as a backstop if they default on their loan. In a way, modern microfinance helps to overcome some of these challenges. MFIs for example usually do not require collateral when they lend to the poor. Further, they are flexible in terms of loan repayment schedules which suit the irregular cash flows patterns of those operating in the informal sector. Unlike traditional financial institutions, they send their officers to their clients or the field to mobilize savings and to collect loan repayments. This provides convenience to their clients as they may not have to leave their workplaces to access financial services.

The advent of mobile money which has become very popular and prominent across the continent has also made it easier for MFIs to connect and interface with their clients. Another key feature of modern microfinance is the concept of group lending. Some MFIs lend to a group. The group members are ultimately liable for the loan. The members of the group may not receive a loan unless a member who has taken a loan has repaid their loan, or the members of the group may borrow jointly and be responsible for servicing the loan. Thus, the members of the group monitor each other and may place social pressure on a member who has taken a loan and is not willing to repay his/her obligations. Thus, group lending serves as a substitute for collateral.

Microfinance is not without its demerits. Some argue that microfinance may make it difficult for the poor to come out of poverty because of the very high rates of interest that they charge due to the high-risk nature of their clientele. Further, MFIs do not lend to the 'poorest of the poor' (see Skully, 2004), since they are unlikely to be able to pay back any loans. Further, the 'poorest of the poor' may find it difficult to join group lending programs (see Marr 2004) as the other members may view them to be risky and thus jeopardize their own chances of receiving credit. In this chapter, we examine some critical areas of the operations of MFIs in

Africa such as the sustainability, their growth and impact. The rest of this chapter is structured as follows; Section 2 examines the sustainability of microfinance institutions in Africa. Section 3 examines the growth of microfinance institutions in Africa. Finally, Section 4 examines the impact of microfinance institutions in Africa. The study concludes with future research directions.

## **2. Sustainability of Microfinance Institutions in Africa**

MFI sustainability refers to the ability of the MFI to survive in the long-term. An MFI is likely to be sustainable when it has low reliance on subsidies; it has a high-quality loan book,

The sustainability of an MFI is important because it is one of the key drivers of the long-term survival of an MFI. The sustainability of an MFI is important for a number of reasons. An MFI that is sustainable can continue to support the financial inclusion and poverty reduction agenda, it can more easily attract funding from private providers of capital because it is profitable and can cover its operational costs, and it can balance the goals of achieving efficiency with reaching as many poor people as possible.

### ***2.1 Measures of MFI Sustainability***

Since MFIs may receive subsidies from donors or governments to support their operations, traditional measures of financial performance such as the return on assets (ROA) and the return on equity (ROE) are unlikely to reflect the true performance of the MFI.

There are a number of measures of MFI sustainability. Yaron and Manos (2007) discuss a number of indicators of MFI sustainability. These include the Subsidy Dependence Index (SDI), Operational Self Sufficiency (OSS), Portfolio at Risk (PaR). We briefly explain how these measures are computed and how to make sense out of them.

#### **Financial Self-Sufficiency (FSS)**

In simple terms, the FSS index measures the ability of the income of the MFI to cover its expenses. An MFI that can continuously use its income to cover its expenditure is said to be financially self-sufficient.

The FSS index is computed as follows;

*FSS*

$$= \frac{\text{Adjusted Financial Revenue}}{\text{Adjusted (Financial Expense + Net Loan Loss Provision Expense + Operating Expense)}}$$

For example, the financial expense should be adjusted to reflect the cost of subsidies. If an MFI receives a subsidized loan, then the difference between a loan at a market interest rate and the loan obtained at the subsidized cost should be added to the financial costs. A similar cost adjustment should be made for other subsidies such as grants and subsidies in kind such as free training for the MFIs staff, MFI staff who work for free and technical advice that is provided at below market rates.

If the FSS ratio is greater than 1, then it implies that the revenues of the MFI are more than enough to cover its expenditure and therefore the MFI is sustainable. On the other hand, if the FSS is less than 1, then it suggests that the revenues of the MFI are not sufficient to cover its expenditure and therefore the MFI is not financially self-sufficient.

The FSS has a number of weaknesses. For example, it does not account for the cost of equity or the opportunity cost of capital. By ignoring the cost of equity, the FSS overstates the self-sufficiency of the MFI. Further, it does not account for the size of equity (equity as a proportion of total assets). All else equal, an MFI with a higher equity base is likely to be less self-sufficient because the opportunity cost of capital will be higher. Another weakness of the FSS methodology is that it does not account for the investment decisions of an MFI. That is, it does not distinguish between MFIs who lend to the poor (small loan amounts), those who lend to relatively wealthy clients and therefore have drifted from the mission (mission drift) of serving the poor and those who invest in financial assets such as treasury instruments and commercial paper.

In terms of the factors that drive FSS, Henock (2019) finds that the MFIs in Ethiopia that have a higher return on assets are more financially sustainable compared to MFIs that have low return on assets. Henock (2019) also finds that MFIs that are operationally more efficient are more financially sustainable compared to those who have low operational efficiency. On the other hand, Henock (2019) finds that MFIs that receive higher donations are less

financially sustainable compared to those who receive less donations. In the case of Ethiopia, Henock (2019) contrary to expectations finds that deposit mobilization is negatively related to the financial sustainability of MFIs. That is MFIs that have a higher deposit mobilization drive are less financially sustainable compared to those who have a lower deposit mobilization drive. Henock (2019) further finds that MFIs who employ a higher level of debt or leverage in their operations are less financially sustainable compared to those who employ lower levels of debt in their operations.

### **Subsidy Dependence Index (SDI)**

The SDI in simple terms compares the subsidy received by an MFI to the income generated on its loan portfolio. It is indicative of how much the return on the MFI's loan portfolio should change for the MFI not to be reliant on subsidies. It also measures the amount of subsidy provided (numerator) for every dollar paid by the clients of the MFI (denominator). The SDI is computed as follows;

$$SDI = \frac{S}{LP * i}$$

Where;

S is the annual subsidy received by an MFI

LP is the average size of the loan portfolio

i is weighted average yield on the loan portfolio.

The annual subsidy can be found as follows;

$$S = A(m - c) + K + [(E * m) - P]$$

Where;

A is the average size of concessionary funds received by an MFI

m is the market cost assuming these funds were obtained in the market or on an arms-length basis. Further, m also includes the administrative cost of mobilizing and servicing savings accounts. This cost can tend to be high for MFIs compared to commercial banks because less well to do borrowers are likely to save lower amounts and withdraw more frequently.



When an MFI is exempted from holding reserve requirements,  $m$  is calculated as;

$$m = \frac{\text{Interest rate on savings} + \text{Administrative cost of maintaining savings accounts}}{100 - \text{Reserve Requirement}}$$

Consequently, the effect of the reserve requirement is to reduce the denominator, and increase  $m$ . An increase in  $m$ , leads to an increase in the SDI or subsidy dependence of the MFI. This is because the exemption from holding reserve requirements is like a savings or subsidy to the MFI.

$c$  is the average annual cost of the concessionary funds received by the MFI

$K$  is the average annual size of the other subsidies (such as grants and subsidies in kind) received by the MFI

$E$  is the average annual equity

$P$  is the annual profit before tax adjusted for items such as loan loss provisions and inflation.

Thus, the annual subsidy received by an MFI is broken down into three components. The first component is the interest cost savings that the MFI obtains because it borrows at below market interest rates. In essence, the receipt of below market cost loans is a form of support to the MFI. The second component of the annual subsidy is in the form of cash or non-cash support that the MFI receives from donors. This includes cash grants or donations and support in kind such as free technical training for its employees. The final component measures by how much the cost attributed to equity ( $E * m$ ) compares to the annual profits of an MFI. If the cost of equity exceeds the profits of an MFI, then there is an implicit subsidy. Thus, the SDI accounts for the opportunity cost of capital. In addition, the SDI accounts for other subsidies such as exemptions from reserve requirement ratios through the opportunity cost of capital.

In plain language therefore, the SDI can be written as;

*Annual Subsidy Received by an MFI*  
*Average Return on the MFI's Loan Portfolio*

An SDI of zero or a negative SDI suggests that the MFI is self-sufficient. On the other hand, a positive SDI suggests that an MFI is not self-sufficient or is subsidy reliant.

Unlike the FSS where there is no distinction between income generated on loans (the core mission of an MFI) and income generated from investments in securities, the SDI focuses on income generated from the loan portfolio of an MFI and therefore better reflects how an MFI follows its core mission of lending to the poor assuming loan sizes are not too large and the MFI does not drift to lending to wealthy clients. Further, the SDI accounts for the cost of equity and other subsidies such as reserve requirements whilst the FSS does not. Finally, the SDI accounts for the administrative cost of servicing small savings accounts through m (which accounts for the market cost of borrowing and administrative cost of servicing savings accounts) which is applied to the concessionary loans obtained by the MFI and the equity of the MFI. Thus, by accounting for the administrative cost of servicing small savings accounts, it accounts for the MFIs decision to substitute between concessionary borrowings and raising voluntary savings as its source of funding.

**Outreach Indicators (OI)**

These indicators focus on how well the MFI is meeting the main objectives for which it was set-up, which is to provide financial services to the poor and marginalized/under-privileged in society. Some of these indicators include the number of clients that the MFI has provided deposit and lending services, the proportion of women who have received financial services, the proportion of rural dwellers who have received financial services, and the average size of loans provided to borrowers. Donors and governments for example would like to see MFIs reach more clients, lend to more female borrowers, lend to more rural dwellers and provide low sized loans (indicative of lending to less well to do borrowers). Consequently, the OI indicators focus on the outputs or “raison d’être” of the MFI.

In terms of the breadth of outreach measured by the number of active borrowers, Tchakoute-Tchuigoua and Soumaré (2019) find that when loan decisions are decentralized or when loan

officers have authority to make loans, it increases the outreach of an MFI. In addition, they find that governance effectiveness and strong internal control systems spur the outreach potential of an MFI. Their results also show that the individual lending methodology compared to the group lending methodology leads to better MFI outreach. These results generally apply to both profit and non-profit MFIs. Barry and Tacneng (2014) show that Non-Governmental Organizations (NGOs) perform better than other types of MFIs such as banks, cooperatives and non-bank financial institutions in terms of social performing (that is lending to women, and the number of borrowers).

In Box .1, we provide an example of the computation of the FSS and the SDI. We use a hypothetical MFI that we call Save our Souls Microfinance. The Box presents the financial statements and indicates the key assumptions that we make. It also presents our model solutions in the Box. Assume that the figures are in US dollars.

### Box 1: Computation of FSS and SDI

#### Example on FSS and SDI

We will use a hypothetical MFI to compute the values of the FSS and SDI. Let's assume that the MFI is called Save our Souls MFI Ltd. We present its hypothetical balance sheet/statement of financial position as well as its income statement.

#### Hypothetical Balance Sheet of Save our Souls Microfinance

	Assets		Liability and Equity
Cash	5,000,000.00	Deposits	5,000,000.00
Short-term Securities	2,500,000.00	Savings	15,000,000.00
Loans	40,000,000.00	Concessionary Borrowed Funds	25,000,000.00
Fixed Assets	5,000,000.00	Equity	5,000,000.00
	50,000,000.00		50,000,000.00

#### Hypothetical Income Statement of Save our Souls Microfinance

Income Statement		
Interest on loans	14,000,000.00	
Interest on securities	450,000.00	

Interest income		14,450,000.00	
Interest paid on savings	1,800,000.00		
Interest paid on concessionary funds	1,250,000.00		
Interest cost		3,050,000.00	
Gross profit		11,400,000.00	
Operational Cost		10,000,000.00	
Profit before tax		1,400,000.00	

**A summary of the key assumptions are given below**

The interest rate on the loan portfolio is 30%.

The interest rate earned on securities is 18%.

The interest rate on demand deposits is 0%.

The interest rate on savings accounts is 10%.

The reserve requirement is 10%.

The administrative and servicing costs on savings accounts is 4% of savings.

The interest rate paid on concessionary borrowed funds is 5%.

Operational cost is 20% of assets.

Inflation is assumed to be 0%.

No provisions are made for loan losses.

Other subsidies is assumed to be \$1,200,000.

**Computation of FSS**

$$FSS = \frac{\text{Adjusted Financial Revenue}}{\text{Adjusted (Financial Expense + Net Loan Loss Provision Expense + Operating Expense)}}$$

<b>FSS</b>	<b>Amounts</b>
Adjusted revenue	14,450,000.00
Financial expense	2,750,000.00
Operating expenses	10,000,000.00
Cost of concessary borrowings (10%-5%)*25,000,000	1,250,000.00
Denominator (Sum of expenses)	14,000,000.00
FSS	1.03

The FSS ratio of 1.03 or 103% suggests that Save Our Souls is financially sustainable as its revenue of \$14,450,000 exceeds its cost of \$14,000,000.

**Computation of SDI**

<b>Computation of SDI</b>	<b>Figures</b>
Concessionary borrowed funds	25,000,000.00
Market interest rate on savings accounts	0.10
Administrative cost on savings accounts	0.04

Reserve requirements	0.10
Market interest rate on savings accounts and administrative cost (10%+4%)/(100%-10%)	0.16
Interest on concessionary borrowed funds	0.05
Subsidized cost of borrowing (16%-5%)	0.11
<b>Subsidy on borrowed funds (25,000,000* 11%)</b>	<b>2,638,888.89</b>
Equity	5,000,000.00
Market interest rate on savings accounts and administrative cost (10%+4%)/(100%-10%)	0.16
<b>Imputed cost of equity (5,000,000 * 16%)</b>	<b>777,777.78</b>
<b>Other subsidy</b>	<b>1,200,000.00</b>
<b>Total subsidy (2,638,889+777,778+1,200,000)</b>	<b>4,616,666.67</b>
<b>Profit before tax</b>	<b>1,700,000.00</b>
<b>Net subsidy (4,616,667 - 1,700,000)</b>	<b>2,916,666.67</b>
Loan Portfolio	40,000,000.00
Average on-lending interest rate on loan portfolio	0.35
<b>Interest income on loan portfolio (0.35 * 40,000,000)</b>	<b>14,000,000.00</b>
<b>SDI</b>	<b>0.21</b>

The SDI of 21% implies that average yields on Save of Soul's loan portfolio have to increase by 21%. Thus, the yields need to increase from 35% to 42.35% ( $35\% \times 1.21$ ). The SDI also shows that for every dollar paid by the clients of the MFI (denominator or interest income earned), \$0.175 was provided by donors (subsidy or numerator).

Consequently, the SDI shows that SOS is not self-sustainable.

Our computation highlights the potential conflicts between the FSS and the SDI. Whilst the FSS shows that the SDI is self-sufficient, there SDI indicates otherwise.

### **Portfolio at Risk (PaR)**

The portfolio at risk (PaR) examines the proportion of an MFI's portfolio that is overdue and is at risk of going bad. In particular, it relates the principal on overdue loans to the total principal of all loans outstanding in the MFI's loan book. Mathematically, the PaR is defined as follows;

$$\text{Portfolio at Risk} = \frac{\text{Total Principal on Overdue Loans}}{\text{Total Principal of Outstanding Loans}}$$

The PaR may be computed for all the principal on overdue loans for all time periods or maturities, for more than 30 days, for more than 90 days, for more than 180 days or for any time periods specified by the decision maker. The PaR is indicative of the quality of the loan book of an MFI. A higher PaR suggests that an MFI has a higher exposure to credit risk.

Consequently, MFIs with higher PaRs are less financially sustainable compared to those with lower PaRs. It is futuristic in nature because it tells us the amounts that are at risk and not just the principal that is overdue or remains unpaid.

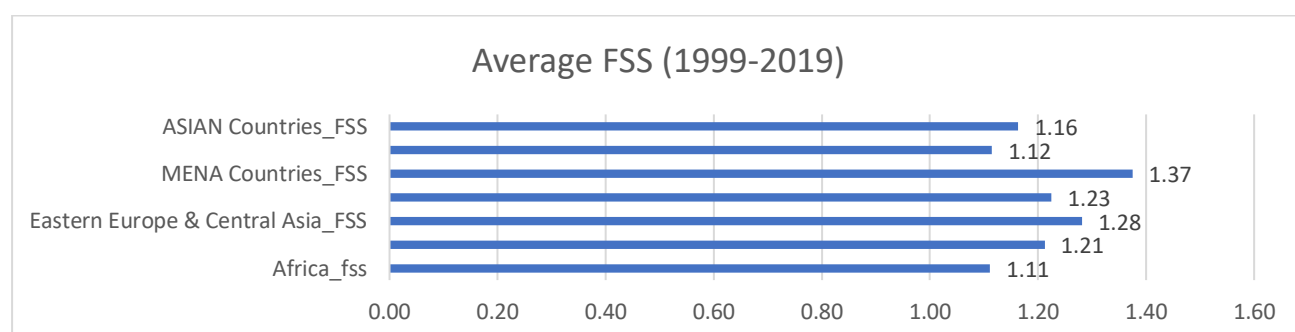
Tchakoute-Tchuigoua and Soumaré (2019) find that more profitable MFIs have a lower PaR compared to less profitable MFIs. Tchakoute-Tchuigoua Soumaré (2019) find that when loan decisions are decentralized or when loan officers have authority to make loans, it reduces the credit risk or PaR of an MFI. This is because loan officers are able to collect a lot of information on borrowers and consequently reduce information asymmetries between the borrower and the MFI. Their findings further show that MFIs with effective internal controls and governance mechanisms have lower exposure to credit risk (that is lower PaRs). These results, however, were applicable to non-profit MFIs as opposed to profit MFIs. Individual lending was found to increase credit risk across both profit and non-profit MFIs.

## 2.2 Stylized Facts on MFI Sustainability in Africa

### 2.2.1 Financial Self-Sufficiency

Figure 1 shows that MFIs across the world are generally financially self-sufficient. This is because the FSS index exceeds 1 meaning that revenue more than covers adjusted expenditure. MFIs in the MENA region have the highest financial self-sufficiency whilst those in Africa have the lowest financial self-sufficiency.

**Figure 1: Average Financial Self Sufficiency of MFIs across the World**



**NB:** The data was obtained from MFI MIX.

### 2.2.2 Subsidy Dependence Index

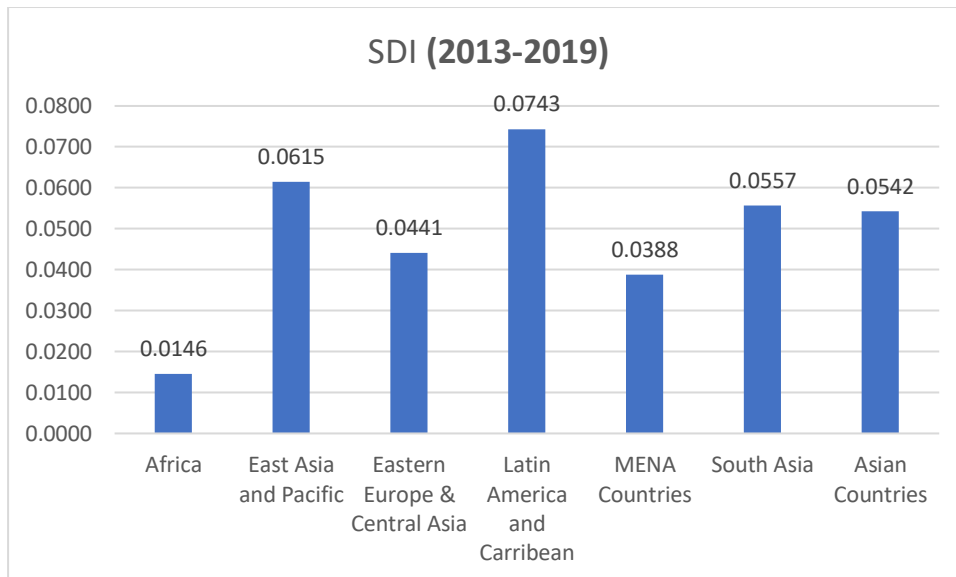
We computed the SDI measure manually as this was not available in the MFI MIX dataset. The SDI was computed as follows;

$$SDI = \frac{S}{LP * i}$$

where  $S = K + [(E * m) - P]$

The computation does not include concessionary loans as well as the cost of concessionary loans as this data was not available from the data. Interestingly, as apparent in Figure 2, we find that the Latin American and Caribbean region is the most reliant on subsidies whilst the African region is the least reliant on subsidies. In the Latin American and Caribbean region, the average yield on loans has to increase by about 7.43% for MFIs in this region to exit subsidy dependence. On the other hand, the average yield on loan portfolios in the African region has to increase by about 1.5% for MFIs in this region to exit subsidy dependence.

**Figure 2: Average Subsidy Dependence Index of MFIs across the World**

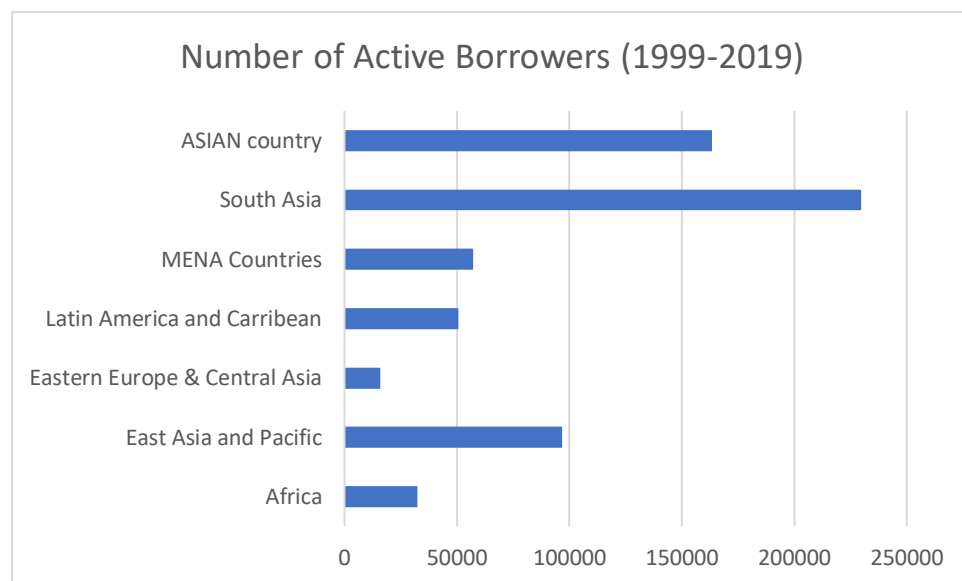


**NB:** The index was computed manually by the authors based on data from MFI MIX. We measured donations as K, equity as E, average loan portfolio as LP, nominal yield on the gross loan portfolio as i, net income before taxes and donations as P and interest expense on deposits/deposits as m.

### 2.3 Number of Active Borrowers

Figure 3 shows that the number of active borrowers varies widely across the globe. South Asia has the highest number of active borrowers whilst Eastern Europe and Central Asia have the lowest number of active borrowers. The average number of active borrowers for Africa for the period was about 32,000.

**Figure 3: Number of MFI Active Borrowers across the World**



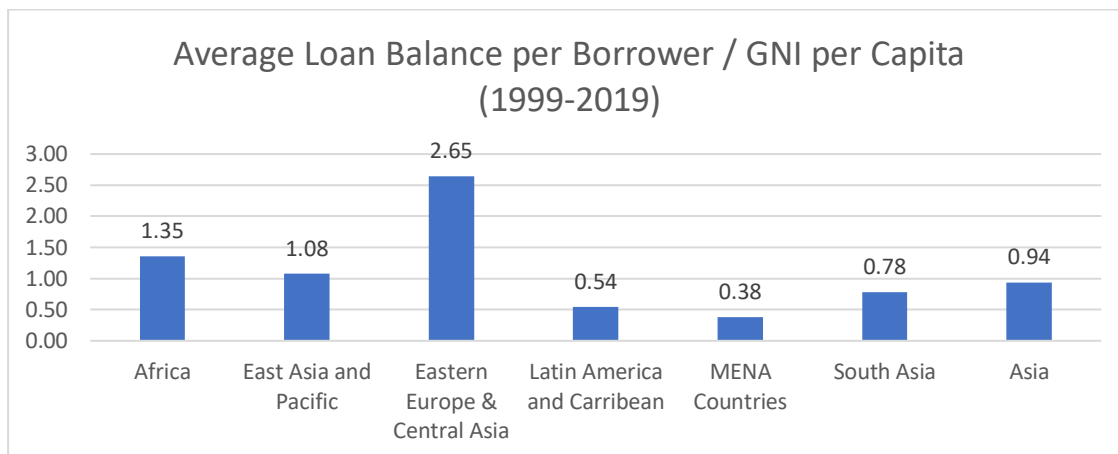
**NB:** The data was obtained from MFI MIX.

### 2.4 Average Loan Balance Per Borrower/GNI Per Capita

In terms of the average loan balance scaled by GNI, in Figure 4, we see wide variations across the world. Eastern Europe and Central Asia have the largest balance whilst countries in the MENA region have the lowest balance. Lower balances are preferable here because it suggests that the MFI is lending to the poor and has drifted from its mission. Thus, microfinance tends to stick to its core mandate in the MENA regions and less so in Eastern Europe and Central Asia. Comparatively, there is some evidence of ‘mission drift’ in Africa with Africa having the second largest scaled average loan balance. This is unfortunate as Africa has one of the lowest levels of welfare globally.



**Figure 4: Average Loan Balance Per Borrower/GNI Per Capita Across the World**

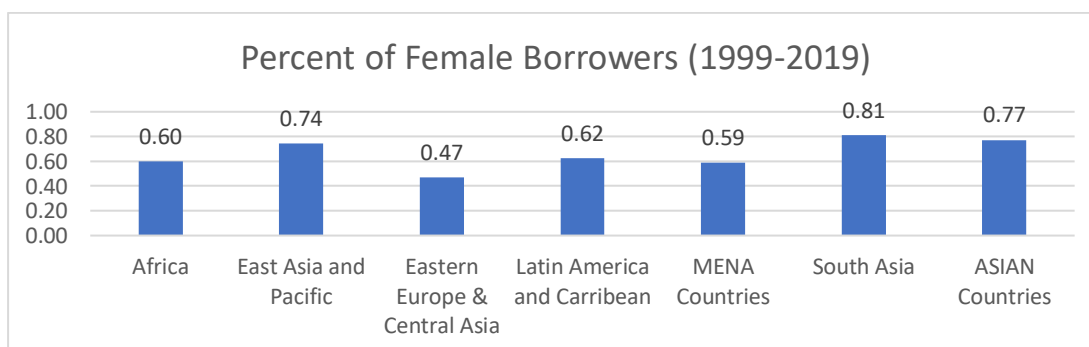


**NB:** The data was obtained from MFI MIX.

## 2.5 Percentage of Female Borrowers

One of the key indicators of MFI outreach and social performance is the percentage of loans granted to female borrowers (see for example Hermes, Lensink, and Meesters, 2011). Well performing MFIs in this area lend more to females since they tend to be poorer, marginalized and less financially included (Demirgüç-Kunt, Klapper, Singer, Ansar, and Hess, 2020). As apparent in Figure 5, South Asia had the highest percentage of lending to female borrowers whilst Eastern Europe and Central Asia had the lowest. Africa fares well with lending by MFIs to female being about 60%.

**Figure 5: Percentage of MFI Female Borrowers Across the World**

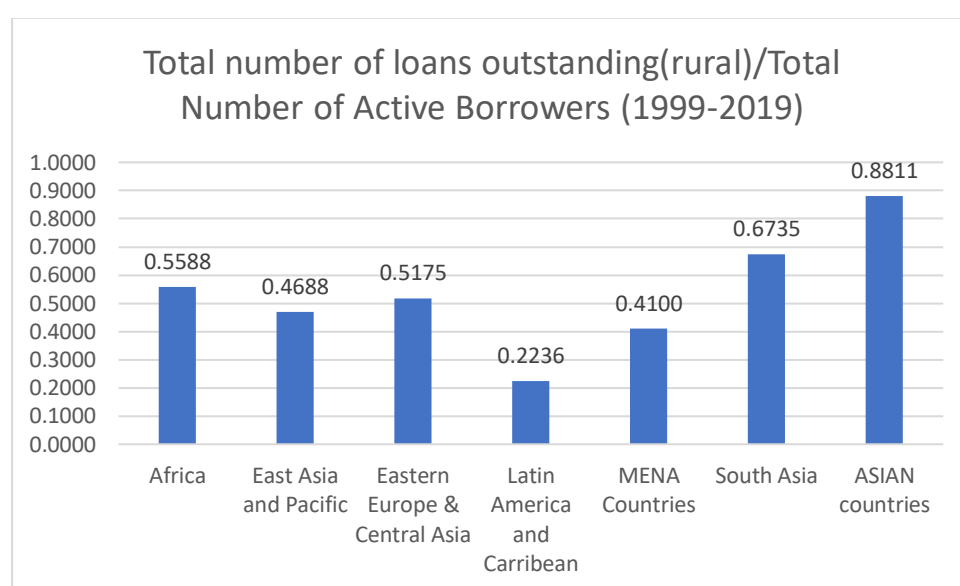


**NB:** The data was obtained from MFI MIX.

## 2.6 Percentage of Rural Borrowers

The core mission of microfinance is to lend to the poor. Typically, the poor are usually located in rural areas compared to urban areas. Consequently, an MFI that lends more to rural folks is doing better in terms of its social performance. In Figure 6, Asian countries have the highest lending to rural folks whilst the Latin American and Caribbean region has the lowest lending to rural areas. Africa performs well (ranked 3<sup>rd</sup>) in terms of the percentage of loans that goes to rural borrowers.

**Figure 6: Percentage of MFI Rural Borrowers Across the World**

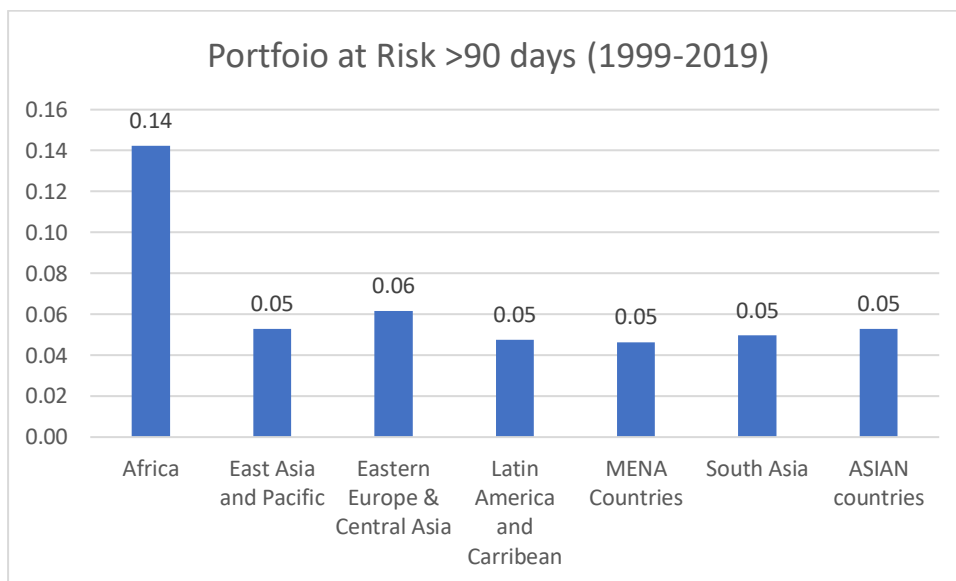


**NB:** The data was obtained from MFI MIX.

## 2.7 Portfolio at Risk

As shown in Figure 7, the quality of MFI loan books in terms of the principal on loans overdue is largely similar across regions with the exception of Africa which had a PaR of about 14%. This suggests that the quality of MFI loan portfolios in Africa is poor and the worst in the world.

**Figure 7: Portfolio at Risk (> 90 Days) Across the World**



**NB:** The data was obtained from MFI MIX.

### 3. Growth of MFIs in Africa

Nations in Africa and international governments have been so concerned about the state of development and poverty which exist in Africa especially in the light of the growing population in the continent (Helms, 2006; Asongu and le Roux, 2017; Tchamyou, 2019; Human, 2021). Rallying aid therefore to target respective points of intervention and channels of delivering the attendant aid to the African population has been done for some years now through microfinance institutions (MFIs) such as developmental, agricultural and industrial banking communities.

These MFIs are therefore financial establishments which provide deposit services to customers and other bank-related services such as insurance, custody and asset servicing (Wyoming Division of Banking, 2021; Nwachukwu, Aziz, Tony-Okeke and Asongu, 2018) and by playing a vital role of being lenders to small and medium size enterprises, they vitalize the private sector and assist governments in community developments. They are basically characterized in mobilizing informal capital and helping their customers in times of crisis and economic instability.

### **3.1 The Growth of MFIs in Africa**

In Africa therefore, the existence of these institutions is quite felt even though the area is shallow in financial advancement (Helms, 2006; Soumaré, Tchana and Kengne, 2016). According to the narrative, over the years, beginning from the early 1970s, these institutions have in one way or the other registered a level of growth in most African countries predominantly under the cover of informal business credits and funding formal small enterprises. Inclusive financial services in the African continent are growing substantially. To put this favorable tendency into perspective, between the year 2000 and 2011, accordingly to a Microfinance Information Exchange (MIX) report, MFIs increased from 58 to 397 across the continent. Between 2003 and 2009, borrowers in MFIs in Africa increased from \$1.6 million to \$8.5 million and from 2000 to 2014, the gross loan portfolio grew about 10 times, reaching \$6 billion (Fixler, 2015). For economies having small financial sectors, these alternative means of funding are relevant in driving economic growth and inclusive development.

The COVID-19 pandemic has affected the performance of MFIs contingent on some dynamics. For instance, according to Zheng and Zhang (2021), the COVID-19 pandemic has led to a reduction of economic activities on a plethora of fronts. However, the corresponding impact of MFIs on targeted outcomes is contingent on such targeted outcomes. As a case in point, Zheng and Zhang (2021) establish that the pandemic-induced effects have decreased the financial efficiency of MFIs while increasing the social efficiency of the corresponding MFIs in the light of their enhanced relevance during the pandemic. The FGCA (2021) provides another perspective of the impact of the COVID-19 crises on MFIs. According to the narrative, from a survey of over 100 MFIs in four continents (i.e. Europe, Asia, South America and Africa), the pronounced resilience has been apparent in the sector, especially as it pertains the adaptability of MFIs which played an essential role in hedging the risk of clients being negatively affected on the one hand, and on the other, of institutions being unsustainable.

Microfinance institutions have played an important role from the onset in reaching out to the poor population through provision of basic saving accounts, business loans and capital (especially to the female population), educational loans and offers of classes on financial management to their clients (Nwachukwu et al., 2018). Operations of microfinance have

existed from as far back as the 18<sup>th</sup> century. These operations become more apparent in the 1970s as more institutions and microlending services saw the light of day in Africa and across the world (Mia, 2016; Mia, Lee, Chandran, Rasiah and Rahman, 2019).

Microfinance services have grown in large scale in Africa as their target is in handling and responding to the very poor and financially deprived individuals who do not have the means of providing collateral security and or a good financial history record..

### **3.2 The Drivers of MFIs' Growth in Africa**

Danga and Yusuph (2019) have recently documented the following drivers of the growth of MFIs. They have established that the growth of MFIs have been influenced by the following factors: (i) capacity in managing loans and finances; (ii) adherence to financial guidelines and policies; (iii) appropriate staff training and competent personnel; (iv) robust follow-up on loans; (v) less corruption; (vi) possibility of business training for members and (vii) the capacity of MFIs stakeholders.

Beyond the above reasons that are directly related to MFI, there are other broader and/or indirect factors worth disclosing. MFIs have spread across the world and in Africa for several reasons. In Africa, one of the major drivers of their growth is the persistence of poverty that plagues the continent more than any other region in the world. These institutions are of relevance to the poor and financially-excluded individuals especially women, who are usually limited to doing petit jobs in order to increase their families' standard of living (Helms, 2006; Mersland, 2009; Hardy and Dexter-Briggs, 2021). The attendant institutions have therefore been ignited in Africa mainly due to the backwardness and economic fragility of the region and hence, the need to assist the very poor people out of poverty and by extension, the overall economic development of the continent.

Another crucial driving point for the existence of these MFIs is the continuous drop and or fluctuation of agricultural products in the international market. The plight of farmers in Africa and the high dependence of a greater part of the African population on the agricultural sector has been a call for concern since agricultural growth can reduce poverty rates more effectively (Christiaensen, Demery and Kuhl, 2011; Ruiz, 2014). Some of these MFIs have therefore been established through the drop in prices of agricultural products both at the regional and international levels. Some of these institutions that are created in response to

agricultural development, are also designed to enable farmers get agricultural loans, purchase agricultural inputs at cheaper rates, save money as well as intermediate between the buyers and farmers to hedge against the exploitation of farmers and unfavorable market price disequilibrium.

The need for new areas to occupy and the desire to undertake risk ventures for eventual yields equally accounts for the establishment of some of these institutions in Africa. Given the fact that Africa is one of the regions in the world where financial development is still at its infant stage, the desire of businessmen to leverage on potential profit-making opportunities (Lekeet al., 2019) is equally a driving force for the continuous development of these institutions in several African countries. Accordingly, MFIs can invest in areas where the traditional banks find too risky owing to inter alia, information asymmetry. This formal banking approach to lending is different from some MFIs which also depend on trust and local knowledge of operations to be funded.

Africa is a region with a greater proportion of its population being financially- excluded (African Development Bank, 2013; Soumaré et al., 2016). Given the recent improvements in digitalization of almost all activities and sectors across the world, African countries cannot be left out. The need to initiate the African population into the use of these technological and digitalization improvements in carrying out international purchases and payments, has brought about the creation of these MFIs, some of which educate on the benefits of being financially-included: being actively involved in owning and using financial accounts at the national and international spheres.

The need for foreign aid to reach African governments has equally been a driving force of the growth of these MFIs. In times of economic shocks like the present COVID-19 pandemic, the flow of official development aid from abroad often comes through such specialized agencies to aid the attendant governments combat the dire effects of crises. These institutions' ability to pool capital from abroad has been a continuous reason for their existence and persistence (Hardy and Dexter-Briggs, 2021).

In the light of the above, the existence of these MFIs in Africa cannot be ignored because of the role they play in addressing some financing and investment needs that are imperative for socio-economic development. Exclusive growth in most African countries has also

motivated the establishment of these institutions which are designed to, *inter alia*, fight poverty and lack of basic infrastructure.

#### **4. The Impact of MFIs in Africa**

Theory suggests that microfinance outcomes are sensitive to geographic location where group-cohesion, financial literacy, enterprise development and MFIs all vary (Armendáriz 2010). Microfinance initiatives in Africa remain a difficult business. While MFIs operating in other continents have consistently reported positive financial outcomes, those in Africa post negative profits<sup>1</sup>perhaps due to the high operating costs (Muriu 2012). For MFIs to have a sustainable impact on financial and non-financial outcomes, they must be financially viable so that they can use financial leverage to upscale outreach (Muriu, 2016). This is what Morduch, (1999) refers to as the microfinance promise.

Although development aid in Africa is proportionately large (Honohan, 2008), impact assessment of MFIs operations remains very low. By pointing to the billions of dollars that MFIs advance to the poor, proponents of microfinance argue that microcredit fuels economic growth. Much of the existing literature is anecdotal evidence and has dwelt more on the improvement of microfinance industry, rather than uncovering the impact (Muriu, Murinde & Mullineux 2017). On the contrary, critics contend that the most vulnerable people are unable to take on the risks of entrepreneurship. Because of proliferation of MFIs in Africa and the attention the industry has received from private investors, policymakers and donors over the last three decades, existing impact assessment should be re-examined. The robustness of evidence that MFIs reduces poverty should be scrutinized. Thus, we visit the evidence of MFIs impact assessments focusing on Africa to test the claims for its successes by considering high quality studies with methodological rigor.

The overarching question is whether MFIs have made a contribution towards improving the livelihoods of the poor in Africa. But why focus on Africa? Globally, Africa is the poorest region and therefore has attracted proportionally large development aid<sup>2</sup>. Africa remains under developed in terms of access to finance<sup>3</sup>. In the pre-global financial crisis period, private credit/GDP was only 17% while the average for other developing countries ranged

---

<sup>1</sup> <https://datacatalog.worldbank.org/dataset/mix-market>

<sup>2</sup>United Nations, (2020). Sustainable Development Goals Report 2020, Available from: <https://unstats.un.org/sdgs/report/2020/>

<sup>3</sup> Financial Access Survey, IMF (2020)

from 32% to 43%. Moreover, stock markets are highly underdeveloped<sup>4</sup>. A characteristic of the banking system in Africa is that majority of the banks invest in government securities, primarily treasury bills. Access to credit by households and small businesses thus remains a challenge. To bridge this financing gap, private investors are therefore targeting their investment in a wide range of microfinance programs.

A vast majority of microfinance impact assessments suffer from inadequate data and weak methodologies which adversely affects the reliability of estimated outcomes (Muriu, 2020). Previous studies have either overlooked or are unable to resolve these challenges which have increasingly put microfinance industry under scrutiny. While some studies contend that a research design with intervention and control groups is sufficient to establish causality, this may not necessarily hold. Given such hurdles to overcome, the evidence generated by most studies is contestable.

A growing literature comprising of quality impact assessment have raised questions regarding the ability of MFIs to reduce poverty among households (Banerjee et al. 2015; Attanasio et al 2015; Augsburg, et al 2015; Angelucci et al. 2015; Roodman and Morduch 2014). Previous reviews of evidence on targeted groups, specific regions or outcomes have ignored several factors that may influence the role of microfinance. The delivery mechanisms, duration of loan contracts, the size of loans, repayment schedules, types of financial products and the supplementary services offered can yield different impacts (Buera et al 2020; Maitrot and Niño-Zarazúa 2017; Vaessen et al. 2014; Awaworyi 2014; Rooyen, et al 2012; Duvendack et al. 2011). Our point of departure is Rooyen, et al (2012) who reviewed the existing evidence of the impacts of MFIs in Sub Sahara Africa. The authors reveal that microfinance has a positive as well as negative impact on the poor but with a caveat; that there is no sufficient data from the available relevant evidence. They are therefore unable to conclude which microfinance models work best for Africa.

In Ethiopia the evidence remains inconclusive. Using randomized controlled trial (RCT) on 6,284 rural households, Tarozzi et al. (2015) investigated the impact of two MFIs; Amhara Credit and Savings Institute and Oromiya Credit and Savings Company on households and small businesses. They did not find any significant impact on income, self-employment

---

<sup>4</sup> <https://databank.worldbank.org/source/world-development-indicators>



activities and health-related expenditures. On the contrary, using Fixed Effects estimators to evaluate the impact of the Debit Credit and Saving MFI, Berhane and Gardebroek (2011) found positive and significant effect on income and per capita consumption. This finding is consistent with Doocy et al., (2005) who shows that microfinance enhances food security and nutrition. These two studies however fail to control for endogeneity.

Along the same vein and using RCT on 5,551 rural households in Morocco, Crépon et al. (2015) examined the impact of Al Amana MFI on individual and group lending mechanism. Their estimation results found no significant impact on average household consumption since a rise in business profits was offset by a decline in employment income. On the contrary, using a quasi-experimental approach on 500 women who were dependent on agro-processing businesses in the upper east region of Ghana, Annim and Alnaa (2013) found that microfinance boosted household consumption by 40%. For the case of Mali and using Propensity Score Matching estimators, Koloma and Alia (2014) found that microfinance impacted positively on poverty reduction but which was more pronounced among women.

In rural Kenya, Dupas & Robinson (2013) randomized access to noninterest-bearing bank accounts among female market vendors and male bicycle taxi drivers. Although they found no significant impact on business incomes, they nevertheless established that women managed to save more which boosted their investments and consumption expenditures. Overall the evidence shows that microfinance enhanced accumulation of assets, consumption expenditure, health insurance, and increased food quality particularly on women. Although Ashraf et al., (2009) established that microfinance boosted income from export crops, this was not due to the microfinance intervention.

In Egypt and while using a sample of 47,095 borrowers and Propensity Score Matching estimators to evaluate the impact of the Social Fund for Development, Abou-Ali et al. (2010) found that microfinance enhanced consumption expenditure and income levels in urban areas relative to rural areas. For the case of South Africa, and using RCT, Kim et al. (2009) carried out impact assessment of the Small Enterprise Foundation and found that microfinance boosted borrowers' ability to finance consumption expenditure compared to a control group. The IMAGE trial however fails to control for village effect and is therefore considered not a "randomized" trial. A key attribute of MFIs has been the focus on women. This is based on the premise that relative to men, they report better financial and non-financial outcomes and

their involvement in microfinance programs leads to more development outcomes. On this attribute, Kim et al., (2009) found no significant impact.

An interesting finding is that of Shimamura & Lastarria-Cornhiel (2009) who shows that in Malawi microfinance reduces primary school attendance among the clients' children. Among young boys, microcredit accelerates the repetition of primary school grades and lack of enrolment for young girls. For the case of Rwanda, Lacalle et al., (2008) established that enrolment into the Red Cross credit program and Village Savings and Credit Association enhances meal quality. These two studies never the less fail to control for endogeneity.

In this section we provided a rigorous synthesis of the existing evidence on microfinance impacts assessment with a focus on Africa. As the policy and academic debate on MFI stability to reduce poverty and welfare rages on, the impacts in Africa remain inconclusive. There is still controversy about the financial and non-financial outcomes on the few available quality studies. Thus, producing robust evidence remains crucial. Governments in Africa and donors should therefore direct public resources into effective development interventions. Thus addressing the critical question of whether microfinance has an impact on poor households and small businesses is important.

Due to the different contexts and socio-economic conditions in which impact assessments have been undertaken, the interpretation of findings remains complex. Moreover several studies using non-experimental methodology have a tendency of reporting positive impacts but which is a reflection of short-term linear effects. Thus there is a significant knowledge gap regarding the long term effects of microfinance initiatives. Having reviewed empirical evidence on Africa, we conclude that there is no compelling evidence that microfinance leads to increases in permanent income, accumulation of assets and therefore poverty reduction other than short term modest but not homogenous positive impacts. However, while microfinance may not be an effective tool for development and poverty alleviation it can be integrated within a broader development framework in the quest to reduce poverty but cannot be promoted as a means to achieve the Sustainable Development Goals.

## 5. Conclusion and future research directions

This study has provided insights into the sustainability of microfinance institutions (MFIs) in Africa with specific emphasis on documented measures of MFI sustainability, stylized facts surrounding the phenomenon, perspectives on the growth of MFIs, determinants of the growth of MFIs and the impact of MFIs. The study can be extended by complementing the documented stylized facts and insights with empirical studies in order to assess if the discussed insights withstand empirical scrutiny. Moreover, it would be worthwhile to tailor the suggested future research directions towards the achievement of more targeted sustainable development goals (SDGs).

## References

- Abou-Ali, H., El-Azony, H., El-Laity, H., Haughton, J and Khandker, S (2010). Evaluating the Impact of Egyptian Social Fund for Development Programmes. *Journal of Development Effectiveness*, 2(4), 521–55.
- African Development Bank (2013). Financial Inclusion in Africa. <https://www.afdb.org/en/documents/document/financial-inclusion-in-africa-34666> (Accessed: 16/08/2021).
- Angelucci, M., Karlan, D and Zinman, J (2015). Microcredit Impacts: Evidence from a Randomized Microcredit Program Placement Experiment by Compartamos Banco. *American Economic Journal: Applied Economics*, 7(1), 151–82.
- Annim, S.K., and Alnaa, S.E (2013). Access to Microfinance by Rural Women: Implications for Poverty Reduction in Rural Households in Ghana. *Macrothink Institute—Research in Applied Economics*, 5(2), 19–41.
- Armendáriz de Aghion, B. and Morduch, J (2010). *The Economics of Microfinance, second edition* MIT Press, Cambridge, Massachusetts.
- Ashraf, N., Gine, X., & Karlan, D. (2009). Finding Missing Markets (And a Disturbing Epilogue): Evidence from an Export Crop Adoption and Marketing Intervention in Kenya, *American Journal of Agricultural Economics* 91, (4), 973–990.
- Asongu, S. A. & Le Roux, S. (2017). Enhancing ICT for inclusive human development in Sub-Saharan Africa. *Technological Forecasting and Social Change*, 118(May), 44–54.
- Attanasio, O., Augsburg, B., De Haas, R., Fitzsimons, E and Harmgart, H (2015). The impacts of microfinance: Evidence from joint-liability in Mongolia, *American Economic Journal: Applied Economics*, 7 (1), 90–122.

- Augsburg, B., De Haas, R., Harmgart, H and Meghir, C (2015). The Impacts of Microcredit: Evidence from Bosnia and Herzegovina. *American Economic Journal: Applied Economics*, 7(1), 183–203.
- Awaworyi, S. (2014). Impact of Microfinance Interventions: A Meta-Analysis. *Business and Economics* 4 (1), 3– 14.
- Banerjee, A., Duflo, E., Glennerster, R and Kinnan, C (2015). The Miracle of Microfinance? Evidence from a Randomized Evaluation. *American Economic Journal: Applied Economics*, 7(1), 22–53.
- Barry, T. A., & Tacneng, R. (2014). The impact of governance and institutional quality on MFI outreach and financial performance in Sub-Saharan Africa. *World Development*, 58, 1-20.
- Berhane, G., and Gardebreek, C (2011). Does Microfinance Reduce Rural Poverty? Evidence Based on Household Panel Data from Northern Ethiopia. *American Journal of Agricultural Economics*, 93 (1), 43–55.
- Buera, F.J, Kaboski, J.P and Shin, Y (2020). Taking Stock of the Evidence on Microfinancial Interventions, Federal Reserve Bank of St. Louis Review, Second Quarter pp. 173-202.
- Chikalipah, S. & Makina, D. (2019). A Survey of Microfinance Institutions and Informal Finance in Africa. In D. Makina, *Extending Financial Inclusion in Africa*. <https://doi.org/10.1016/B978-0-12-814164-9.00006-2>.
- Christiaensen, L., Demery, L. & Kuhl, J. (2011). The (evolving) role of Agriculture in poverty reduction: An empirical perspective. *Journal of Development Economics*, 96(2): 239-54.
- Crépon, B., Devoto, F., Duflo, E and Parienté, W (2015). Estimating the Impact of Microcredit on Those Who Take It Up: Evidence from a Randomized Experiment in Morocco. *American Economic Journal: Applied Economics*, 7(1), 123–50.
- Cull, R., Demirguc-Kunt, A., & Morduch, J. (2007). Financial performance and outreach: A global analysis of lending microbanks. *The Economic Journal*, 117(1), 107–133.
- Danga, M., and Yusuph, M. L. (2019). Factors Affecting the Growth of Microfinance Institutions in Tanzania: A Case Study SACCOS in Singida Region. *International Journal of Academic Multidisciplinary Research (IJAMR)*, 3(3), pp. 69-79.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2020). The global Findex database 2017: measuring financial inclusion and opportunities to expand access to and use of financial services. *The World Bank Economic Review*, 34(Supplement\_1), S2-S8.
- Doocy, S., Teffera, S., Norell, D., & Burnham, G. (2005). Credit Program Outcomes: Coping Capacity and Nutritional Status in the Food Insecure Context of Ethiopia. *Social Science and Medicine*, 60 (10), 2371–2382.

- Dunford, C. (2006). Evidence of microfinance's contribution to achieving the millennium development goals. Freedom from Hunger. [http://microfinancegateway.org/files/35795\\_file\\_Evidence\\_on\\_MDGs\\_Dunford.pdf](http://microfinancegateway.org/files/35795_file_Evidence_on_MDGs_Dunford.pdf).
- Dupas, P., & Robinson, J. (2013). Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya. *American Economic Journal: Applied Economics*, 5 (1), 163-92.
- Duvendack, M., Palmer-Jones, R., Copestake, J. G., Hooper, L., Loke, Y. and Rao, N. (2011). What is the Evidence of the Impact of Microfinance on the Well-being of Poor People? London: EPPI-Centre, University of London.
- Egyir, I. S. (2010). Rural Women and Microfinance in Ghana: *Challenges and Prospects* (No.308-2016-4989, pp. 1-13).
- FGCA(2021).The impact of the COVID-19 crisis on microfinance institutions - Analyses and perspectives. *European Microfinance Network*, [https://www.gca-foundation.org/wp-content/uploads/2021/07/FGCA\\_Covid-19-Report-web-VF.pdf](https://www.gca-foundation.org/wp-content/uploads/2021/07/FGCA_Covid-19-Report-web-VF.pdf) (Accessed: 08/10/2021).
- Fixler, A., (2015). African Microfinance's Dynamic Growth and the Story of AfriCap. Center for Financial Inclusion, <https://www.centerforfinancialinclusion.org/african-microfinances-dynamic-growth-and-the-story-of-africap> (Accessed: 08/10/2021).
- Hagen, H. M. (2004). Sustainability of Financial Institutions; Financial Services for poor people. Bonn, working Paper (unpublished) European Union Forum for rural Development.
- Hardy J. & Derex-Briggs J. (2021). African development Finance institutions. World in transition. [www.whitecase.com](http://www.whitecase.com)(Accessed: 14/08/2021).
- Helms B. (2006). Access for all. Building inclusive financial systems. Consultative group to assist the poor. The international bank of reconstruction and development, World Bank.
- Henock, M. S. (2019). Financial sustainability and outreach performance of saving and credit cooperatives: The case of Eastern Ethiopia. *Asia Pacific Management Review*, 24(1), 1-9.
- Hermes, N., Lensink, R., & Meesters, A. (2011). Outreach and efficiency of microfinance institutions. *World Development*, 39(6), 938–948.
- Honohan, P.(2008). Cross-Country Variation in Household Access to Financial Services. *Journal of Banking and Finance*, 32 (11), 2493-2500.
- Human, J. K. (2021). African countries continue to have the highest poverty rates in the world. [Developmentaid.org](http://Developmentaid.org) (Accessed: 14/08/2021).

- Kim, J., Ferrari, G., Abramsky, T., Watts, C., Hargreaves, J., Morison, L., et al. (2009). Assessing the incremental effects of combining economic and health interventions: The IMAGE study in South Africa. *Bulletin of the World Health Organization*, 87(11), 824–832.
- Koloma, Y and Alia, H (2014). Gendered Impact of Microcredit in Mali: An Evaluation by Propensity Score Matching, *Strat. Change* 23, 517–530.
- Lacalle, C.M., Rico, G.S., & Duran, N.J. (2008). Estudio piloto de evaluación de impacto del programa de microcréditos de Cruz Roja Española en Ruanda. *Revista de Economía Mundial*, 19, 83–104.
- Leke, A., Signé, L. & Initiative, A. G. (2019). Spotlighting opportunities for business in Africa and strategies to succeed in the world's next big growth market. *Africa's Untapped Business Potential: Countries, Sectors, and Strategies*, 77-95.
- Maïtrot, M. and Niño-Zarazúa, M. (2017). Poverty And Wellbeing Impacts Of Microfinance: What Do We Know? WIDER Working Paper 190/2017. Helsinki: UNU-WIDER.
- Marr, A. (2004). A challenge to the orthodoxy concerning microfinance and poverty reduction. *Journal of Microfinance*, 5(2), 1–35.
- Mersland, R. (2009). The Cost of Ownership in Microfinance organizations. *World Development*, 37, 469-47
- Mia, A. (2016). Microfinance Institutions and Legal Status: An Overview of the Microfinance Sector in Bangladesh. *Journal of Asian Finance, Economics and Business*, 3(2), 21–31
- Mia, M. A., Lee, H. A., Chandran, V., Rasiah, R. & Rahman, M. (2019). History of microfinance in Bangladesh: A life cycle theory approach. *Business History*, 61(4), 703–733.
- Morduch, J. (1999). The microfinance promise, *Journal of Economic Literature*, 37 (4), 1569-1614.
- Muriu, P.W (2012). What Explains The Low Profitability Of Sub-Sahara Africa Microfinance Institutions? *African Journal of Social Sciences*, 2 (3), 85-115.
- Muriu, P.W (2016). Microfinance Performance: Does financing choice matter? *European Journal of Business and Management*, 8 (33), 77-93.
- Muriu, P.W. (2020). The Impact of Microfinance Programs: A Review of Data and Methodological Dilemma, *Journal of Economics and Sustainable Development*, 11, (22), 100-109.
- Muriu, P.W., Murinde, V and Mullineux, A.W (2017). Reflections On Microfinance Book Chapter In: Biekpe N., Cassimon D., Mullineux A. (eds) *Development Finance* pp 109-159. Palgrave Macmillan, Cham.

- Nwachukwu, J. C., Aziz, A., Tony-Okeke, U. & Asongu, S. A. (2018). The determinants of interest rates in microfinance: Age, scale and organizational charter. *Review of Development Economics*, 22(3), e135-e159.
- Roodman, D., and Morduch, J (2014). The Impact of Microcredit on the Poor in Bangladesh: Revisiting the Evidence. *The Journal of Development Studies*, 50(4), 583–604.
- Rooyen, V.C., Stewart, R. and De Wet, T. (2012). The Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence. *World Development* 40 (11), 2249– 2262.
- Ruiz, C. (2014). How can finance influence productivity of agricultural firms? All about finance. Worldbank.org. <https://blogs.worldbank.org/allaboutfinance/how-can-finance-influence-productivity-agricultural-firms/> (Accessed: 14/08/2021).
- Scully, N. (2004). Microcredit: No panacea for poor women. Washington, DC: Global Development Research Centre.
- Shimamura, Y., & Lastarria-Cornhiel, S. (2009). Credit Program Participation and Child Schooling In Rural Malawi. *World Development*, 38 (4), 567–580.
- Soumaré, I., Tchana, F.T. & Kengne, T.M. (2016). Analysis of the determinants of financial inclusion in Central and West Africa. *Journal of Transnational Corporations, Review*, 8(4), 231-249.
- Ssozi J, Asongu S. A., & Amavilah V. H., (2019). The effectiveness of development aid for agriculture in Sub-Saharan Africa. *Journal of Economic Studies*, 46(2), 284-305.
- Tarozzi, A., Desai, J and Johnson, K (2015). The Impacts of Microcredit: Evidence from Ethiopia'. *American Economic Journal: Applied Economics*, 7(1), 54–89.
- Tchakoute-Tchuigoua, H., & Soumaré, I. (2019). The effect of loan approval decentralization on microfinance institutions' outreach and loan portfolio quality. *Journal of Business Research*, 94, 1-17.
- Tchamyou, S. V. & Asongu, S. A. (2017). Information Sharing and Financial Sector Development. *Journal of African Business*, 18(1), 24-49.
- Tchamyou, V. S. (2019). Information sharing and financial sector development in Africa. *Journal of African Business*, 18(1), 24-49.
- Vaessen, J., Rivas, A., Duvendack, M., Palmer-Jones, R., Leeuw, F., van Gils, G., Lukach, R., Holvoet, N., Bastiaensen, J., Garcia-Hombrados, J and Waddington, H (2014). The Effects of Microcredit on Women's Control over Household Spending in Developing Countries: A Systematic Review and Metaanalysis. *Campbell Systematic Reviews*, 10 (1), 1–205.
- Withagen, R. (2021). Backbone of Africa's banking system: Development finance institutions. The aircraft report.

<https://www.theafricareport.com/91995/backbone-of-africas-banking-system-development-finance-institutions/> (Accessed: 14/08/2021).

Wyoming Division of Banking (2021). Special purpose depository institutions. [wyomingbankingdivision@wyo.gov](mailto:wyomingbankingdivision@wyo.gov) (Accessed: 14/08/2021).

Yaron, J., & Manos, R. (2007). Determining the self-sufficiency of microfinance institutions. *Savings and development*, 131-160.

Zheng, C., and Zhang, J., (2021). The impact of COVID-19 on the efficiency of microfinance institutions. *International Review of Economics & Finance*, 71(January), 407-423