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Transnational microfinance and mission drift: Evidence from Sub Saharan Africa

vorgelegt von

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List of Abbreviations

2SLS	Two stage least squares
3SLS	Three stage least squares
ABP	Algemeen BurgelijkPensioenfonds
ADB	Asian Development Bank
AEC	African Economic Community
AECID	Spanish Agency for International Development Cooperation
AfDB	African Development Bank
AIM	Accion Investments in Microfinance
AMINA	African Development Fund Microfinance Initiative for Africa
ANOVA	Analysis of the variance
ASA	Association for Social Advancement
ASCA(s)	Accumulating Savings and Credit Association
ATM(s)	Automated teller machines
AusAID	Australian Agency for International Development
BAAC	Bank for Agriculture and Agricultural Cooperatives
BancoSol	Banco Solidario S. A.
BCEAO	Banque Centrale des Etats de l'Afrique de l'Ouest
BCSC	Banco Caja Social y Colmena
BIO	Belgian Investment Company for Developing Countries
BOMS1	BlueOrchard Microfinance Securities
BNP Paribas	Banque Nationale de Paris
BRAC	Bangladesh Rural Advancement Committee
BRI	Bank Rakyat Indonesia
CAR	Capital asset ratio
CAF	Corporación Andina de Fomento
CDO(s)	Collateralized debt obligation
CEMAC	Economic and Monetary Community of Central Africa
CEN-SAD	Community of Sahel-Saharan States
CFA	Communauté française d'Afrique
CGAP	Consultative Group to Assist the Poor
CLO(s)	Collateralized loan obligations
CIDA	Canadian International Development Agency
COBAC	Commission Bancaire de l'Afrique Centrale
COMESA	Common Market for Eastern and Southern Africa
CRS	Catholic Relief Services
CSR	Corporate social responsibility
DANIDA	Danish International Development Agency
DB MDF	Deutsche Bank microfinance development fund
DC(s)	Developed countries
DER	Debt to equity ratio
DFI(s)	Development finance institutions
DFID	United Kingdom Department for International Development

DWM	Developing World Markets
EAC	East African Community
EAP	East Asia Pacific
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EC2SLS	Error component two stage least effects
ECA	Eastern Europe and Central Asia
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of Western African States
EIB	European Investment Bank
EU	European Union
FDI	Foreign direct investment
FE	Fixed effects
FECECAM	Faîtière des Caisses d'Epargne et de Crédit Agricole Mutuel
FEVD	Fixed effects vector decomposition
FE2SLS	Fixed effects two stage least squares
FINCA	Foundation for International Community Assistance
FMO	Dutch Development Bank
FSS	Financial self-sufficiency
GDP	Gross domestic product
GLS	Generalised least square
GMM	Generalised method of moments
GIIN	Global Impacting Investing Network
GIZ	German Federal Enterprise for International Cooperation
HES	Household Expenditure Survey
HHI	Herfindahl-Hirschman Index
HIES	House Income Expenditure Survey
HSBC	Hong Kong and Shanghai Banking Corporation
ICT	Information and communication technology
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
IGAD	Intergovernmental Authority on Development
IIC	Inter-American Investment Cooperation
ILO	International Labour Office
IOC	Indian Ocean Commission
IPO	Initial public offering
ING	InternationaleNederlandenGroep
KfW	German Development Bank
KREP	Kenya Rural Enterprise Programme
MFIs	Microfinance Institutions
LA	Latin America
LAC	Latin American and Caribbean
LSDV	Least Square Dummy Variable
MENA	Middle East and North Africa

MDG(s)	Millennium Development Goals
MIF	Multi-lateral Investment Fund
MII(s)	Microfinance investment intermediaries
MIV(s)	Microfinance investment vehicles
MNC(s)	Multinational corporations
NGO(s)	Non-governmental Organizations
NORAD	Norway Agency for International Development
NPO(s)	Nonprofit organizations
OSS	Operational self-sufficiency
PARMEC	Project d' Appui à la Réglementation aux Mutuelles d'Epargne et de Crédit
P2P	Peer to peer
REC(s)	Regional Economic Community
ROA	Return on assets
ROE	Return on Equity
RoI	Return on Investment
ROSCA(s)	Rotating savings and credit associations
SACU	Southern African Customs Union
SADC	Southern African Development Community
SASRA	Sacco Societies Regulatory Authority
SDC	Swiss Development Cooperation
SFA	Stochastic frontier analysis
SHF(s)	Shareholder firms
SHG(s)	Self help groups
SIDA	Swedish International Development Cooperation Agency
SIDI	Societe D'Investissement et de Developpement International
SPV	Special-purpose-vehicle (SPV)
SRI(s)	Socially responsible investors
SSA	Sub Saharan Africa
SUM	Special Unit for Microfinance
SIDA	Swedish International Development Authority
UMA	Union du Maghreb Arabe
UN	United Nations
UNACOOPEC-CI	Union Nationale des Coopératives d'Epargne et de Crédit de Côte d'Ivoire
UNCDF	United Nations Capital and Development Fund
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VBSP	Vietnam Bank for Social Policies
WAEMU	West African Economic and Monetary Union
WAMZ	West Africa Monetary Zone
WDI	World Bank Development Indicators
WGIs	Worldwide Governance Indicators
WOCCU	World Council of Credit Union

1 Introduction

> *"Globalization can be a great force for good, one that can bring more benefits to the poor than any alternative… But it must be the right kind of globalization. The role of the strongest takes its all must be replaced by rules that ensure that the poorest have a piece of the action, without being elbowed out by the richest. Globalization must not become financial imperialism."*
>
> (Yunus, 2010, p. 10)

The development of microfinance institutions (MFIs) for the poor should lead to significant poverty eradication if such institutions stay true to their course in an increasingly globalized world.[1] On the one hand, the transnationalization of financial markets could offer MFIs access to additional sources of capital and promote the development of the microfinance environment (Swanson, 2008, p. 1; Yunus, 2010, p. 200). On the other hand, many fear that transnational microfinance might affect the MFIs' dual mission and cause them to behave like classical financial institutions (Balkenhol, 2007, p. 217; Roy, 2010, p. 10).

Unlike classical financial institutions, MFIs should strive to attain a balance between providing financial services to the poor (social performance or development logic) and to cover their costs (financial performance or banking logic) (Battilana and Dorado, 2010, p. 3; Yunus, 2010, p. 2). In practice, while some MFIs have been able to achieve this balance between their social and financial objectives, the majority tends to face difficulties (Simanowitz, 2007, p. 62). Many MFIs are being accused of focusing more on their financial than social performance, consequently drifting away from their original mission. One possible reason for the increased focus on financial performance is the high transaction costs incurred when serving poorer clients(Hermes et al., 2011, p. 938). Other authors argue that the presence of the profit-oriented funders and investors in the microfinance environment might trigger mission drift (Besley and Ghatak, 2005, p. 626; Ghosh and Van Tassel, 2009, p. 12).

Despite this fear, MFIs in Sub Saharan Africa (SSA) in particular stand to gain from an increase in foreign involvement since 43per cent of the total population lives in absolute poverty(World Bank, 2016a). Additionally, the SSA region has one of the lowest levels of access to finance with an average banked population of 24 per cent as opposed to developed

[1] Poor clients are defined as people living on less than 1.25 US dollars a day (extreme poor) or living on less than 1.90 US dollars a day (moderate poor)(World Bank, 2016a).

countries where this fraction is more than 80 per cent (Demirguc-Kunt et al., 2015, p. 13).[2] The presence of foreign investors would provide the additional funding and development that is necessary to meet the needs and demands of the unbanked population in this sub-region.

In the past, commercial banks and other traditional institutions were often concentrated in urban areas, whereas MFIs are more in rural areas, where they have 42 per cent of the total clientele, while commercial banks are serving just 26 per cent (CGAP and World Bank, 2010, p. 14). Thus MFIs have come to serve a large segment of the population that has no credit records, collaterals and other prerequisites needed for access to conventional banking systems. By using mechanisms such as group lending and progressive lending, MFIs have been able to mitigate the problems of screening, monitoring and enforcement that restrict classical banking from serving poor clients. This access to financial services for the poor means more investment in health, education and other economic activities that could employ several other people downstream and alleviate abject poverty.

For instance, studies by Doocy et al. (2005) in Ethiopia, Pronyk et al. (2008) in South Africa and Adjei et al. (2009) in Ghana shows that children of microfinance clients tend to have better nutrition and health than those of comparable non-microfinance clients. With respect to education, Littlefield et al. (2003) reveal that children of microfinance clients are more likely to go to school and stay in school longer. Another study by Banerjee et al. (2013) also illustrates that in areas where microfinance became available, 32 per cent more businesses are created. Other country level evidence shows that access to microfinance reduces the number of families below the abject poverty line. In Bangladesh for example, Zohir (2010) indicate that from 1990 to 2008, two million families with access to microfinance moved above the poverty line while nine million Indian families shifted above the abject poverty line of US 1.25 dollars between 1990 to 2010 (India Development Foundation, 2011, p. 3).

Despite these many positive results, several studies illustrate that microfinance may generate mixed impacts, such as it does not target the poorest of the poor (see Copestake et al., 2001; Hulme and Mosley, 1996a; and Mosley and Hulme, 1999); it can have non-significant development outcomes (see Banerjee et al., 2013); it does not sufficiently increase income or empower women (see Husain et al., 2014).Other studies show that microfinance can lead to increased inequality and vulnerability(see Kai and Hamori, 2009; Mukhopadhyay, 2016).

[2] Middle East and North Africa (MENA) has the lowest account penetration with 18 per cent of the population having an account with a formal institution (Demirguc-Kunt et al., 2015, p. 13).

Several other studies allude to the fact that microfinance does harm in terms of the exploitation of women, increased workloads and child labour, the creation of dependency and barriers to sustainable local economic and social development (see Adams and Von Pischke, 1992; Rogaly, 1996; Copestake, 2002; Bateman and Chang, 2012). In addition to these worries, the sector has been recently prone to crisis in many some countries such as in Nicaragua (2008), Morocco (2008), Pakistan (2008), and Bosnia and Herzegovina (2009) which was characterized by widespread over-indebtedness, excessive competition, high interest rates, and unethical loan collection methods (see Chen et al., 2010). Subsequently, many questions have been raised as to the effectiveness of microfinance as a poverty alleviation tool in the recent wave of increase transnationalization.

The initial source of funding for many MFIs came from bilateral and multilateral developmental agencies, foundations, and non-governmental organizations (NGO), which for the most part did not seek financial gain or profit. For example, the World Bank, the United States Agency for International Development (USAID) and the German Federal Enterprise for International Cooperation (GIZ) all sponsored start-up MFIs in a non-profit oriented way. These funders were often most concerned about achieving poverty reduction and financial inclusion (El-Zoghbi et al., 2011, p. 1; Earne and Sherk, 2013, p. 387). Nevertheless, it should be noted that these funders and sponsors hardly understood the dual mission of MFIs. In this sense, while some funders pushed for social performance, others were more interested in the financial performance, but hardly towards combined efficiency within the context of social and financial performance objectives (Balkenhol, 2007, p. 217).

MFIs in SSA and other parts of the world are increasingly lacking the necessary funds to serve an ever-increasing customer base. Consequently, sponsors and donors are urging MFIs to pursue the “market-oriented” or “financial system” approach. In this line, MFIs should become fully cost efficient and should transform to for-profit institutions and also rely less on donations (Ghosh, 2013, p. 1204). This new model is expected to attract the needed capital from private investors. Besides this, it could enhance the overall development of the sector through new products and better quality services for existing and new poor market segments (Morduch, 2000, p. 617).

Accordingly, many MFIs are changing their business strategy and now turning to private and institutional investors to fill this gap. To this end, many MFIs such as Grameen Bank of Bangladesh transformed from a non-government-organisation (NGO) to a bank in order to

gain access to traditional forms of capital. Moreover, BancoSol which is currently one of the largest commercial banks in Bolivia started as an NGO in 1987, transformed into a licensed commercial bank in 1992 (Dominicé, 2012, p. 35). Some other MFIs have gained access to the capital markets by listing their shares on the stock market. For instance, in 2010, India's largest MFI-SKS Microfinance went public and was able to raise 64 million US dollars from commercial foreign investors including JP Morgan Chase and Morgan Stanley (The Economist, 2010a, p. 55).

On the part of investors, some are increasingly seeing microfinance as new investment asset where profits could be maximized (Dieckmann, 2007, p. 17). For socially responsible investors (SRIs), microfinance presents an opportunity to diversify their investment portfolios, while also achieving social and environmental objectives (El-Zoghbi et al., 2011, p. 1; Earne and Sherk, 2013, p. 387). Consequently, some funders and investors are directly investing in MFIs, while others are indirectly investing through microfinance investment intermediaries (MIIs).[3] A survey by the Consultative Group to Assist the Poor(CGAP) showed that despite the financial crisis, cross-border commitments to MFIs in SSA increased by 12 percent per year on average between 2009 and 2011 to reach2.7 billion US dollars (Lahaye et al., 2012, p. 2).[4]

Apart from this, conventional and foreign banks that have in the past targeted safer clients and the corporate market are now targeting microfinance clients in SSA (Beck et al., 2014, p. 81). For example, the Commercial Bank of Zimbabwe is involved in lending to the poor. Besides, large foreign banks such as Citigroup, Deutsche Bankand HSBC are investing in microfinance(Hermes et al., 2011, p. 938). Foreign direct investment (FDI) to the sub-region has expanded about six-fold since 2000, reaching a record level of 45 US dollars and leading to a significantly higher FDI stock (474 billion US dollars) in 2013 (Guangzhe et al., 2015, p. 2). FDI is more diversified than it was ever before; shifting from extractive sectors towards the service (finance, informationand communications technology) and manufacturing sectors (Guangzhe et al., 2015, p. v). While FDI has been triggered by the ownership-specific (O), internationalization-specific (I) and location-specific (L) advantages captured by Dunning's

[3] MIIs are independent entities with at least 50 percent of their non-cash assets invested in microfinance and include microfinance investment vehicles, holding companies, networks and peer-to-peer (P2P) aggregators that channel funds to the microfinance (Consultative Group to Assist the Poor (CGAP) and Symbiotics, 2010, p. 5).

[4] Consultative group to assist the poor (CGAP) is a World Bank agency, aimed at promoting and encouraging financial services and research for the poor(CGAP, 2015).

OLI paradigm, the current shift from resource-seeking FDI to market-seeking FDI flows has been motivated by the higher return from these sectors (Guangzhe et al., 2015, p. 17).

This overall integration of the microfinance flows and financial market flow could, in theory, provide access to more funding, increase the outreach, and introduce new products and better quality services (Swanson, 2008, p. 1). Additionally, the presence of more profit-oriented funders and investors in the microfinance sector could indirectly enhance the overall development of the sector and improve the institutional and governance environment of microfinance (Goodman, 2007, p. 15). Moreover, foreign bank presence and FDI could also generate spillover effects on local MFIs or firms by creating new jobs, transfer of technology, skills and management know-how (Kose et al., 2010, p. 4295). Overall, economic theory suggests that financial openness can contribute to economic growth, which in turn can alleviate poverty (Dollar and Kraay, 2002, p. 214).

Empirical studies by Garmaise and Natividad (2010), Mersland et al. (2011), Martins and Winkler (2013) and Vanroose and D'Espallier (2013) suggest that foreign involvement in microfinance have positive effects on financial and social performance. Despite this, studies by Mersland and Strøm (2009) and Hartarska and Nadolnyak (2008) illustrate that an increase in foreign involvement in microfinance can have negative impacts on both the financial and social performance of MFIs. Country-level studies by Reille et al. (2011) on microfinance crises in Bosnia-Herzegovina and Nicaragua show that the presence of foreign commercial investment in the microfinance sector has intensified its profit orientation such that MFIs became focused on lending volumes rather than focusing on responsible lending. In other countries like Nicaragua, Morocco, Pakistan, and Bosnia and Herzegovina, 30-40 per cent of borrowers were eager to get a second or third loan just to repay previous loans (Chen et al., 2010, p. 7). More specifically is the fact that three months after the initial public offering of SKS Microfinance at the Indian Stock Exchange Market, a wide range of suicides was experienced across Andhra Pradesh region, in which 17 out of the 57 persons committed suicide were clients who had overdue loan repayments at SKS Microfinance (The Economist, 2010b, p. 87). Although these suicides have been triggered by a combination of factors including the agrarian crisis in Andhra Pradesh which led to social reproduction constraints amongst marginal farmers and landless labourers, authors such as Taylor (2011) and Mader (2015) argue that the emergence and aggressive expansion of for-profit MFIs played a central role in the crisis.

Subsequently, many questions have been raised as to the effectiveness of the MFIs in attaining a balance between their social and financial performance in an increasingly globalized world. Other authors like Ghosh and Van Tassel (2009) and Roy (2010) point out that the recent microfinance problems have been directly or indirectly triggered by the increased transnationalization of microfinance. They argue that the increasing involvement of foreign private and institutional investors who are more motivated by risk diversification and return advantages rather than development goals could force MFIs to become too focused on making profits at the expense of outreach to poorer customers.

It should be noted that microfinance has always been transnational to some extent. As earlier noted many MFIs started as NGOs and received funding from bilateral and multilateral agencies. The present wave of financial globalization involves a myriad of different types of funders, investors and entry points. It could, therefore, be hypothesized that their different motives lead to changes in the operations and performance of MFIs that subsequently expose them to mission drift.

The main aim of this dissertation is to contribute to the debate on the advantages and disadvantages of increasing transnationalization on microfinance performance and mission drift in SSA. While mission drift effects have been exposed by other researchers (Tucker, 2001; Olivares-Polanco, 2005; Makame and Murinde, 2006; Cull et al., 2007; Hartarska and Nadolnyak, 2007; Mersland and Strøm, 2010; Ndambu, 2011; Barry and Tacneng, 2014; Serrano-Cinca and Gutiérrez-Nieto, 2014 among others), the lack of studies on the recent increased involvement of the new class of investors in microfinance in the world's poorest region calls for further empirical investigation.

As a result, the main question is the following: to what extent does the increased involvement of foreign investors who are motivated by "impact investing" theory and also by risk and return advantages affect microfinance performance and mission drift? In order to address this question, this study considers three proxies of transnationalization, namely, the increased presence of foreign banks, FDI to GDP and cross-border commitments which might directly or indirectly affect microfinance performance. These three measures are used because they tend to measure different aspects of transnational microfinance. Firstly, the percentage of foreign banks to total provides an insight on the level of competition which MFIs face as a result of the increased involvement of foreign banks in the microfinance sector. Secondly, FDI to GDP tends to capture the de facto proxy for financial globalization which comes with

potential spillovers effects in terms of jobs and demand complementary which might affect microfinance clients as well as MFIs. Thirdly, cross-border commitments which consist of disbursed funds as well as funds yet to be disbursed is funding provided by foreign funders and investors. As a result, it is could be argued that the above three variables would have some implications for microfinance performance and mission drift.

The rest of the study is organized as follows. Chapter 2 is divided into three parts. Firstly, it provides a brief history of microfinance in selected countries. Secondly, it elaborates on the direct and indirect mechanisms which are being used by MFIs to overcome the problems of screening, monitoringand enforcement. Lastly, it provides an overview of the global state of MFIs with a focus on SSA. Chapter 3 begins with an elaboration of three main drivers of foreign investment and involvement in microfinance which, include development aid, impact investing, and risk diversification and return factors. Additionally, this chapter presents a detailed review of the different channels of transnational microfinance and discusses its potential benefits and costs. Finally, the chapter provides a review of the literature on the factors affecting microfinance mission drift. Chapter 4 highlights the hypotheses that back the research, justifies the selection of variables and the logic behind the methodology that is used. The details of the empirical analysis are presented in Chapter 5 together with results of the sensitivity analyses. Finally, Chapter 6 provides a summary of the results, a discussion of their economic implications and an outlook for future research. The Appendix contains some results of the sensitivity analyses and the data used in the research.

2 Microfinance past and present

2.1 Origin and development of microfinance

Microfinance is the provision of financial (credit, savings, and insurance) and non-financial services (education, health, women empowerment) to the poor by formal, semi-formal and informal institutions (Seibel, 2001, p. 2).Though the term became popular only in the 1970s, the concept had been used in many countries around the world before this period.

As early as the fifth century, pawnshops or pawnbrokers developed in Buddhist monasteries in China (Yang, 1952, p. 6). These monastery-run institutions were primarily established to help the poor in the monastery's local community and were not interested in profit making. Therefore, no interest rates were levied and borrowed amounts could be repaid in kind such as with wheat or rice (Skully, 1994, p. 3). However, borrowers were later on expected to pledge other items (such as clothing, animal, landand buildings) and also third-party guarantors so as to reduce the risk of unsecured lending (Skully, 1994, p. 3f.). In the event of a loan default, movable items were forfeited. Whereas in the case of land and buildings, the borrower would not lose ownership, any benefits that accrued from the farmland or building would go to the creditor (Skully, 1994, p. 3f.). This new model made the pawnshop business more successful and consequently attracted private businessmen. By the seventh century, independent pawnbrokers were established and operated outside the monasteries and other parts of Asia such as Indonesia, Thailand and the Philippines (Skully, 1994, p. 4).

In the 11th century, pawnshops also arose in Italy (Skully, 1994, p. 3). Similar to the Asian pawnbrokers, the European pawnbrokers also had religious connections and were aimed at helping the poor with interest-free loans. However, the European monks, later on, realized that they needed to charge interest in order to displace the successful money lending business that was run by the Jews (Skully, 1994, p. 3). Since the Church's doctrine at the time was against taking an interest, the interest charged was relabeled "transaction fee" or "storage fee"(Johnson and Johnson, 1998, p. 2). By the 15th century, the "*monte di pietà*" or "mount of piety" as these pawnshops were later called, sprouted throughout Italy and Western Europe (Roodman, 2012, p. 43).

In Africa, the concept of microfinance dates as far back as the16th century (Seibel, 2006, p. 1) and had no links with religion but was built on social ties to support and help one another. For instance, concepts such as "*tontines"*or*"njangis*" in Cameroon, or "e*susu"* in Nigeria,

"*chiperegani"* in Malawi, and "*merry-go-round"* in Kenya are widespread rotating savings and credit associations (ROSCAs). These associations serve as forms of financial and social capital where a group of people agree to regularly (weekly or monthly) contribute a fixed amount of money at specified intervals for the benefit of one member (see Figure 2.1).[5] In its simplest form, allotment is usually either through an agreed-upon sequence or a lottery-random ROSCAs (Armendáriz and Morduch, 2010, p. 70). In more complicated ROSCAs, allotment is done via bidding. In this setup, the participant that offers the highest bid collects the fund and opts out of subsequent bids so that each member had a chance of collecting once during a ROSCA cycle (Besley et al., 1993, p. 793). Both types of ROSCA may be liquidated or rolled-over after each cycle (i.e. when each participant has had his/her turn). The lifetime of a ROSCA depends on the number of participants and the periodicity of the payments. As shown in Figure 2.1, if three members make monthly payments of 10 Euros each then it has a lifespan of three months.

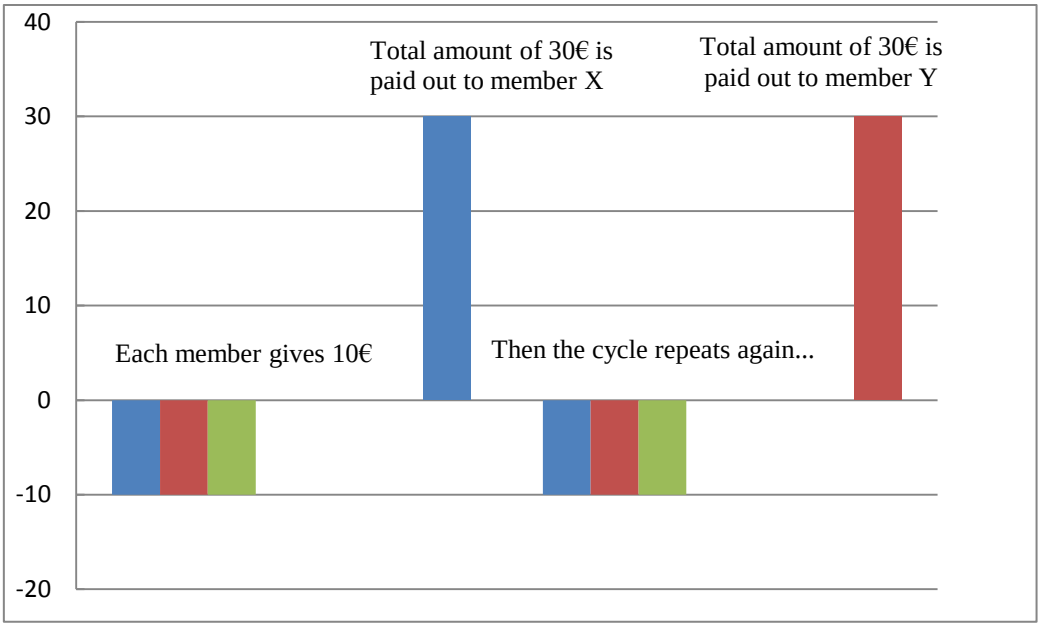


Figure 2.1: Cash-flow schematic of a simple ROSCA
Source: Adapted from Collins et al. (2009, p. 117)

According to Bouman (1983), the concept of ROSCA predate monetization and continues to be one of the most predominant models of microfinance in African countries, Asia and Latin America. Research in SSA shows that on average about 50 to 90 percent of the rural residents in Cameroon, Ivory Coast, the Republic of Congo, Liberia, Togoand Nigeria have participated in ROSCAs or similar models(see Ardener, 1964; Jellicoe, 1968; Bouman, 1989; Demirgüc-

[5] Some ROSCAs encourage the accumulation of in-kind contributions such as fencing poles, pieces of roofing material or human effort or labour services (Kimuyu, 1999, p. 1300).

Kunt and Klapper, 2012). One reason for this popular use of ROSCAs is that they are the surest way to discipline members to save for religious, traditional or life-cycle events such as birth, financing school fees and marriage (Bouman, 1983, p. 375; Besley et al., 1993, p. 793; Collins et al., 2009, p. 114). Moreover, unlike formal financial institutions, ROSCAs do not require any legal documents from its members but they relied on trust and mutual obligation (Collins et al., 2009, p. 113). Members trust one another as they were usually people from the same ethnic group, same profession, same neighbourhood or friends who helped one another on social and financial fronts (Hoff and Stiglitz, 1990, p. 243). Despite these advantages, ROSCAs are rigid. It might be difficult to find a group of people who are interested in saving and borrowing exactly the same amount and on such inflexible synchronized schedule (Roodman, 2012, p. 40). Also, in the case of default of one member, it is difficult on how to continue the process. Besides, sometimes some members were crooks and mainly joined ROSCAs just to collect funds and run-off (Collins et al., 2009, p. 124).

As a result of these disadvantages, ROSCAs have been adapted such that some participants principally engage in saving and others in borrowing. In this case, the ROSCA becomes an accumulating savings and credit association (ASCA) (Rutherford, 2000; Collins et al., 2009, p. 117). ASCAs, unlike ROSCAs, provide members with the possibility to contribute different amounts. It also offers the opportunity for borrowers (who could also be non-members) to borrow different amounts at different interest rates and repayment schedules(Collins et al., 2009, p. 117). Any un-lent part of the fund is kept with the group treasurer or credit union or in a bank (Bouman, 1995, p. 373). Consequently, bookkeeping and management are more complex than in ROSCAs (Armendáriz and Morduch, 2010, p. 80; Roodman, 2012, p. 40). At the closure of ASCA, the savings and profits are distributed to members based on the proportion of their lending and savings records (Collins et al., 2009, p. 118).

Due to their flexibility, ASCAs are also popular in Latin America and in Asia such as "*hui"* in China, "*arisan"* in Indonesia or "*paluwagan"* in the Philippines, *chit funds*in India (Seibel, 2005, p.6). Unlike in Africa where ASCAs and ROSCAs were not regulated, in India, the*chit funds* have developed into a regulated financial system with thousands of licensed chit fund managers running ROSCAs on behalf of their members, in return for a fee(Collins et al., 2009, p. 122). Although ROSCAs and ASCAs are common in developing countries where financial markets are shallow, hybrid variations can be found among minority groups in developed countries. Surveys showed that Japanese ROSCA (*tanomoshi*), Korean ROSCA

(*kye*) in Los Angeles and West Indian ROSCA (*susu*) are still used in certain areas for business enterprises and for social reasons (see Light, 1972).

In Ireland, the concept of microfinance could be identified as far back as the 1720s where home-based Irish charities emerged in response to increased poverty that plagued the Irish society during this period. These institutions provided interest-free loans from donated resources. Loans to clients were short-term and repayments were on weekly basis (Seibel, 2003, p. 2). After a century of slow growth, a boom was experienced that caused the enactment of a special law in 1823, which led these charities to transform into legal financial institutions. By this law, the Loan Funds were allowed to accept interest-bearing deposits as well as charge interests on loans. By 1840, about 300 funds had become self-reliant and sustainable institutions and levied high interest rates on deposits and loans. These institutions were so successful that they became a threat to the commercial banks as they offered deposit rates that were three times higher than those of commercial banks and loan rates were similar to those of commercial banks (Seibel, 2010, p. 2). As a result of this competition, commercial banks acted with financial repression and together with the government introduced a cap on interest rates in 1843. Consequently, the Loan Funds lost their competitive advantage, which resulted in their gradual decline and subsequent disappearance in the 1950s (Seibel, 2003, p. 11).

In the 1800s, two microfinance models emerged in Germany with the aim of fighting poverty, namely: the community-saving funds and the member-owned cooperatives (Seibel, 2010, p. 2). Firstly, community savings funds such as the first thrift society were established in Hamburg in 1778 and the first community bank (*Sparkasse*) in 1801. These community-based funds were built on the ideology that charity was not a sustainable option to serve the poor and that the poor needed safe deposit facilities (Seibel, 2010, p. 2). In time, the savings expanded to include credit business and also to serve the agricultural sector. As a result of the growth in savings, the Prussian state passed a decree to regulate these institutions in 1838. In 1884, these saving banks formed the German savings banks association (Seibel, 2010, p. 2). As of June 2015, there were about 416 saving banks with more than 14,874 subsidiaries in Germany with the municipal governments acting as guarantors (Deutscher Sparkassen-und Giroverband e.V., 2015, p. 1).

Secondly, during the mid-18th century, credit cooperatives were founded in urban areas by Hermann Schulze-Delitzsch.[6]These urban cooperatives operated with the option of paying dividends to its members and applied the limited liability principle (Adams, 1995, p. 1). The Schulze-Delitzsch cooperative model inspired Friedrich Raiffeisen (a village mayor) and he decided to create cooperatives in rural areas to serve peasantfarmers(Dehkordi, 2009, p. 8).Unlike the Schulze-Delitzsch cooperative model, the Raiffeisen cooperative model paid no dividend to its members with the argument that dividend payments would weaken cooperative spirits. Hence any profits made were kept in a permanent reserve fund (Banerjee et al., 1994, p. 502). The Raiffeisen-style cooperatives operated on a joint liability contract, meaning that in the event of bankruptcy of a cooperative, any creditor could sue any cooperative member up to the full amount of the loan. In 1889, both rural and urban cooperatives were brought under the first cooperative law of the world - first Cooperative Act of the German Reich (Seibel, 2010, p. 3). By the beginning of the 19th century, these two different cooperative movements merged and expanded within Germany and to the rest of Europe, Americas, Asia and later on to Africa (Helms, 2006, p. 2). A recent survey by the World Council of Credit Unions (WOCCU) (2015) counted 56,904 credit unions or cooperatives serving 208 million members worldwide, with 77 percent of these operating in Africa and in Asia.

Contemporary microfinance could be attributed to the 1970s when Muhammad Yunus, a Professor of Economics started by granting a loan of twenty-seven US dollars to forty-two bamboo makers in Jobra Village in Bangladesh (Yunus, 2007, p. 49).[7] These poor women, who could not get loans from conventional banks, were forced to rely on moneylenders (*mahajons*) who charged usurious interest rates of about 10 percent per week (Yunus, 2010, p. viii).[8] These moneylenders used the trader-credit linkage approach whereby the borrowers were obliged to sell all their products to or through the moneylender. This made it possible that information about the borrower was only available to the creditor but restricted the borrowers' access to other informal lenders (Siamwalla et al., 1990, p. 282).

Yunus became conscious of the consequences of such market failures and the consequent exclusion and misery of the poor (Yunus, 2007, p. 48). He acted as a guarantor in 1976 and succeeded in obtaining a loan of US 300 dollars from the local branch of the government-

[6] Herman Schulze-Delitzsch (1808-1883) was a German liberal politician and economic reformer (Dehkordi, 2009, p. 7).

[7] Each borrower received approximately 64 cents.

[8] *Mahajons* is the Bengali word used for moneylender but translated as "big persons" (Collins et al., 2009, p. 141).

owned Janata Bank in order to bridge access to finance these poor with the conventional banking systems(Yunus, 2007, p. 57). Interestingly, the bank officials avoided dealing directly with the real borrowers, who were the poor, insisting on dealing with their guarantor (Yunus, 2007, p. 57). It became clear that the poor needed a banking model that adopted mechanisms that will include them. With the help of some of his students, colleagues and with financial support from international organizations, he created the Grameen Bank (which means "village bank"or "rural bank") in 1977. The bank was primarily to meet the financial needs of many more poor women whom he referred to as "banking untouchables" (Yunus, 2007, p. 57).[9] As a result of the success of Grameen Bank, the model has been replicated in other parts of the world including Africa, Asia, South America, and East Asia and the Pacific. In 2006, Yunus and the Grameen Bank received the Noble Peace Prize for "their efforts to create economic and social development from below"(Nobelprize.org, 2006).

As explained above, the concept of microfinance is not a recent development as Glaubitt et al. (2006), Morales-Nieto (2008) and Macchiavello (2013) have postulated. However, it should be noted that each country tends to have its own microfinance history. Seibel (2003) and Roodman (2012) argued that it is important to recognize this point because it provides a different view from the belief that microfinance was invented in the 1970s in Bangladesh. They further point out that attributing the origins of microfinance just to the 1970s not only misses the historical depth and scale of microfinance, but also centuries of experience gathered through learning from trial and error, failure and success in experimenting with different microfinance systems. The beginnings of microfinance in Europe, in Africa and other developing countries, were similar in that they were informal, small-scale and were community or member-based. Nevertheless, the major difference in a developed country like Germany is that these institutions were protected through prudential regulation and effective supervision, whereas this was not the case in a continent like Africa. Moreover, in the case of "Sparkassen", deposits are insured by potent guarantors in terms of the respective municipalities (with revenues from taxation) while "Volksbanken" had their own central agencies that acted as a kind of reinsurance.

Currently, however, there is a strong worldwide trend towards transnational regulation and transformation of the providers of microfinance to more formal financial institutions, with the

[9] The international organizations that supported Grameen Bank included the Ford Foundation, International Fund for Agricultural Development (IFAD), Norwegian Agency for International Development (NORAD) and Swedish International Development Authority (SIDA) (Bornstein, 1996, p. 178).

main motivation of protecting customer deposits as well as ensuring systemic stability (Murinde, 2012, p. 13). Moreover, it is hoped that this would increase the profitability and stability of MFIs since they can access more traditional sources of capital. On the other hand, excessive regulation could reduce competition and stifle innovation as it was in the case with the Loan Funds of Ireland in 1843. Besides, it is feared that transnational microfinance regulation as a whole could lead to mission drift if the demands to fulfil regulatory requirements (i.e. capital adequacy) divert attention away from serving poorer clients (Hartarska and Nadolnyak, 2007, p. 1209).

2.2 Credit markets for the poor

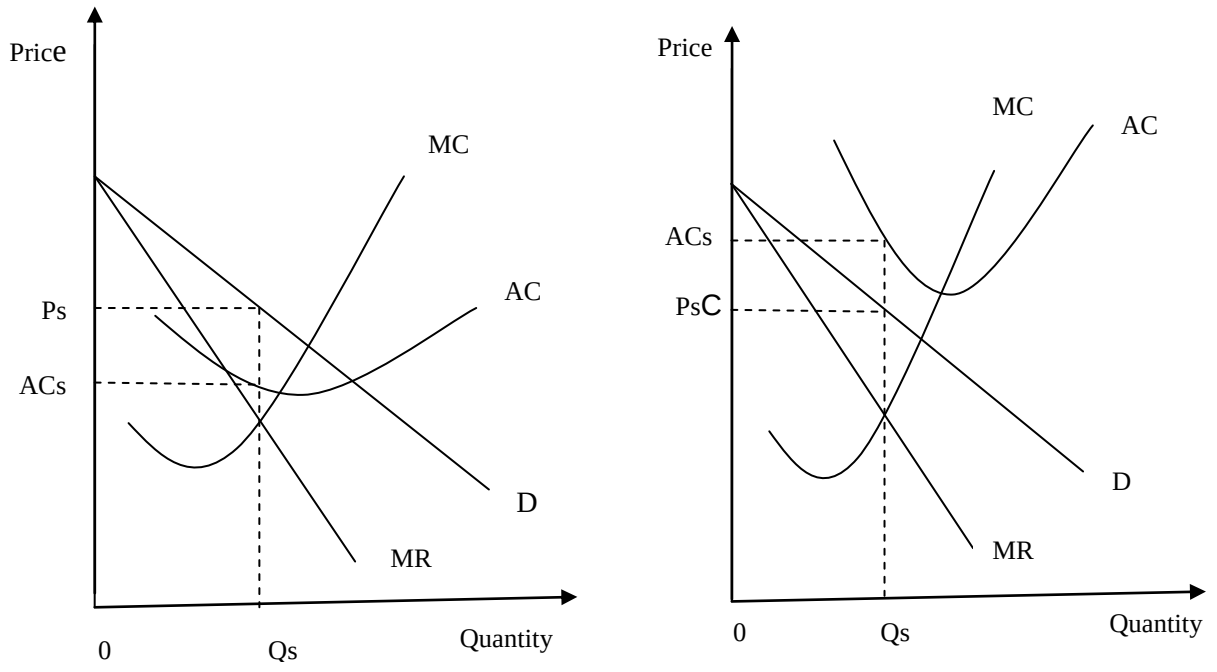
Before moving on to discuss transnational microfinance and mission drift, it is imperative to explain why credit markets have failed to serve the poor. As earlier noted, the poor in other parts of the world like their counterparts in Jobra village in Bangladesh have often simultaneously or independently relied on pawnshops, ROSCAs, charities or cooperatives or other informal models (i.e. family, friends, moneylenders, and traders) for the provision of their financial needs. Informal money providers such as traders and moneylenders are less often affected by information asymmetry and are therefore able to effect credit transactions with the poor. This is because they often live near the poor or are part of the same kinship or political party and most often know about their client's daily activities or business ventures (Hoff and Stiglitz, 1990, p. 240). For this reason, they are able to separate high-risk and low-risk clients and charge them different interest rates based on individual characteristics and loan size (Stiglitz, 1990, p. 352). Nonetheless, they tend to charge very high interest rates.

Singh (1968) for example finds that interest rates for moneylenders in a village nearby Amritsar in the Punjab region of India range from 134 to 159 percent. Researching in the Chambar region of Pakistan, Aleem (1990) shows that moneylender interest rates ranged between 18 to 200 percent, with an average rate of 70 per cent per year. Another research by Steel et al., (1997) reveals that moneylender interest rates are at least 50 percentage points higher than the formal sector interest rates in four African countries, including Ghana, Nigeria, Malawi, and Tanzania. Another study by Rosenberg et al. (2009) in 21 countries and West African Economic Monetary Union (WAEMU) finds that median rate for moneylenders and pawnshops is 10-25 per cent per month.[10] Also, a survey by Collins et al. (2009) in West

[10] WAEMU has eight members, namely Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo.

Delhi in India reveals that stated interest rates charged by moneylenders are between 61 and 700 per cent on an annualised basis. Even when some of the interest rates which are 30 per cent per month, are adjusted for delayed repayment and extended repayment period, the effective cost drops to about 8 per cent per month. All in all, the overall actual paid prices are considerably higher than informal credit markets.

The question is if these interest rates reflected the costs of serving the poor or were more an evidence of the monopoly power enjoyed by moneylenders? On the one hand, Aleem (1990) and Steel et al. (1997) suggest these rates to some extent could reflect the costs incurred by the moneylenders in serving the poor. These costs include high costs of screening loan applicants who were in most cases illiterates, high correlation amongst default borrowers because they share a common risk and the high costs of pursuing delinquent borrowers. On the other hand, Singh (1968) and Collins et al. (2009) dispute that the high rates are mainly due to the opportunity cost of lending to poor people, rather than monopoly profits or high default rates. This is because if moneylenders are to invest their money directly in other business activities such as farm enterprises, they would earn net returns that were averagely higher than those earned from lending to the poor.



a) *Short-run profit* *b) Long-run losses*

Figure 2.2: Moneylender profits/losses in the short-run and long-run
Source: Adapted from Acemoglu et al. (2016, p. 373)

Despite these differences in the views on what actually triggers high interest rates in the markets, all studies suggested the presence of "monopolistic competition" in these markets. Such markets were characterized by lenders operating in segmented markets and with each lender serving a small share of the overall market (Armendáriz and Morduch, 2010, p. 37). Market specialization was possible because of the geographical or occupational characteristics that gave moneylenders monopoly powers. In this sense, moneylenders often are targeting clients who are operating within a geographical reach or are offering services only to clients who are performing a particular trade (as was in the case of the moneylenders in Jobra Village in Bangladesh). As a result, each lender could spread his fixed costs over the small number of clients which are tied to him and could price at above average cost.

Figure 2.2 illustrates the short-run and long-run profit or loss of a moneylender in a geographical location. At point Ps on panel (a) of Figure 2.2, a lender could spread his/her fixed costs over the number of clients it serves and could price at above average cost. This leads to profits in the short-run that is reflected by the rectangle in panel (a). In the long-run,however, it is difficult to maintain profits since there is relatively free entry in these markets. Subsequently, other moneylenders could enter the market; therefore in the long-run moneylenders would incur losses since the average cost curve would be higher than the price (see the rectangle in panel (b) of Figure 2.2).

Basic microeconomic theory suggests that in such a situation where interest rates are very high, government intervention is necessary either through subsidizing the moneylenders or creating the possibility of competition such that interest rates may fall (Armendáriz and Morduch, 2010, p. 56). Under perfect competition and information, these policies would reduce interest rates(see Hoff and Stiglitz, 1990). However, for imperfect markets, theoretical models by Hoff and Stiglitz (1998) and Bose (1998) suggest that increasing the supply of credit instead leads to increases in the interest rates charged by the moneylenders. This is because the subsidy worsens the terms and availability of loans offered by the moneylenders in three ways. Firstly, in the case where the subsidy introduces new entry only on the supply side, this reduces the market share of each moneylender and subsequently forces him/her to operate at a higher marginal cost of transacting loans. Secondly, since both old and new moneylenders now compete for the same clients, this reduces the optimal scale of the moneylenders as each would end up with a smaller number of clients. Therefore, each moneylender now operates at a higher marginal cost than before. Lastly, as a result of many more moneylenders in the market, the established borrower-lender relationship weakens such

that moneylenders will now incur higher enforcement costs than before in order to screen out bad borrowers. The overall effect of the subsidy which induces new entry only on the supply side causes moneylenders to increase their interest rates. Another theoretical model by Jain (1999) reached similar results, in that the scale advantages of the formal sector overshadowed the advantages of local moneylenders. In contrast, other theoretical papers by Fuentes (1996) and Floro and Ray (1997) described scenarios in which the increase in formal credit may lead to an increase in availability of credit in the informal sector.

Nevertheless, the majority of government-funded programmes that were introduced in the 1990s were consistent with the theories of Hoff and Stiglitz (1998) and Bose (1998). For example, the increased supply of funds in the Thai and Indian rural credit market did not cause moneylenders nor commercial banks to reduce their interest rates (see Bell, 1990; Siamwalla et al., 1990). Furthermore, all other forms of intervention such as obligating banks to channel a certain quota of loans to particular favoured groups or areas have also been unsuccessful. In some countries, such as Ghana, Nigeriaand Botswana sectoral lending was made merely in the books and not applied effectively (see Brownbridge et al., 1998; Daumont et al., 2004). As a result, loan repayments were often well below 50 percent since many customers saw these loans as gifts from the government and therefore lacked the discipline to repay the loans (Helms, 2006, p. 6). Moreover, many of the credit programmes were managed by government officials who often used it for their political interests rather than channelling the funds to the intended poor households (see Adams et al., 1984; Braverman and Guasch, 1986).

One explanation for these failures is that the programmes were based on the inadequate understanding of the fundamental problems facing these markets (Armendáriz and Morduch, 2010, p. 25; Hoff and Stiglitz, 1998, p. 235). As explained before, these markets are imperfect and do not function like classical competitive markets. They are characterized by three main problems, namely:

- *Screening problem*: It is difficult for lenders to ascertain the creditworthiness of each borrower since borrowers differ in the tendency of repaying their loan.

- *Incentive problem*: It is costly to ensure that borrowers take actions which make repayment most likely.

- *Enforcement problem*: It is difficult for the lender to compel borrowers to repay on time(Hoff and Stiglitz, 1990, p. 237; Hulme and Mosley, 1996a, p. 16).

The above problems arise for many different reasons. Firstly, poor clients or low-income earners usually lack a stable source of income or collateral. As previously noted, the poor women in Jobra Village in Bangladesh had no collateral to offer the moneylenders. The empirical studies of Chambers (1995), Collins et al. (2009) and Demirgüc-Kunt and Klapper (2012) shows that a majority of poor households usually have a multitude of unstable and unconventional sources of income or support. These consist of running small production or trading businesses, selling of seasonal agricultural products and relying on loans or subsidies from the family or friends and NGOs. These assorted and irregular sources of support make it difficult for lenders to estimate repayment probabilities and enforce the loan repayment. Secondly, poor clients demand small and uneconomic sums and usually have no credit history. For instance, as explained earlier, Yunus' first clients required a loan of 64 cents each, an amount which would not cover the cost of the required documentation (Yunus, 2007, p. 52). Thirdly, it is not unusual for poor clients to demand loans for short-term consumption and working capital loans especially in bad harvest or low price periods (Rutherford, 2006, p. 1; Johnston and Morduch, 2008, p. 533). Fourthly, the insurance against any of the most common hazards that small producers or farmers in developing countries face, such as drought, livestock disease, and illness, is generally unavailable because of the difficulty to estimate the size of such risks (Hulme and Mosley, 1996b, p. 16). Lastly, the lender is often afraid that raising interest rates or increasing collateral requirements beyond a certain limit so as to compensate for the absence of collateral, may instead lead to *adverse selection* and*ex-ante moral hazard*. The former has to do with a situation whereby high interest discourages safer borrowers and pushes them out of the credit scheme while bad risk clients are attracted (Stiglitz and Weiss, 1981 p.396). The latter involves a situation in which borrowers, after taking a loan, consciously take risky positions or use the loans in ways that are not beneficial to the lenders (Armendáriz and Morduch, 2010, p. 48). Empirical findings by Cull et al. (2007) and Kodongo and Kendi (2013) confirm the adverse selection and moral hazard theories. Briefly, the authors find that default rates tend to increase as interest rates rise for individual-based lenders and that only risky borrowers are left in the pool of borrowers after a certain critical level of interest rate. However, both studies do not control for cyclical factors such as financial crisis which could lead to high default rates during such periods.

The direct consequence of these problems is that lenders need to spend significant time and resources in order to screen and enforce loans in such markets. A study for Pakistan by Aleem (1990) that screening and enforcement show that costs make up 14 percent of marginal costs of lending operations. He also finds that for each dollar lent to the poor, about half is spent on operating costs. In another study, Braverman and Guasch (1989)reveal that the administrative costs of handling small loans range from 15 to 40 percent per loan size. For this reason, banks or traditional financial institutions will limit credit just to clients for whom they have adequate information and would avoid soft-information clients even if these clients are willing to pay a higher interest rate to cover the additional risk (Stiglitz and Weiss, 1981, p. 394f.). Figure 2.3 below illustrates this credit rationing phenomenon.

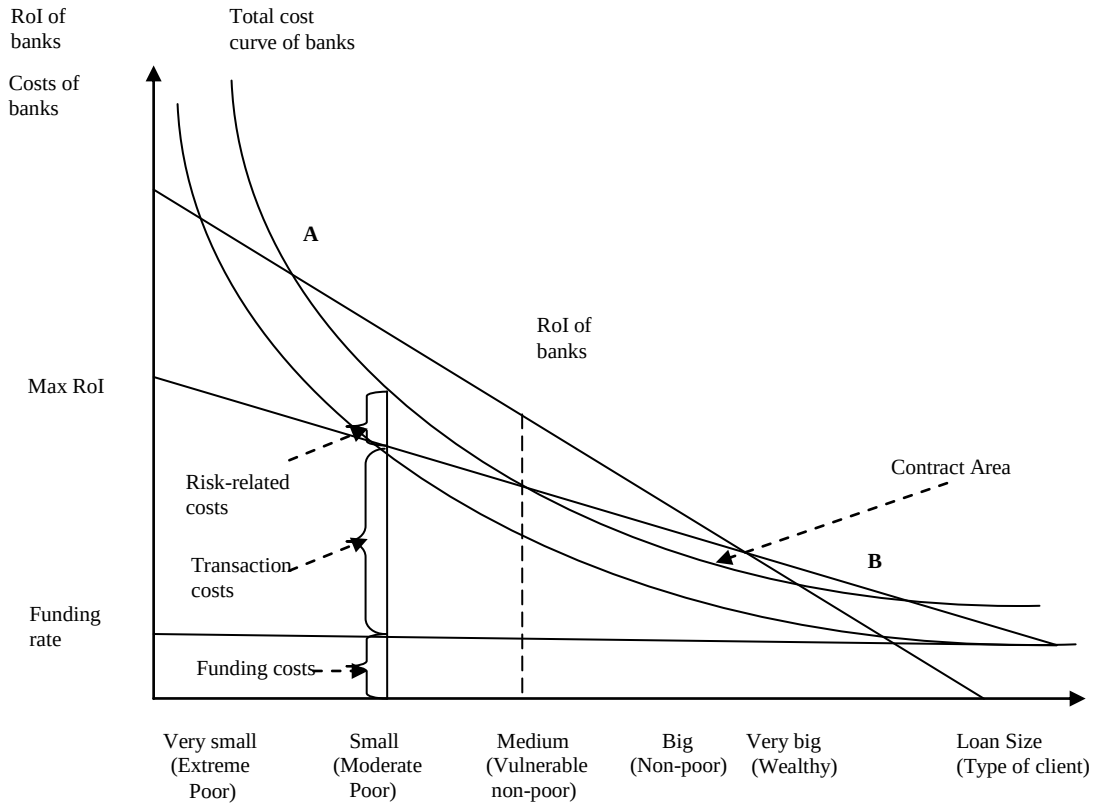


Figure 2.3: The cost of lending for banks
Source: Adapted from Tschah (2002, p.18)

Figure 2.3shows the costs of lending incurred by financial institutions expressed as a percentage of the loan amount. For the discussion presented above, it can be assumed that the size of the loan demanded by a client is proportionate to the poverty level. A bank will grant credit to clients only when the return on investment (RoI) from a loan would be at least equal to the total costs (i.e. funding, transaction and risk-related costs) involved in granting the loan.

It is also assumed that the loan amount is negatively related to transaction costs. In this view, small amounts will have higher transaction costs since conventional procedures of the banks are not able to accurately assess the inherent riskiness of poor borrowers. Consequently, bank loans would be available to all clients for which the RoI lies above the total cost curve of the banks (that is point A to B).

In reality, however, banks are not allowed by regulatory authorities to charge interest rates above a certain maximum, i.e. *max RoI* as depicted in the graph. They would therefore not charge interest rates which lie above this point, nor will they lend to borrowers for whom the total cost exceeds revenue. Subsequently, banks would lend only to borrowers for which the total costs is below the interest rate ceiling-*max RoI*, which is the case for all borrowers demanding medium, big and very big loan sizes. At these interest rates, banks will be making the highest profits. All other borrowers demanding small and very small loans will be subject to credit rationing.

2.3 Microfinance credit instruments

Hoff and Stiglitz (1990) identified *direct* and *indirect* methods which can be used individually or in combination to resolve the problems of screening, incentive or monitoring and enforcement. Direct methods generally involve mechanisms by which the lender expands resources directly in the form of administrative expenditure to screen applicants and enforce loans, and hope to gain appropriate reward in the form of lower default rate. These methods include intensive loan collection, remitting part of the interest rate, progressive lending, saving schemes and loan insurance. Indirect methods,on the other hand, consist of actions which provide information about the extent of risk for each borrower and/or which reduce the risk of default. Two main indirect mechanisms include group lending and peer-monitoring techniques. These methods have been used in practice by many MFIs such as the Grameen Bank, Bangladesh Rural Advancement Committee (BRAC) and Foundation for International Community Assistance (FINCA) village banking and Juhudi Kilimo of Kenya.

2.3.1 Direct instruments

The most common direct approach to enforce repayment is *intensive loan collection* which is similar to the Irish Fund's weekly repayment approach. This mechanism involves collecting of loan repayments at a specific time and each week at or near the borrower's premises. Unlike traditional bank loans whereby borrowers are expected to borrow and invest and then repay the full amount and the interest after a period, microfinance loans have very short or no

maturity period (Morduch, 1999, p. 1584).Loan repayment usually starts one or two weeks after loan disbursement and usually have a one-year term (Yunus, 2007, p. 69). For instance, in Grameen Bank, a 1,000-taka loan is repaid in 50 instalments of 22 *takas*; in which 20 *taka*sis the principal and 2*taka* is the interest rate (in this case interest rate is 20 per cent on flat rate basis).[11]Through this process, it is easy for MFIs to identify undisciplined borrowers and it provides early warnings to group members and loan officers (Morduch, 1999, p. 1584). Likewise, MFIs are able to get hold of the cash flows before they are consumed or diverted for other purposes (Rutherford, 2000, p. 15).

Conversely, weekly meetings create additional costs such as time spent attending 50-52 weekly meetings both for lenders and borrowers. A survey by the Women's World Banking (2003), for example, shows that 28 percent of the dropouts of clients in Bangladesh and 11 percent in Uganda left partly because of the frequency of the meetings. Besides, cost of travelling to meetings (in areas where the houses were not close together) and the time spent waiting were also important hidden costs. For instance, studies by Park and Ren (2001) on Chinese group programmes in 1997, point outs that eight per cent of members had to walk for more than an hour to get to meetings and members had to wait on average for 15 minutes before meetings started. On the part of the lender, administrative costs are also increased since it requires more effort to record the frequent meetings with borrowers and to document every microloan and repayment amount (Hulme and Mosley, 1996b, p. 24). Other MFIs such as BancoSol in Bolivia have reduced such costs by making repayment schedules more flexible. As a result, some borrowers could choose to make weekly or monthly payments (Morduch, 1999, p. 1576). Yet, the overall tight repayment schedule (i.e. demanding loan instalment almost immediately) may force many clients to borrow from other sources to repay MFI loans.

Another method to increase the intensity to repay is for lenders to implement the *option of remitting a part of the interest payment* when borrowers pay on time (Hulme and Mosley, 1996b, p. 24). In the Bank Rakyat Indonesia (BRI) for example, annual interest rates were dropped by roughly 10 percent, if loans were repaid with no delay (Morduch, 1999, p. 1578).

[11] The flat rate method charges interest on the full original amount throughout the loan term. Subsequently real interest rates are higher as opposed to charging interest rates on the amount the borrower actually has in hand-declining balance approach. As of 2010, Grameen bank charges four different interest rates for different types of loans, namely 20 per cent for income generating loans, 8 per cent for housing loans, 5 per cent for student loans and interest-free loans for struggling members (beggars). All these interest rates are calculated based on the declining balance method (Grameen Bank, 2015).

In addition to this, *progressive lending* or *step lending* is also being used to screen out and enhance loan repayment. This includes the practice of increasing the credit limit of borrowers by a proportion dependent on their previous repayment record (Hulme and Mosley, 1996b, p. 60). This feature permits lenders to test borrowers with small loan amounts at the beginning in order to screen out worst prospects before increasing loan size. Despite the fact that progressive lending is successful in many cases, an increase in competition amongst MFIs could diminish its effectiveness (Morduch, 1999, p. 1583). Studies such as those of Chaudhury and Imran (2002) in Bangladesh and McIntosh et al. (2005) in Uganda illustrates that progressive lending coupled with competition leads to over-indebtedness or double-dipping. This is because some clients, knowing that they will get larger loans immediately, will finish repaying the first loan and run to a second or third lender (a family member, another MFI or a moneylender) for a bridge loan to be used to repay the first loan. Moreover, progressive lending generally would be more successful in areas with relatively low client mobility and where some kind of information sharing system was available. BRI, for example, faced greater trouble securing repayments in their urban programmes than in their rural ones, where client mobility was lower (Morduch, 1999, p. 1583). Also, estimates in 2009 show that about 30-40 percent of microfinance borrowers in Bosnia and Herzegovina, Morocco, Nicaraguaand Pakistan had taken loans from more than one MFI at the same time (Chen et al., 2010, p. 7). As noted in chapter 1, this was mainly triggered by high competition amongst lenders and borrowers in these countries

The third direct method which can be used to combat the problems of screening, incentiveand enforcement is by implementing *savings schemes and loan insurance*. Since many poor borrowers cannot provide any form of collateral, borrowers are required to contribute a proportion of their loan amount into a loan insurance fund once they receive a loan. In addition, they are encouraged to carry out compulsory or voluntary savings. For instance, Grameen Bank borrowers are supposed to keep 5 percent of the value of the loan in a group fund (Yunus, 2007, p. 65). This amount is not refundable until the loan is fully repaid (Mosley, 1996, p. 5). Borrowers are also obligated to save 1 taka per week into a special savings account (Hulme and Mosley, 1996b, p. 12). Proceeds from the loan insurance fund and savings account can be used to insure against certain events (such as agricultural drought, bankruptcy of major supplier or client or major illness) which might cause the borrower to default (Hulme and Mosley, 1996b, p. 26). The practice of compulsory or voluntary savings serves as a screening device because it provides free information to the lender on borrowers

who are likely to repay. Remenyi (1991) attests that savings in general increases both the size and the liquidity of saver's net worth and this acts as an effective insurance to the saver against insolvency and consequent default. Nevertheless, this aspect of forced savings could also be seen as a burden for many poor clients who, as indicated earlier, might not have any regular income.

2.3.2 Indirect instruments

G*roup lending* and *peer-monitoring* techniques are by far the most important indirect strategies which are normally used to target the screening, incentive and enforcement problems. Group lending involves granting loans to a group of borrowers who act as *co-guarantors* for one another in sharing the responsibility for the loans granted. With group lending, the lender indirectly shifts part of the burden of screening, monitoringand enforcement of loans to borrowers. In the classical group lending approach which was commonly practiced by Grameen Bank, potential borrowers were charged with the duty of finding joiners for their various groups.[12] This option increased the probability for risky and safe borrowers to sort themselves into relatively homogenous groups in a process of *assortative matching* (Ghatak, 1999, p. 29).

The theoretical model of Ghatak (1999) shows that group lending increases repayment rates since it provides the possibility for the lender to charge different effective rates to different type of borrowers. The model can be summarized as follows: there are two potential borrowers, both risk neutral, however one is "risky" and the other is a "safe" type; the risky type fails more often than the safe type but they have a higher return when their project is successful. It is assumed that an MFI is unable to distinguish between the different types of borrowers. The borrowers on their part have perfect information about each other. Both borrowers wish to invest in a project which requires a unit of capital and if they decide not to carry out the project, they get a wage income *m.* The probability of success for each type of borrower is *pr* for the risky borrower and *ps* for the safe borrower. While the net return is *Rr* for the risky and *Rs* for the safe borrower. If both borrowers fail then they get a zero return, and their returns are statistically independent. Risky types have a higher probability to fail; hence *pr*<*ps* even though their return will be higher if they succeed. However, for simplicity reason, it is assumed that the expected return for both types is equal i.e. $prRr = psRs \equiv$ Ṟ.as

[12] Group sizes may vary from about five to seven members.

both projects are socially profitable in that net expected returns of the capital costs, ρ, exceeds, wage labor: $\bar{R} - \rho - m$.

Given that each borrower is too poor to offer any form of collateral, the lender must charge an interest rate which covers each borrower's loan per capital cost in order to break even. If both types borrow, then the equilibrium interest rates under competition will be rPR = ρ, PR is the probability of success the population. Since the lender cannot distinguish between both borrowers, he will charge them the same interest rate r. Safe borrowers have lower expected return than risky borrowers since $\bar{R} - rps < \bar{R} - rpr$. The safe borrower will only enter the market when the expected return exceeds his fallback position $\bar{R} - rps > m$. If the safe borrower enters the market the risky borrower will also enter the market. But safe borrowers will stay out of the market if $\bar{R} - rp < m$, and just the risky borrowers will be left in the market. The equilibrium interest rate will rise so that rPR =ρ. In this case, the risky borrowers lose the implicit cross-subsidization by the safe type, while the safe types lose access to credit-adverse selection.

With a group lending contract, each borrower pays an amount r^* when the project succeeds. In the event that other member fails, successful borrowers are to pay an amount c^*. If we assume that each borrower has perfect information about each other then the safe types will always team up with safe types and risky types with other risky types. If both types are put together in one group, the safe borrower will require a transfer of at least $ps(ps - pr)c^*$ to agree to form a partnership with the risky type. The expected net gain from joining with the safe type is $pr(ps - pr)c^*$. As explained before, pr<ps, the expected net returns of the risky type are always smaller than the expected losses of the safe types. Thus there is no mutually beneficial way for risky types to group with safe types. Thus group lending may lead to assortative matching if potential group members have perfect information about each other.

In other cases such as the FINCA village banking model which was developed by John Hatch, assortative matching might not be witnessed, since groups of about thirty to fifty villagers were randomly generated from the list of potential joiners by the village banking organizer (Armendáriz and Morduch, 2010, p. 115). Once a group had been created, the members are charged with the responsibility of approving loans, monitoring as well as assisting in the loan recovery process.

Theory shows that group lending could reduce transaction costs since the lender concentrates on providing small loans to a group of borrowers rather than dealing with individual borrowers at different times (Ghatak and Guinnane, 1999, p. 199). In addition to this, group lending can mitigate moral hazard and reduce default rates since group members exert *peer pressure* on one another to repay loans. This is because loans for subsequent group members are dependent on loan repayment capacity of the current borrower. Peer pressure discourages members from defaulting because of the social penalty consequences imposed on defaulting group members by those who do not default. Some of such social penalties include public disgrace (which might lead to loss of face, self-confidence and self-esteem) and the rejection of the defaulting member by the community(Hoff and Stiglitz, 1990, p. 243). It should be noted that this aspect of community isolation contradicts the broader aims of solidarity group lending (Montgomery, 1996, p. 289). In other instances, there could be the "forced" acquisition of household utensils, livestock and other assets of the defaulting members (Montgomery, 1996, p. 297).

Apart from the unorthodox treatment of defaulting borrowers, group lending embodies two other problems. Firstly, the need to reduce a lender's administrative cost might cause institutions to favour larger groups over smaller groups. However, the consideration of minimizing default rates would lead institutions to prefer smaller groups as they stand a better chance of effectively monitoring one another's behaviour and are more prone to collusion (Hulme and Mosley, 1996b, p. 27). A theoretical model presented by Armendáriz (1999) suggests that larger groups are less liable to collusion and better for risk management. In practice, however, the trade-off between group size and monitoring effectiveness is not very clear. On the one hand, research on the effects of group lending on repayment rates in BRAC Bangladesh shows that larger groups such as the village-level group, play a more significant role in ensuring repayment discipline than the five-person group model (see Montgomery, 1996). On the other hand, using a data set of 260 joint liability groups from the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand and additional data set from 2800 households, Ahlin and Townsend (2007a, 2007b) find mixed results on the effectiveness of group lending. They note that in poorer regions of North Thailand, repayment rates tend to increase when social sanctions are imposed on members. In the wealthier central region, they reveal that the extent of joint liability matters such that higher joint liability repayments lead to higher default rates. Their studies, however, contradict the theoretical model of Armendáriz

(1999) as she illustrates that higher default rates are common in groups where the cooperation is high amongst members (such as the existence of more family members in a group).

The second problem is that the joint liability aspect of group lending could lead to *free-riding* amongst non-homogenous groups (i.e. risky and safe types in one group). For example, Fischer's (2008) experiment in India illustrates that risky borrowers, when put together with safer borrowers, are more likely to make risky investments when they know their partners do not have fullinformation on the success of their projects. However, when all members' actions are observable, joint-liability does not encourage greater risk taking.

In reality, however, repayment difficulties are sometimes generated by other problems which are beyond a borrower's control. For instance, the 1998 devastating flood in Bangladesh affected many borrowers' ability to repay their loan such that in affected areas loan repayment fell by about 75 percent (Collins et al., 2009, p. 154). This crisis revealed the rigidity of weekly repayment and joint liability and that, no matter how small loan amounts were, the cash flows of poor borrowers were still very volatile. Subsequently, in 2001, Grameen Bank introduced "Grameen II" which dropped the joint liability option and allowed that problem loans be renegotiated without necessarily invoking punishment for the entire group (Yunus, 2002). In this manner, repayment was solely the responsibility of individual borrower while the group was to ensure that everyone behaves in a responsible way so as to avoid repayment difficulties. Additionally, Grameen II dropped the compulsory savings option and offered the possibility for clients to withdraw from their voluntary savings account as they wished, although clients had to travel to the branch office to collect their withdrawals (Collins et al., 2009, p. 160). Grameen II also paved the way for the mobilization of savings not only from borrowers but also from the general public (Chen and Rutherford, 2013, p. 7). In this respect, products such as Grameen's Pension Scheme was introduced which provided attractive interest rates for 5- or 10-year term (Chen and Rutherford, 2013, p. 18). This brought a new dimension to Grameen bank model that was previously predominantly about credit and less about savings.

Aside from the above indirect and direct methods, many microfinance models use other methods such as offering in-kind loans in the form of fertilizers and tractors to farmers instead of granting loans for these farmers to buy these items. Moreover, with the help of technology, many MFIs worldwide are now using mobile phone banking to ease financial services and also to reduce transaction costs (Jarotschkin, 2013, p. 18). For instance, *M-Pesa* mobile

banking service, which was launched in 2007 by the Kenyan mobile network Safaricom, enables mobile phone users to repay loans, deposit funds, or transfer money to relatives without necessarily having to leave their homes, business sites or villages (The Economist, 2010a, p. 71). Moreover, a new micro-insurance scheme uses *M-Pesa* to offer Kenyan farmers crop insurance against bad weather (The Economist, 2010a, p. 72).Due to its advantages, other mobile banking ventures such as MTN Mobile Money, Airtel Money, or Orange Money are presently been used in 80 developing countries in Africa, Asia and Latin America (Aker et al., 2011, p. 3). Taken together, the above approaches have been adapted in practice to meet the demands and characteristics of different populations.

2.4 State of microfinance institutions: A global picture

There are more than 10,000 MFIs globally which comprise a wide range of institutions, ROSCAs, credit unions or cooperatives, non-government organizations (NGOs), Self-Help Groups (SHGs), non-bank financial institutions and banks (responsAbility, 2014, p. 1). These institutions serve about 100 to 200 million borrowers worldwide which represent just about 10 percent of the total number of poor people which is currently one billion (World Bank, 2016a).

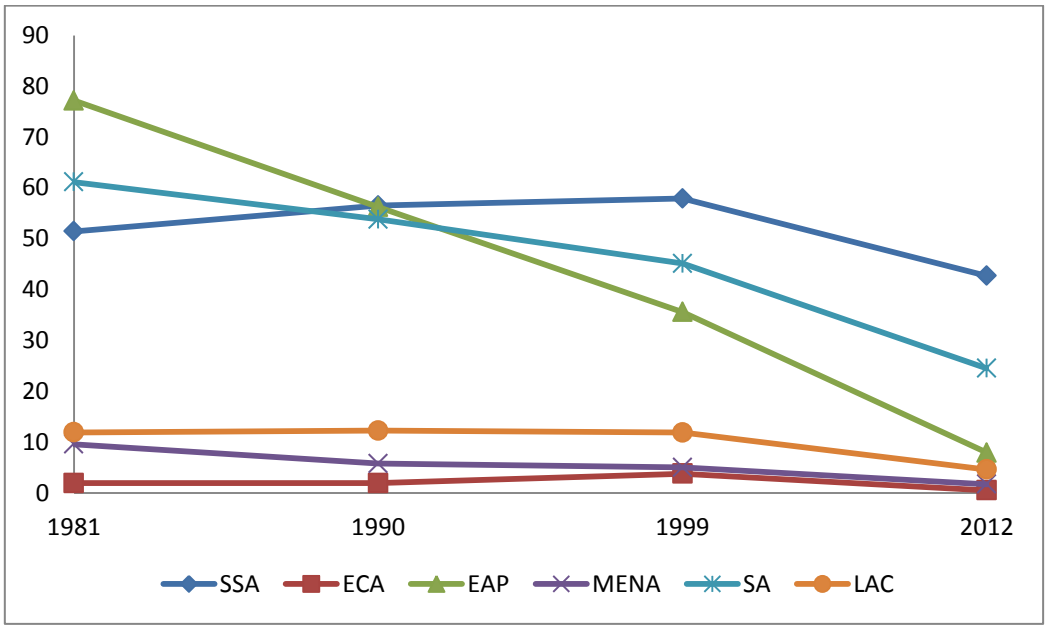


Figure 2.4: Poverty headcount ratio at $1.25 a day for the world regions (1981-2012)
Source: (World Bank, 2016a)[online] http://povertydata.worldbank.org/poverty/region

Figure 2.4 shows that between 1981 and 2012, the poverty rates have been falling in all regions. Regions such as East Asia and the Pacific (EAP) and South Asia (SA) have experienced significant poverty reduction over the past three decades. SSA is the only region

where the rate of extreme poverty has dropped at a slower pace 51 per cent in 1981 to 43 percent in 2012 of the total population. In spite of the marginal decrease, the number of poor persons in SSA has more than doubled to 438 million in 2012 for the same period. As a result, SSA is the world's poorest region and this poses a big challenge for the microfinance sector in the region.

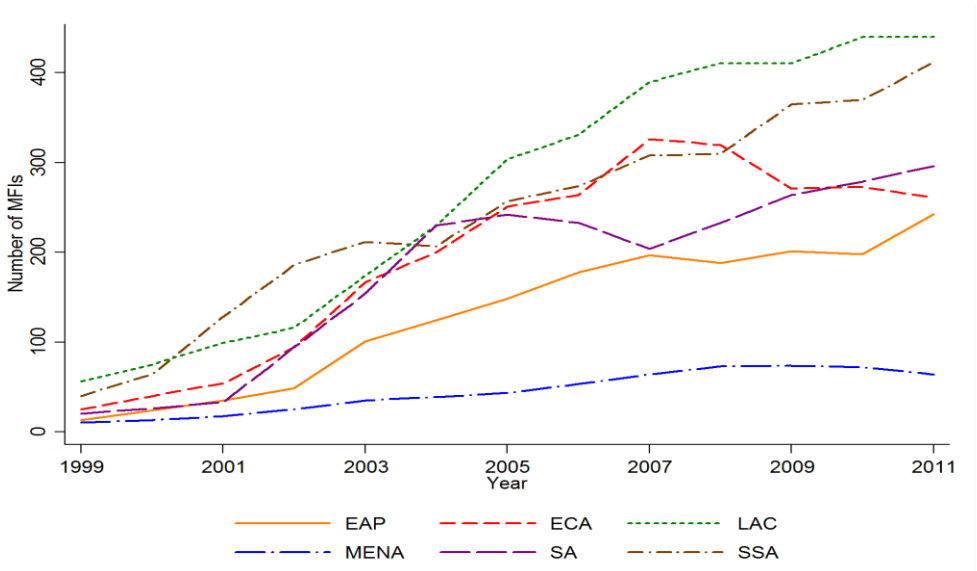


Figure 2.5: Number of MFIs, 1999 – 2011
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

In the last 12 years, the microfinance sector in SSA like in other developing regions has evolved. Figure 2.5 shows that the number of MFIs reporting to microfinance information exchange market (MIX market) across different regions has increased from 164 MFIs in 1999 to 1720 MFIs in 2011. However, this increase has been uneven among the different regions. For instance, between 2000 and 2003, SSA had the largest number of MFIs. This growth was spurred by efforts of both national governments and donors to promote microfinance and access to finance (Gulde et al., 2006, p. 21; Riquest and Poursat, 2013, p. 4). After 2003, the number of MFIs in Latin America and the Caribbean (LAC) picked up and grew faster than the number of MFIs in SSA, such that in 2011 LAC had 440 while SSA had 412 MFIs. In other regions such as SA, the number of MFIs grew from 2001 to 2004 where it levelled up and dropped significantly from 2005 to 2007. This decrease could be explained by the crisis that affected the Andhra Pradesh region in India which started in 2005 and ended in 2011 (Kaur and Dey, 2013, p. 697). This crisis led to the closure of many MFIs that were practising unethical loan collections, charging usurious interest rates and illegal practices. In late 2007, the big four MFIs (i.e. ASA, BRAC, Buro and Grameen Bank) which constituted two-thirds

of the microfinance market in SA decided to control their growth by not adding any new branches in order to prevent similar problems from occurring in other areas in SA (Chen and Rutherford, 2013, p. 1).

Two regions, Eastern Europe and Central Asia (ECA) and EAP which in1999 had less than 30 MFIs each, had at least 200 MFIs each in 2011. While the growth in the number of MFIs in other regions has been rapid, the growth in the Middle East and North Africa (MENA) has been slow such that it is the only region which continues to have less than 70 MFIs for the 12-year period. This is mainly because the microfinance sector in MENA is very young, with the oldest programme barely 10 years old (Brandsma and Hart, 2010, p. 1).

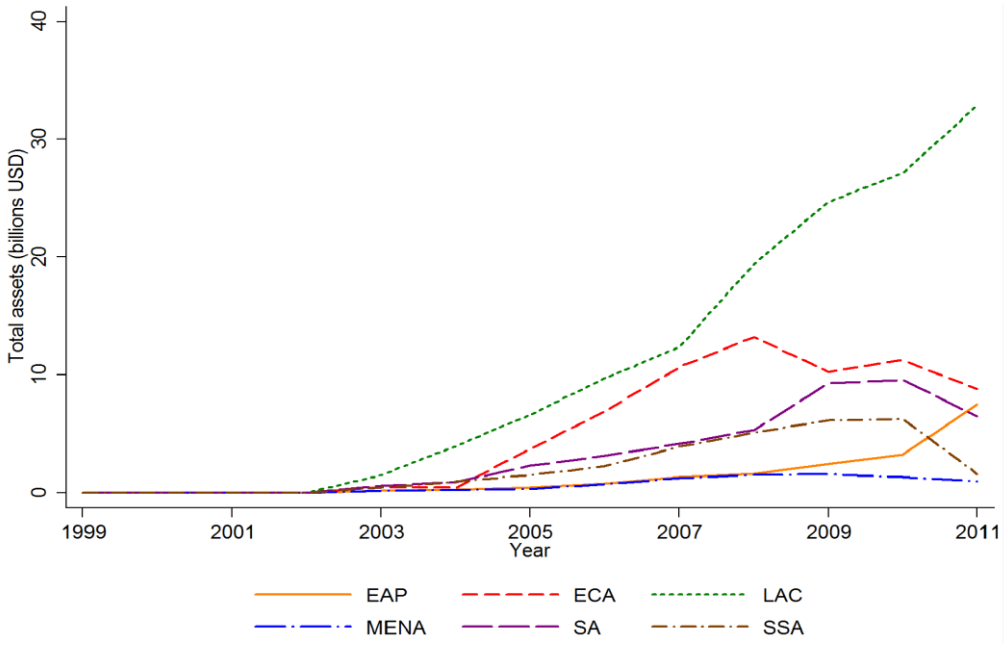


Figure 2.6: Total assets, 1999 - 2011
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

Figure 2.6 further illustrates the rapid growth of MFIs across different regions with respect to their total assets. The figure shows an upward trend in total assets up to the year 2009, after which it declines for all regions except for LAC and EAP which continue to experience asset growth. Since 2002, LAC is the largest region in terms of total assets. In 2007, however, it experienced a contraction in total assets as the world economy was hit by the financial crisis. Unlike LAC which felt the effects of the financial crisis in 2007, four other regions (ECA, SA, SSAand MENA) were only affected after 2009 as the crisis made it difficult for MFIs to access funding (see Figure 2.7).

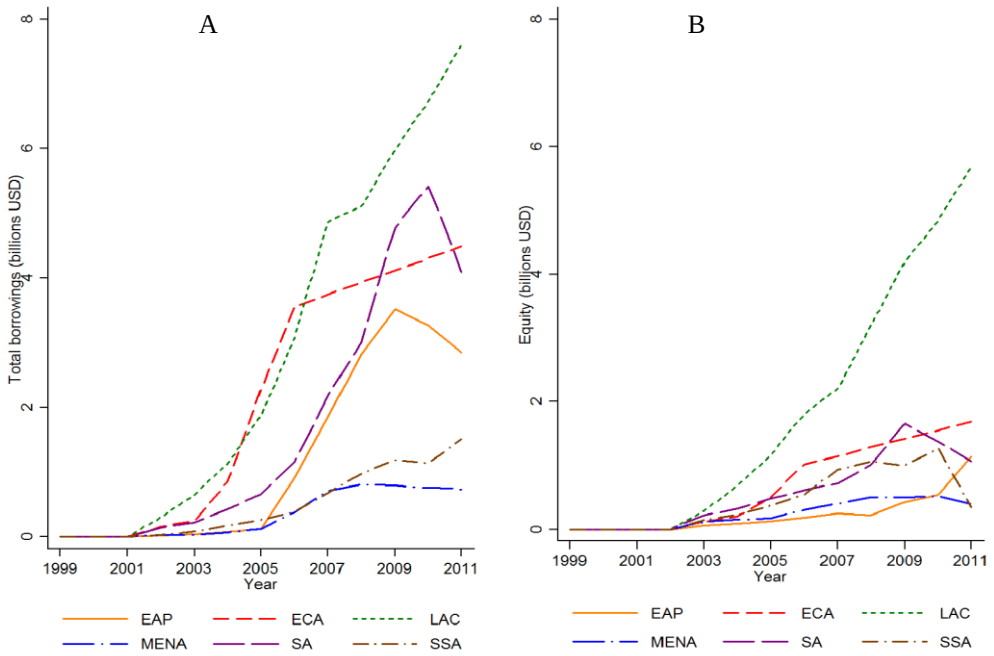


Figure 2.7: Total borrowings and equity, 1999 -2011
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

Panel A of Figure 2.7illustrates that total borrowings and equity dropped for three out of these four regions (SA, SSA, and MENA) in 2009. In contrast, in LAC, total borrowings and equity did not fall, while only borrowings declined in EAP for the same year (see Panel B of Figure 2.7).

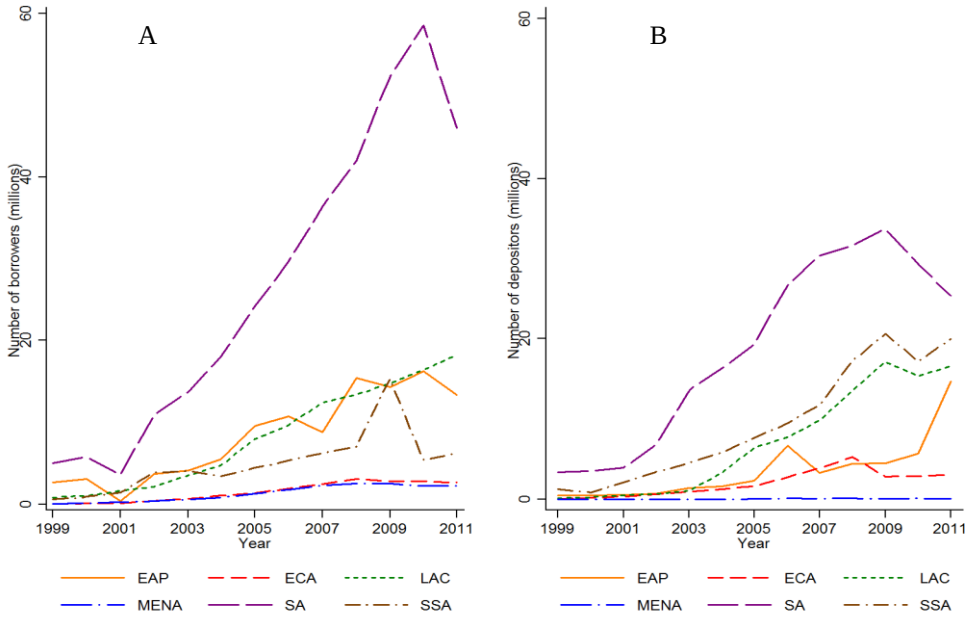


Figure 2.8: Number of borrowers and depositors, 1999 - 2011
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

In terms of the number of borrowers, Panel A of Figure 2.8 illustrates that SA is the largest region in terms of borrowers for the 12-year period. The region, however, experienced a reduction in borrowers in 2001,when the microfinance sector of some Asian countries was seriously affected by the Asian financial crisis which occurred in 1998 (McGuire and Conroy, 1998, p. 9ff.). Also in between 2010 and 2011, it experienced a 21 per cent decline in the number of borrowers. As previously noted, the drop in the number of borrowers could be explained by the Andhra Pradesh crisis in India. Unlike SA, which experienced a fall in the number of borrowers, LAC is the only region which continues to experience growth in its number of borrowers since 1999. While LAC has shown steady growth in the number of borrowers, growth rates in two regions (i.e. EAP and SSA) has been disrupted many times. For instance, the Asian financial crisis in 1998 led to a fall in the number of borrowers in EAP. Between 2008 and 2009, the number of borrowers in SSA grew at an alarming rate of 120 per cent and matched the level of borrowers in LAC and EAP. However, it experienced a negative growth of 65 per cent for the period 2009 to 2010. This decline could be explained by the widespread crisis that affected the large microfinance market in Nigeria which led to the liquidation of microfinance rural banks (Economist Intelligence Unit, 2012, p. 59). Besides, since the implementation of a new microfinance law in WAEMU countries in 2007, many unsustainable MFIs are being liquidated while smaller networks are being consolidated (see section 2.5). Nonetheless, since 2010 the number of borrowers in SSA shows positive growth trends. ECA and MENA have the lowest numbers of borrowers. The overall global decline in the number of borrowers has also reflected in the number of depositors in some regions.

Panel B of Figure 2.8 depicts that all regions except MENA experienced a dropped in the number of depositors in 2009 with SA experiencing the highest decline of 23 per cent. Yet, SA is still the largest region in terms of depositors. In contrast to SA, which still shows a declining trend after 2010, SSA which is the second largest region in terms of depositors experienced a positive growth rate of 16 per cent between 2010 and 2011. It is also the only region whose number of depositors outnumbers its number of borrowers by a ratio of three to one.

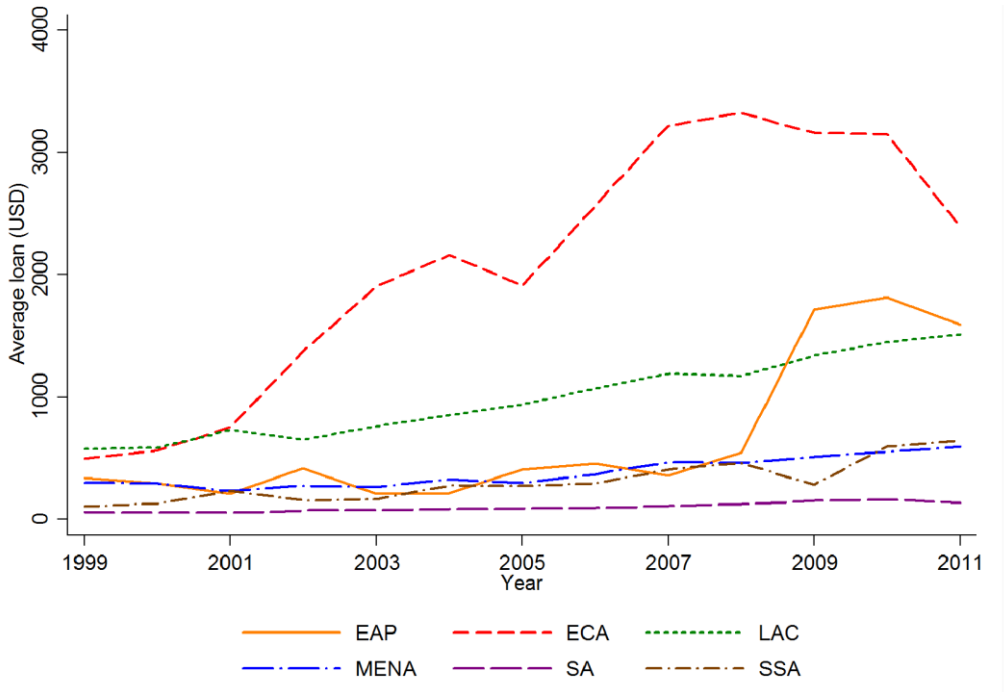


Figure 2.9: Average loan size over time, 1999 – 2011
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

In terms of average loan size, Figure 2.9 shows some striking differences amongst the different world regions.[13] SA which tends to have relatively poorer clients has the lowest average loan size. On the contrary, ECA which is relatively new to microfinance has the highest average loan size since 2001, due to the higher income and education levels in this region (Galema, 2011, p. 85; Beck et al., 2014, p. 27). Although there has been a declining trend of average loan size in ECA since 2009, the average loan size in 2011 is 2,400 US dollars which is far higher than average loan size in EAP. Average loan size in EAP grew at an alarming rate of 214 per cent from 2008 to 2009 and overtook LAC. Nevertheless, between 2010 and 2011 average loan size in EAP dropped by 12 per cent to reach 1,600 US dollars. LAC which continues to experience growth in average loan size has an average loan size of more 1000 US dollars in 2011, whereas SSA and MENA both have average loan sizes of less than 600 US dollars.

[13] Average loan size is calculated as the gross loan portfolio divided by the number of borrowers.

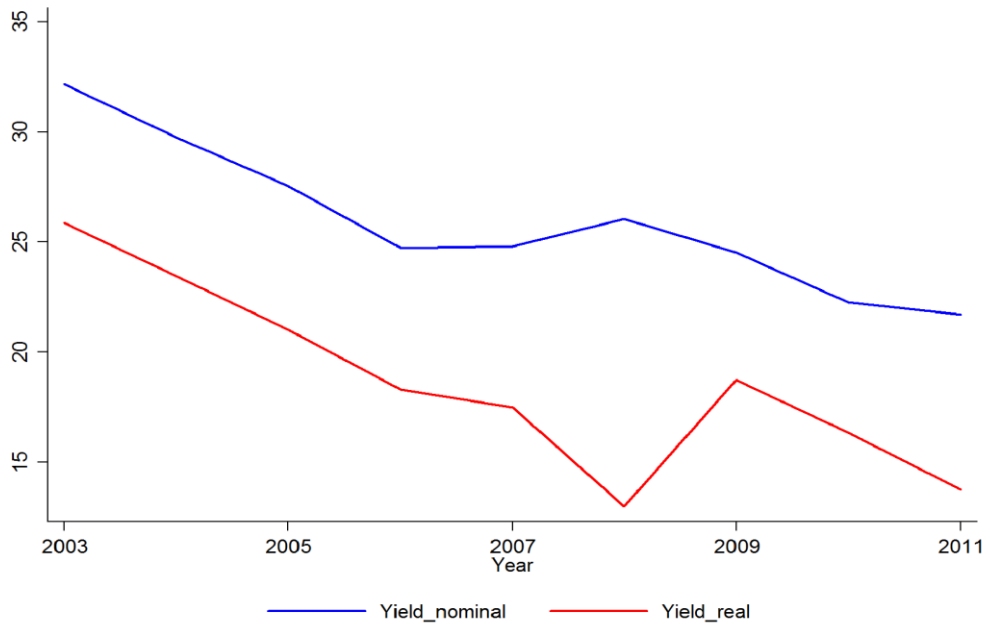


Figure 2.10: Evolution of microfinance interest rates (weighted average), 2003-2011[14]
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

The questions which arise now are: Have cost structures improved over time due to learning curve advantages and economies of scale? What drives the cost of loans? Are smaller loans more expensive (as was explained in section 2.2)? To answer these questions, it is important to consider the interest rates charged by MFIs as illustrated in Figure 2.10. This is because, just like banks, MFIs' interest rates reflect their operating costs, costs of funds, loan loss expense and profits.

Figure 2.10 above shows a drop in average global microfinance interest rates through 2007, but not thereafter. Also, real yield which represents inflation-adjusted interest rates fell in 2008 because just a few MFIs raised their interest rates enough to compensate for the spike in global inflation that prevailed in that year (Rosenberg et al., 2013, p. 6). A further analysis of interest rate components suggests that the main reason why the global microfinance average yield did not fall considerably after 2009 is that its main determinant "operating costs" also fell at a slower pace (see panel A of Figure 2.11).

[14] Figure 2.10 shows interest rates trend as from 2003 because many MFIs were not obliged by MIX-Market to report their interest rates before this period. However due to better transparency requirements sponsors, donors and investors encourage MFIs to disclose their interest rates.

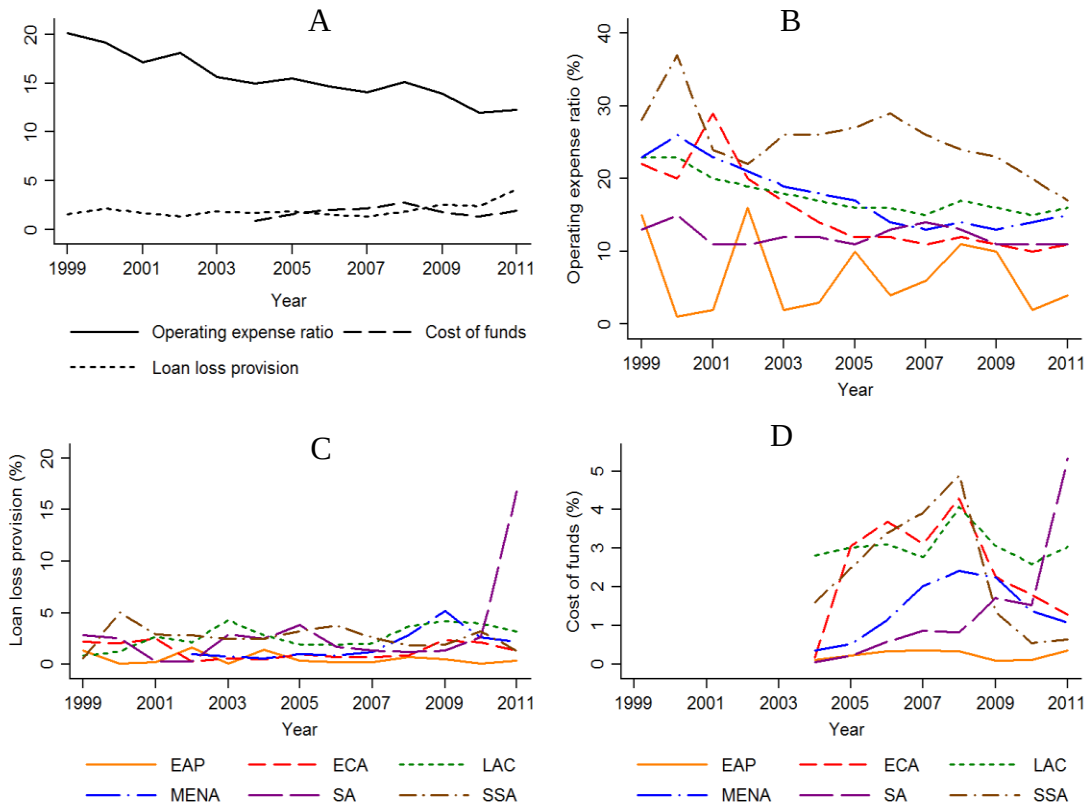


Figure 2.11: Interest rate components (weighted average by gross loan portfolio), 1999 - 2011

Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

Note: Loan loss provision of more than 150 per cent has been omitted.

The previous diagrams suggest that microfinance development has been different in the six regions; therefore loan efficiency would also differ from one region to another. Panel B of Figure 2.11 shows that although operating cost ratio has been decreasing in SSA, it is the least efficient region with operating cost ratio of 17per cent of the gross loan portfolio in 2011. This could be explained by the region's low population density especially in rural areas, weak infrastructure and high labour cost (Galema, 2011, p. 85). On the contrary, EAP is the most efficient region with the lowest operating cost ratio; however, it is the only region where operating efficiency is very unstable. The low operating expense ratio in EAP corresponds to its high average loan size as shown in Figure 2.9. Interestingly, operating expense ratio in all regions except SSA and SA shows increasing trends since 2010.

Panel C of Figure 2.11 indicates that the second most important cost factor is loan loss provisions ratio. Since loan portfolio represents the largest part of assets for MFIs that offer credit services, the non-repayment of loans pose a big problem for the functioning of MFIs. Therefore, every MFI has a certain amount set aside to cover the cost of loans that MFIs does

not expect to recover. This provision measures the capacity of MFIs to absorb loan losses in the worst-case scenario. Panel C of Figure 2.11 shows that SA's MFIs did not have sufficient loan loss provision to cover its delinquent loans during the crisis it faced from 2005 to 2011. In 2011, many of the non-performing loans were written off; as a result, loan loss provision ratio made up about 17 per cent of the loan portfolio.

The third cost element in Figure 2.11 is the cost of funds which represents the price paid by MFIs for its debt and equity. It is the lowest of all the components because many MFIs continue to receive subsidized funding which is often below the market rate. Moreover, as was illustrated in Figure 2.8 many MFIs are able to access deposits and this is usually cheaper than the cost of unsubsidized equity or debt. The cost of funds peaked in 2008 when the financial crisis started, after which it declined for all regions until 2010. Thereafter, just two regions (ECA and MENA) continue to experience a decline in the cost of funds, while the cost of funds in the other four regions (SA, LAC, EAP and SSA) shows increasing trends. This is an indication of the entry of classical debt and equity in microfinance markets.

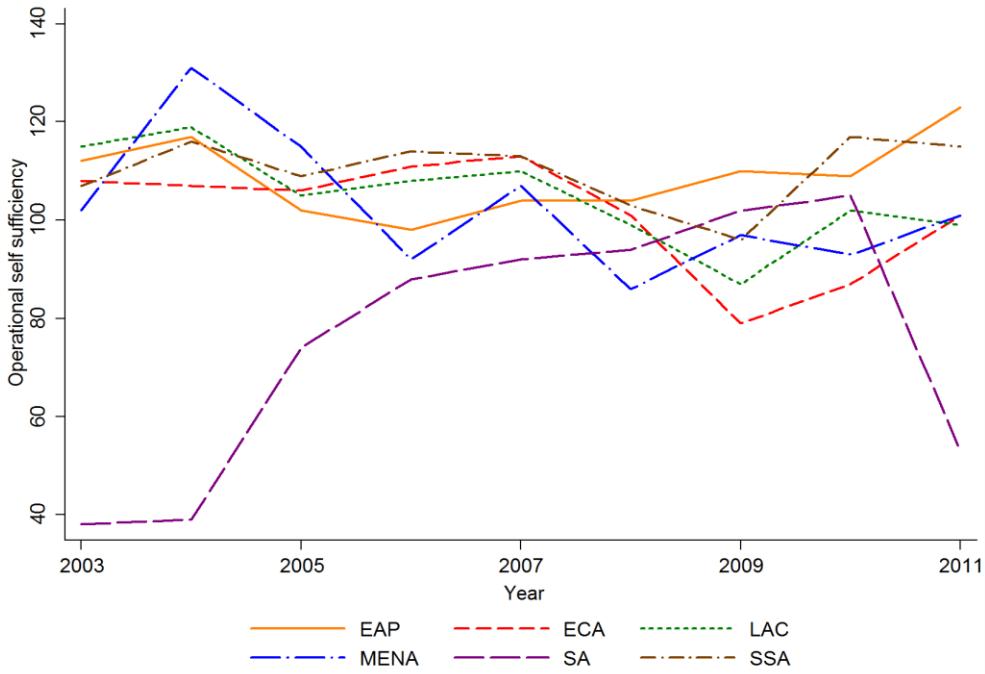


Figure 2.12: Operational self-sufficiency (OSS), (2003-2011)
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

The fourth interest rate component is profit which is measured by three different variables, namely operational self-sufficiency (OSS) return on assets (ROA) and return on equity (ROE) (Armendáriz and Morduch, 2010, p. 244). Firstly, OSS measures the ability of MFI´s revenue to cover its operating costs. The ratio is often presented in percentages. A value of 100

percent or more indicates that MFIs' revenues are able to cover costs, while a value under 100 signifies that the MFI must rely on outside funding to maintain its current level of operation. Figure 2.12 shows that although OSS has been fluctuating greatly, MFIs in all regions except SA are on average operating above 100 per cent self-sufficiency.

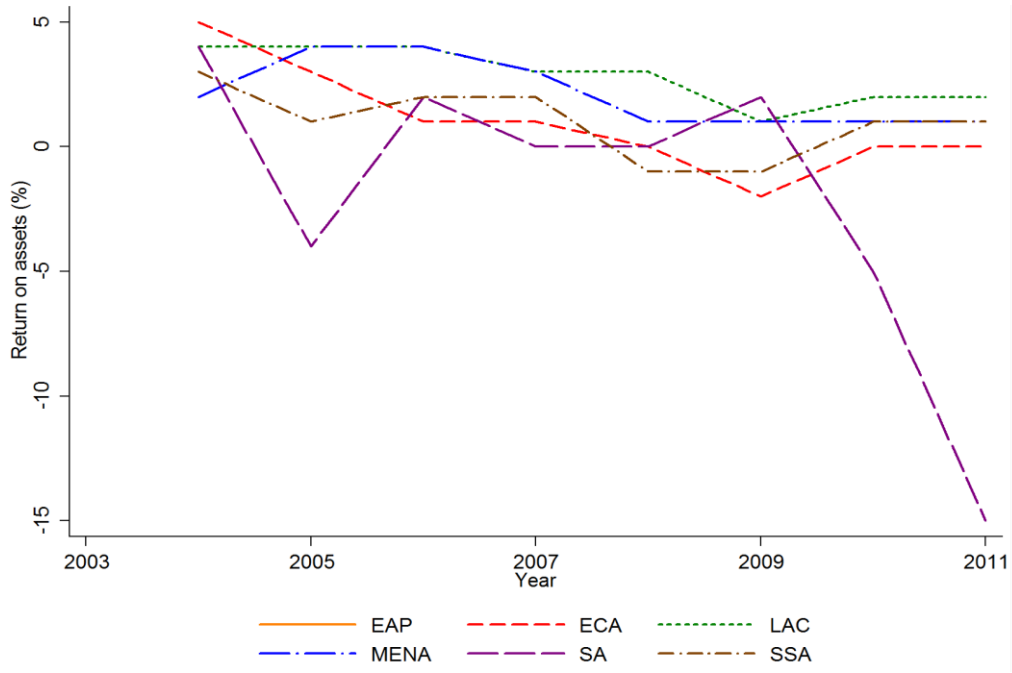


Figure 2.13: Return on assets (ROA), (2003-2011)
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

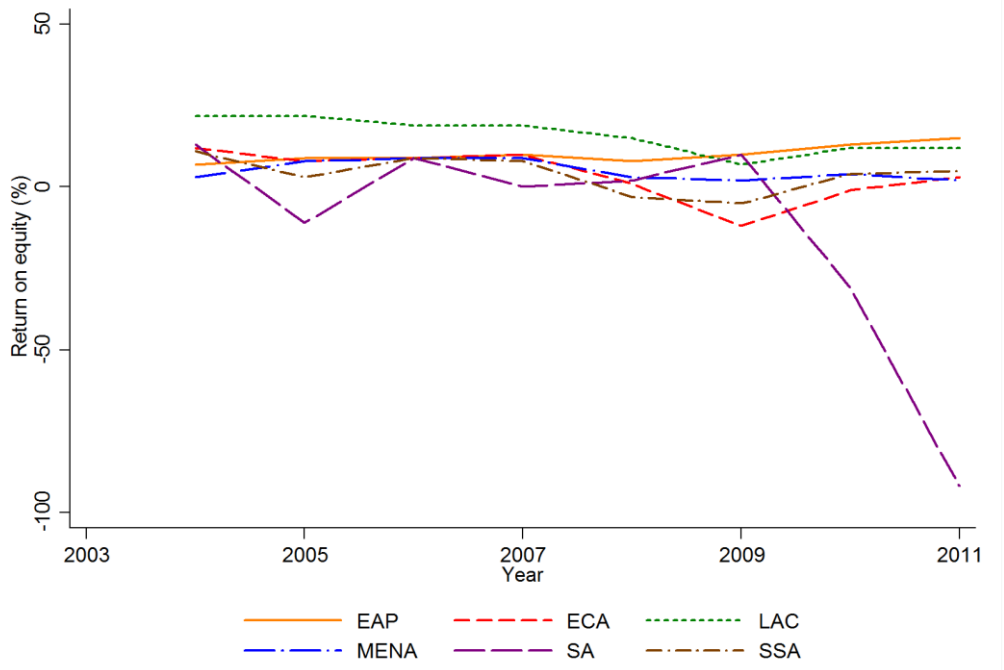


Figure 2.14: Return on equity (ROE), (2003-2011)
Source: MIX Market (2015)[online] http://reports.mixmarket.org/crossmarket#

Secondly, ROA represents how much profit an MFI earn for every dollar of assets. This measure,unlike OSS, takes into account other aspects of costs which are not only operational but also taxes and subsidies. Thirdly, ROE indicates how much rate of return is earned on invested capital by shareholders. This indicator is of particular importance to MFIs that pay out dividends to their shareholders. Figure 2.13 and Figure 2.14 display the evolution of ROA and ROE, respectively for the various regions.

Figure 2.13 and Figure 2.14 illustrate that both ROA and ROE have stabilised after 2009 in all regions except SA which had disastrous years in 2010 and 2011due to the crisis in India. LAC and EAP have the highest ROE amongst all regions, while SSA and ECA show some increasing trend in profits since 2009. The stabilization of returns in SSA could be explained by the consolidation process which is currently taking place in the microfinance sector in many SSA countries. Moreover, as the next shows economic and regional factors have directly or indirectly affected the microfinance sector in SSA.

2.5 Microfinance environment in Sub Saharan Africa

As earlier noted, the microfinance sector in SSA is expanding, even though not as fast as in the other regions. Many countries in SSA are amongst the fastest growing economies in the world, although average GDP growth in the region is expected to slow to an estimated rate of 3.0 per cent in 2015, down from 4.5 per cent in 2014 (World Bank, 2016b, p. 151). Countries like Kenya, Tanzaniaand Ethiopia are expected to grow by 7% each in 2015 supported by investment in infrastructure, construction and expanding services (World Bank, 2016b, p. 151). In contrast, the growth rate in an oil-exporting country such as Nigeria is expected to reduce by more than a half from 6.2 per cent in 2014 to 2.7 per cent in 2015 because of low oil prices that continue to prevail in the global markets (World Bank, 2016b, p. 151). Despite these positive growth rates, extreme poverty is still very high across countries in SSA. Table 2.1 shows that while South Africa has only 13 per cent of people living in extreme poverty, countries such as Nigeria and the Democratic Republic of Congo have more than 60 per cent of their population living in poverty.

In order to tackle the problems of low financial depth and poverty, all 48 SSA countries are involved in different forms of regional economic communities (RECs). Economic theory assumes that through the process of opening capital accounts amongst countries of geographical proximity, including the harmonization of regulatory and supervisory capacity, the creation of regional institutions, and the harmonization of payment systems, the small

fragmented markets in Africa would benefit in many ways. By bringing together scarce savings, viable investment projects, opportunities for risk diversification will be expanded and the establishment of information sharing systems and other market infrastructure will be facilitated (Wakeman-Linn and Wagh, 2010, p.221). In the long run, these policies would enhance growth that would, in the end, benefit everyone including the poor (Dollar and Kraay, 2002, p. 214).

Table 2.1: Microfinance sector indicators for selected countries, 2011

Countries	Total Population (million)	Percentage of poor people (1.25 USD)	MFI assets/GDP (%)	Adult with account	Private credit/ GDP
Senegal	14	30	3.8	23	31.1
Congo, Dem Rep.	66	87	0.9	5	8.6
Nigeria	169	68	0.3	30	22.6
Kenya	43	43	6.0	42	41.7
South Africa	51	13	0.8	52	171.5
SSA	936	43	3.2	24	18

Source: World Bank (2015) and MIX Market (2015)
Note: The median for MFI assets/GDP is based on 403 MFIs in 36 SSA countries for which data was available from the MIX Market for the year 2011.

Consequently, 51 heads of state and government signed the "Abuja Treaty" in 1991 with the hope of benefiting from regional integration. The treaty which went into force in 1994, laid the groundwork for the establishment of the African Economic Community (AEC) by 2028 (Sy, 2014a, p. 76). As earlier pointed out, African countries are engaged in at least one of the 11 different RECs and financial cooperation bodies (see Figure 2.15).[15] Although some progress has been made towards regional integration, the majority of these RECs are still in the early stage of integration because countries within RECs are uneven in terms of their economic and political policies (Sy, 2014a, p. 76).

Moreover, the common pattern in SSA is multiple, overlapping and often conflicting regional memberships and communities. On average, each country participates in at least three RECs or cooperation bodies. Figure 2.15 shows that Kenya and Rwanda are both members of the East African Economic Community (EAC) which is an economic union and the Common Market for Eastern and Southern Africa (COMESA) which is a multilateral free trade area. However, Tanzania which is also a member of EAC left COMESA in 2001 to join the

[15] The African Union (AU) officially acknowledges 14 RECs including *Union du Maghreb Arabe* (UMA), Intergovernmental Authority on Development (IGAD), Community of Sahel-Saharan States (CEN-SAD) (Frey and Volz, 2013, p. 87).

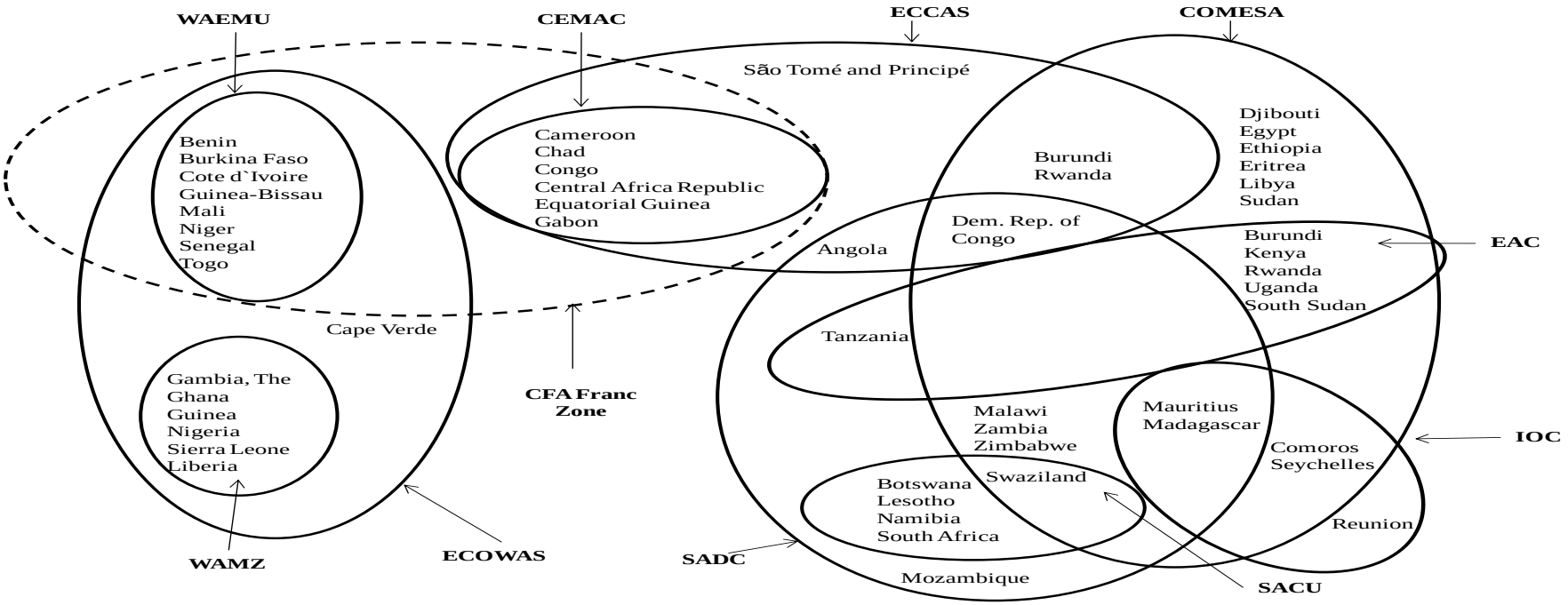
Southern African Development Community (SADC) (West African Monetary Institute, 2015). Also, seven countries have membership in both SADC and COMESA.[16] Two other countries (i.e. Mauritius and Madagascar) which are members of both SADC and COMESA are also members of Indian Ocean Commission (IOC). There are also overlapping membership patterns in Economic Community of West African States (ECOWAS) and Economic Community of Central African States (ECCAS). ECOWAS is made up of two RECs, namely the West African Economic and Monetary Union (WAEMU) and the West African Monetary Zone (WAMZ) and Cape Verde.[17]ECCAS includes the Economic and Monetary Community of Central Africa (CEMAC) and five other countries.[18] The CEMAC countries together with the WAEMU countries are also members of the *Communauté française d'Afrique* (CFA) franc zone. CEMAC and WAEMU each has its own currency which is pegged to the Euro (Frey and Volz, 2013, p. 88).

On the one hand, multiple overlapping memberships provide room for the gradual harmonization of activities in all sectors or fields in order to ensure the gradual establishment of the AEC (Head of State and Government of Member States of the Organisation of African Unity, 1991, p. 23). On the other hand, multiple and/or overlapping membership increases conflict of interest and confusion regarding the priorities of individual members who are also often at different levels of economic integration (Wakeman-Linn and Wagh, 2010, p. 236). Subsequently, as the next section shows, some policies of these RECs have directly or indirectly influenced the functioning and development of the different types of MFIs.

[16] The seven countries include Democratic Republic of Congo, Malawi, Mauritius, Madagascar, Swaziland, Zambia and Zimbabwe.

[17] Liberia was an observer, until 2010 when it joined WAMZ (West African Monetary Institute, 2015).

[18] CEMAC countries include Cameroon, Chad, Central African Republic, Equatorial Guinea, Congo Republic and Gabon. The other five countries are Angola, Democratic Republic of the Congo, Burundi, Rwanda and São Tomé and Príncipe.



Acronyms

CEMAC: Economic and Monetary Community of Central Africa
COMESA: Common Market for Eastern and Southern Africa
EAC: East African Community
ECCAS: Economic Community of Central African States
ECOWAS: Economic Community of Western African States
IOC: Indian Ocean Commission
SACU: Southern African Customs Union
SADC: Southern African Development Community
WAEMU: West African Economic and Monetary Union
WAMZ: West Africa Monetary Zone

Figure 2.15: Regional economic communities and cooperation in Africa

Source: Updated figure from Wakeman-Linn and Wagh (2010, p. 242)

2.5.1 Types of microfinance institutions in Sub Saharan Africa

Table 2.2 below shows the different types of MFIs in the different RECs in SSA. The table shows that in 2011, cooperatives or credit unions are the most popular institutional form for MFIs in SSA making up 36 per cent of total 403 MFIs. About 72 per cent of the total number of cooperatives is found in WAEMU, while the remaining 28 per cent of MFIs are found in the other RECs. This could be explained by the fact that the first microfinance law *Project d' Appui à la Réglementation aux Mutuellesd'Epargne et de Crédit* (PARMEC) - that was passed in 1994 for the eight countries in WAEMU authorized licenses only for credit unions or cooperatives (Riquest and Poursat, 2013, p. 3). As a result, many MFIs selected this institutional form (MIX and CGAP, 2011, p. 2).

Table 2.2: Number of MFIs as per their current legal status, 2011

RECs	No of MFIs	Bank	NBFI	Cooperative	NGO	Rural Bank
CEMAC	18	0	7	8	3	0
WAEMU	144	0	14	104	25	1
WAMZ	92	46	19	3	13	2
EAC	87	14	39	20	13	1
SADC	49	7	18	7	17	0
Other SSA	22	1	17	3	1	0
Total	403	68	114	145	72	4

Source: MIX Market (2015)[online] http://www.mixmarket.org/profiles-reports

Note: The "Other SSA" category includes three countries, namely Ethiopia, Comoros, and Sudan for which data was available from the MIX market. Nine MFIs have been omitted which have as legal status 'other'.

Although there was an extension of this law in 1996 to include some other types of MFIs, the overall regulation had three main limitations. Firstly, the accreditation process was flawed in that certain MFIs that should not have been licensed were granted licenses. Secondly, it lacked an independent supervisory authority and lastly, there were low prudential standards and reporting required (Destrait and Mees, 2015, p. 3). Consequently, the rapid expansion of the sector created small and weak institutions. Since the year 2000, some MFIs including some pioneer cooperatives such as*Faîtière des Caisses d'Epargne et de Crédit Agricole Mutuel* (FECECAM)in Benin and *Union Nationale des Coopératives d'Epargne et de Crédit de Côte d'Ivoire*(UNACOOPEC-CI) have been facing liquidity and governance problems (Riquest and Poursat, 2013, p. 5).

In 2007, a new microfinance law has been adopted and now provides a licensing framework for other forms of MFIs. The new law finally became effective in all eight WAEMU countries in 2012 (Riquest and Poursat, 2013, p. 3). Under this new law, the regional central bank

Banque Centrale des Etats de l' Afrique de l'Ouest (BCEAO) has a greater role in licensing and supervision for MFIs with total savings or outstanding loans exceeding 4 million US dollars (Riquest and Poursat, 2013, p. 3). This status also offers large MFIs the possibility to obtain refinancing from BCEAO via banks (International Monetary Fund, 2013, p. 13). Smaller institutions, on the other hand, are supervised by national authorities, typically the ministries of finance (Riquest and Poursat, 2013, p. 3). The new law encourages the consolidation of the sector through the imposition of tighter and more frequent prudential requirements which are more in line with banking norms including solvency requirements and a security fund (Destrait and Mees, 2015, p. 5). For instance, it requires that institutions publish their financial statements in major newspapers (Destrait and Mees, 2015, p. 7). Also,the capital requirement has been raised from 10 to 15 per cent of total net assets and it is obligatory for all MFIs that collect deposits (Destrait and Mees, 2015, p. 5).[19] Although this aligns with the Basel II capital requirement which was introduced in 2010, critics argue that raising capital requirements alone cannot replace adequate supervision. It rather creates a false sense of security and puts significant constraints on MFIs' ability to intermediate depositor funds at their disposal (Fuchs et al., 2013, p. 163). Besides, the new law encourages the creation of publicly traded companies that allow foreign investors to become stockholders in microfinance (Riquest and Poursat, 2013, p. 3).

Despite these developments, the biggest challenge remains in the implementation of this "one-size-fits-all" regulation in the different countries which are at varying levels of microfinance development. Senegal, for example, has the most advanced microfinance market in WAEMU with a microfinance market share of four per cent of GDP (see Table 2.1). Moreover, it is well ahead in the consolidation process as more than 100 institutions have been closed (International Monetary Fund, 2013, p. 13). Nonetheless, in other countries such as Niger and Guinea-Bissau the microfinance sector is still very underdeveloped (International Monetary Fund, 2013, p. 13).

The introduction of a new interest ceiling from 27 per cent to 24 per cent in January 2014 has further complicated microfinance growth (Destrait and Mees, 2015, p. 9). While this might be an advantage for agriculture activities, it might prevent MFIs from serving poorer clients

[19] This means that deposit-taking MFIs are required to have 15 US dollars of equity for every 100 US dollars or risk-weighted assets. This is in line with the recommendation by analyst that minimum capital adequacy ratio for MFIs should exceed the Basel II recommendation by at least 50 per cent or more (Ledgerwood and White, 2006, p. 41).

since they might not be able to cover their operating costs. Furthermore, this limit on credit rates could also affect proposed savings rates and consequently discourage saving as regional financial services are funded by this margin (Destrait and Mees, 2015, p. 9). It is however probably too early to provide any empirical evidence for the above assertions given that not all MFIs in the WAEMU have implemented or adhere to this new regulatory framework (Destrait and Mees, 2015, p. 7).

Similar to WAEMU countries, MFIs found in the CEMAC region are governed by the regional law which was passed in 2002 to establish modalities only for savings and credit cooperatives. This regulation was supplemented by instructions in 2002 and 2009-2010 (Riquest and Poursat, 2013, p. 3). The regulatory arm of the regional central bank (i.e. *Commission Bancaire de l'Afrique Centrale*, (COBAC)) is in charge of the supervision of MFIs (Riquest and Poursat, 2013, p. 3).

Unlike WAEMU where standards are applied evenly to all types of MFIs, CEMAC countries have implemented a multilayer or proportionate regulation. This approach allows for the categorization of MFIs by their scope of activities and subsequently applies the type and level of regulation accordingly (CGAP, 2008, p. 3). MFIs are divided into three tiers: credit-only institutions, institutions that take savings from members only and institutions that take deposits from the public. Deposit-taking institutions are subjected to prudential regulation which is often related to the capital adequacy or liquidity requirements. By contrast, lending-only institutions are not subjected to prudential regulation. Nonetheless, they are subjected to non-prudential regulation such as declaring the interest rates charged and terms and conditions (CGAP, 2008, p. 3). Although CEMAC and WAEMU countries lack credit bureaus, some countries such as Cameroon operate a public credit register and this is been used by some MFIs to obtain information on client's credit history (Earne et al., 2014, p. 29). Nonetheless, this public register is incomplete and covers just nine per cent of the adult population aged 15 and above (Economist Intelligence Unit, 2014, p. 21).

Table 2.2 shows that the second most popular institutional form of MFIs is the non-bank financial institution (NBFI) and 34 per cent of the total is operating in the EAC. The original members of the EAC-Kenya Tanzania and Uganda have had a long history of regional cooperation due to a common legal tradition and close trading links. In July 2007, two countries (Burundi and Rwanda) whose financial sector development and structures are quite different from the original members, joined the community (Wakeman-Linn and Wagh, 2010,

p. 233). Despite this, the EAC has made more progress with integrating its financial markets than CEMAC which has a common currency (Wakeman-Linn and Wagh, 2010, p. 234). In fact, as of 2013, EAC is considered the most advanced REC in terms of achieving the stages of the Abuja Treaty (Sy, 2014b). Nevertheless, many challenges lie ahead since EAC heads of state have approved the admission of the world's newest country (South Sudan) into the community in March 2016 (East African Community Secretariat, 2016, p. 2). Critics argue that this admission is too early since South Sudan is still recovering from a civil war and it continues to face serious internal political problems. It is feared that South Sudan might just become another Burundi whose political situation is very fragile and different from the other three countries (Kenya, Ugandaand Tanzania) which are more stable.

For instance, Kenya's microfinance sector is one of the largest and the most mature in SSA, with microfinance assets making up six per cent of GDP (see Table 2.1). Kenya has the most advanced mobile finance service in the whole region, thereby offering clients a variety of services at affordable costs (Economist Intelligence Unit, 2012, p. 65). Similarly, Uganda's microfinance sector has made remarkable developments due to skilled human resources and entrepreneurial clients, and its policymakers have focused on improving the economic environment (Gulde et al., 2006, p. 26). Its microfinance legislation is similar to that of CEMAC, whereby MFIs are differentiated into four categories of financial institutions, namely commercial banks, credit-only institutions, microfinance deposit-taking institutions and cooperatives and are regulated accordingly. Commercial banks are regulated by the Central Bank of Kenya, while deposit-taking institutions and cooperatives by the Sacco Societies Regulatory Authority (SASRA) (Economist Intelligence Unit, 2014, p. 64). Both Uganda and Kenya have liberalized their interest rates and this has allowed MFIs to recover the high cost of providing microfinance services (Gulde et al., 2006, p. 27).

Unlike CEMAC and WAEMU countries, where credit bureaus are generally absent, four out of the six countries in EAC have credit bureaus. In Rwanda and Uganda, these credit bureaus are used by both MFIs and banks. In Tanzania, however, only banks use the credit bureau, while Kenya's credit reference bureau has not made it mandatory for non-regulatory MFIs to list their bad or non-performing loans. Burundi and South Sudan are the two countries lacking credit bureaus, yet the former is in the process of establishing one for the whole financial sector (East African Community Secretariat, 2013, p. 7ff.).

Table 2.2 reveals NGOs are the third most common types of MFIs; they are evenly spread throughout the RECs. As previously noted, many MFIs such as Grameen Bank started as NGOs as this model was believed to be more effective at reaching poor clients. It was assumed that the NGO status permitted MFIs to ploughback any profits in the business to enhance its social mission. However, the NGO model usually lacks legal owners for which they are obliged to create value; hence they are increasingly considered to have weaker governance as compared to shareholder firms – banks and NBFIs. For instance, 14 out of the 17 MFIs which are currently facing liquidity and governance problems in WAEMU and CEMAC are registered as NGOs (Riquest and Poursat, 2013, p. 5).[20] As a result, analysts and policymakers have continued to push for the transformation of NGOs to more formal or regulated institutions with the hope to achieve better governance and efficiency.

Microfinance banks are the fourth common institutional type of MFIs and 50 per cent of these are operating in West African Monetary Zone (WAMZ) (see Table 2.2). WAMZ was created in 2003 as a step towards establishing a single currency for the non-CFA members of ECOWAS (West African Monetary Institute, 2015). It is made up of five former British colonies, namely The Gambia, Ghana, Nigeria, Liberia and Sierra Leone and one former French colony, Guinea. During the market-replacingactivism era of the 1970s, countries such as Nigeria and Ghana launched the rural banking scheme in order to promote financial services to the poor (Dafe, 2013, p. 185). In Nigeria for example, rural banks were usually government-owned, in Ghana,on the other hand, they were owned by members of the community (Uche, 1999, p. 215; Helms, 2006, p. 50). In the course of time, these rural banks were transformed into banks. Nevertheless, as earlier pointed, many of these banks in Nigeria have been liquidated and consolidated because of governance and liquidity problems (Economist Intelligence Unit, 2012, p. 59).

In the past, each country in WAMZ independently regulated and supervised MFIs (CGAP, 2008, p. 2). However, since 2012 countries in WAMZ are amending their microfinance standards in accordance with the WAMZ guidelines. For instance, microfinance guidelines in The Gambia, Guineaand Liberia have been reviewed to meet the WAMZ guideline (West African Monetary Institute, 2013, p. 32). Apart from Guinea, all countries continue to operate private and public credit reference bureaus. While The Gambia, Liberia and Sierra Leone each have one credit reference bureau, Ghana and Nigeria tend to have three credit reference

[20] This figure represents nine percent of the total MFIs found in CEMAC and WAEMU countries.

bureaus each (West African Monetary Institute (WAMI), 2013, p. 32; Quartey and Afful-Mensah, 2014, p. 119). Although the WAMZ is moving towards harmonization of regulation and capital, it is feared that the overall benefits of integration within WAMZ or the entire ECOWAS would only benefit Africa's largest economy (i.e. Nigeria), while smaller countries like The Gambia and Guinea might have to pay the costs (Debrun et al., 2011, p. 134).

SADC is the largest REC and it is made up of SACU and nine other countries.[21] Both RECs are the pillars for financial integration in Southern Africa. Although this REC has one of the highest numbers of countries (14) as compared to the other RECs, it has one of the smallest numbers of MFIs with the majority of MFIs being either NBFI or NGOs. As compared to the other RECs, the microfinance sector in this REC is underdeveloped since the financial sectors in most of the countries in this REC are far more developed. For instance, South Africa and Mauritius have fairly developed banking systems and financial depth ratios of more 100 per cent, which is by far higher than the median SSA ratio of 18 per cent (Beck et al., 2014, p. 26). Given the fact that SADC countries continue to lay emphasis on trade integration, each country in REC manages its microfinance regulation and supervision. For example, Mozambique and Zambia apply a tier regulation approach which is similar to that used by Uganda and CEMAC, whereas Lesotho does not have a legislation to regulation MFIs (CGAP, 2008, p. 4).

The above discussion shows that both individual countries' and regional policies have affected the types of MFIs in SSA. Since the process of regional integration is intended to continue in order to achieve the African Economic Community, MFIs in SSA will be governed more by regional policies in the future.

2.5.2 Outlook of microfinance in Sub Saharan Africa

Unlike the microfinance laws of 1990 which were set to promote access to finance, the current laws and regulations are pushing for consolidation through mergers and acquisitions, with the aim of getting larger and stronger MFIs. This would mean that smaller MFIs, NGOsand cooperatives would become more formal institutions in the long run. While this trend could have some positive impact on the microfinance sector, the main concern is that it might lead to greater concentration of the sector (Destrait and Mees, 2015, p. 11) and thus

[21] SACU was created in 1910 and it is the world's oldest custom union. The custom union is made up of five southern African countries, namely Botswana, Lesotho, Namibia, Swaziland and South Africa (Manwa and Wijeweera, 2016, p. 13).

limit access to finance just for easily accessible areas and segments of the population. Also, some MFIs do not yet have the sufficient potential to transform into formal institutions; consequently too early regulation could cause them to go out of business. The biggest challenge lies in identifying such MFIs. Above all, due to pressures to fulfil the regulatory standards, many MFIs might move away from targeting poorer clients, consequently drifting from their mission (Hartarska and Nadolnyak, 2007, p. 1209).

Aside from the problems arising from the recent regulation standards, other factors, namely credit information systemsand external influence are important for future projection. Firstly, as discussed in subsection 2.5.1, most SSA countries have some kind of credit-reporting systems, yet most of them are not comprehensive, not regularly updated or not regularly accessed by providers. This implies that credit information about clients might not be up to date; subsequently, there is room for improvement in the information sharing systems. The challenge here is if MFIs have the capacity and funding to influence this particular market infrastructure aspect.

Secondly, while the number of political unrest has reduced in SSA, the re-emergence of political unrest in countries like Burundi, Burkina Faso, Central Africa Republic, Chad, Niger, Nigeria, Kenya, Mali, South Sudan and more recently Gabon would continue to destabilize especially poor people. Such instability would reduce investor's confidence in SSA financial markets and would cause them to reduce their investment in the region (Glisovic et al., 2012, p. 2). Thirdly, as many countries in SSA continue to face budget deficits because of low commodity prices, the governments of certain countries might be forced to cut government spending and this might affect investment in the microfinance sector. Fourthly, the European crisis and the Chinese turbulence would continue to affect investment in the region (World Bank Group, 2015, p. 160). More specifically, current challenges such as climate change, migrationand currency stability would make it harder for investors and funders to promote financial inclusion within their own organizations (Soursourian et al., 2015, p. 2). Fifthly, since the slowdown of economic activity in developed countries, many foreigners living abroad have reduced remittances which they send home. Consequently, this would to an extent reduce the amount of money available to repay loans on the part of borrowers who sometimes rely on remittances as an additional source of funding for their expenditures.

3 Transnational microfinance and mission drift

3.1 Evolution of transnational microfinance

Financial globalization is the integration of local financial systems with the global financial system (Schmukler, 2004, p. 39). This occurs as a result of governments liberalizing their domestic financial sector and capital account such that capital can move easily across countries (Schmukler, 2004, p. 39). Just like microfinance, financial globalization is not a new concept. However, over the years the depth and breadth of financial globalization have greatly increased (Schmukler, 2004, p. 39). Two eras of financial globalization can be identified (Das, 2011, p. 63). The first era of financial globalization was the era of the classical gold standard. It began around 1870 and ended with World War I; it was marked by the free movement of goods, capital and ideas across a limited number of countries and sectors. The second and contemporary era of market-driven financial globalization is believed to have begun sometime around 1980. This era is reflected by financial deregulation, capital market liberalization, advances in technologies, especially in information and telecommunications, and also in financial product engineering(Das, 2011, p. 64; Beck et al., 2013, p. 1). This new wave of financial globalization involves many more actors and sectors (Das, 2011, p. 64), including the microfinance sector (Morales-Nieto, 2008, p.2).

Microfinance globalization in general "is the recent integration of the microfinance flows and institutions with the international capital and financial flows and markets, in which private investment funds are a catalytic force" (Morales-Nieto, 2008, p. 2). John Hatch, the founder of FINCA International suggested that this new direct association between the millions of poor in the global South and the core of the financial power of the global North is necessary for the maximization of energy in the microfinance sector (Roy, 2010, p. 31). Though it is difficult to actually pinpoint when this association actually started, there has been for many years continuous evidence of the involvement of North-South interaction. As early as the1990s, financial structures such as microfinance investment funds (MIVs) were set up in developed countries in order to manage investments in microfinance assets from both private and public funders or investors (Goodman, 2007, p. 13). These funds ranged from development-oriented funds, quasi-commercial or dual funds, to purely commercial funds and were categorized in these three groups so as to meet the objectives of the different investors (Goodman, 2007, p. 26).

In 1997, for instance, Deutsche Bank established the first Deutsche Bank Microfinance development fund (DB MDF) with the main aim of providing stimulant debt financing to MFIs in their early stages of development (Deutsche Bank, 2012, p.1). In 1998, the first dual-objective fund, Dexia Microcredit Fund was launched by Dexia, a Franco-Belgian Bank and managed by BlueOrchard Finance SA (Goodman, 2007, p. 13). Because of its attractive risk and return profile, this fund grew faster than other development funds and by 2004 assets under management were about 45 million US dollars (Swanson, 2008, p. 2).

As of 2004, other private and institutional investors entered the microfinance market and were seeking full market returns (Swanson, 2008, p. 1). For instance, in 2004, BlueOrchard partnered with Developing World Markets (DWM), an emerging markets fund manager based in Connecticut, to create the first collateralized debt obligation (CDO). This CDO was structured like a mainstream financial market CDO and offered the highest return to the highest risk equity tranche (Earne and Sherk, 2013, p. 393). The CDO was managed by the special-purpose-vehicle (SPV) BlueOrchard Microfinance Securities (BOMS1) and had the aim of bringing in mainstream institutional investors into the microfinance sector. The first closing of US 40 million occurred in July 2004 and the proceeds were used to fund loans to MFIs (Swanson, 2008, p. 3). In addition to this, the world's largest banks such as Citibank, HSBC, BNP Paribas, ABN AMRO and Barclays are directly or indirectly involved in microfinance and held an investment portfolio in MFIs of 500 million US dollars in 2006 (ING, 2006). This group of investors with a more commercial interest is increasingly seeing microfinance as a commercially sound investment prospect (Reille and Forster, 2008, p. 3).

Apart from this, social investors who seek both financial and social outcomes are also currently providing funding to MFIs. In 2007, for instance, the world's third-largest pension fund (the Dutch *Algemeen Burgelijk Pensioenfonds*,(ABP)) doubled its investment in microfinance in Africa, Asia, and Latin America (ABP, 2008). Also, the Swiss Post Pension Fund dedicated CHF 130 million to microfinance in 2011 (Earne and Sherk, 2013, p. 387). The main argument for both investments was that microfinance funds are insensitive to macroeconomic fluctuations in interest and inflation rates. Consequently, it offers an attractive risk/return ratio that could enhance portfolio diversification.

Aside from this, peer-to-peer (P2P) lending platforms have also taken off in the last five years as a means for the public to invest in microfinance. For instance, online lending platforms on which individuals from developed countries can directly invest into MFIs include Kiva,

Babylon, Globe Funder, and MyC4. These platforms act as facilitators to generate funding on small scale to MFIs that generally do not have access to more commercial sources of funding (Earne and Sherk, 2013, p. 395).

MFIs on their part are increasingly welcoming these new sources of financial investment in order to serve their increasing customer base. As earlier discussed in chapter 1, the initial public offering (IPO) of India's largest microfinance-SKS Microfinance - in 2010 led the MFI to raise 64 million US dollars from commercial foreign investors including JP Morgan Chase and Morgan Stanley (The Economist, 2010a, p. 55). This provided SKS with the capital to expand its customer base to 6.8 million and thus making it one of largest globally (Conning and Morduch, 2011, p. 5). Moreover, Mexico`s Compartamos which started as an NGO was able to raise funding from its IPO in 2007 to expand its number of clients from 800,000 in 2007 to 2.4 million in 2011 and gaining 40 percent of the market share (Lützenkirchen and Weistroffer, 2012, p. 6).

The occurrence of the interaction between MFIs in the poor southern hemisphere and different mixes of funding agencies and investors from the north inevitable might lead to changes in the functioning of MFIs. In consequence, financial global markets with excess funds to invest consider creating new products for further diversification and higher returns targeting MFIs, while MFIs get a source of funding to serve their exponentially increasing customer base. This interaction comes with some uncertainties since the overall globalization process is profit driven, whereas the microfinance sector is a unique developmental tool that combines profit and social interests. Subsequently, it is feared the foreign investment from different funders and investors could lead to mission drift since each group of funders and investors has different reasons for investing in microfinance. Section 3.2 below explains the three main factors driving transnational investment in microfinance.

3.2 Drivers and motives of transnational microfinance

As noted in chapter 1, foreign investment in microfinance was largely triggered by the failure of classical institutions to act in the markets. Consequently, public institutions such as developmental, bilateral and multilateral institutions intervened in the market by providing funding to MFIs in order to promote access to finance to the excluded segments of the population. Recently, socially responsible investors (SRIs) and purely commercial investors are channelling funds to MFIs for both financial and/or social reasons. Subsequently, the

factors driving foreign funding to microfinance have their base in the development aid theory, impact investing and risk diversification and return theories.

3.2.1 Development aid theory

According to the development aid theory, underdevelopment is considered to be co-determined by a lack of the capital and technological know-how needed to initiatedevelopment and can thus be solved by providing the right ingredient (Morgenthau, 1962, p. 305). As a result, development aid has been used under different conditions as follows: i) towards reconstruction as in the case of Europe after War World II; ii) as a medium-term mechanism to enhance development in developing countries; iii) and as a means to supplement domestic savings and foreign exchange earnings (see Chenery and Strout, 1966). In some instances such as the reconstruction of Europe, and the case of Taiwan, South Korea, and Botswana it produced successful results (Bräutigam, 2000, p. 37).[22] On the contrary, in other cases such as with many SSA countries, foreign aid has generated serious problems. For instance Knack (2001) and Djankov et al. (2008) empirical findings show that aid worsens democracy, bureaucratic quality, the rule of law and corruption. This is because when revenues do not depend on taxes from citizens and businesses, there is less incentive for accountability. Subsequently, foreign aid is associated with increased corruption and rent-seeking behaviour especially in SSA countries where there are competing social groups(see Svensson, 2000). In extreme cases, the rent-seeking activities could lead to a civil conflict as was the case in the civil war in Somalia in the1980s, where different influential factions of the public fought to control the large food aid that the country was receiving(see Maren, 1997).

Nevertheless, Sachs et al. (2004) theoretical adaptation of Solow's growth model illustrates that the "big push" aid approach could bridge the saving-investment gap which could reduce poverty and enhance growth. This model of Sachs et al. (2004) and some empirical evidence (Hulme and Mosley, 1996a; Burgess and Pande, 2005; Khandker, 2005; Imai et al., 2012) shows that microfinance is indeed one channel through which poverty reduction could be achieved (CGAP, 2004, p. vii; Van Rooyen et al., 2012, p. 2259). This is because through microfinance, capital stock could be raised in terms of increasing household incomes above the subsistence level and possibly savings and/or investment for poorer segments of the population.

[22] Acemoglu et al. (2003), however argued that the success of Botswana was triggered more by its adoption of good policies and less by foreign aid.

Building from this, donors believe that foreign subsidies could act as a catalyst to "*crowd in*" or encourage investment from private capital flows in different ways(see CGAP, 2006).[23] Firstly, as described in section 2.2, the provision of financial services to poor people is very costly, owing to the problems associated with screening, monitoringand enforcement. For this reason, the private sector does not find it worthwhile to incur high costs when serving the poor. Foreign subsidies in the form of soft loans or cheap capital could therefore act as a temporary tool for MFIs in their early stages, helping them to overcome high transaction costs which are associated with serving poor people, until these institutions are sustainable enough to attract funding from private sources (Morduch, 1999, p. 1592). Recent research on 1074 MFIs in 98 countries reveals that African MFIs compensated for non-subsidization by charging higher interest rates (50 per cent above those of subsidized MFIs). Besides this, the study also shows that without subsidies, MFIs in ECA and LA find it difficult to target less poor clients and female clients (D'Espallier et al., 2013, p. 175). In another vein, foreign subsidies are aimed at creating a positive "*infrastructure effect*", whereby they could be used for capacity building at the market infrastructure level and for supporting policy and regulatory reforms (El-Zoghbi and Gähwiler, 2013, p. 102). Put in another way, foreign subsidies could be used for the development of experimental services at the micro-level, providing staff training, supporting infrastructure such as rating agencies, credit bureaus, audit capacity and finally for promoting enabling policy environments (CGAP, 2004, p. v).

Closely linked to the above is the belief that financial globalization in the form of foreign funding could come with "*collateral benefits*" such as better institutional and governance environment and general macroeconomic discipline. Foreign subsidies or soft loans to MFIs are attached to certain conditions and this can help improve the institutional quality and functioning of MFIs (Goodman, 2007, p. 15). Lastly, foreign funding with developmental aim could come along with spillover effects, the so-called "*vanguard effect"*. Here, foreign subsidies coming from one particular donor could directly or indirectly promote private funding from the same donor or other donors (Kimura and Todo, 2010, p. 482f.). Since donors tend to gather information of recipient countries or MFIs before or during the process of providing aid, this information may spillover to other donors or private investors making them consider donating or investing. It is, therefore, more likely that private investors lend to MFIs that have received donor funding from a development finance institution (DFI) (El-

[23] Subsidies could be offered in four different forms, namely cheap equity, subsidized loans, guaranteed subsidy, grant and technical assistance (Tchakoute-Tchuigoua, 2015, p. 316).

Zoghbi and Gähwiler, 2013, p. 102). Moreover, foreign funding in the form of guarantee offers signals to outside investors that an MFI is worth investing in since funders are ready to bear part of the risk on behalf of the MFI (Morduch, 2007, p. 79). Additional signals to other investors could also be initiated when donors provide a board oversight (or even join the board) of the recipient MFI which indicates their belief in the institution's strength (Morduch, 2007, p. 79).Moreover, studies by Hansmann (1980), Fama and Jensen (1983), and Barr et al. (2005) indicate that major donors or their representative on the board of directors and other governance bodies can lead to better control of opportunistic behaviour by the manager.

Despite these potential advantages, it can be argued that foreign donations to MFI like foreign aid may instead *crowd out* private investment, that is foreign donations competes with private investments (Latortue et al., 2006, p. 6; El-Zoghbi and Gähwiler, 2013, p. 102). A survey of 22 largest donors and investors in 2012 illustrates that 78 percent of foreign funding was used to finance lending portfolios of MFIs, while capacity building at the market infrastructure level (supporting functions) and policy level (rules) accounted for only 2 percent of total funding each (Dashi et al., 2013, p. 1f.). Although this allocation alone is not enough to suggest the substituting effect of foreign donations, El-Zoghbi and Gähwiler (2013) argue that this allocation of funds is unbalanced and not in line with the catalytic approach of market development. Nevertheless, note should be taken that most funders prefer to finance the lending portfolios of MFIs because it is less challenging to measure the impact of granting loans to clients than the impact of supporting market development in general (El-Zoghbi and Gähwiler, 2013, p. 103). Also, projects with the purpose of market development are less capital intensive and require more technical expertise and engagement with the recipient (Soursourian et al., 2015, p. 5). Consequently, it is best to consider the funding allocation at the MFI level or regional level for further insights on the crowding out effect of foreign donations.

At the MFI level, the majority of funding continuously targets mostly large profitable MFIs (Tier 1 and 2 MFIs) in particular countries or regions.[24]At the regional level, for example, just

[24] Tier 1 MFIs are mature, financially sustainable and large MFIs with asset size of more than 50 million US dollars. While Tier 2 MFIs are usually small or medium sized MFIs which are or approaching maturity with asset size of between 5 million and 50 million US dollars. Tier 3 are start-up MFIs or small NGOs that are often immature and unsustainable (MicroRate, 2013, p. 1).

two regions (i.e. LAC and ECA) received about 40 percent of total foreign funding.[25]At the county level, a CGAP survey in 2010 shows that more than 50 percent of foreign funding went to just 10 out of the 123 countries that received foreign funding. The remaining 100 countries at the bottom received less than 33 percent of foreign investments (El-Zoghbi et al., 2011, p. 6). Even though in the foreign aid literature, the concentration of aid is viewed as a means to improve aid effectiveness, the excessive concentration of foreign funding in particular matured MFIs could be signals of the crowding out as opposed to crowding in effect (El-Zoghbi and Gähwiler, 2013, p. 103).[26]

It is also feared that foreign subsidies could distort the functioning of microfinance markets in two ways. Firstly, it could weaken the receiving MFI's financial discipline (El-Zoghbi and Gähwiler, 2013, p. 102). In this case, cheap funding can push MFIs to embark on unsustainably steep growth paths or create "free-riding" problems whereby an MFI gets the impression that it could be bailed out by foreign donors when things go wrong (Morduch, 2007, p. 79). Though donors monitor the activities of MFIs, the monitoring process is not as stringent as those of commercial investors who anticipate a financial return after investing (Fehr and Hishigsuren, 2006, p.5). As already indicated above, many donors are more focused on the social impact of their investment in terms of the number of poor people served and the types of impacts on the lives of the poor and often pay little attention to the financial statements of MFIs which are often incomplete and not audited (Fehr and Hishigsuren, 2006; Gutiérrez-Nieto and Serrano-Cinca, 2010, p. 313). Therefore, there might be little incentive on the part of the MFI to perform efficiently (El-Zoghbi and Gähwiler, 2013, p. 108). Secondly, the availability of donor funding to MFIs can create disincentives for development or expansion of saving services (Morduch, 2007, p. 77). This is because the design of foreign subsidies hardly takes in to account the other several sources of funding available to recipients (other loans, savingsand equity) and as well as the alternative uses of funds available to the donors. A systematic theoretical and empirical research presented by Armendáriz et al. (2011) illustrated how the poor design of subsidies with unclear rules and subsidy uncertainty increased the risks of MFIs drifting from their mission.

[25] In mid-2004, 87 percent of total foreign funds went to these two regions (see Ivatury and Abrams, 2005, p. 6). In 2009, these two regions received 41 percent of total funding (see El-Zoghbi et al., 2011, p. 6). In 2011, both regions received about 38 percent of total funding (see Lahaye et al., 2012, p. 3).

[26] Easterly and Pfutze (2008) outline the best practices for the effectiveness of foreign aid and suggest that donors should limit their resources to particular countries and/or sectors. Other best practices for aid include agency transparency, minimal overhead costs, delivery to more effective channels, and more allocation of aid to more democratically free, poor countries.

For example, consider a donor whose funds can earn 10 per cent per year if this was invested in the stock market. However, the donor decides to make a soft loan to an MFI with a return of 2 per cent per year. The implicit cost for the donor in this case (ignoring risk and inflation) would be the difference between the two returns which is 8 per cent per year (i.e. 10-2=8). For the MFI, however, the value depends on its next-best source of funds. If it would cost the MFI 8 per cent per year to mobilize deposits for customers, then the net value of the loan is 6 per cent per year (i.e. 8-2=6). The net financial gain to the recipient for getting the soft loan at 2 per cent is far smaller; and this,therefore, triggers disincentive on the part of the MFI to mobilize savings (Morduch, 2007, p. 77). This is exactly what happened in Bolivia before 2004, as many regulated MFIs (who by law could collect deposits) chose to continuously depend on subsidized funds, rather than to mobilize deposits from the public or obtain local commercial debt because savings were more expensive and risky than subsidized funds (see Miller, 2003). The study by D'Espallier et al. (2013) illustrates that just 23 percent of 1074 MFIs in 98 countries survive without subsidies. Moreover, the study also reveals that the lack of subsidies worsens the overall social performance of MFIs. Overall, cheap foreign money may lead to disincentive or a "dependency trap" on the part of MFIs to develop other cost effective ways of serving the poor (Latortue et al., 2006, p. 6; Van Tassel, 2016, p. 413).

3.2.2 Impact investing theory

Foreign funding to MFIs is also currently coming from SRIs whose motives are about generating social and economic impact alongside financial return from their investments (Urgeghe, 2010, p.13). Socially responsible investing has its origins in the corporate social responsibility (CSR) concept (Renneboog et al., 2008, p. 1724; De Corte et al., 2012, p. 6). The main ideology behind CSR is that firms go beyond their economic objective and consider other aspects such as ethical obligations and their effect on the society at large (see Carroll, 1999). In the beginning, CSR was mainly about corporate philanthropy (Cochran, 2007, p. 450). Nonetheless, over the years, the concept has developed into the idea that real social responsibility is not about giving money to charities but investing in projects that yield both social and economic benefits. Consequently, there has been a rise in the number of companies with the aim of "doing well by doing good" and that particularly invest in microfinance. A survey conducted by J.P. and Global Impact Investing Network (2015) indicates that in 2014, microfinance is the second largest sector attracting impact investment assets and it constitutes

16 per cent of the total 60 billion US dollars assets under management in both developed and developing countries (Saltuk et al., 2015, p. 24).[27]

SRIs generally use either the negative or positive screening approach in selecting their investment possibilities (Renneboog et al., 2008, p. 1728). The former involves a situation whereby all investments that don't match certain criteria are considered "bad" and screened out of the investor's investing possibilities. A typical negative screen can be applied to investments in tobacco, gambling and firearms producing companies, whereas other investments that are considered valid go through a classical financial analysis (De Corte et al., 2012, p. 7). With the latter approach, SRIs include investment opportunities that score highest on certain standards for instance companies that target social, environmental or ethical issues (De Corte et al., 2012, p. 7).

In the past, SRIs in microfinance mainly used the negative screening approach. The first step was to exclude investment that was not microfinance and then consider the remaining investment as potentially valid without taking into account the social impact. Currently, SRIs are increasingly been expected to measure the social returns of their investments in microfinance (CGAP, 2010, p. 24). They are now expected to report on social return indicators which could range from the "average loan size" and "percentage of women" to other indicators that measure the governance or environmental commitment of the investee MFIs (see CGAP, 2010, pp. 25ff.).

Since socially responsible investment is not charity, investors usually require some kind of profit from their investment which may range from below-the-market to competitive interest rates. It is common to assume that SRIs are a truly homogenous group of investors evenly seeking both social and financial returns (Nilsson, 2009, p. 6). However, this is not the case in practice. On the one hand, some SRIs are more interested in the financial than the social return and may invest in microfinance mainly for the financial return. On the other hand, other SRIs however, are more interested in the social than the financial return (Nilsson, 2009, p. 6). For example, a Credit Suisse survey of SRIs in Switzerland found that 63 percent of these investors had social performance as their first investment motivation, while 11 percent considered the expected financial return as their primary investment motivation (Karrer-

[27] Other important sectors include housing (27 per cent), financial services (excluding microfinance, 11 per cent), energy (10 per cent), healthcare and food and agriculture (5 per cent each) and education (2 per cent) (Saltuk et al., 2015, p. 24).

Ruedi, 2011, p. 15). It is therefore quite possible that some SRIs in microfinance are more concerned about the high risk and high return advantages when investing in microfinance (Reille et al., 2011, p. 4).

3.2.3 Risk diversification and return theory

Although many institutional and individual investors are motivated by the dual return objective or impact investing, some investors are more commercial investors and are motivated by theories of high return and risk diversification advantages (Reille et al., 2011, p. 3). On the return side, MicroRate's study in 2004 of 30 leading MFIs in Latin America shows that microfinance services can indeed be profitable with ROE rates exceeding those of Citigroup and local banks (Goodman, 2006, p. 17). Evidence of selected case studies reveals that some MFIs have been remarkably profitable since their IPOs. The main examples are African Bank with annualized monthly returns of 58 percent since 1990, Capitec of South Africa 72 percent since 2002, and Equity Bank of Kenya with a return of 60 percent since 2006 (Brière and Szafarz, 2015, p. 112). Also, in 2007 Mexico's Comportamos went public, selling 30 per cent of its shares for more than 12 times the book value. This made it possible for its seed investors to receive a return rate of 100 per cent over eight years (Rosenberg, 2007, p. 3). This incredible success of some MFIs which has been triggered by higher interest rates, low default rates and limited competition provide enough incentives for classical investors to invest in microfinance.

On the diversification side, empirical studies by Ahlin and Lin (2006), Gonzalez (2007), Krauss and Walter (2009), and Galema et al. (2011) provides evidence on the possible risk diversification advantages of microfinance to overall portfolio volatility. Ahlin and Lin (2006) and Gonzalez (2007) indicate that microfinance assets quality has a high resilience to macroeconomic stocks. Krauss and Walter (2009) and Galema et al. (2011) find that including microfinance in global portfolios leads to a reduction in the overall portfolio volatility. When the different world regions are considered, Galema et al. (2011) find that it is more attractive for microfinance investors to invest in Latin America than in Africa. When the different types of MFIs are considered, their results indicate that it is more attractive to include microfinance banks in an international portfolio than NGO-registered MFIs. These diversification advantages could be explained by the structural differences that exist between the microfinance sector and traditional financial sectors with regard to the target group, product characteristicsand technology used. As presented in section 2.3 most microfinance

clients are usually unbanked low-income earners who often have no collateral. These clients eventually invest in non-classical businesses such as petty trade and farming and finally sell their goods and services domestically to low-income earners who are often less integrated into the formal financial system. More so, the non-public ownership of most MFIs decreases dependence on the capital markets. Finally, lower operational and financial leverage of MFIs makes them different from the formal sector.

By contrast, since the microfinance sector is increasingly able to access capital from international capital markets, recent studies by Wagner (2012) and Brière and Szafarz (2015) have questioned the relevance of microfinance in reducing portfolio risks in contemporary times. Wagner (2012) illustrates that, as a result of the global financial crisis of 2008, the microfinance sector also faced similar difficulties like the traditional financial sector, namely a decline in capital, a contraction in credit as well as a low loan portfolio quality. Brière and Szafarz (2015) find that diversification potential of microfinance stocks within the financial sector was minimal as microfinance stocks behaved in similar ways like mainstream equity stock. Both studies argued that previous crises had little effect on the microfinance equities. However, that convergence of microfinance with traditional financial sector began around 2007, consequently making the microfinance sector less attractive for diversification purposes after this period.

All in all, the above three factors have continued to trigger foreign investment and involvement in microfinance and section 3.3 provides an overview of the recent trends and channels involved in transnational microfinance.

3.3 Channels of transnational microfinance

Figure 3.1 below shows that as of December 2011, total foreign commitments in microfinance amounted to 25 billion US dollars, which represented an estimated growth rate of 6 per cent per year between 2009 and 2011. Although public funding dominates (i.e. 75 per cent), private funding grew at an average annualized growth rate of 12 per cent compared to three per cent growth rate of public funding. Public funders include bilateral and multilateral agencies and development finance institutions (DFIs) whereas private funders consist of foundations, NGOs, institutional and individual investors and other donors such as religious groups (see Table 3.1).[28] Both groups tend to channel funding either directly to MFIs or

[28] This classification of funders is similar to the overall classification of funders in foreign aid flows (see Cassimon et al., 2013, p. 84)

indirectly through governments, microfinance investment intermediaries (MIIs) and other types of apexes (see Figure 3.1).[29]

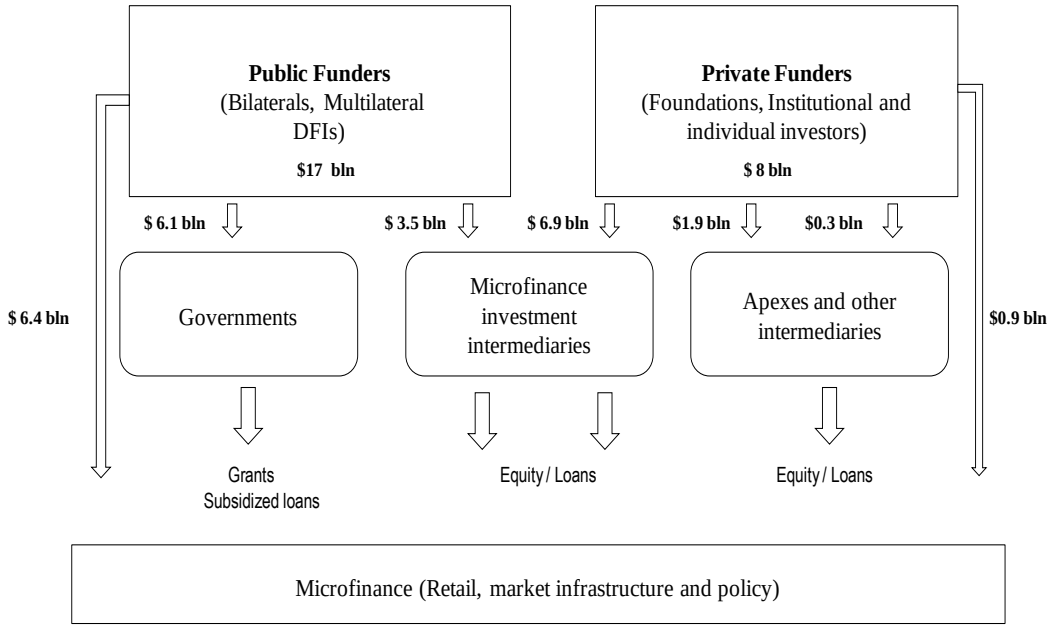


Figure 3.1: Channels of transnational microfinance
Source: Consultative Group to Assist the Poor (2012, Slide 4)

Figure 3.1 and Table 3.1 reveal that the different types of funders, investors and entry points have made the supply of funding to microfinance today more complex than it was ten years ago. As of December 2015, there were at least 56 public and private funders investing in microfinance (Soursourian et al., 2015, p. 1). There were about 400 foundations (with some activities in microfinance, only a few having significant investment) and more than 100 intermediaries (Lahaye et al., 2012, p. 2). A theoretical model by Martens (2005) and empirical evidence by Powell and Bobba (2006) suggest that using different channels provide cost-effective ways to move funding quickly and also to reduce information asymmetry between funders and recipients. It also enables these funders or investors to outsource identification, screening, fundingand monitoring of MFIs (Latortue et al., 2006, p. 13). Nevertheless, these channels are often complex in nature and this has further complicated the funding architecture from the recipient MFIs' perspective. Hence, understanding the different channels provides insights as to how they might affect microfinance performance and mission

[29] Microfinance investment intermediaries include MIVs, holding companies, networks and peer-to-peer aggregators that channel funds to the microfinance sector (discussed in subsection 3.3.3). Apex institution is second-tier or wholesale organization that channels funding (grants, loans guarantees) to multiple MFIs in a single country or region.

drift. Subsequently, subsection 3.3.1 provides an in-depth review of the different types of funders, their structure and sources of funds.

3.3.1 Public funders

As earlier explained, public funders can be further divided into three subgroups namely, bilateral and multilateral agencies and DFIs.

3.3.1.1 Bilateral and multilateral agencies

Bilateral agencies are country-specific aid agencies or ministries of governments in developed countries that work directly with governments of developing countries and other organizations. Although their main aim is funding to support capacity building and market development, their funding strategies are frequently linked to the foreign policy of the donor country (Earne and Sherk, 2013, p. 386). Research by Alesina and Dollar (2000) illustrates that foreign bilateral aid is driven by other factors such as strategic, economic and historical links, and this may have little or nothing to do with donor countries being interested in poverty reduction or financial inclusion. For instance, a country like France continues to provide aid to its former colonies to protect its interests, while the United States' pattern of aid giving is greatly influenced by its interest in the Middle East (Alesina and Dollar, 2000, p. 34).

Unlike bilateral institutions, multilateral agencies are characterized by broad ownership, including governments of both developing and developed countries. They sometimes receive funds from government budgets as in the case of United States Agency for International Development (USAID) and Swedish International Development Cooperation Agency (SIDA). Other multilateral agencies such as the World Bank and the United Nations are funded by member country contributions that are usually based on the gross domestic product (GDP). In this sense, industrialized countries share the largest budgetary burden (Martens, 2005, p. 659). Multilateral agencies, in addition to offering financial support, also offer professional advice on social and development issues in developing countries (Earne and Sherk, 2013, p. 386).

As shown in Table 3.1 the majority of bilateral agencies provide grants and soft loans, while equity and guarantees investments are used to a lesser extent. This funding is either channelled directly to MFIs or indirectly through government, local and international NGOs. Multilateral agencies typically provide loans to governments, which are later transferred to the local government on-lending institutions called "second-tier" or "wholesale organization"

that are often linked to the implementation of specific projects (Helms, 2006, p. 79). These second-tier institutions in the end channel funding to multiple MFIs in a single country or region. As explained before, using different channels helps to reduce agency cost between fund providers and recipients. Nevertheless, these institutions often lack sufficient technical expertise and autonomy (since they are partly funded by national governments) and might face political pressure. In some instances, money disbursed by agencies gets stuck in these institutions (Latortue et al., 2006, p. 4).

Most bilateral agencies do not have a central unit for managing their activities in microfinance. Of the bilateral agencies, only two agencies have central offices for microfinance, namely the USAID and the United Kingdom Department for International Development (DFID) (Chidzero and Malhotra, 1997, p. 1). For the other bilateral agencies, microfinance is often decentralized and managed from field offices or embassies in the host country. For instance applications for the Canadian Development Agency (CIDA) and the Swedish International Development Agency (SIDA) require that MFIs apply through the various embassies in the developing country (Chidzero and Malhotra, 1997, p. 3). In general, the lack of a central unit for managing microfinance may make it difficult for agencies to accurately track the size or performance of their investments in microfinance (Latortue et al., 2006, p. 4).

Table 3.1: Public and private funders

Public funders	**Bilateral agencies**	**Multilateral agencies**	**Development Finance institutions (DFIs)**
Examples	Canadian International Development Agency (CIDA), Danish International Development Assistance (DANIDA), German Federal Enterprise for International Cooperation (GIZ), Swedish International Development Cooperation Agency (SIDA), Swiss Development Cooperation (SDC), U.K. Department for International Development (DFID), U.S. Agency for International Development (USAID)	African Development Bank (AfDB), Asian Development Bank (ADB), European Commission (EC), International Bank for reconstruction and development (IBRD of the World Bank), International Fund for Agriculture Development (IFAD), United Nations Capital Development Fund (UNCDF)	Spanish Agency for International Development Cooperation (AECID), Belgian Investment Company for Developing Countries (BIO), *Corporación Andina de Fomento* (CAF), Dutch Development Bank (FMO), European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), Inter-American Investment Corporation (IIC), German Development Bank (KfW), Multilateral Investment Fund (MIF IADB)
Tools used	Grants, soft loans, equity, guarantees	Grants, guarantees, debt, equity	Debt, equity, guarantees, grants
Source of funding	Public government funding	Bilateral donors, and member states' contribution, capital market	Public government funding, capital market
Private funders	**Foundations**	**NGOs**	**Institutional investors and Individuals**
Examples	Bill & Melinda Gates Foundation, Ford Foundation, Grameen Foundation, MasterCard Foundation, Michael & Susan Dell Foundation	ACCION, FINCA, Opportunity International, Freedom from Hunger, Oxfam, World Vision, CARE, Save the Children	*Institutional investors***:** Pension funds, insurance companies, private equity firms, commercial banks *Individuals*: High net worth individuals, retail investorsand individual donors
Tools used	Grants, debt, equity	Grants, debt, equity	*Institutional investors*: debt, equity *Individuals*: debt, equity, grants, deposits
Source of funding	Private donations	Public government funding, fundraising activities	Private funds, capital market

Source: Adapted from Earne and Sherk (2013, p. 384)

With respect to multilateral agencies, the Inter-American Development Bank (IDB), the United Nations Capital Development Fund (UNCDF), and the UNDP use the Special Unit for Microfinance (SUM) office. The International Fund for Agricultural Development (IFAD) and the United Nations Conference on Trade and Development (UNCTAD), and the International Labour Office (ILO) reported central units within each regional head office at the headquarters as well as technical divisions (Chidzero and Malhotra, 1997, p. 1). The African Development Bank used the African Development Fund Microfinance Initiative for Africa (AMINA) Programme which lasted just for three years (that is 1999 to 2002) (AfDB, 2006, p. viii).

Staff capacity is usually limited in many bilateral and multilateral agencies since they are trying to keep down overhead costs. Also, as a result of the 2008 financial crisis, many bilateral agencies continue to cut their aid budgets, consequently putting restrictions on how agencies can operate (El-Zoghbi and Scola, 2014, p. 8). The predominant staffing approach is to have generalists or specialists in non-financial areas oversee large projects in a variety of fields and disciplines (El-Zoghbi and Scola, 2014, p. 103). In 2004, for example, the European Commission had about 209 million US dollars allocated to microfinance (outstanding and committed) and yet had no assigned staff member dedicated to microfinance (Latortue et al., 2006, p. 22).

3.3.1.2 Development finance institutions

DFIs differ from the bilateral and multilateral agencies in that they largely focus on the private sector. They started investing in microfinance in the late 1990s, following the grant funding of donor agencies for microfinance in the 1970s. DFIs brought a more commercial approach to the industry by providing quasi-commercial loans, equity and guarantees to often profitable MFIs (Reille and Forster, 2008, p. 3). DFIs such as the German Development Bank (KfW) and Dutch Development Bank (FMO) are funded by a combination of initial country shareholder contribution, retained earnings and through the issue of bonds on capital markets (Earne and Sherk, 2013, p. 385). Unlike the other public agencies, DFIs often invest directly in MFIs or indirectly through MIIs and holding companies (discussed in subsection 3.3.3).

3.3.2 Private funders

As presented in Figure 3.1 and Figure 3.1, private funders can be categorized into three groups, namely foundations, NGOs, and institutions and individual investors. Most private funders in microfinance are driven by the double-bottom line return of aiming for social as

well as developmental returns. Nevertheless, institutional investors such as pension funds and individual investors tend to be more concerned about the risk and return advantages when investing in microfinance.

3.3.2.1 Foundations

Foundations get their funding from private sources, generally from successful multilateral corporations (MNCs) such as the Ford Motor Company (the Ford Foundation) which provided its first grant to Grameen Bank in 1976. As from 2005, the Bill and Melinda Gates Foundation, Michael and Susan Dell Foundation, and Mastercard Foundation are among the many others that have developed strategies to invest in microfinance (Latortue et al., 2006, p. 11). Funding from foundations is generally in the form of grants for training, capacity building or product development and could also be used as seed capital for start-up MFIs. In some instances, investments are structured in a way that they are ready to incur the first loss in case of any default. In other instances, investments are channelled through MIVs (Earne and Sherk, 2013, p. 387).

Over the years, the use of foundations to channel funding to MFI has greatly increased for the fact that they are more flexible than public agencies. Their decision process is quicker and also requires fewer procedures than many development agencies, where project approval periods could have a time lag of 12 to 18 months (Latortue et al., 2006, p. 8). In another direction, most foundations are free from political influence (although they might face pressure from founding families. Lastly, their approval, monitoringand evaluation requirement could be more thorough than for public agencies (Latortue et al., 2006, p. 8).

3.3.2.2 NGOs

NGOs can be classified into two different types namely, microfinance-specialized NGOs and multi-sector international NGOs. Microfinance-specialized NGOs such ACCION and FINCA are usually influential, both due to the funds they manage and on their technical expertise (Latortue et al., 2006, p. 11). Although they were originally funded by public donors, most specialized NGOs are increasingly attracting capital from private sources. In 2005, ACCION, Freedom from Hunger and Opportunity International were able to raise significant funding from individual donations and institutional investors (Latortue et al., 2006, p. 11).[30]

[30] ACCION received US 13.7 million dollars from private contribution, which represented 55 percent of total revenues, Freedom from Hunger received US 2.7 million dollars that represented 62 percent of its total

In the case of multi-sector NGOs such as CARE, Oxfam, and World Vision, microfinance represents just a small part of their annual operating budget (i.e. between 2 to 20 per cent), while the balance supports other development aspects such as health, education, humanitarian relief and community development. This group of NGOs can play a significant role in laying the sound foundations for microfinance. They are often the first to arrive after conflicts or natural disaster and often focus on rural and remote clients (Latortue et al., 2006, p. 12). Despite this advantage, multi-sector NGOs are likely to face inconsistencies and trade-offs between their various objectives (Martens, 2005, p. 650). The NGO model is however, shrinking in favour of more formal institutional models such as the holding companies or MIVs (Earne and Sherk, 2013, p. 384).

3.3.2.3 Institutional and individual investors

As presented in section 3.1, institutional investors such as pension funds, international banksand insurance companies are increasingly investing in microfinance for both social and financial returns. Between 2006 and 2010, investments in microfinance from institutional investors grew from US 1.2 billion to US 3.5 billion dollars (Reille et al., 2011, p. 3). Since they are more concerned about the attractive financial return and the diversification advantage of investing in MFIs, most of their investments go to already established and profitable MFIs. While new institutional investors are continuously entering the market for the above-stated reasons, old investors are evaluating and revising their strategy. For example, Sociéte Générale which formerly provided guarantees to MFIs is presently considering the possibility of offering microfinance products directly through its own banking networks in the developing countries (Reille et al., 2011, p. 4). Others, such as Morgan Stanley, have widened their investment strategy to include other impact investment opportunities in sectors such as agriculture, health and renewable energy (Reille et al., 2011, p. 4).

Individual investors include small retail investors and high-net-worth individuals. Some high-net-worth individuals have directly invested in equity in MFIs with the majority using MIVs to channel financing to MFIs. Retail investors have instead channelled funding through foundations, NGOs and peer-to-peer aggregators or via MIVs (Earne and Sherk, 2013, p. 389).

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revenues, and Opportunity International also received US 34.1 million dollars from private contributions which represented 80 percent of total revenues (Latortue et al., 2006, p. 11).

3.3.3 Microfinance investment intermediaries

MIIs are independent entities with at least 50 percent of their non-cash assets invested in microfinance. These include MIVs, holding companies, and other MIIs such as P2P aggregators that channel funds to the microfinance sector.

3.3.3.1 Microfinance investment vehicles

MIVs are classified into three different groups based on their objectives namely fixed, hybrid and equity investments. Firstly, fixed income funds are vehicles and funds of which more than 85 percent of their total non-cash assets are invested in debt instruments. Some debt MIVs are set up as structured finance vehicles that are often called collateralized loan obligations (CLOs) or CDOs. As stated in section 3.1, CDOs are usually established like classical CDOs for a fixed period and in the simplest form to provide a portfolio of loans to MFIs. CDOs are funded by issuing notes (with different risk/return profiles) to investors whose repayment comes from the repayment of the loans in the portfolio. The standard structure has three or more tranches; that is "A", "B" and "C", that are to be paid sequentially. Tranche "A" notes are the first to be repaid and have the lowest risk. These notes are usually bought by private institutional investors. The next to be repaid are notes in tranche "B" or mezzanine notes which have higher risk and higher return. These are often bought by DFIs or private investors who are willing to accept higher risk and higher return. Tranche "C" notes or equity tranche are paid last and are generally bought by foundations, bilateral and multilateral agencies that usually do not expect a return on their investment but are willing to provide the catalytic investment so as to allow the structure go forward (Earne and Sherk, 2013, p. 392).

Secondly, mixed or hybrid funds are investments funds that are invested in both debt and equity with more than 15 percent and less than 65 percent of their total non-cash assets in equity investments (Symbiotics, 2014, p. 4). Other mixed types of MIVs have cooperative /NGOs structures like the Oikocredit and Alefin. Unlike other MIVs which are more interested in financing already established MFIs, cooperative/NGOs funds tend to target smaller institutions. Moreover, they are more interested in social performance than other funds. For instance, Oikocredit MIV in the Netherlands gets its funding from its members which are mainly churches, church-related organizationsand support associations. These members vote annually on the amount of dividend is to be received which could be 2 percent or less (Earne and Sherk, 2013, p. 392).

Although both debt and hybrid funds are mostly funded by institutional investors, they are also open to retail investors such as is the case with the Dexia micro-credit fund and responsAbility Global Microfinance Fund (Earne and Sherk, 2013, p. 390). These funds are set up as *mutual funds* and provide investors with the possibility to buy and sell their shares on monthly and quarterly basis. However, because of the difficulty in selling loans made by MIVs to MFIs, loans provided by these funds are usually short or medium term loans (usually averaging two years with a maximum of three to five years). The majority of capital from these funds mostly go to already established MFIs (Earne and Sherk, 2013, p. 390).

Lastly, equity funds are vehicles of which more than 65 percent of their total non-cash assets are invested in equity instruments (Symbiotics, 2014, p. 4). Unlike debt or hybrid funds, equity funds are long-term in nature and do not permit investors to sell their investments until the end of the fund's term. Equity MIVs typically have ramp-up investment for several years, followed by another multi-year exit or disinvestment period. They offer varying return targets and a blend of equity and convertible debt to high-growth providers in emerging markets (Earne and Sherk, 2013, p. 392). Though the first equity MIVs were set up by DFIs and international NGOs, institutional investors (such as Bellwether in India) are also increasingly involved with more regional MIVs (Earne and Sherk, 2013, p. 392). A recent report by Symbiotics (2014)shows that debt or fixed income fund make up the majority of funds (i.e. 77 percent), followed by mixed funds (14 percent) and lastly by equity funds (9 percent).

The majority of MIVs are global in nature so as to maximize diversification and geographical outreach (Dominicé, 2012, p. 72). Most of their investments are denominated in hard currencies of dollars, euro or Swiss francs, although some investments have been made in local currencies (Earne and Sherk, 2013, p. 390). Most MIVs use currency-hedging instruments so as to protect investors from foreign exchange risks and to offer a more stable rate of return. These rates are often higher than investors will receive on three-six month bank deposits (Earne and Sherk, 2013, p. 390). Note should be taken that some funds from MIVs before reaching the MFIs are often transferred from one fund to another and from there to yet another fund or a retail institution. For instance, in 2004, 21 percent (US 126 million dollars) of MIV flows reached MFIs as direct investment through another fund (Ivatury and Abrams, 2005, p. 3).

3.3.3.2 Microfinance holding companies

As explained earlier, many DFIs and NGOs have set up holding companies to create and manage their networks of MFIs. Holding companies are generally companies that hold shares in other companies in amounts sufficient to influence the decisions of these companies. An example is the Greenfield MFIs. Greenfield MFIs start from scratch and belong to a larger network or a holding company.

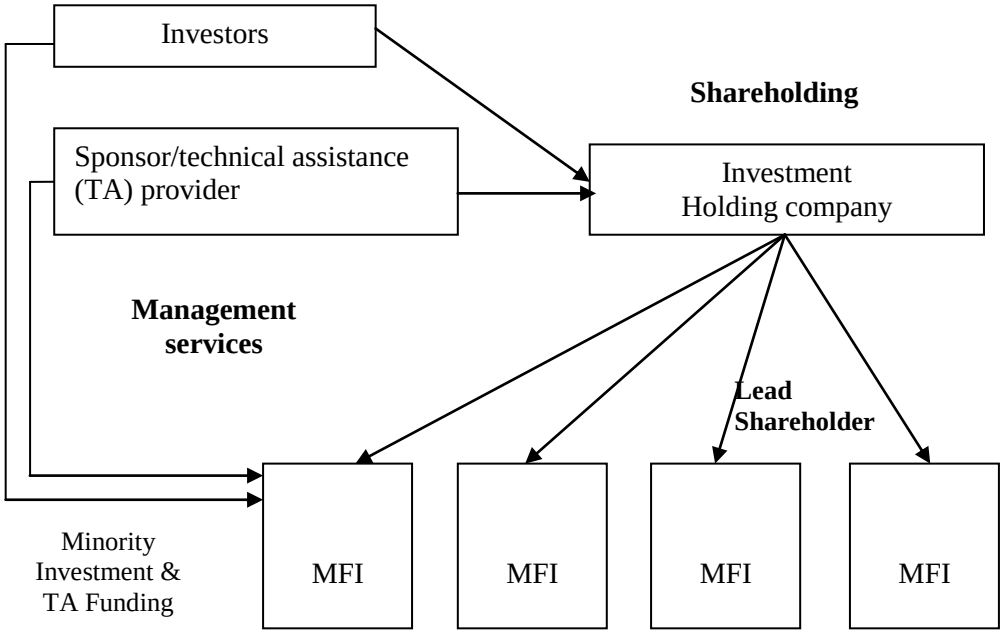

Figure 3.2: Holding company structure
Source: Earne et al.(2014, p. 18)

Note: This illustrates primarily the consulting-firm led model. In the case of the other models, the sponsor/TA provider would be together in the same box as the holding company.

Figure 3.2 above shows the structure of holding company with a consulting-firm model. In this model, the holding company begins as cooperation between the sponsor and a group of DFIs (EIB, IFC, KfW, FMO, and AFD). Unlike the network support organization-led model the sponsor holds about 3-20 percent minority ownership of the holding company, the sponsor in the consulting-led model holds a larger share of equity of above 50 per cent(Earne et al., 2014, p. 18). Through common ownership and management of greenfield MFIs, the holding company provides a vehicle for mobilizing investment capital, expanding operations, providing the standard policies, procedures, providing staff development and training and co-branding the subsidiaries (Earne et al., 2014, p. 17). However, if the holding company has

limited financial resources, then it might face a trade-off between the degree of ownership and the number of subsidiaries it can create (Earne et al., 2014, p. 18).

The holding company model offers DFIs a medium for providing MFIs huge investment, an opportunity for leveraging their participation with other investors. It also provides feasible exit routes for investors either through a sale of shares to new holding investors or through an IPO (Earne et al., 2014, p. 32). For this reason, some SRIs such as Triple Jump, Developing World Markets (DWM), Incofin, responsAbility and Gary Ghost are also investing in holding companies and greenfield MFIs.

Although the greenfield MFI model has proven to have many advantages over the standalone MFIs, it has nevertheless neglected smaller and dispersed markets in rural areas and has concentrated on the most feasible markets (Earne et al., 2014, p. 32). This somehow contradicts the notion that DFIs are more interested in providing funding for development. It can be argued certain funders would only provide funding to MFIs which are found in markets that are accessible in terms of having roads, electricity and telecommunication infrastructure.

From the above discussion, it can be seen that there is currently a myriad of channels for foreign funding in microfinance institutions. The different channels have different sources of funds. Moreover, they are usually complex in their set up with some having specific departments for managing funds and others not. Intuitively, it makes sense to assume the amount of money committed or disbursed is the same amount that reaches the MFIs. However, as explained above, the path could be long and winding. In some instances, some funds get stuck and might never reach the MFI since some intermediaries are prone to political influence. In other instances, some funds are used for administrative or transaction and management costs. Also, each group of funders and investors tend to have different motives for investing in microfinance. Building from this, it can be argued that the present foreign funding architecture for MFIs even with the advantage of providing the needed capital for MFIs could complicate the smooth functioning of MFIs in attaining their dual mission. Section 3.4 provides insights on the potential benefits and costs of foreign involvement on microfinance performance.

3.4 Effects of transnational microfinance

The previous section has elaborated on the different groups and different ways through which foreign investment is taking place in microfinance. As presented in section 3.1, the motivation for investment in microfinance is threefold, namely, development, impact investing and lastly for risk and return advantages. While the overall aim for the investors or funder might be attained, benefits and costs may be generated for MFIs as result of foreign involvement in the microfinance sector.

3.4.1 Direct and indirect benefits

As mentioned in section 3.1, transnational microfinance could increase the source of capital for many MFIs. This additional funding, in theory, could enhance the capacity of MFIs so that they can meet the demands of many more poor people. As already noted in section 3.1 Mexico's Compartamos which started as an NGO was able to raise funding from its IPO in 2007 to expand its number of clients from 800,000 in 2007 to 2.4 million in 2011, thus and gaining 40 percent of the market share. In addition, in developing countries in general where equity and debt markets are not well functioning, foreign capital comes as an alternative (cheap) source of capital for MFIs who most often find it difficult to obtain capital from domestic markets (Deshpande et al., 2007, p. 3). Consequently, MFIs that can obtain cheaper foreign capital may be able to pass on this cheaper funding cost to their customers by charging lower interest rates.

Beside the above mentioned direct effect, transnational microfinance could indirectly affect microfinance in two main ways, namely microfinance sector development and the improvement of institutions' terms of governance. Firstly, microfinance sector development could be achieved through many ways. Foreign direct investment in the form of greenfield MFIs or foreign subsidiaries could act as a conduit for introducing new technology, modern investments skills and managerial techniques which might have spillover effects on domestic MFIs in different ways (see Figure 3.3).

In Ghana, for example, foreign MFIs such as EB-Accion, Opportunity International and ProCredit were the first to introduce automated teller machines (ATMs) for their clientsat a time when it was available only for commercial banks (Earne et al., 2014, p. 28). Also, in the Democratic Republic of Congo (DRC), ProCredit introduced free savings accounts without a minimum deposit requirement, when most banks had a minimum requirement of more than

1,000 US dollars (Earne et al., 2014, p. 27). This pulled many clients to ProCredit, thereby forcing other banks such as Rawbank and BIAC to relax their account-opening requirements (Earne et al., 2014, p. 28). Additionally, in DRC, ProCredit's clients now have access to point-of-sale (POS) devices at over 300 locations, which has facilitated withdrawal of funds and cashless payments (Earne et al., 2014, p. 28).

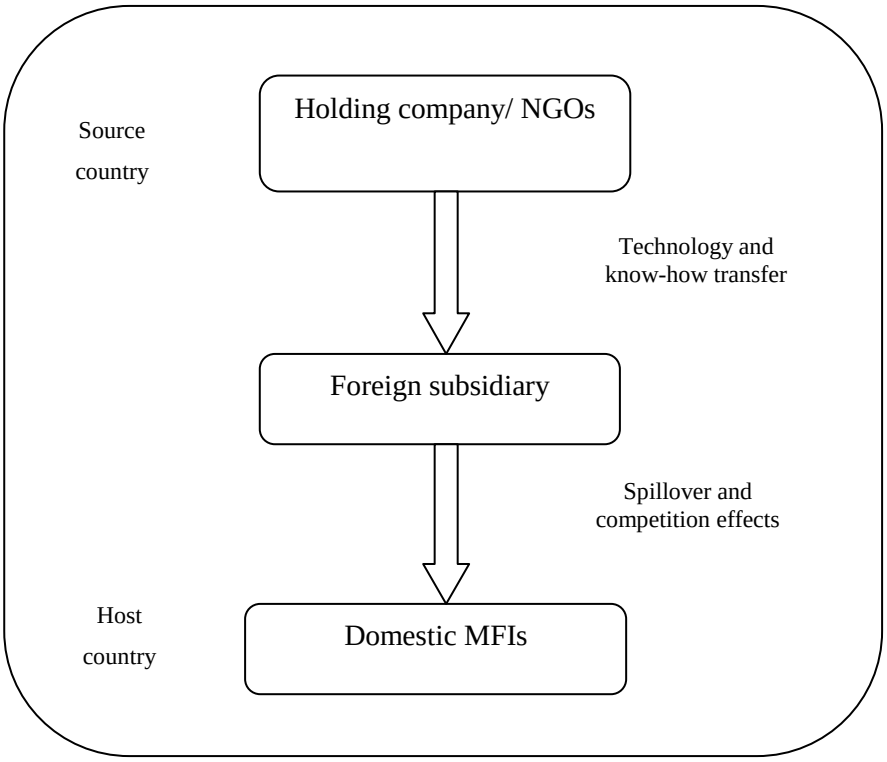

Figure 3.3: Effects of foreign MFIs on domestic MFIs
Adapted from Uiboupin (2005, p. 39)

Foreign MFIs might play an important role in enhancing market development by demonstrating professionalism and good practices (Earne et al., 2014, p. 29). For instance, several holding companies and their subsidiaries have trained their staff to work according to the principles of client protection (Earne et al., 2014, p. 29).[31] More so, many greenfield MFIs comply with reporting to credit bureaus (in countries such as Madagascar) or are actively participating in providing credit references to other MFIs (in countries such as Cameroon and Ghana) (Earne et al., 2014, p. 29). Also, the presence of foreign MFIs may increase the quality of human capital in the domestic capital markets (Hermes and Lensink, 2004, p. 209).

[31] Client Protection Principles are principles which are meant to provide transparent pricing, terms and conditions of all financial products to clients with the aim of reducing bad practices in microfinance. These principles include making sure that clients do not borrow more money than they can repay, or use products which they might not need, and employing respectful loan collection practices (The Smart Campaign, 2014).

Greenfield MFIs or foreign MFIs may import high skilled management from the mother company to subsidiaries. Additionally, many foreign MFIs have company-specific training facilities that offer superior training and expertise to their local employees (Earne et al., 2014, p. 27). Sometimes, these qualified staff from greenfields or foreign MFIs may be later on employed by other domestic MFIs and mainstream banks (Earne et al., 2014, p. 27). As a result, this labour turnover could go a long way to improve the functioning of MFIs through the transfer of better know-how, skillsand experience.

Secondly, the presence of foreign funding, in general, may improve institutions in terms of governance. As already explained, many funders, donor agenciesand investors often condition future funding based on the MFI meeting certain standards on particular deadlines (Conning, 1999; Copestake, 2007; Simanowitz, 2007, p. 60). Moreover, some donors and investors require that MFIs be subject to extensive reporting, evaluation and external examinations or ratings by mainstream rating agencies and other forms of social reporting (Earne and Sherk, 2013, p. 388). This extensive reporting may enhance the overall performance of MFIs.

Thirdly, the presence of foreign MFIs or banks may contribute to a reduced government influence on the domestic financial sector and this may lead to a decline of financial repression policies such as interest rate controls, directed credit policies etc. This overall reduction of government influence in the financial sector is considered to help in improving the efficiency of the domestic MFIs(Hermes and Lensink, 2004, p. 209).

3.4.2 Obstacles and costs

The overall potential benefits could be limited or counteracted if certain threshold conditions are insufficient. Kose et al. (2009) identify four main threshold conditions: financial sector development, institutional quality, quality of domestic macroeconomic policy and trade integration. As noted in section 2.5, these threshold conditions are not fulfilled in most SSA countries; therefore the increase in foreign presence in the microfinance sector could lead to the following costs.

Firstly, if foreign MFIs and banks “cherry-pick” the most profitable and transparent clients in the market with imperfect information, then the overall access to financial services might be reduced and this could worsen the remaining credit-pool. This could happen only in the case where foreign banks “cream-skimmed” out hard-information clients out of the credit pool of borrowers, such that soft-information clients may find themselves in the worse pool and may

be forced to pay high interest rates that they may no longer want to borrow (see Detragiache et al., 2008). Conversely, the presence of foreign banks may instead push MFIs to go deeper into the market since foreign banks would be serving only the better-off clients. As a result, the overall access of finance might instead increase because competition from foreign banks pushes MFIs to target a specific niche of the market which was previously unbanked (see Vanroose and D'Espallier, 2013; Cull et al., 2014). Secondly, studies by Peek et al. (1999) and Chava and Purnanandam (2011) show that shocks from parent banks could be transmitted to their subsidiaries in foreign countries and this might have negative consequences for their lending and may decrease the stability of the aggregate banking sector. Thirdly, foreign funding in the form of debt is highly volatile and might expose MFIs to foreign exchange risks or currency crisis. The recent global financial crisis has highlighted the risk of foreign banking in financial stability (Claessens and van Horen, 2014, p. 298). It should be noted that most MFIs that take foreign debt are more interested in the interest rate advantages and less about the hedging foreign exchange (Ivatury and Abrams, 2005, p. 11). This is because most MFIs in developing countries are unable to borrow abroad in their own currency or even domestically, consequently many find it cheaper to borrow in foreign currency. However, MFIs are often charged an additional risk premium because financial markets are aware of their inability to borrow abroad in a domestic currency. Consequently, in the event of a devaluation of the local currency, collecting microfinance loans will not yield enough to repay the hard currency. This phenomenon which is not only common to MFIs but also to most developing countries is identified by Eichengreen et al. (2005) as the "theory of original sin".

As noted in chapter 1, the microfinance crises in Nicaragua and Bosnia and Herzegovina in 2009 was because MFIs were having too much debt in foreign currency (Reille et al., 2011, p. 11). Both microfinance markets experienced a large influx of foreign investment with over 70 percent of the foreign debt denominated in foreign currency. Some MFIs in Bosnia and Herzegovina pointed out that the entry of profit-oriented investment intensified their profit motivation such that they became less focused on responsible lending but more on the lending volumes (Reille et al., 2011, p. 11).

Lastly and closely linked to the above is the fact that transnationalization could lead to *mission drift*. The entry of profit-oriented donors and investors in microfinance could trigger competition amongst MFIs, such that MFIs are forced to move away from serving poor clients with smaller loan amounts to less poor clients with larger loan amounts (Ghosh and Van Tassel, 2009, p. 2). Given that these new foreign donors or investors are more interested

in making profits from the poor, they tend to provide funding to MFIs on a competitive basis. Subsequently, MFIs would be forced to make a choice and would now provide loans to not-so-poor clients, since operating costs would be reduced, leading to higher portfolio return for the MFI (Ghosh and Van Tassel, 2009, p. 4).

As pointed out in chapter 1, MFIs should strive to attain a balance between providing financial services to the poor (social performance) and to cover their costs (financial performance). Accordingly, similar to the Schulze-Delitzsch cooperative, all profits earned should be reinvested in expanding the business and a part kept in reserve to cover uncertainties (Yunus, 2010, p. xvii). In other cases, however, if the institution is owned by poor people, as in the case of Grameen Bank, it can as well pay out dividends to the poor owners (Yunus, 2010, p. 2). Conceptually, MFIs can be seen as institutions seeking two objectives - social return and financial return (see Figure 3.4).

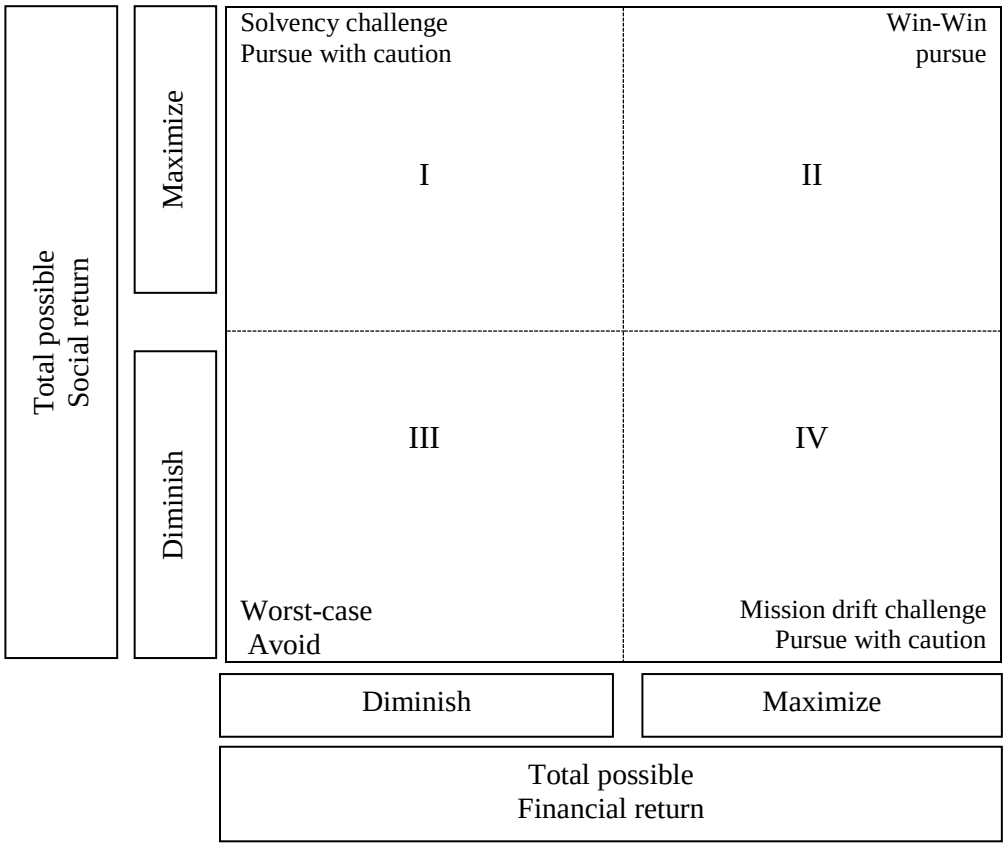

Figure 3.4: Ideal-typical outcomes for microfinance institutions
Source: Adapted from Child (2012 p. 188)

Figure 3.4 shows that MFIs should strive to operate in quadrant II since they have the highest probability of maximizing both their social and financial objectives. While quadrant I, III and IV are outcomes that should be avoided MFIs. Unlike quadrant II where both returns are maximized, quadrant III leads to the minimization of both returns. The first and fourth quadrant generates problems for MFIs since the maximization of one goal leads to the minimization of the other. On the one hand, MFIs could be found maximizing their social return; however, this means the minimization of their financial objective (quadrant I). On the other hand, MFIs could instead be maximizing their financial benefit, thereby minimizing their social benefit (quadrant IV).

Operating in the first or fourth quadrants has direct implications for the MFIs. First, an MFI that pursues its social over its financial objective runs the risks of becoming insolvent. The direct consequence of operating in the fourth quadrant is that the MFI will remain solvent, but it faces the risk of mission drift. This strive for solvency as a result of the presence of the profit-oriented funders or investors pushes MFIs to concentrate on their financial performance rather than striving to attain a balance between their social and financial performance. This implies that MFIs would move from quadrant II to quadrant IV, consequently drifting from their mission.

In practice, many MFIs are facing difficulties in achieving the balance between their social and financial return. As a result, authors and practitioners have advised MFIs to either move toquadrant IV *(institutionist or institutionalist approach)* or to quadrant I *(welfarist approach)* but not to remain in quadrant II (see Rhyne, 1998; Woller et al., 1999; Christen and Drake, 2002). The division between the two camps or approaches has been termed by Jonathan Morduch (2000) as the *microfinance schism*.

3.4.2.1 Welferaists versus institutionists

Rhyne and her supporters (such as Michael Chu,[32]members of the *Ohio School*,[33] the World Bank and CGAP) insist that MFIs follow an *institutionist*, or *market-based* or *financial*

[32] Michael Chu is a Senior Lecturer at Harvard Business School who served as a President of ACCION International from 1994 - 1999. Presently, he is the managing director and co-founder of IGNIA Fund, venture capital firm based in Monterrey, Mexico which invests in commercial enterprises that serves the low-income population in Mexico (Harvard Business School, 2015).

[33] The Ohio School is in honour of a group of economists at the Ohio State University who examined the effectiveness of subsidized development programs which were created to fight poverty during the 1960s and 1970s. Their finding suggested that institutional sustainability was a necessary condition for a successful provision of financial services to the poor (see Gonzalez-Vega, 1994).

systems approach. Here the primary objective of microfinance is "*financial deepening*" and the creation of a separate sustainable *financial intermediation* system for large numbers of poor clients. In their opinion, MFIs should follow the "life cycle" theory of financing whereby they could rely on donor funding in their early stages, but with time MFIs should progress into profitable regulated institutions that attract private capital sources, since this will ensure continuity through profitability (Brau and Woller, 2004, p. 4; Conning and Morduch, 2011, p. 5).

On the other hand, the *welfarists approach* which is also known as the *customer-based or pro-poor approach* is propagated by Yunus and his followers (Alex Counts,[34] and Chris Dunford[35]). They emphasize that MFIs should be committed to serving the very poor no matter the costs. Welfarists are ready to employ financial services together with *social intermediation services* so as to directly alleviate the worst effects of poverty among communities and participants, even if it means getting subsidies in order to provide these services.[36] Their objective is to focus on the client, generate self-employment and empowerment of the poorer of the poor (Woller et al., 1999, p. 3). Although they acknowledge the benefits and necessity of large-scale coverage in the reduction of world poverty, they place greater weight on the depth rather than on the breadth of outreach. They are therefore not ready to accept that the institution's financial viability is sufficient to fulfil an MFIs' institutional mission (Woller et al., 1999, p. 3).

The practical significance of the differences between these two schools of thoughts can be summarized below:

1. Differences in the population segments served. The welfarists will serve those of the market segment struggling on the margins (extreme and moderate poor), while the institutionists will be more interested in targeting the not-so-poor true entrepreneurs or vulnerable non-poor.

[34] Alex Count served as president and CEO of Grameen Foundation for 18 years but stepped down in May 2015 (Yorke, 2015) .

[35] Chris Dunford was director of Freedom from Hunger which is an NGO aimed at fighting hunger until 2011 (Dunford, 2012).

[36] Social intermediation services are non-financial support provided to prospective borrowers to help them acquire skills that they need to start and sustain their micro businesses. These services generally include: training in credit norms and procedure, savings discipline, business management and counseling, product development and the development of organizations of micro-entrepreneurs (De Haan and Lakwo, 2010, p. 530).

2. There will be differences in the design for delivery of services as a result of the market segment to be served. That is, welfarists oriented MFIs will implement the innovative approaches such as group lending, whereas individual lending will be an option for institutionist oriented MFIs.

3. Differences will exist as per the institutional structures and financing so as to support these services. For instance social service NGOs versus community-based credit unions and community banks versus commercial banks and finance companies.

Despite the many differences between the two camps, both share a common goal of reducing poverty through providing financial services to the poor. However, due to the dissimilarities on how to achieve this, they have diverse views on the concept of mission drift. While the institutionists insist that the financial success of an MFI is a means to poverty reduction, the welfarists, on the contrary, see the focus on financial performance as the main driver of mission drift. In summary, one can claim that the institutionists have won the debate because the most prominent donors (such as the World Bank) and practitioners have embraced the institutionist ideology of "best practices" as a standard for the entire microfinance industry. For instance, Yunus, though the chief proponent of the welfarist approach, became one of the founding members of the institutionist-guided CGAP group (Roy, 2010, p. 129). Moreover, as stated in subsection 2.5.1 the recent move in the some SSA countries to attract private investment in MFIs in the region are all evidence of the spread of the institutionist ideology.

3.4.2.2 Measuring mission drift

Mission drift is a process in which an MFI tends to concentrate more on its financial return and less on serving poor clients. On the one hand, it is easy to identify the financial performance of an MFI by using standard profit indicators such as ROA, ROE and OSS. Assessing the social performance (i.e. targeting the poor), on the other hand, is generally challenging for the main reason that the concept of poverty is complex and difficult to define and/or identify in practice(see Angus, 2004). For example, the 1970s' definition considered that poverty was largely about household income, consumption and utility maximization and therefore relied on the income, consumption and utility approaches to estimate poverty levels (Cobbe, 1976, p. 714). Conversely, Sen (1999) identifies the concept as the deprivation of one or more of human capabilities such as literacy or intelligence and relied on the *capabilities* approach. Chambers (1995, 1983) on his part, records other forms of deprivation that are common to very poor people and these include isolation, powerlessness, vulnerability, lack of

security, and humiliation. The above definitions show that poverty is a multidimensional concept and involves material needs as well as needs that permit wellbeing (non-material) (Diop et al., 2007, p. 30). This holistic view of poverty accepts that some components of poverty can only be captured qualitatively (Hulme and Mosley, 1996b, p. 106).

Consequently, practitioners have come up with many indirect proxies to classify or measure the poverty level so as to determine mission drift. On the one hand, they have relied on the institutionist ideology of *breadth of outreach that* is serving as many clients as possible, without making any distinction between the groups of the not-so-poor and the poor. On the other hand, the welfarists emphasize the *depth of outreach,* which embodies other determinants of poverty. The most prominent indirect metric for measuring depth and mission drift is a*verage loan size.*

Mission drift is believed to have occurred when average loan size increases, holding all other things constant. As was presented in Figure 2.3, it is assumed that loan size is positively correlated with the income of borrowers; poorer people tend to take smaller loans but as loan size increases, the lower the unit administrative costs the higher the margin that can be earned. To put it another way, it is only when average loan size is very small that MFIs reach the really poor (Morduch, 1999, p. 1592; Mosley, 1996, p. 26; Luzzi and Weber, 2007, p. 154). The notion of average loan size as a proxy for measuring the mission drift of an MFI was first introduced by Mosley (1996) who explained that BancoSol of Bolivia moved away from poor clients with smaller loan sizes to wealthier clients so as to attain financial sufficiency. His arguments were based on Figure 3.5 below.

Poverty reduction is measured on the vertical axis and average loan size on the horizontal axis. The downward sloping "poverty reduction" curve shows that the impact of poverty reduces with increasing loan size. On the contrary, the upward sloping "profitability" curve shows that financial performance progresses with loan size as it reaps the benefits of economies of scale. Mosley identified that larger loans of more than $ 400 enhanced the financial performance yet had a minor effect on poverty. He further observed that an increase in loan size was more a re-orientation of its client's base. This is because only 21 percent of the original targeted group had doubled their real value of assets over a period of five years, while the rest of the clients were new clients who demanded larger loan sizes(Mosley, 1996, p. 27). This observation points to the high possibility of deserting the original targeted clients, once an MFI rapidly expand credit to new clients. Building from this finding, empirical

research has relied on the use of average loan size as a proxy to ascertain the poverty status of a client and indirectly to measure mission drift.

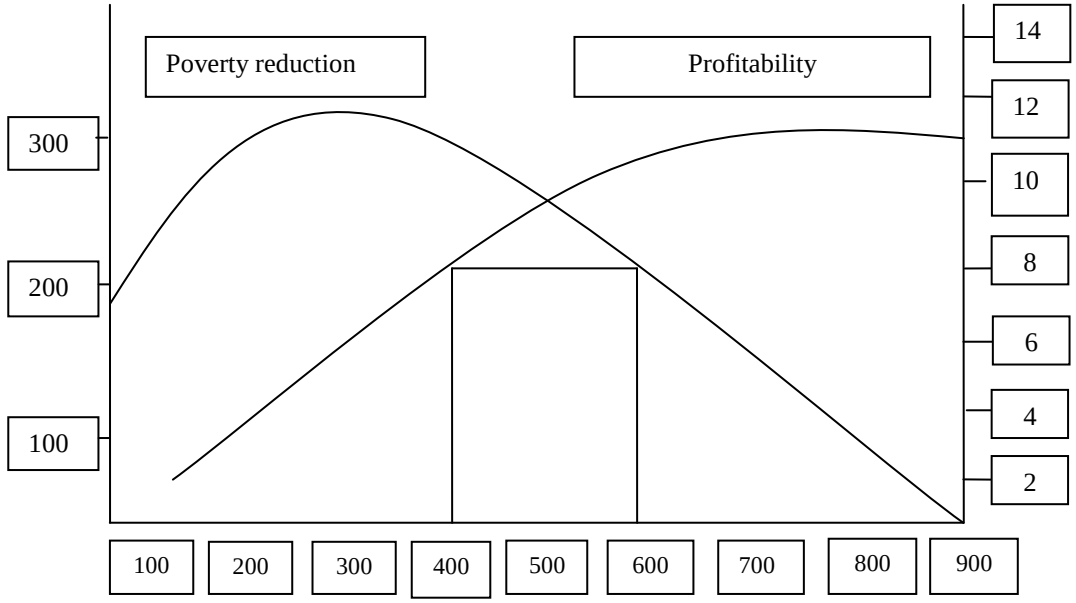

Figure 3.5: The trade-off between poverty and profitability: The case of Bolivia's BancoSol
Source: Mosley (1996, p. 27)

Although average loan size is easy to calculate and widely used, many authors have criticized it as a measure of mission drift. Empirical findings by Christen (2000) showed that certain factors might lead to increase in average loan size other than mission drift. That is existing clients become eligible for higher credit ceilings (progressive lending) or that MFIs have entered new markets including targeting small enterprises or other non-poor clients (Campion and White, 1999, p. 24). In addition, even larger firms sometimes apply for smaller loans to finance small projects (Hishigsuren, 2007, p. 205). Schreiner (2002) also argues that average loan size ignores four important features which affect the loan amount, namely, the term of maturity, amount of loan outstanding, the number of instalments and the amount per instalment. Based on these features, a loan might be considered "small" and in other instance it might be considered "large". For instance, a two-year loan compared to a one-year loan for the same amount will be considered larger in the term of maturity, and in the number of instalments. However, borrowers who are concerned about the monthly payment will consider the two-year loan smaller than the one-year loan.

Moreover, average loan size is very sensitive to extreme values or more dispersed data since its computation is based on the principle of the arithmetic mean. For instance, if an MFI has 10 clients who have each borrowed US 500 dollar and just two clients who have each

borrowed US 5,000 dollars, then the average loan size of US 1,250 dollars looks high, although every loan but for two loans are more than US 500 dollars.[37] Finally, as was pointed out in subsection 3.4.2, some MFIs may choose to pursue either the welfarist or the institutionists approach but not a double-bottom line mission. For instance, Armendáriz and Szafarz (2011) analyzed the announced mission of the 10 largest MFIs. They find that just four MFIs (i.e. Grameen Bank, BRAC, SHARE and Vietnam Bank for Social Policies (VBSP)) stated poverty reduction as their main mission. Other MFIs such as Spandana of India and BCSC of Colombia were more interested in becoming the leading financial service provider in their respective regions. The remaining four MFIs had broader missions that ranged from enhancing development opportunities, improving the lives of members and providing financial services to small entrepreneurs.

3.4.2.3 Other methods of measuring mission drift

Due to the above drawbacks in using average loan size as a measurement for mission drift, other methods have been proposed. Schreiner (2010) proposed the use of the *poverty scorecards* to assess the probability that a borrower is poor in a given country. The scorecard involves questions which are based on indicators that are highly correlated with poverty and liable to change over time, such as the possession of a coloured TV or refrigerator. Each indicator is assigned a value point. Summing up the points from the indicator gives a poverty score which ranges form 0-100 (i.e. with 0 being the poorest and 100 being the least poor). The total score then corresponds to the likelihood that a household or person is poor. Given that these indicators tend to vary from country to country, Schreiner and his colleagues have over the years developed poverty scorecards for over 30 different countries. Credit officers have used this poverty scorecard to estimate the poverty level of their applicants and from this, the level of the MFIs' mission drift could be estimated by estimating the percentage of poor clients. The main drawback of this approach is that it is cumbersome since it requires the filling out of a poverty scorecard for each loan applicant (Serrano-Cinca and Gutiérrez-Nieto, 2014, p. 185).

Ghosh and Van Tassel (2009) proposed the use of weighted *poverty gap ratio* as the most accurate theoretical measurement for mission drift. The poverty gap index estimates the amount needed to raise the incomes of the poor to the poverty line. The approach helps to distinguish between the poorest of the poor and the less poor and assumes that the poorest of

[37] In order to account for the sensitivity of average loan size to extreme values, the sum of gross loan portfolio is included as an additional independent variable in the average loan regressions (see Appendix A).

the poor require smaller capital loans and the poor require larger capital loans. By using the weighted poverty gap one can be able to exactly identify whether the loan size granted is effectively minimizing poverty or not (Ghosh and Van Tassel, 2009, p. 3). The weights assigned act as a "sensitivity parameter" such that the lower the weight, the larger the impact on poverty since the MFI will distribute loans to the poorest of the poor (Ghosh and Van Tassel, 2009, p. 3).Though the approach is an adequate method for identifying mission drift, it provides little guidance for empirical research, since the poverty level as explained in subsection 3.4.2 is more difficult to measure in practice.

Schreiner (2002) outlined six other indirect measures for assessing depth. These indicators are based on the various determinants which might directly or indirectly affect poverty. First depth of outreach could be ascertained in terms of gender, female clients being preferred over male clients; second, reaching rural areas is preferred over urban areas since poverty is most concentrated in these areas; third, less educated are preferred to more educated customers; fourth, minority ethnic group are preferred over majority; fifth, clients living in small, flimsy houses are preferred to clients living in standard middle-class homes; and sixth, clients lacking access to public services are also preferred over those having access.

Due to a lack of data to represent all indicators, empirical research has concentrated only on a few of these measures for which data exist. Most empirical studies use average loan size and the breadth of outreach to measure mission drift. In addition to this, other depth issues, such as the percentage of female clients and reaching out to rural areas are also popular measures. The following section shows that evidence for the existence of mission drift has been ambiguous. While some authors found no evidence in support of mission drift, others identified evidence for the occurrence of mission drift.

3.5 Review of the literature on microfinance mission drift

To put structure on the discussion of the theories of microfinance mission drift, it is important to consider the empirical evidence of the various factors affecting mission drift.

3.5.1 Review of transnational microfinance and mission drift

Empirical evidence with respect to the effect of transnationalization on microfinance is scarce. Nevertheless, some authors have used different variables (i.e. foreign-owned MFIs, if an MFI is having a subsidized foreign debt or commercial foreign debt, FDI, the impact of rating on

MFIs) to evaluate the effect of transnationalization on microfinance. A review of their findings is presented below.

The most recent study by Martins and Winkler (2013) used a dataset of 84 MFIs from Latin America for a cross-sectional data for the year 2009. Using an OLS model, they analyzed the impact of foreign ownership on microfinance performance and mission drift. Their results show that foreign-owned MFIs (i.e. MFIs with more than 50 per cent foreign equity holdings) are not more operationally sustainable as compared to domestic-owned MFIs. With respect to social performance, they find that MFIs with a majority of foreign investors are more likely to serve a larger number of clients (i.e. breadth of outreach). They also reveal that the average loan size of foreign-owned MFIs is not significantly different from that of domestic-owned MFIs, implying no occurrence of mission drift. Their overall finding indicated that foreign ownership is not associated with a trade-off between financial and social performance.

Another research by Mersland and Urgeghe (2013) considers the main drivers of international funding to MFIs. Their dataset consists of 319 MFIs in 68 developing countries for the period 2000-2008.[38] Their findings show that commercial international debt goes to MFIs with solid financial performance (i.e. ROA, low operating costs and low portfolio at risk) and professionalism (i.e. internal auditor). These MFIs, however, have a lower outreach to female clients. On the contrary, subsidized international debt is channelled more to institutions focusing on female clients without prioritizing the level of financial performance. Their results also point out that older MFIs continue to depend on international subsidies for their operations instead of aiming at becoming financially sustainable so as to attract commercial funds. They argue that subsidized funds to MFIs are triggered by good international connections rather than by efficient operations since these MFIs do not have internal auditors but are created by an international organization or network. Interestingly, their results illustrate that subsidized international debt is associated with higher average loan sizes, while the commercial international debt is associated with falling average loan sizes. According to them, the positive relationship between subsidized foreign debt and average loan could mean that international investors are concerned about supporting weak performing MFIs who target female clients, regardless of their status of poverty. The negative relationship between commercial foreign debt and average loan could be interpreted as lending to the poor can indeed be profitable (Mersland and Urgeghe, 2013, p. 25).

[38] The vast majority of data was available for the period between 2005 and 2008.

Another paper which comes close to analyzing the effect of foreign investment on microfinance performance is by Mersland et al. (2011). Exploring a dataset of 379 rated MFIs for seven years (2001-2008) in 73 developing countries they examine the international influence on MFIs performance by using five dummies including: was an MFI initiated by an international institution, is an MFI a member of international network or affiliate, whether an MFI has international board members in its management board, whether an MFI has subsidized foreign debt, and whether an MFI has commercial foreign debt.

They find that an MFI that is internationally initiated is positively related to social performance (i.e. increases outreach to women). Furthermore, their results show that being a member of an international network or affiliate tended to increase outreach to female clients. Their results illustrate that having an international director negatively affects the operational functioning of MFIs. This finding confirms the fact that the presence of a foreign director provokes some higher costs for MFIs (Mersland et al., 2011, p. 171). They also find that having international commercial and subsidized debt does not enhance financial performance as measured by three variables, specifically financial self-sufficiency (FSS), ROA and OSS. However, having subsidized or commercial debt positively affects social performance by promoting outreach in rural markets. Overall, their results show that more internationally oriented MFIs performed better socially, therefore rejecting the fear that foreign influence may lead to mission drift.

Closely linked to the above study is Mersland and Strøm (2010) which analysed a data of 278 MFIs from 74 countries assessed for the period between 2001-2008. They find that having local directors in the management board of MFIs tends to improve financial performance, rather than when MFIs had international directors. Nevertheless, the social performance indicators (i.e. lending methodology, main market and gender bias) are not significantly affected either by local or international directors.[39]

With respect to FDI, Vanroose and D'Espallier (2013) analyzed a dataset of 1073 MFIs from developing countries for a ten-year period (1997-2006). They reveal that FDI to GDP is positively and significantly associated to OSS, but it is insignificant to the other performance variables including average loan size. Their finding indicates that MFIs operating in more

[39] All three social performance indicators are dummies, namely lending methodology is 1 if lending is mainly to individual, 0 otherwise; main market is 1 if lending is mainly to urban customers, 0 otherwise; gender bias 1 if the MFI has an explicit policy to target female customers.

open economies do not need to rely on grant funding to cover their operational costs. On the contrary, Ahlin et al. (2011) by using a smaller dataset of 373 MFIs from 74 countries over the period 1996-2007 depict that FDI to GDP does not significantly influence OSS. On the contrary, FDI to GDP is positively and significantly affecting loan-size growth.[40] This means that more FDI inflows generate wage employment which created demand complementarities for the micro-enterprise sector, and this subsequently spurs the intensive growth of MFIs.

Apart from the above results, two studies which are indirectly linked to transnationalization include examining the impact of rating agencies on MFI performance are Hartarska and Nadolnyak (2008) and Garmaise and Natividad (2010). Using data from130 MFIs operating in 62 countries for the period 1998-2002, Hartarska and Nadolnyak (2008) analysed the impact of market forces, rating and regulation on microfinance intermediaries. Their findings indicate that not all ratings are equal or have the same effects. Thus, some rating agencies/methodologies may enforce market discipline and subsequently help MFI raise additional debt. Other rating methodologies (i.e. subsidizing rating) may instead provoke moral hazard at least in the short run. In this view, once MFIs obtain a grant to cover their rating cost, they may slack off and decide to reach less poor borrowers (Hartarska and Nadolnyak, 2008, p. 15). This result supports the theory presented in subsection 3.2.1 that cheap funding may adversely change the behaviour of MFIs.

On the contrary, a study by Garmaise and Natividad (2010) on the effect of a subsidized rating programme by Rating Fund agency for 138 MFIs in 31 African and Latin America countries for the period 1997-2008, reveals that credit evaluation leads to market discipline. In this case, rating evaluations reduce information asymmetries such that MFIs could obtain more commercial funding at cheaper rates. Their analyses also indicate that credit evaluations lead MFIs to use their resources more efficiently and increase their portfolio quality. Finally, they find that evaluations did not push MFIs to grant larger loans, which could be interpreted as the absence of mission drift. It should, however, be pointed out that, the subsidized rating programme was eligible only to MFIs which had attained a certain level of sustainability and growth. MFIs that were eligible had to meet two main conditions. Firstly, MFIs must have total assets of between 300,000 US dollars and 30 million US dollars. For LA (excluding the Caribbean) MFIs, the lower limit on assets was 500,000 US dollars. Secondly, MFIs must have an average outstanding loan size of less than 2,000 US dollars and for Latin American

[40] Loan-size growth is calculated as the log-difference in the year-end (real gross loan portfolio/number borrowers)(Ahlin et al., 2011, p. 108).

and Caribbean MFIs; the maximum average loan size was 3,000 US dollars (Garmaise and Natividad, 2010, p. 2570).

Table 3.2: Summary of transnational microfinance

Study	Countries	Period	Methodology	Effects on financial performance	Effects on social performance
Martins and Winkler (2013)	84 MFIs from 15 Latin American countries	(2009)	OLS	Foreign-owned MFIs are not more operationally sustainable than domestic owned-MFIs	Foreign-owned MFIs serve a larger number of borrowers than domestic-owned MFIs
Mersland and Urgeghe (2013)	319 MFIs from 68 developing countries	(2001-2008)	Pooled Probit	Commercial debt goes to MFIs with solid financial performance	Subsidized debt is associated with higher average loan sizes
Mersland et al. (2011)	379 MFIs from 73 developing countries	(2001-2008)	GLS	Having an international director negatively and significantly affects operational functioning of MFIs by increasing operating costs	Subsidized debt promotes outreach in rural markets
Mersland and Strøm (2010)	278 MFIs from 74 countries	(2000-2007)	3SLS	Financial performance tends to increase when MFIs has local directors than with international directors	Having an international director in the management board does not enhance social performance
Vanroose and D'Espallier (2013)	1073 MFIs from developing countries	(1997-2006)	FEVD	FDI to GDP positively and significantly influences the operational performance of MFIs	FDI to GDP is insignificant to social performance indicators
Ahlin et al. (2011)	373 MFIs from 74 developing countries	(1996-2007)	OLS	FDI to GDP does not affect financial performance	FDI to GDP leads to increase in loan-size growth
Garmaise and Natividad (2010)	31 countries in Africa and Latin America	(1997-2008)	2SLS	Rating evaluations reduced information asymmetry such that MFIs could obtain more commercial funding at cheaper rates	Rating evaluations does not push MFIs to grant larger loans

Study	Countries	Period	Methodology	Effects on financial performance	Effects on social performance
Hartarska and Nadolnyak (2008)	130 MFIs from 62 countries	(1998-2002)		Ratings by one particular agency leads to market discipline and helped MFIs raise additional debt	Subsidized ratings may provoke moral hazard in the short run. In this line, some MFIs after receiving funding may slack off and target less poor clients

3.5.2 Review of other factors affecting mission drift

Apart from the above studies on transnationalization and mission drift, other studies have shown that other variables such as cost, competition, capital structure, regulation, age, size, GDP per capita, inflation, private credit to GDP and rural population share are important variables that affect mission drift. These studies are summarized below.

A recent cross-country study by Bos and Millone (2015) of 1,146 MFIs over the period from 2003 to 2010 show that increasing financial performance is at the expense of social performance. They find that the trade-off does not affect all MFIs equally. Their result reveals that the trade-off is more severe for small MFIs, while more efficient MFIs are able to cross-subsidized poor clients by serving richer clients. Nevertheless, MFIs that targeted poor clients are only able to do so by charging higher interest rates. Similarly, Hartarska et al. (2013) analyzed 435 MFIs from 69 countries for the period 1998-2010 and shows some evidence of a trade-off of between outreach and sustainability. By using the cost function approach, they find that large institutions are more scale efficient and often benefit from cost reduction. These institutions achieve efficiency by offering larger loans and collecting larger deposits as opposed to serving more poor clients. Their results confirm the institutionist view that the transformation from NGO to regulated MFI will lead to more efficient MFIs. By using stochastic frontier analysis (SFA) on a dataset of 435 MFIs over a period of 11 years (1997-2007), Hermes et al. (2011) also find evidence of the cost effects on mission drift.[41] Their analyses show that MFIs with lower average loan balances and more female borrowers are generally less efficient. They argue that mission drift is evident in that improving on efficiency may only be achieved if MFIs targeted less poor clients. Their interpretation is consistent with that of Abate et al. (2014) who used a smaller database of 107 MFIs operating in Ethiopia from April-June 2012. The comprehensive research on 124 MFIs in 49 countries by Cull et al. (2007) for the period 1999 to 2002 provides further evidence supporting the fact that there is a trade-off between the social and financial performance. Their study reveals that MFIs which provide loans to individuals performed better financially. However, these MFIs are less efficient in their social performance in that their number of poor borrowers and the percentage of female borrowers are lower than for group-lending focused MFIs. Also, Makame and Murinde (2006), using a panel data of 33 MFIs in four East African countries,

[41] Stochastic frontier analysis (SFA) is a parametric technique that uses standard production function methodology. The approach is used to determine a cost function and which factors may explain the distance from the best practice cost function (Hermes et al., 2011, p. 940).

covering the period 2000-2005, find some strong evidence for a trade-off between sustainability and outreach.

As explained in subsection 3.4.2, increased competition could, in theory, affect microfinance performance and subsequently lead to mission drift. Research on a global dataset of 362 MFIs in 73 countries for the period 1995-2003 by Assefa et al. (2013) illustrates that increased competition (measured by the Lerner index) does not only negatively affect depth of outreach but it is also negatively associated with lower repayment and financial performance.[42] On the contrary, a study of 409 MFIs in 71 countries over the period 2003-2008 by Kar and Swain (2014) reveals that increased in competition (as measured by the Herfindahl-Hirschman Index, (HHI))[43] has no significant impact on depth of outreach (i.e. average loan size and percentage of female borrowers) and profitability (i.e. ROA and financial self-sufficiency(FSS)).[44] Nevertheless, they find that competition enhanced the capital levels of MFIs and it was associated with less risky loan portfolios. In another related paper, Cull et al. (2014) evaluate the effect of competition from formal banks on the performance of MFIs. By using a dataset of 238 MFIs from 38 countries for the year 2006-2008, their findings suggest that greater bank penetration forces MFIs to reduce their breadth of outreach.[45] Nevertheless, their findings reveal that increased competition from formal banks forces MFIs to go down-market and to target poorer clients. This evidence is particularly strong for commercial-funded MFIs that provide loans to individuals while it is less pronounced for MFIs with an NGO status. Using a dataset of 28 MFIs in Latin America for the period 1999-2001, Olivares-Polanco (2005) identified a positive correlation of competition (measured by the

[42] The Lerner Index measures competition by examining the difference between the output price and the marginal cost of production (which is scaled by output prices) at the firm level. It ranges from 0 to 1. In perfectly competitive market, where the price is equal to the cost the index is equal to 0, while in the monopolistic market where firms can price above their marginal cost the index is equal to 1. With respect to microfinance, the Lerner index was calculated as follows:

$L = \frac{\mathrm{p-MC}}{p}$, where p is the output price measured by yield on gross portfolio, and MC is the total marginal cost (Assefa et al., 2013, p. 772).

[43] The Herfindahl-Hirschman Index (HHI) is calculated "by squaring the loan portfolios of MFIs in the market and then summing the squares. It ranges from zero to one; where one implies a monopoly or no competition and zero means there are a large number of competition MFIs"(Kar and Swain, 2014, p. 216).

[44] The financial self-sufficiency (FSS) index is a ratio which is greater than one if an MFI generates sufficient revenue to cover its costs. It differs from OSS in the sense that it takes into other expense adjustments such as subsidized cost-of-funds and in-kind donations or goods and services that are provided to the institution at no cost or below the market value (Armendáriz and Morduch, 2010, p. 244).

[45] Most of the data was available from 2008.

concentration index) with average loan size as an indication of mission drift.[46] In this perspective, lower levels of concentration (which reflected higher competition) amongst MFIs lead many MFIs in Latin America to search for more profitable customers, hence moving away from poorer clients. A country-level study by Navajas et al. (2003) demonstrates that, due to increased competition in Bolivian microfinance market in the 1990s, the incumbent microfinance provider-BancoSol was forced to adjust its lending strategy in order to prevent less poor and more productive clients from moving to the competitor (in this case Caja Los Andes). This suggests that increased competition leads to less access to credit for poorer clients. Another country-level study by McIntosh et al. (2005) in Uganda demonstrates that rising competition induced a deterioration of loan repayment as clients simultaneously borrow from the new entrants and also from the incumbent lender.[47] In addition, increased competition tends to lead to a drop in the savings from clients of the incumbent lender, FINCA, since borrowers have to share their savings amongst lenders from which they have borrowed. Moreover, they find that competition does not change the dropout or enrolment rate of FINCA clients. Yet, their result illustrates that increase in competition is more likely to benefit wealthier borrowers and leads to lower levels of welfare of poorer borrowers.

Besides the above-mentioned variables, governance-related variables (capital structure, regulation) and other factors such as age and size have been used by other authors to evaluate mission drift. With respect to capital structure, Hartarska and Nadolnyak (2007) using a dataset of 114 MFIs from 62 countries highlights that less leveraged MFIs are more operationally efficient. Unlike Hartarska and Nadolnyak (2007), Kar (2012) and Kyereboah-Coleman (2007) show that increase in leverage is associated with an increase in MFI's profitability. Both studies, however, deliver different results with respect to social performance. While Kyereboah-Coleman (2007) find that highly leveraged MFIs reached out to more clients, Kar (2012) finds that an increase in leverage decreased the depth of outreach. Another study by Bogan (2012) which analyzed 300 top MFIs for the period 2003-2006 found that debt as a percentage of total assets is negatively related to both operational and financial sufficiency, implying that debt may reduce efficiency. The study also illustrates that the use of grants is negatively related to sustainability. This reinforces the view that the long-term use of

[46] Concentration was measured by the market shares held by the four largest MFIs in a country(Olivares-Polanco, 2005, p. 57).

[47] Competition was measured by three variables, namely presence of competitors, the number of competitors and lastly the proximity of competitors to the incumbent MFI (McIntosh et al., 2005, p. 993).

donations may be related to inefficient operations due to lack of competitive pressures associated with attracting market funding.

As regards, regulation, Tuckers (2001) analyzed a data of 17 Latin American MFIs for a one year period (1998). He finds that regulated MFIs tend to have better efficiency, while unregulated MFIs have better financial result, yet at higher operating expenses. He argues that the better performance of regulated MFI is partly due to the use of superior business practices such as management information systems that help in better project management and planning. In a more extensive follow-upstudy of 245 MFIs from 67 countries for the years 2003 or 2004 by Cull et al. (2011), illustrates that profit-oriented MFIs that had complied to prudential supervision were forced to cut back their outreach to women and segments of the population that were more costly to reach. Contrarily to the above two results, Ndambu (2011) analysis of 192 MFIs from 32 SSA countries by using a cross-section data for the year 2008 and finds that regulatory status of MFIs does not affect its performance as measured by OSS. However, after controlling for the regulatory capacity, there is evidence that countries with better banking and supervisory policies have more sustainable MFIs.[48] Another study by Mersland and Strøm (2009) which is based on 278 MFIs from 60 countries for the period 2001 to 2008, also find that regulation (measured by a regulation dummy) has no significant impact on the financial or social performance of MFIs. Similarly, Hartarska and Nadolnyak (2007) using a data set of 114 MFIs in 62 countries does not find any direct impact of regulatory involvement on sustainability or outreach. However, they reveal that MFIs that collected deposits tend to reach more borrowers than their non-deposit-collecting counterparts. This means that regulation has an indirect impact on performance. Closely linked to the above, is study by Chahine and Tannir (2010) which analysedthe performance of 68 transformed-MFIs for the period ranging from 1994 to 2006. Their study reveals that average loan size as a percentage of GDP is lower when NGOs transformed into more commercial institutions. They also find that transformed MFIs tend to have better financial performance and a larger number of clients.

As concerns age and size, Hermes et al. (2011)indicate that older MFIs are relatively less efficient and are more predisposed to mission drift than younger ones. This may be explained by the fact new MFIs develop policies building from the knowledge and information of the

[48] Regulatory capacity was measured by the Official Supervisory Power (OSP) index which was developed by Barth et al. (2006).The index measures the capacity and power granted to supervisors to manage and discipline banks. Higher values indicate greater power.

already existing policies of the older MFIs. Also, it could indicate the "joint aging" of MFIs and their customers who have become more affluent. Or it could mean that as a result of the successful repayments of previous loans, clients get the possibility of obtaining larger loan amounts (i.e. progressive lending). Further, a significantly positive correlation coefficient is identified between the age of MFI and average loan size (see Cull et al., 2007; Kar, 2013) which may imply mission drift. Other research by Caudill et al. (2009) on 137 MFIs from 21 Eastern European and Central Asian countries for a two-year period (2003-2004), illustrates that MFIs become more efficient over time, but this depends on three factors, namely their size, whether they collect deposits and also to what extent they receive deposits. On the one hand, MFIs which depend heavily on deposits tend to reduce cost as they grow older whereas those which are reliant on subsidies do not show any cost improvement over time. In contrast, Mersland and Strøm (2010) using a dataset of 379 MFIs from 74 countries for the period 2000 to 2007, find that average loan size does not increase over time. They also find that larger MFIs serve wealthier clients and less female clients, less outreach. Martins and Winkler (2013)who used a dataset of 76 MFIs from 15 Latin American countries for the year 2009 draw similar conclusions that larger MFIs serve more borrowers. Nevertheless, they do not find any significant relationship between age and average loan size.

Despite the above evidence of mission drift, some studies do not find any evidence supporting its occurrence. By exploring a dataset of 2600 MFIs in 2004, Gonzalez and Rosenberg (2006) do not find evidence of mission drift. Another study on 374 MFIs in 74 countries for the period 1998 to 2008 by Mersland and Strøm (2010) confirm the findings of Gonzalez and Rosenberg (2006) as they do not find any evidence of the conflict between outreach and sustainability. Their study nonetheless, demonstrates that average profit increases with increase in average loan size and average cost. In another study, Tchakoute-Tchuigoua (2010) analyzed 202 MFIs for the period 2001 to 2006 and indicate that for-profit MFIs are more socially efficient (as measured by the number of borrowers and average loan balance) than not-for-profit MFIs. Serrano-Cinca and Gutiérrez-Nieto (2014) whose study is based on 194 MFIs for the year 2006-2010; reveals that MFIs will choose financial efficiency over social efficiency in order to guarantee their social performance of increasing outreach to poorer clients and to women. Both studies (Tchakoute-Tchuigoua (2010) and Serrano-Cinca and Gutiérrez-Nieto (2014)) support the institutionists' belief that focusing on financial performance is a means to achieving social performance.

Closely linked to Tchakoute-Tchuigoua (2010)'s research is the study by Barry and Tacneng (2014) who examined the legal status of MFIs in SSA. Their findings show that NGOs tend to perform better financially and socially than other forms of institutions i.e. cooperatives, NBFI or banks. They argue that in the event of weak institutional governance, NGOs unlike like NBFIs and microfinance banks are able to use their local networks which enhanced their capability to provide small loans at cheaper costs. Nevertheless, they find that microfinance banks will perform no differently from NGOs in the event of stronger institutional governance. Their findings suggest that NGOs are the best microfinance models for the SSA region. In contrast, Chahine and Tannir (2010) argue that it is necessary for MFIs in SSA to transform into more commercial institutions as a means to enhance both their social and financial performance.

Apart from the microfinance-specific variables, other studies have analyzed the effects of four macroeconomic variables, namely GDP per capita, inflation, private credit to GDP and rural population share on microfinance performance and found contradictory results. In terms of GDP per capita, studies by Martins and Winkler (2013) and Vanroose and D'Espallier (2013) indicate that MFIs operating in countries with higher macroeconomic development tend to perform better financially. Nonetheless, other research by Hartarska and Nadolnyak (2007) and Kar and Swain (2014) indicate that GDP per capita is insignificant to both the financial and social performance variables. With respect to inflation, two different studies by Mersland et al. (2011) and Vanroose and D'Espallier (2013) find that inflation is negatively related to both financial and social performance. In contrast, Hartarska and Nadolnyak (2007) show in their study that inflation positively and significantly affects financial performance, indicating that MFIs seem to have developed sufficient safeguard such that they perform successfully in high inflationary environments.

With respect to private credit to GDP, research by Assefa et al. (2013) does not find any significant relationship between private credit to GDP and any of the financial performance indicators. However, their results show that private credit to GDP is negatively significant to the number of borrowers, whereas it is positively significant to loan size. This suggests MFIs found in countries with better developed financial sector; tend to have a relatively smaller number of clients who demand higher loan sizes. In contrast to Assefa et al. (2013)'s study, Vanroose and D'Espallier (2013) find that MFIs reach more clients and are more profitable in countries where the financial sector is less developed. As concerns rural population share, Manos and Tsytrinbaum (2014) and Cull et al. (2014) show that higher rural population share

is associated with higher outreach to female clients.[49] Nevertheless, each of studies reached a different conclusion regarding financial performance. While Cull et al. (2014) find some evidence of a positive relationship between rural population share and FSS, Manos and Tsytrinbaum (2014) on the contrary fails to find any significant relationship between rural population and OSS.

3.5.3 Contribution of the present study

The above empirical literature on the impact of the different factors affecting mission drift yields inconclusive results. The results are mixed and may suggest that the different measures, dataset and methodology used might not have been comprehensive enough to directly capture the impact of mission drift. Firstly, in terms of the methodology, 40 per cent of the papers used OLS as a tool for their analyses. 13 per cent of the papers used the cost function, while other papers like Hartarska and Nadolnyak (2007) and Mersland et al. (2011) used the GLS estimation. Both OLS and GLS eliminate the bias in the residuals only when the firm effect is fixed. Consequently, in cases where the firm effect is not fixed this might cause the estimates to be biased or inconsistent. Secondly, in terms of the dataset used, 77 per cent of the papers use a time series data for their analysis, while other papers such as Tucker (2001), Ndambu (2011) and Martins and Winkler (2013) relied on a cross-section data of just one year. Moreover, apart from Hartarska et al. (2013) whose data runs from 1998-2010, Abate et al. (2014) whose dataset runs from April- June 2012 and Manos and Tsytrinbaum (2014) whose dataset runs from 2000-2010, all other studies' dataset do not go beyond 2008. This suggests that most papers did not control for the effects of the recent financial crisis of 2008 and also for the potential integration of the microfinance sector and formal financial sector which is assumed to have begun around 2007. Thirdly, just seven out of 35 studies are based on data from individual or a group of SSA countries. Out of this number, just Barry and Tacneng (2014) controlled for differences in the different sub-regions in SSA. As discussed in section 2.4, microfinance development is influenced by different factors such as the policies, restrictions and regulations of the different countries or sub-regions in which they operate. As result, most of the studies ignored the individual fixed effects which affect MFIs in the different countries or sub-regions found in SSA.

As a result, this study goes beyond the previous literature in five ways. Firstly, it considers three different proxies of transnationalization, namely foreign bank presence, FDI to GDP and

[49] Manos and Tsytrinbaum (2014)'s study is based on a dataset of 852 MFIs from 30 countries for the period 2000 to 2010.

cross-border commitments since each capture different aspects of transnational microfinance. The first variable which is the percentage of foreign banks to total banks provides an insight on the level of competition which MFIs face as a result of the increased involvement of foreign banks in the microfinance sector. The second variable which is FDI to GDP tends to capture the de facto proxy for financial globalization which comes with potential spillovers effects in terms of jobs creation, transfer of technology and management know-how which might affect microfinance clients as well as MFIs. The third variable, cross-border commitments which is consist of disbursed funds as well as funds yet to be disbursed is funding from both private and public funders and investors with each having different motives for investing in microfinance. Subsequently, it is could be argued that the above three variables would have some implications for microfinance.

Secondly, the study is based on data which runs beyond 2008 for the three main proxies of transnational microfinance. Consequently, this study controls for the impact of the recent 2008 financial crisis and also for the potential integration of the microfinance sector and the formal financial sector which might force MFIs to act pro-cyclically rather than counter-cyclically as it is required for poverty reduction. Thirdly, it uses MFI data from SSA countries which is the poorest region of the world since 43 per cent of the total population lives in absolute poverty (World Bank, 2016a). Additionally, SSA is the region with one of the lowest share of banked households with an average banked population of 24 per cent as opposed to developed countries where this fraction is more than 80 per cent (Demirguc-Kunt et al., 2015, p. 13). Fourthly, although the microfinance sector is still small as compared with other regions,it has become the top priority for international funders and they are now increasing their funding to the region (Dashi et al., 2013, p. 3). Lastly, this study uses the Least Square Dummy Variable (LSDV) approach that includes a full battery of time, country and MFI specific fixed effects which control for national and inter-temporal variance that might not be explained by the other control variables.

Table 3.3: Summary of other factors affecting mission drift

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
1) Cost/ efficiency					
Bos and Millone (2015)	1145 MFIs	(2003-2010)	Production frontier	More efficient MFIs are able to reduce trade-off by increasing both financial and social performance	Smaller MFIs are more affected by the trade-off since any increase in the depth of outreach would result in a much larger decrease in the breadth of outreach
Hartarska et al. (2013)	69 developing countries	(1998-2010)	Cost function	Larger loan sizes lead to higher profits. MFIs that wish to reduce cost need to grow. Growth can be achieved through transformation to more formal institutions	Serving more borrowers is costlier than extending larger loans; therefore MFIs prefer to extend larger loans to a smaller number of clients in order to be more scale efficient
Hermes et al. (2011)	435 MFIs	(1997-2007)	SFA	Improving efficiency may only be achieved by targeting less poor clients	MFIs with lower average loan sizes and more female borrowers are less efficient
Abate et al. (2014)	107 MFIs in Ethiopia	(April-June 2012)	Stochastic cost frontier	MFIs with higher average loan size are more cost-efficient	MFIs with lower loan sizes and a larger proportion of female clients are less cost efficient
Cull et al. (2007)	124 MFIs from 49 countries	(1999-2002)	OLS	Larger loan sizes are associated with lower costs.	Village banks tend to have lower loan sizes than MFIs that grant individual loans
Makame and Murinde (2006)	33 MFIs in four East African countries	(2000-2005)	OLS	A trade-off between sustainability and outreach	

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
2) Competition (HHI)					
Assefa et al. (2013)	362 MFIs in 73 countries	(1995-2003)	Multivariate analysis	Results show that more competition leads to lower loan repayment performance due to multiple borrowing	Increase competition forced MFIs to more do cautious borrowing and consequently lower number of borrowers
Kar and Swain (2014)	409 MFIs from 71 countries	(2003-2008)	GMM	Increase competition does not lead to riskier loan portfolios. MFIs which have higher degree of market power hold more equity capital	Increase in competition does not have any significant impact on average loan size or the percentage of female borrowers
Cull et al. (2014)	238 MFIs from 38 developing countries	(2006-2008)	OLS and IV	There is no strong relationship between competition and profitability	Competition from commercial banks pushes MFIs to target more female clients and to grant smaller average loan sizes. Yet increased competition forced MFIs to reduce the number of borrowers.
Olivares-Polanco (2005)	28 MFIs from LA countries	(1999-2001)	OLS	N/A	A positive and significant relationship between competition and average loan size
Navajas et al. (2003)	BancoSol as the incumbent MFI, while Caja Los Andes as the competitor	1995	FE	N/A	More productive borrowers from BancoSol who prefer more personalized loan contract moved to Caja Los Andes. This forced BancoSol to change its strategy and to introduce new loan products in order to prevent high-productivity clients from

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
					switching to Caja los Anders
McIntosh et al. (2005)	FINCA Uganda as the incumbent MFI and 11 MFIs as competitors	(1998- 2002)	FE	Competition has no direct impact on performance. However an indirect impact through the deterioration in repayment performance and a drop in savings of FINCA clients	Loan volumes do not change with increase competition
3) Capital structure					
Kar (2012)	782 MFIs in 92 countries	(2000-2007)	GMM and IV	Increase in leverage positive and significantly affect the profit efficiency in MFIs	Increase leverage tends to lead to a fall in loan size, but has no significant impact on the number of borrowers or the percentage of female borrowers
Kyereboah-Coleman (2007)	52 MFIs in Ghana	(1995-2004)	OLS	Highly leverage firms are more financially efficient	Highly leverage MFIs reached out to more clients
Bogan (2012)	300 MFIs in developing countries	(2003-2006)	OLS and Probit model	Increase debt and grants are both negatively affecting operational and financial sustainability	The use of grant is not significant to outreach
Hartarska and Nadolnyak (2007)	114 MFIs in 62 countries	N/A	GLS	Less leverage MFIs have better operational performance	N/A
4) Regulation or legal status					
Tucker (2001)	17 MFIs in Latin America	1998	Survey analysis	N/A	Regulated MFIs have more many more clients because of they could use superior technology to screen out

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
					clients
Cull et al. (2011)	245 MFIs in 67 countries	(2003 or 2004)	OLS and IV	Regulated MFIs are less operational efficient.	Regulated MFIs are forced to cut back their outreach to women and to population that are more costly to reach
Ndambu (2011)	192 MFIs in 32 SSA countries	2008	OLS	Regulatory status does not affect operational performance. However, after controlling for regulatory capacity, results reveal that countries with better banking and supervisory policies have more sustainable MFIs	NA
Tchakoute-Tchuigoua (2010)	202 MFIs worldwide	(2001-2006)	ANOVA	For-profit MFIs are more socially oriented than NGOs as measured by the amount of deposits. Results also show that the is a significant difference between NGOs and cooperative in terms of sustainability	For-profit MFIs (private companies and cooperative) are more socially efficient than not-for-profit MFIs (i.e. NGOs)
Mersland and Strøm (2009)	278 MFIs in 60 countries	2000-2007	GLS and 3SLS	Regulation does not affect financial performance	Regulation is insignificant to social performance
Hartarska and Nadolnyak (2007)	114 MFIs from 62 countries	N/A	GLS	MFIs that are registered as NGOs do not have a significantly different OSS from non-NGO registered MFIs	Regulated MFIs do not have significantly different number of borrowers as compared to non-regulated MFIs
Bogan (2012)	300 MFIs from developing countries	(2003-2006)	OLS and Probit model	Regulated MFIs have lower ROA relative to other types of MFIs	MFIs that are regulated could transfer the cost of regulation onto their borrowers
Chahine and Tannir (2010)	68 transformed-MFIs from	(1994-2006)	OLS	MFIs that transformed from NGO to more commercial MFIs	MFIs that transformed from NGOs to more commercialized

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
	developing countries			have better financial performance	MFIs have lower average loan size and larger number of borrowers
5) Age and size					
Kar (2013)	409 MFIs from 71 countries	(2003-2008)	FE2SLS and EC2SLS	MFIs that are funded by commercial sources are more profit-oriented and target richer clients with larger loans	More experienced and larger MFIs provide less credit to female clients
Bogan (2012)	300 MFIs from developing countries	(2003-2006)	OLS and Probit model	Larger MFIs have better operational efficiency	As MFIs mature, they tend to focus on lower income clients and also on more female clients
Hermes et al. (2011)	435 MFIs	(1997-2007)	Stochastic frontier analysis	Older MFIs are relatively less efficient	N/A
Mersland and Strøm (2010)	379 MFIs from 70 countries	(2001-2008)	GMM	N/A	MFIs do not increase their average loan size with time
Olivares-Polanco (2005)	28 MFIs in LA	(1999-2001)	OLS	N/A	Older MFIs tend to poorer clients
Caudill et al. (2009)	137 MFIs in 21 ECA countries	(2003-2004)	Mixed model by EM Algorithm	MFIs which depend heavily on deposits tend to reduce cost as they grow older whereas those which are reliant on subsidies do not show any cost improvement over time	N/A
6) GDP per capita					
Mersland et al. (2011)	379 MFIs from 73 developing countries	(2001-2008)	GLS	GDP per capita positively affects ROA but not OSS.	GDP positively relates to social performance indicators of average loan, female

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
					borrowers and the access to credit in rural areas
Martins and Winkler (2013)	84 MFIs from LA countries	(2009)	OLS	GDP positively influences only OSS but ROA	GDP does not affect the number of borrowers
Vanroose and D'Espallier (2013)	1073 MFIs from developing countries	(1997-2006)	FEVD	GDP growth positively affects both OSS and ROA	GDP growth positively influences the number of borrowers
Kar and Swain (2014)	409 MFIs from 71 countries	(2003-2008)	GMM	GDP is insignificant to financial performance	GDP is insignificant to social performance
Hartarska and Nadolnyak (2007)	114 MFIs from 62 countries	N/A	GLS	GDP is insignificant to operational performance	N/A
7) Inflation					
Vanroose and D'Espallier (2013)	1073 MFIs from developing countries	(1997-2006)	FEVD	Higher inflation leads to lower ROA	Higher inflation causes MFIs to reduce their number of borrowers
Mersland et al. (2011)	379 MFIs from 73 developing countries	(2001-2008)	GLS	Inflation negatively affects both ROA and OSS	Inflation negatively affects percentage of female borrowers and the access of credit to rural areas
Hartarska and Nadolnyak (2007)	114 MFIs from 62 countries	N/A	GLS	Inflation positively influences OSS	N/A
8) Private credit to GDP					
Assefa et al. (2013)	362 MFIs from 73 countries	(1995-2003)	Multivariate analysis	No significant relationship between private credit to GDP and financial performance	N/A
Vanroose and D'Espallier (2013)	1073 MFIs from developing	(1997-2006)	FEVD	MFIs operating in countries with less developed financial sector	MFIs operating in countries with less developed financial

Study	Data	Period	Methodology	Effects on financial performance	Effects on social performance
	countries			are more profitable	sector reach more clients
9) Rural population share					
Cull et al. (2014)	238 MFIs from 38 developing countries	(2006-2008)	OLS and IV	Rural population share positively relates to financial self-sufficiency	Higher population share lead to higher outreach to female clients
Manos and Tsytrinbaum (2014)	852 MFIs from 30 countries	(2000-2010)	OLS	Rural population share is insignificant to operational performance of MFIs	Higher population share leads to higher outreach to female clients

4 Hypotheses, data and methodology

4.1 Hypotheses

In discussing the impact of transnationalization on microfinance performance, this study distinguishes three different proxies of transnationalization, namely foreign direct investment, foreign banks presence and cross-border commitments as they tend to measure different aspects of transnational microfinance in SSA. Firstly, as noted in subsection 3.2.2, foreign banks are not only competing with domestic banks; they are now targeting microfinance clients. This is mainly because they are interested in risk diversification advantages and also in high return margins which can be obtained from serving clients at the lower end of the pyramid. Secondly, FDI flows to the region are gradually shifting from resource-seeking to market-seeking sectors, particularly to the banking, service and manufacturing sectors. In general, FDI will take place only if the benefits of exploiting firm-specific advantages outweigh the costs of operating abroad. Given that FDI is the most stable and largest component of external finance in SSA, it is increasingly being used in the development process and to fight poverty (UNCTAD, 2002, p. 5). Thirdly, cross-border commitments which is foreign funding from both private and public funder and investors has increased to MFIs in the sub-region. Subsequently, it is could be argued that the above three variables (i.e. the percentage of foreign banks to total banks, FDI flows, and cross-border commitments) would have some implications for microfinance. The following section presents 13 different hypotheses relating to the impact of transnationalization on microfinance performance in Sub-Saharan Africa. A summary of the predictions is provided in Table 4.1.

4.1.1 Percentage of foreign banks to total banks and microfinance performance

The financial sector in most SSA countries is foreign bank dominated since most countries inherited high levels of foreign bank participation from their colonial past (Beck et al., 2014, p. 36). In the past, most of these banks were interested in serving big corporations, governments and specific groups of clients or large export-oriented domestic enterprises (Beck et al., 2014, p. 36). As presented in subsection 3.3.2, the recent trend is that many foreign banks are currently serving the lower end of the market and competing with domestic MFIs for clients. Subsequently, this could have several implications for MFIs. First, foreign banks which often have superior technology are able to offer loans at lower costs which imply lower interest rates (Vanroose and D'Espallier, 2013, p. 1968). This could mean that better-off clients might move from MFIs to foreign banks or their subsidiaries, thereby leaving

domestic MFIs with a pool of more risky clients and a weakened loan portfolio. Second, domestic MFIs might be forced to select their borrowers more judiciously, as they now have to compete with larger international banks which often have a better reputation and superior information systems (Giannetti and Ongena, 2012, p. 168). Third, in order to cope with the increased competition from foreign banks, MFIs might be forced to incur additional costs as they improve upon their services, operations and techniques. In the long run, however, these investments might go a long way to improve the overall cost efficiency of MFIs and consequently better financial performance (Hermes and Lensink, 2004, p. 210). Fourth, foreign banks might provide credit lines to domestic MFIs who often have problems in accessing funding because of their risky loan portfolios, thereby enhancing financial stability (Clarke et al., 2005, p. 87). Also, foreign banks might improve the quality of human capital in the domestic banking and microfinance system (Hermes and Lensink, 2004, p. 209). Overall, these arguments lead to the expectation that increased foreign bank presence in the microfinance sector tends to positively affect the financial performance of MFIs and average loan, whereas it is negatively related to the number of borrowers. Similar to previous studies (e.g., Hermes and Lensink, 2004 and Claessens and van Horen, 2014) foreign bank presence is measured as the percentage of the number of foreign banks to the total number of banks in a country i.e., the share of foreign banks in the banking sector.

H1a: Percentage of foreign banks positively affects financial performance
H1b$_i$: Percentage of foreign banks positively affects average loan size
H1b$_{ii}$: Percentage of foreign banks negatively affects the number of borrowers

4.1.2 FDI to GDP and microfinance performance

Theories by Dunning (1988) and Dunning and Lundan (2008) suggest that the ownership-specific, location-specific and internalization advantages (OLI paradigm) are the main reasons why firms engage in foreign investments. The overall argument is that for any foreign investment to be feasible these three main advantages must compensate for the cost of operating in the foreign country and provide a return which is higher than when investing in the home nation.

This is also true for most of the foreign investment to SSA. Nonetheless, the majority of these flows are channelled to multinational enterprises (MNEs), FDI flows continues to be the most stable and largest component of capital flows in SSA (Ferreira et al., 2013, p. 5). Consequently, it has increasingly become a significant alternative in the development finance process because of its potential spillover effects to other sectors. FDI creates positive vertical spillover effects with local suppliers (upstream linkages) and through local sourcing and firms

(downstream linkages) (Farole and Winkler, 2014, p. 10). More specifically, it is believed that FDI to the resource-seeking sector has limited potential for spillovers, due to its high capital return, technology intensity and limited time horizons (Farole and Winkler, 2014, p. 32). Moreover, Meyer and Sinani (2009) have revealed that when countries lack the minimum (no competition) or maximum (dynamic competition) threshold levels, FDI spillovers effects become smaller because competition may lead to crowding-out of the local firms. In this case, if local firms face a high level of competition at the sector level, then they may have lower incentive to improve, thereby resulting in lower benefits from FDI spillover effects. On the other hand, it is argued that market-seeking FDI provides larger opportunities for spillover effects by creating jobs and demand complementary that would indirectly affect the suppliers and microfinance sectors.

The study by Agbloyor et al. (2013) shows that FDI flows in Africa can lead to further development of both the domestic banking system and the domestic stock market. At the microfinance level, the study by Ahlin et al. (2011) illustrates that FDI net inflows to GDP positively affect MFI loan-size growth. Another study by Vanroose and D'Espallier (2013) reveals that more open economies have better performing MFIs as measured by FDI to GDP. As a result, since FDI flows to SSA is gradually moving from resource-seeking to market-seeking sectors, more specifically to the finance, ICT and manufacturing sectors motivated by higher returns, it is assumed that the increase FDI flows could lead to mission drift as follows:

H2a: FDI to GDP positively affects financial performance
$H2b_i$: FDI to GDP positively affects average loan size
$H2b_{ii}$: FDI to GDP negatively affects the number of borrowers

4.1.3 Cross-border commitments and microfinance performance

The overall transfer of cross-border funding to microfinance might generate agency cost issues that might directly or indirectly lead to mission drift. Jensen and Meckling (1976) define the agency relationship, "as a contract under which one or more persons (principal(s)) engage another person (agent) to perform some service on their behalf which involves delegating some decision authority to the agent." The main problem here is how to enforce contracts in a manner in which the interest of the principal and agent are protected since both parties may aim at maximizing different utilities. Consequently, it is not possible for the principal or the agent to ensure optimal decisions at zero costs (Jensen and Meckling, 1976, p. 308). The costs may include monitoring costs, transactions costs, moral hazard and legal

enforcement expenses as well as other costs that are incurred for collecting and processing information (Adams, 1995, p. 5).

In terms of the foreign funding to MFIs, some of the above-mentioned costs matter. Firstly, the transfer of funding between donors, investors and recipients require collecting and processing information on the MFIs, since donors and recipients are usually large distances apart (Martens, 2005, p. 649; Reille et al., 2011, p. 8). Moreover, foreign funders incur monitoring costs to ensure that MFI management works in their interest (see Hansmann, 1996). On the part of the MFI management, it may be difficult to align the needs of the different foreign investors with the dual mission of the MFI. For instance, some donors urge MFIs to disburse much of the available funding so as to ensure the injection of further funds, while other donors might be more interested in MFIs attaining a certain level of sustainability by a certain deadline. Meeting these standards may conflict with the MFIs' dual objectives and make it difficult for the MFIs to manage the obligations to their clients (Latortue et al., 2006, p. 19).

Agency problems are compounded when an MFI receives funds from a range of different investors (i.e. governments or donors, social investors, and commercial investors) for retail lending to poor clients. For instance, in 2004, out of 54 foreign investors in Latin American MFIs, 20 funded Banco Solidario (Ecuador), 15 funded Confianza (Peru), and 11 funded Fundación Nieberowski in Nicaragua, while 10 funded Caja Los Andes (Bolivia) (Ivatury and Abrams, 2005, p. 8). Although many MFIs do this as a way to diversify their donor partners and to reduce the risk of being dropped out unexpectedly, it nonetheless increases the risk that MFIs receive incoherent instructions from these different funders (Balkenhol, 2007, p. 225). While certain donors may be concerned mainly about poverty reduction, the profit-maximizing donor may be more concerned about generating profits, and the SRIs are concerned about achieving both social and financial returns (Balkenhol, 2007, p. 225). MFIs may have difficulty concentrating on its double-bottom-line mission because of the presence of these different funders. It could be summarized that the collective costs of decision-making increase in MFIs with owners having different objectives (Mersland, 2009, p. 474).

If the foreign funds are passed through MIVs, governments or other sources, additional layers of agency problems accompany the insertion of funds (Adams, 1995, p. 6). As presented in section 3.3, in 2011 for example, 74 per cent (22 billion US dollars) of foreign investment reached MFIs as an indirect investment through another fund. Theory by Martens (2005) and

empirical evidence by Powell and Bobba (2006) indicate that the indirect channelling of funding might increase cost efficiency and reduce information asymmetry between donors and recipients. Nevertheless, it is possible that the preferences of the different channels may not converge at all times.

Moreover, in-kind donations such as the provision of technical assistance could also lead to additional agency problems (Goodman, 2007, p. 17). This argument is based on the fact that the creation of some MIVs or MFIs is accompanied by technical assistance grants provided to the consulting arm of the institution launching the fund. Such a situation might create room for conflicts of interest since technical assistance may interfere with investment decisions (Goodman, 2003, p. 16). Conversely, Schreiner (1997) argues that technical assistance provides MFIs long-term sustainability (such as tools, abilities and incentives) in ways that cash cannot provide.

Grant funding comes with more complex agency problems than loans since it involves different beneficiaries, political decisions and donors (Adams, 1995, p. 6). For instance, donor staff are often being encouraged to spend money, without any clear reporting and reward system for good performance over time (Latortue et al., 2006, p. 5). The parliament or politicians tend to focus more on the overall spending amounts or may be particular success stories rather than the performance of the entire portfolio (Latortue et al., 2006, p. 5). Genuine aid lobby groups in the donor country are more interested in achieving results (Martens, 2005, p. 15). All these different preferences already complicate agency problems within the donor agency. In another vein, as noted in subsection 3.3.1, funding from bilateral agencies is often tied to the donor country's foreign policy. Consequently, when a new political party comes to power, the institutional priorities of donors and key personnel might also change and this might not be the same adherence to the microfinance goals as the old staff (Christen, 1997, p. 101).

Foreign debt may come with tax benefits such that an MFI that honours its debt obligations benefits from offsetting interest that is a "tax shield" in the nature of paying lower taxes (see Modigliani and Miller, 1963). In addition, higher leverage may reduce agency costs of outside equity and thus increase firm value, by limiting or encouraging managers to act in the interest of the shareholders (see Grossman and Hart, 1982). On the other hand, it can lead to pressures from the investors to generate cash flows for interest payments (see Jensen, 1986). Furthermore, Berger and Bonaccorsi di Patti (2006) have shown that when leverage becomes

relatively high, further increases may generate significant agency costs of outside debt from risk shifting and this might result in higher expected costs of financial distress or bankruptcy. Therefore, Conning (1999) suggests that sustainable MFIs that target poorer clients should be less leveraged as it will be difficult for them to generate enough profit that can support greater leverage. This problem could be aggravated since foreign debt is mostly denominated in hard currency of dollar or euro. Such debt could pose problems for institutions that might not fully understand or know how to manage foreign exchange risks (Helms, 2006, p. 102). In the case of a devaluation of the local currency of these MFIs, collecting microloans will not yield enough to repay the hard currency loan. The study by Eichengreen et al. (2005) depicts that devaluation is most likely to take place in developing countries than in developed countries since interest rates are more volatile and pro-cyclical in such countries. Moreover, developing countries are more prone to output fluctuations and capital flow volatility and reversals. Above all, these countries often have lower credit ratings, consequently making it difficult for them to access international capital markets.

Consequently, the above arguments predict that cross-border commitments to MFIs might lead to agency cost problems that would eventually lead to mission drift for MFIs in SSA. The research includes cross-border commitments which include funds already disbursed as well as funds not yet disbursed based on the following hypothesis:

H3a: Cross-border commitments is positively related to financial performance
H3b$_i$: Cross-border commitments is positively related to average loan size
H3b$_{ii}$: Cross-border commitments is negatively related to the number of borrowers

4.1.4 Capital asset ratio and microfinance performance

Closely linked to the cross-border commitment is the capital structure which is measured by the capital asset ratio. As earlier noted, MFIs should be less leveraged because of their risky portfolios. Subsequently, MFIs with higher equity to asset ratio would borrow less and have lower costs of refunding, and this cheaper cost could be passed on to clients (Athanasoglou et al., 2008, p. 126f.). Moreover, a higher ratio of equity capital to gross total assets (CAR) represents lower financing risk (Lozano-Vivas et al., 2001, p. 151). This implies financial constraints in terms of a lower potential for leverage, it would normally imply lower profitability and also a lower risk of mission drift.

H4a: Capital-asset ratio is positively related to financial performance
H4b$_i$: Capital-asset ratio is negatively related to average loan size
H4b$_{ii}$: Capital-asset ratio is positively related to the number of borrowers

4.1.5 Operating expense and microfinance performance

Section 2.4 shows that operating expense is the main determinant of interest rate or yield. Although the Figure 2.11 shows that operating costs are declining because of the learning curve and competition advantages, SSA is still the region with the highest operating cost ratio. This is because of its low population density, poor infrastructure and high labour and administrative costs. As a result, operating cost is expected to be negatively affecting the financial performance indicators and the number of borrowers, while it is positively related to average loan size.

H5a: Operating expense is negatively related to financial performance
H5b$_i$: Operating expense is positively related to average loan size
H5b$_{ii}$: Operating expense is negatively related to the number of borrowers

4.1.6 Portfolio at risk and microfinance performance

Portfolio at risk measures that proportion of loan portfolio that might not be recovered. The empirical research presented in subsection 3.5.2 illustrated that increased competition without the necessary market information structures such as credit bureaus or information sharing mechanisms amongst lenders could lead to multiple borrowing and lower repayment performance. Thus, portfolio at risk is included in the analysis based on the assumption that it is negatively related to both financial performance indicators and to the number of borrowers, while it is positively related to average loan size.

H6a: Portfolio at risk is negatively related to financial performance
H6b$_i$: Portfolio at risk is positively related to average loan size
H6b$_{ii}$: Portfolio at risk is negatively related to the number of borrowers

4.1.7 Age and microfinance performance

This indicator is measured by the number of years since the creation of the MFI. According to Kneiding and Mas (2009), age-related factors tend to influence performance in three different ways a) higher numbers of loans may drive economies of scale b) higher loan sizes may improve the cost structure and c) more knowledge about customers may streamline lending processes. There is the hope that MFIs may benefit from the learning curve. Subsequently, older MFIs will have more experience and better technology which could help reduce administrative costs as compared to younger MFIs. Alternatively, as a result of competition from newer entries in the markets, older MFIs might be forced to focus more on richer clients than not-so-poor clients. Besides, the age structure of the total MFI industry may change in terms of a decline in the average age, as more market-based and profit-oriented MFI (such as

foreign MFIs and banks) enter the market and increase the risk of mission drift. Therefore, the expected sign of the age coefficient is positively related to both financial performance indicators and average loan size, while it is negatively related to the number of borrowers.

H7a: Age is positively related to the financial performance
H7b$_i$: Age is positively related to average loan size
H7b$_{ii}$: Age is negatively related to the number of borrowers

4.1.8 Competition (HHI) and microfinance

MFIs in SSA are presently facing competition from two different fronts. Firstly, MFIs are facing competition from within the microfinance sector as they compete with other MFIs for clients and for funding from donors and investors. Secondly, they are also competing for clients with foreign MFIs and commercial banks that are increasingly targeting microfinance clients. Classical theory suggests that, when competition intensifies, firms usually respond by offering new and better products at competitive prices as a means to keep clients (Olivares-Polanco, 2005, p. 57; Cull et al., 2014, p. 40). However, this would be possible only if certain preconditions have been met namely a well functioning credit information system and a well-developed regulatory and supervisory framework. As explained in subsection 2.5.1, only a few countries in SSA have a functional credit information system. Subsequently, increased competition amongst MFIs may result in greater asymmetric information on clients' profiles and consequently leading to multiple borrowing or "double-dipping" on the part of clients (see McIntosh et al., 2005; Assefa et al., 2013). This excessive total debt per client could further lead to higher default rates. MFIs on their part might be forced to change their strategy as they hope to attract capital from funders and investors. This implies that MFIs might be forced to target less poor clients with the aim of attaining a certain level of profitability and to reduce operating costs (see Navajas et al., 2003 and Olivares-Polanco, 2005).

On the contrary, increase competition amongst MFIs might push some of them to search for new market segments which were previously unbanked. Consequently, this might lead to an increase in the overall availability of financial services in the market. Thus, similar to previous studies by Olivares-Polanco (2005) and Wagner and Winkler (2013), the *Herfindahl-Hirschman Index* (HHI) which measures market concentration is included in the analysis. The expected relationship between competition and microfinance performance could either be positive or negative.

H8a: HHI is positively or negatively related to financial performance
H8b$_i$: HHI is positively or negatively related to average loan size

$H8b_{ii}$: HHI is positively or negatively related to the number of borrowers

4.1.9 NGO dummy and microfinance performance

MFIs in SSA are increasingly being urged to transform into more formal institutions with the hope of enhancing their social and financial performance. However, research by Barry and Tacneng (2014) shows that the best model for MFIs in SSA is the NGO model since they can use their networks to cover costs when operating in poor regulatory environments. As previously noted, many MFIs such as Grameen Bank started as NGOs given that this model was believed to be more effective at reaching poor clients. The NGO status permitted MFIs to plough back any profits back in the business to improve the social mission of MFIs (Besley and Ghatak, 2005, p. 626). As noted in subsection 2.5.1, many countries in SSA lack the necessary regulatory and supervisory capacity for MFIs; consequently, it can be argued that the NGO-model is the best model for MFI operating in SSA. Subsequently, NGO-registered MFIs would have better financial and social performance than their non-NGO registered counterparts.

H9a: NGO_dummy is positively related to financial performance
$H9b_i$: NGO_dummy is negatively related to average loan size
$H9b_{ii}$: NGO_dummy is positively related to the number of borrowers

4.1.10 Gross domestic product and microfinance performance

Studies by Krauss and Walter (2009), Cull et al. (2011) and Ahlin et al. (2011) present evidence indicating that the domestic macro economic developments, most importantly that GDP play an important role in determining MFI performance. Similar to Cull et al. (2011), the coefficient of the GDP variable is expected to be positively related to both financial and social performance of MFIs. This is because, all else being equal, a stronger economic development implies a reduction in information asymmetry which enables MFIs to cover their easily and stimulate demand of micro-loans (Vanroose and D'Espallier, 2013, p. 1978). Consequently, GDP should enhance both financial and social performance.

H10a: GDP is positively related to financial performance
$H10b_i$: GDP is positively related to average loan size
$H10b_{ii}$: GDP is positively related to the number of borrowers

4.1.11 Inflation and microfinance performance

Theoretically, high inflation would make it difficult for both lenders and borrowers to enforce a contract. For instance, unanticipated inflation often lowers real returns for MFIs; hence MFIs might be forced to increase inflation premia in their interest rates (Ahlin et al., 2011, p.

114). Besides, MFIs can suffer adversely from inflation if their costs of funds go up without a compensating increase in their revenue (Agbloyor et al., 2013, p. 129). Furthermore, inflation might influence borrowers' incentives for loan repayment delay (Ahlin et al., 2011, p. 114). Thus, similar to previous studies Vanroose and D'Espallier (2013) and Mersland et al. (2011), it is assumed that inflation is negatively associated with both financial performance indicators and to the number of borrowers, whereas it is positively related to average loan size.

H11a: Inflation is negatively related to financial performance
H11b$_i$: Inflation is positively related to average loan size
H11b$_{ii}$: Inflation is negatively related to the number of borrowers

4.1.12 Private credit to GDP and financial performance

Economic theory suggests that a more developed banking sector can help and hinder the profitability of MFIs. On the one hand, MFIs can benefit from the positive spillover effects through increased credit lines; development of microfinance sector and improvement of MFIs through better governance. All these might go a long way to enhance the operational and financial performance of MFIs (see section 3.4). On the other hand, in countries with a more developed financial system, the part of the population served by traditional financial institutions is quite big. As noted in chapter 1, in developed countries, over 80 per cent of the households have an account with a financial institution, while this fraction decreases to 20 per cent in developing countries. Thus, the need for microfinance would be less acute and the demand will be smaller (Vanroose and D'Espallier, 2013, p. 1976). As a result, microfinance would be expected to be less developed in places where the traditional banking system is well established (Vanroose and D'Espallier, 2013, p. 1971). Based on these arguments, private credit to GDP which measures the development of the financial sector is included in the financial performance models with the following hypothesis.

H12a: Private credit to GDP is positively or negatively related to financial performance

4.1.13 Rural population share

Higher rural population share is expected to affect financial performance in both ways. In the first case, higher rural population positively affects financial performance since MFIs are more likely to operate in rural areas than banks and they could use the advantage of their different mechanisms such as group lending, peer monitoring, and intensive loan collection which is more successful in screening out low-income borrowers than conventional banking methods (Manos and Tsytrinbaum, 2014, p. 65). However, higher rural population could be negatively related to the financial performance because of higher operational costs in rural

areas these areas often lack infrastructure, thus increasing operating costs of MFIs and reducing their financial performance (Cull et al., 2014, p. 40). Accordingly, rural population which is calculated as the difference between total population and urban population is included in the financial performance models based on the hypothesis below.

H13a: Rural population share is positively or negatively related to financial performance

Table 4.1: Summary of hypotheses and predictions

		Financial Performance		***Social Performance***	
Variable type	*Variable name*	*ROA*	*OSS*	*Average loan size*	*ln(borrowers)*
Globalization proxies	*Percentage of foreign banks*	+	+	+	-
	FDI to GDP	+	+	+	-
	ln(commitments)	+	+	+	-
MFI-specific variables	*Capital asset ratio*	+	+	-	+
	Operating expense	-	-	+	-
	Portfolio at risk (30days)	-	-	+	-
	ln(age)	+	+	+	-
	Competition	+/-	+/-	+/-	+/-
	NGO_dummy	+	+	-	+
Macroeconomic variables	*ln(gdp)*	+	+	+	+
	Inflation	-	-	-	-
	Private credit to GDP	+/-	+/-	*Not included*	*Not included*
	Rural population share	+/-	+/-	*Not included*	*Not included*
Complementary performance variables[50]	*Average loan size*	-	-	*Not included*	*Not included*
	ln(borrowers)	-	-	*Not included*	*Not included*
	Return on assets	*Not included*	*Not included*	+	-
	Operational self-sufficiency	*Not included*	*Not included*	+	-

[50] In order to account for the trade-off that might exist between the social and financial performance indicators, the social performance indicators (average loan and ln(borrowers)) are included in the financial performance regressions, while the financial performance indicators (ROA and OSS) are included in the social performance regressions (see section 4.3 for a detailed explanation).

4.2 Data

In order to verify the above-mentioned hypotheses, data for the variables included in the regressions are obtained from four different sources (see Table 4.2). Firstly, data to represent the percentage of foreign banks to total banks is obtained from the recent data that was compiled by Claessens and van Horen (2014). This dataset is available for 27 SSA countries and for a period from 1995 to 2009. Secondly, FDI to GDP data is available from the World Bank Development Indicators and includes 39 SSA countries for an eleven-year period (2001-2011). Thirdly, data on the cross-border commitments was provided by CGAP and Symbiotics.[51] The data is available for a three-year period (i.e. 2007, 2009 and 2011) and it is available for 30 SSA countries. However, the data has a caveat that information is missing for two years (i.e. 2008 and 2010) since surveys on cross-border funding are been carried out biennially. Additionally, four macroeconomic variables which include GDP per capita, inflation, private credit to GDP and rural population share are also obtained from the World Bank Development Indicators (WDI). Lastly, six MFI specific variables, namely capital asset ratio, operating expense ratio, portfolio at risk (at 30 days),age, HHI, NGO dummy are collected from MIX market, a not-for-profit organization that provides social and financial performance information on approximately 2000 MFIs worldwide.

Combining all four datasets provides a sample from which some analytical conclusions could be drawn on the effects of transnationalization on MFI performance in SSA. The next section provides information on the trend for the three proxies of microfinancetransnationalization.

[51] Symbiotics is an investment boutique specialized in emerging, sustainable and inclusive finance which offers research, advisory and asset management services for microfinance investors as well as investment funds (www.symbioticsgroup.com).

Table 4.2: Definition and source of variables used in the analysis

	Code	Variable	Explanation	Source
Dependent variables		***Financial performance***		
	ROA	Return on assets	Net operating income/ Average total assets	MIX market
	OSS	Operational self-sufficiency	Operating revenue/ Financial expense + loan-loss provision expense +operating expense	MIX market
		Social performance		
	ln(borrowers)	Number of borrowers	Natural logarithm of the number of borrowers with loans outstanding	MIX market
	Average loan	Average loan size	Adjusted gross loan portfolio/ Active number of borrowers	MIX market
Independent variables		***Transnationalization proxies***		
	Percentage_foreignbanks	Percentage of foreign banks to total banks	Percentage of the number of foreign-owned banks to the number of the total banks in an economy	Claessens and van Horen (2014)
	Fdi_gdp	Foreign direct investment	Net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock)/ GDP	WDI
	ln(commitments)	Cross-border commitments	Natural logarithm of cross-border commitments	CGAP and Symbiotics
MFI specific variables	Capital assets ratio	Capital to assets ratio	Total equity/ Total assets	MIX market
	Operating expense	Efficiency	Operating expense/ Total assets	MIX market
	Portfolio at risk (30days)	Risk	The value of all loans outstanding that have one or more instalments of	MIX Market

	Code	Variable	Explanation	Source
			principal past due more than 30 days	
	ln(age)	Age	Natural logarithm number of years since existence	MIX market
	HHI	Competition	The sum of the squares of the market shares (gross loan portfolio) of each MFI in the respective country. Increases in the Herfindahl index generally indicate a decrease in competition and an increase of market power and vice versa	
	NGO_dummy	NGO_dummy	Variable is equal to 1 when an MFI is registered as a non-government organization	MIX market
Macroeconomic variables	ln(gdp)	Gross domestic product	Natural logarithm of GDP per capita	WDI
	Inflation	Inflation	The percentage change of GDP deflator	WDI
	Private credit to GDP	Private credit to GDP	Domestic bank credit to private sector as a percentage of GDP	WDI
	Rural population share	Rural population share	Rural population as a percentage of total population	WDI

4.2.1 Data on transnationalization microfinance

This section presents data on the three transnationalization proxies, which include the percentage of the number of foreign banks to total banks, FDI to GDP and cross-border commitments.

4.2.1.1 Trends of foreign banks in Sub Saharan Africa

As already mentioned, foreign bank presence is measured by the proportion of the number offoreign banks to total banks in an economy (Claessens and van Horen, 2014, p. 300). Table 4.3 shows that the number of foreign-owned banks in SSA has increased by an average of 6 per cent over the past fourteen years and to reach 181 foreign-owned banks in 2009.

Table 4.3: Number of foreign banks in Sub Saharan Africa, aggregates, 1995 – 2009

	1995		**2000**		**2005**		**2009**	
	Number	Share	Number	Share	Number	Share	Number	Share
Domestic	227	0.69	247	0.63	221	0.58	166	0.48
Foreign	100	0.31	143	0.37	158	0.42	181	0.52
Total	327	1	390	1	379	1	347	1

Source: Claessens and van Horen (2014, p. 302)

This means that foreign-owned banks make up just over half of the total number of banks operating in SSA.[52] Despite this, there is great disparity across countries within the region. At the one extreme, two countries (Ethiopia and Eritrea) are entirely closed to foreign capital in the banking sector. At the other extreme, countries such as Benin, Burkina Faso, Lesotho, Madagascar, Lesotho, Mozambique and Zambia are almost completely dominated by foreign banks with more than 70 per cent of foreign bank presence (see Table D.1).[53]

The overall high foreign-owned bank presence is as a result of the fact that many SSA countries inherited some foreign bank presence from the colonial period. These banks were created mainly to provide trade finance and short-term working capital to foreign companies and non-African residents (Beck et al., 2014, p. 36). British banks dominated in British colonies, while French banks in French colonies and Portuguese banks in Portuguese colonies. Even after the 1960s, when many countries gained their independence and many

[52] ECA region is the first with foreign bank making of 59 per cent of total bank number, while LAC follows SSA closely with 47 per cent foreign bank share (Beck et al., 2014, p. 30).

[53] Although Ethiopia has restrictions on foreign investment in financial sector, since 2007, some foreign banks have been able to open representative offices in the country. For example, German Commerzbank, Togolese-Ecobank and South African Standard Bank have opened representative offices in the capital city-Addis Ababa (Beck et al., 2014, p. 30).

SSA countries' governments intervened in the financial sector, foreign banks continued to maintain their presence in the region. Sometimes they took minority shares such as in Uganda and Ghana or majority shares in Nigeria and Malawi (Beck et al., 2014, p. 36).

Recently, these foreign banks such as Société General, Standard Chartered and BNP Paris are now down-scaling their activities into targeting poor and low-income earners. Apart from this, foreign banks from other developed countries such as the Rabobank of Netherland and Citibank of US are increasingly investing in microfinance in SSA. For example, Rabobank acquired a 49 per cent stake in Tanzania's National Microfinance bank in 2005 (later dropping to 35 per cent). It subsequently acquired shares in four banks in other African countries, namely Mozambique (49 per cent), Rwanda (35 per cent), Uganda (27.5 per cent) and Zambia (46 per cent) (Beck et al., 2014, p.33).

At the South-South level, banks from emerging countries, including India, China and Pakistan are also investing in SSA. For example, in 2007, the Industrial and Commercial Bank of China (ICBC) acquired a strategic stake of 20 per cent in the South African Standard Bank (Beck et al., 2014, p. 38). From within SSA, Togo-based Ecobank which is the largest pan-African bank has launched one of the biggest microfinance in Nigeria in 2007 and partnered with other shareholders to create EB-ACCION Savings and Loans, a microfinance bank in Ghana in 2008. It has further expanded its microfinance network to other countries, namely Senegal, Benin, Cameroon where it continues to provide microfinance services (Beck et al., 2014, p. 82). Ecobank currently operates in 33 countries in SSA (Earne et al., 2014, p. 20).

It was noted in section 3.4 that foreign bank involvement in microfinance could enhance the development of the microfinance sector and could also improve institutional quality. Nonetheless, competition from foreign banks could mean that MFIs might have to change their strategy and move away from targeting less poor clients. Chapter 5 provides empirical analyses to respond to these questions or assertions.

4.2.1.2 Foreign direct investment trends in Sub Saharan Africa

Similar to foreign bank presence which is linked to the colonial era; the first FDI flows to SSA were mainly during the colonial period. FDI was channelled to the extractive sectors and infrastructure to support this trade (Kaplinsky, 2009, p. 280). Although the share of FDI flows to SSA lagged behind other regions, its share is still higher than that of Northern Africa. Figure 4.1 shows that between 2000 and 2008, FDI flows to SSA increased from less than 10

billion to more than 50 billion US dollars, while in Northern Africa, it increased to 20 billion US dollars for the same period.

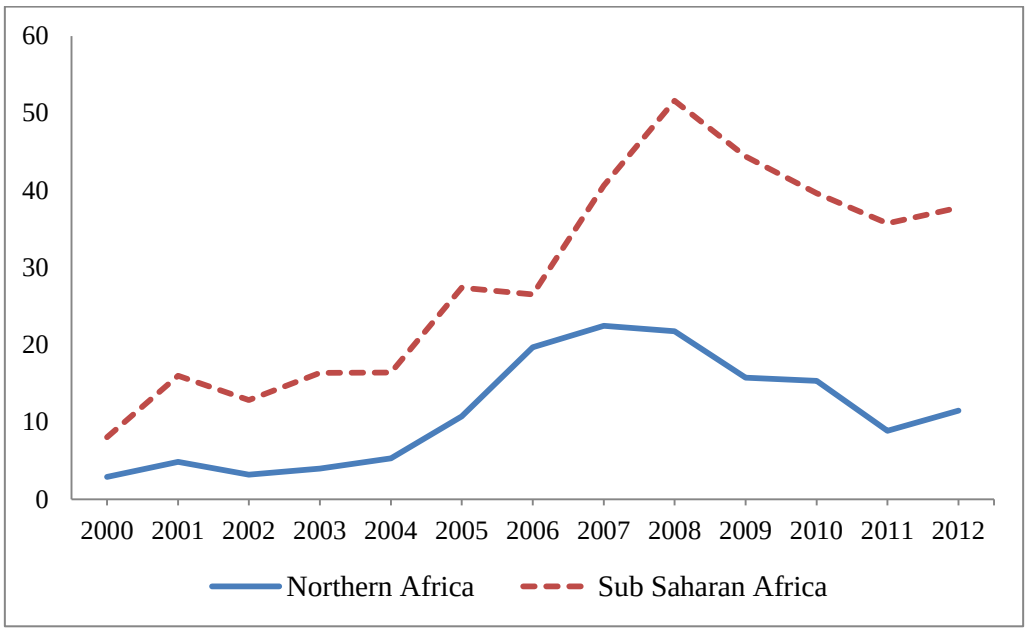

Figure 4.1: FDI flows to northern Africa versus Sub Saharan Africa
Source: (World Bank, 2015)

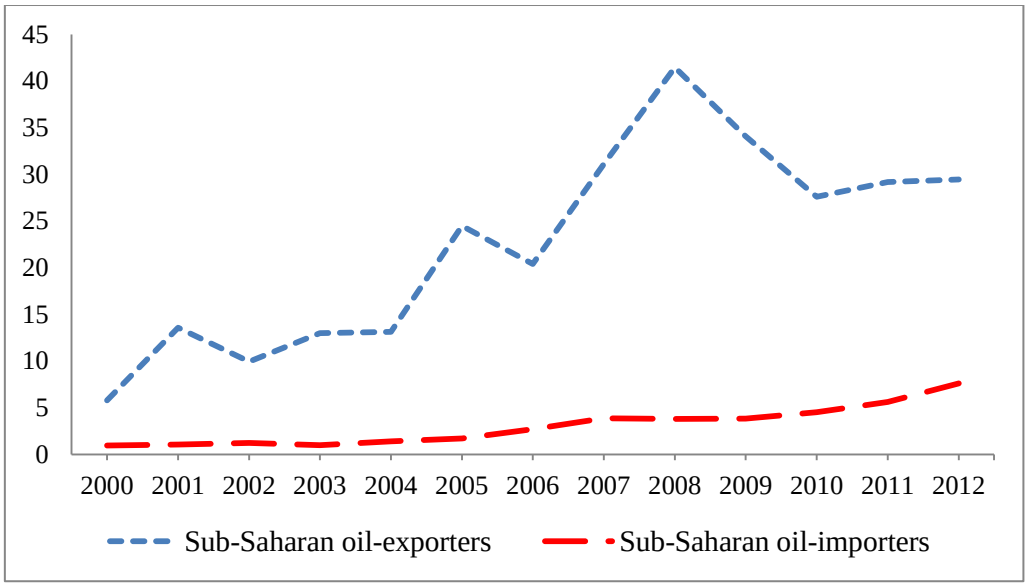

Figure 4.2: FDI to oil-exporting versus oil-importing countries
Source:(World Bank, 2015)

Nevertheless, due to the 2008 financial crisis, FDI flows fell gradually until 2011 since many developed countries reduced their investment in the region (United Nation Conference on

Trade and Development, 2013, p. 40).[54] Despite the fall in FDI from developed countries, other emerging markets such as China, India, Brazil and South Africa have increased their FDI flow to many SSA countries. For example, Chinese FDI in Africa represented 7 per cent of total FDI inflows to SSA and reached 24 billion US dollars in 2013 (Guangzhe et al., 2015, p. 2). In 2011, about five per cent of total FDI in Africa originated from South Africa, hence making it the most important source of intraregional FDI in Africa (Guangzhe et al., 2015, p. 2).

Figure 4.2 depicts that FDI to SSA is greatly concentrated with the majority of flows been channelled to natural resource sector and particularly to oil-exporting countries. For example, in 2011, Nigeria which is Africa's largest oil exporter received nine billion of FDI, which represented one-fifth of all flows to the continent. Other countries such as Ghana and Uganda have also received large amounts of FDI due to the discovery of crude oil field in these countries (United Nation Conference on Trade and Development, 2013, p. 40).

Nonetheless, FDI flows is gradually shifting from extractive sectors to services (i.e. banking and ICT) and manufacturing sectors because of increased return that could be obtained from these sectors (Guangzhe et al., 2015, p. 17). Moreover, the growing purchasing power of the region's middle class has also enhanced the consumption potential(United Nation Conference on Trade and Development, 2013, p. 41). Additionally, the improved regulation system has also enhanced FDI flows to these sectors. As noted earlier, FDI to non-extractive sectors such the service and manufacturing sector has greater potential for spillovers effects than resource-seeking FDI. Consequently, it can be assumed that the new trend of FDI should have indirect implications for the microfinance performance and its clients.

4.2.1.3 Cross-border commitments trends in Sub Saharan Africa

Figure 4.3 shows that despite the financial crisis cross-border commitments to the microfinance sector in SSA have continued to increase from 2007 to 2011. Furthermore, it shows that cross-border funding into the region has reached 2.7 billion US dollars; a level slightly above commitments for LAC.

[54] In Northern Africa, the decline was partly triggered by political unrest that affected the some countries including Egypt, Tunisia, and Algeria (Soumaré, 2015, p. 5511).

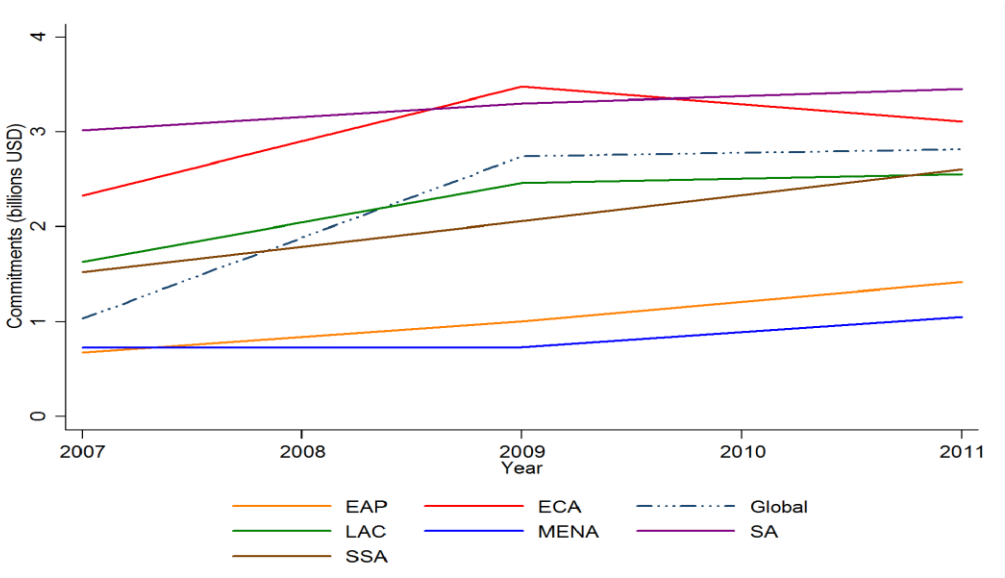

Figure 4.3: Cross-border commitments trend, 2007 – 2011
Source: CGAP (2012)[online] http://www.cgap.org/data/cross-border-funding-microfinance-2012-dataset

In line with the global trends, the bulk of cross-border funding to SSA is made available by public funders, although funding from private funders has increased. Between 2007 and 2011 commitments from private funders grew averagely at 6 percent per annum. This recent growth was triggered by individual and institutional investors who channelled funds through MIVs, foundations and NGOs such as the Bill & Melinda Foundation, Mastercard Foundation and Oxfam Novib (MIX and CGAP, 2011, p. 9).

Figure 4.4 shows that debt and grant funding tend to dominate as the main instrument used by funders in SSA region. In 2011, for instance, grant funding made up 39 percent of total commitments, while debt constituted 35 percent of total commitments. Figure 4.5 shows that in 2011, the main providers of debt funding were multilateral agencies (69 per cent), DFIs (31 per cent), and other donors (33 per cent). The majority of debt continues to be provided in hard currencies since it is often difficult to find price-competitive hedge rates for local currencies (Glisovic et al., 2012, p. 3). Nevertheless, there has been a gradual increase in the share of domestic currency denominated loans. For example, in 2010, 49 per cent of all direct DFI debt investment was in local currency (Glisovic et al., 2012, p. 3). Grant funding,on the other hand, was principally provided by bilateral agencies (97 per cent) and foundations (83 per cent) for the same year (see Figure 4.5).

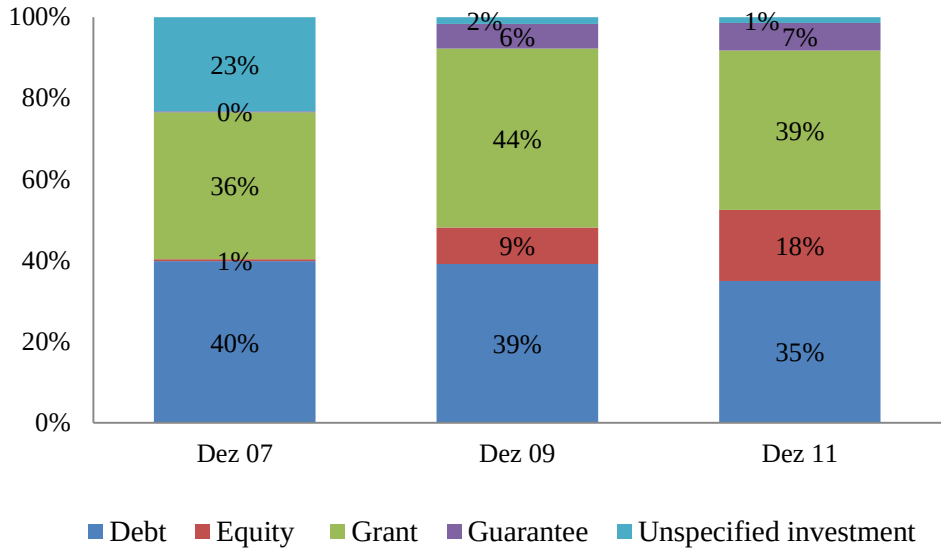

Figure 4.4: Cross-border funding by instruments in SSA, 2007-2011
Source: CGAP (2012)[online] http://www.cgap.org/data/cross-border-funding-microfinance-2012-dataset

As stated in section 3.2, the popular use of grant funds and debt by funders has been in the hope to help improve the fragile and immature MFIs with the hope that over time these institutions can gain access to classical debt and equity. However, it is worth mentioning that these funders and investors rarely sit with the management of individual MFIs to discuss the possibilities of attaining growth within the MFIs dual objective (Balkenhol, 2007, p. 213).

Despite the popular use of grants and debt, cross-border commitments in equity and guarantee investments are on the rise (see Figure 4.4). From 2009 to 2011, equity investments increased by 100 per cent and to reach 455 million US dollars. This increase has been spurred by DFIs (see Figure 4.4). For some DFIs (e.g. KfW, IFC FMO and Proparco) equity investments constitute more than 50 percent of the share of their portfolio in SSA and this is higher than the overall share of equity on their global portfolio (Glisovic et al., 2012, p. 3). As pointed out in subsection 3.3.1, most DFIs target and create greenfield MFIs and these institutions generally require significant capital investments. There are currently 40 greenfield MFIs operating in 18 SSA countries (CGAP and MIX, 2012, p. 3).

Foreign funding is either used for refinancing the loan portfolios of microfinance providers or capacity building. In 2007 for example, funds were mainly used for capacity building (100 per cent). In 2009, however, the bulk (64 per cent) of cross-border funding was used for refinancing the loan portfolios of MFIs. The remaining 36 percent of funding was used for capacity building in terms of supporting market infrastructure and the regulatory environment.

As earlier noted, this uneven allocation of funding is not in line with the catalytic approach of market development (El-Zoghbi and Gähwiler, 2013, p. 102).

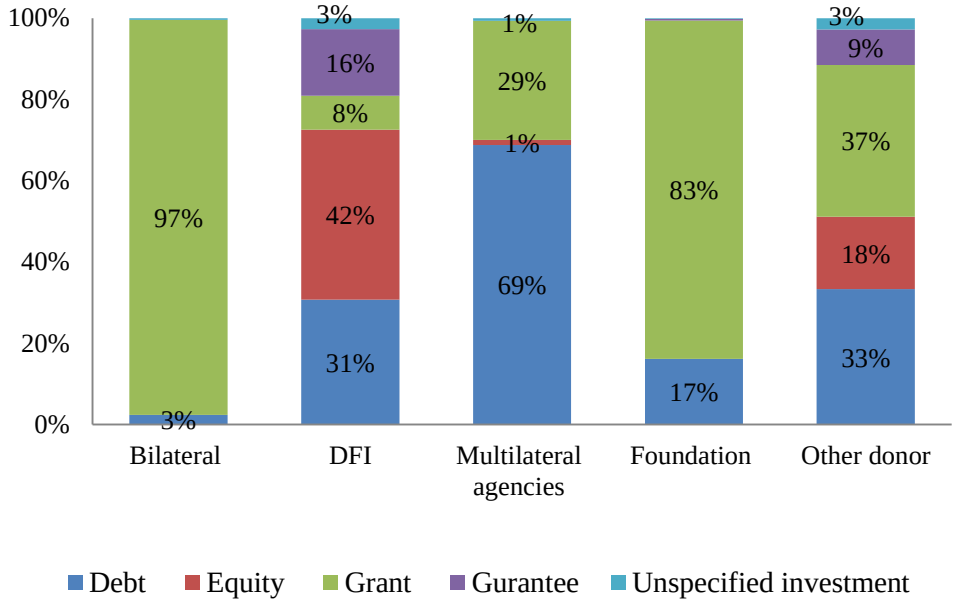

Figure 4.5: Cross-border commitments by funder type and instrument in SSA, 2011
Source: CGAP (2012)[online] http://www.cgap.org/data/cross-border-funding-microfinance-2012-dataset

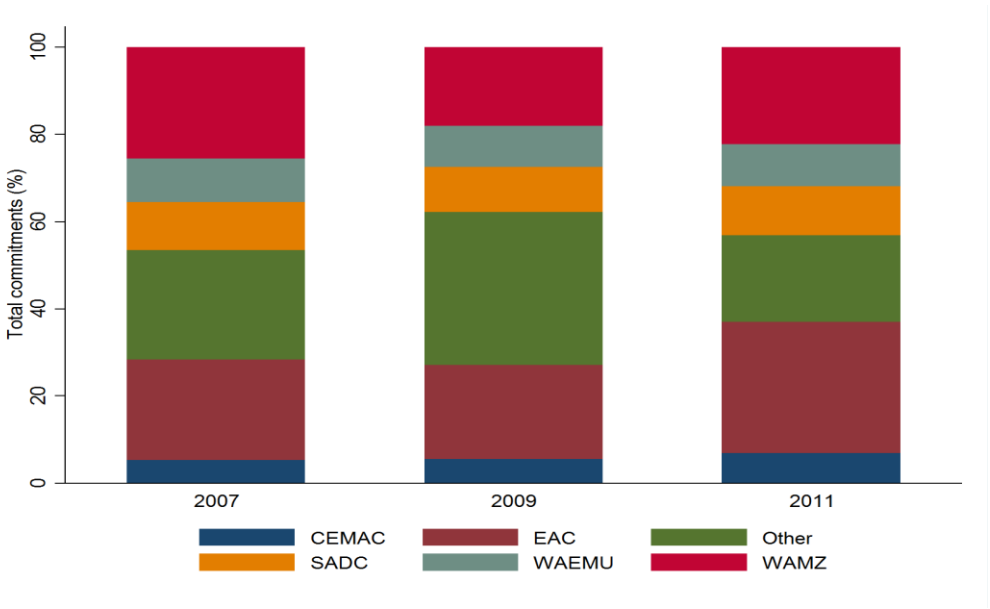

Figure 4.6: Cross-border commitments by RECs in SSA, 2007 – 2011
Source: CGAP (2012)[online] http://www.cgap.org/data/cross-border-funding-microfinance-2012-dataset

Note: The "Other" category includes three countries, namely Ethiopia, Comoros, and Sudan for which data was available from the MIX market and CGAP.

When the different RECs are considered, Figure 4.6 shows that the majority of cross-border funding flows to EAC, WAMZ and particularly to Ethiopia.[55] In 2011 for instance, more than 60 percent of total cross-border commitments was allocated to eight countries found in these RECs (see Table 4.4).

Table 4.4: Countries with highest ROA overlap with countries receiving highest amounts of cross-border commitments in 2011

Top 10 ROA countries	ROA (Weighted average)	Funding by recipient country (million USD)
Ethiopia	8.17%	166
Congo, Dem. Rep.	7.69%	57
Nigeria	7.41%	71
South Africa	5.61%	6
Kenya	4.75%	143
Uganda	4.51%	160
Tanzania	2.99%	182
Ghana	2.09%	128
Senegal	1.90%	91
Cameroon	1.53%	30

Source: MIX Market (2013, p. 19)

Interestingly, these countries are amongst the countries with highest ROA ratios in the region. Based on this, the question is if funding has been driven more by the profit motive? The results presented in chapter 5 provide some explanation and answers to this question.

4.2.2 Descriptive analysis

The definition of the variables and information on the sources of data used in the analysis are presented in Table 4.2 and Table 4.5 provides the descriptive statistics of these variables. The financial performance indicators include ROA and OSS while the social performance measures are average loan size and the natural logarithm of the number of active borrowers. Transnationalization is measured by three main variables, namely foreign bank which is represented by the percentage of total number of foreign banks to total banks, FDI inflows as a percentage of GDP and commitments which include funds already disbursed as well as funds not yet disbursed. In addition to these three proxies of transnationalization; six MFI specific control variables are included in the regressions. Firstly, capital structure is represented by capital asset ratio. Secondly, efficiency is measured by the MFI operating

[55] Ethiopia which is the main recipient of foreign funding in the "Other" category received more than 70 per cent of the total funding, while Comoros and Sudan shared the remaining 30 per cent for the three-year period. Note to be taken that Ethiopia which continues to restrict foreign investment in its financial and microfinance sector received funding basically from multilateral and bilateral funders and some foundations in 2011.

expense over asset ratio. Thirdly, risk is measured by portfolio at risk of 30 days and more.[56] Fourthly, MFI age which is represented by the log of years since an MFI went operational. Fifthly, competition which is measured by using the Herfindahl-Hirschman Index (HHI) is calculated "by squaring the loan portfolios of MFIs in the market and then summing the squares. Lastly, NGO_dummy is included in the regression to control for MFIs that are registered as NGOs.

Four macroeconomic variables are included to control for the different level of economic development in the different SSA countries. These, include GDP per capita adjusted for purchasing power parity, inflation, bank credit to GDP and rural population share. Table 4.5 shows the descriptive statistics of these variables.

Table 4.5: Descriptive statistics

Variable	Mean	SD	Median	Min	Max	N
ROA	-0.03	0.16	0.01	-1.23	0.60	1035
OSS	1.07	0.77	1.03	0.1	6.5	1035
Average loan size	484.62	730.87	237.0	2.0	7949.0	1090
Number of borrowers	28345	70723	9194	9	716000	1090
ln(borrowers)	8.96	1.71	9.13	2.2	13.5	1090
Percentage_foreignbanks*	54.37	28.79	57	0.0	100.0	1013
Fdi_gdp*	3.13	3.07	2.41	-5.4	45.8	1090
Commitments (in millions USD)*	65.8	45.3	50.5	2	166	305
ln(commitments)*	17.65	0.97	17.74	14.3	18.9	305
Capital asset ratio	0.34	0.46	0.3	-4.1	11.3	1090
Operating expense	0.25	0.19	0.18	0.0	1.7	1090
Portfolio at risk (30 days)	0.09	0.14	0.05	0.0	1.8	1090
Age	9.59	6.83	8	1.0	45.0	1090
ln(age)	1.99	0.79	2.08	0.0	3.8	1090
HHI	0.37	0.23	0.30	0.1	1.0	1090
NGO_dummy	0.60	0.49	1.00	0.0	1.0	1090
GDP per capita (USD)	1500.13	1420.18	1195.00	485.9	10540.3	1090
ln(gdp)*	7.1	0.52	7.05	6.1	9.2	1090
Inflation*	9.88	12.29	7.47	-9.8	35.1	1089
Private credit to GDP*	16.39	11.52	13.99	0.9	77.9	1035
Rural population share*	66.73	13.35	67	38.1	90.6	1035

Source: Author's calculation. *These variables are available at country level

As regards the financial performance variables, the table shows that average ROA of MFIs is negative 0.03, implying that most MFIs in SSA are not making profits after taxes and

[56] This measure includes the entire unpaid principal balance, including both past-due and future instalments but no accrued interest. This measure is used more often than portfolio at risk at 60 or 90 days, in order to keep an eye on the default risk in a more conservative manner.

donations have been accounted for. However, looking at the positive average OSS at 1.07 suggests that MFIs can cover their operational costs. The standard deviation of 16 and the spread of minimum and maximum values ranging from negative 1.23 to 60 of ROA, imply that a few MFIs only are performing well. A median average loan balance of 485 US dollars and a very high standard deviation of 731 US dollars show that average loan distribution is heavily tilted to the low end and with a long tail at the high end of large loans. The number of borrowers ranges from 9 to more than 716,000 borrowers.

With respect to the percentage of foreign banks to total banks, the table shows that averagely foreign-owned banks make up slightly half of the total number of total operating banks in SSA. FDI to GDP shows also a large variability as it ranges from a minimum of negative 4.26 and maximum of 47.[57] Cross-border commitments also show a large variability and range from a minimum of 2.7 million US dollars and a maximum of 166 million US dollars.[58] The capital asset ratio of 34 per cent indicates that the sampled MFIs are moderately leverage, yet a very high standard deviation of 46 per cent. With respect to operating expense ratio, the table shows that averagely, operating costs make about 25 per cent of assets of MFIs operating in SSA. About 9 per cent of MFIs' gross loan portfolio is at risk. The average age of MFI operating in SSA is 10 years, while the oldest MFI(s) has been operating for 45 years. Average competition which is measured by the HHI is 37 per cent, suggesting that MFIs in SSA are confronted with a moderate level of concentration within the microfinance sector. What is quite interesting is that the majority of MFIs (60 per cent) in SSA are registered as NGOs, despite the recent effort by regulators which encourages MFIs to transform into to more formal institutions.

The four macroeconomic variables give some insights as to the overall development of the different SSA economies. First, GDP per capita shows that most countries are low-income countries with average GDP per capita at 1500 US dollars and a very high standard deviation of 1400 US dollars. The country with the highest GDP per capita is South Africa (10540 US dollars) in 2010, while the Liberia has the least GDP per capita of 486 US dollars in 2008. Second, the average inflation rate is approximately10 per cent for the SSA economies which is quite high. Third, averagely private credit to GDP is 17 per cent, which is quite low as

[57] Chad accounts for a very high percentage of FDI net flows to GDP in 2002, its highest value in 33 years. While Angola accounts for the negative net flows (-4.26), though a significant oil producer, Angola has experienced divestment and repatriated profits by transnational corporations hence the negative net inflows.

[58] Ethiopia received the highest cross-border commitments (166 million US dollars) in 2009, while Cote d'Ivoire received the lowest commitments (2.7 million USdollars) for the same year.

compared to most developed countries which is at 80 per cent. Lastly, averagely SSA countries have a large rural population of 66 per cent.

Table 4.6 shows correlations amongst dependent and independent variables. The primary concern is to check whether multicollinearity is present such that it is problematic to simultaneously include explanatory variables in the regressions. Kennedy (2008) states that correlations need to lie between0.8–0.9 in order to detect collinearity amongst variables. However, all correlations are below 0.55 per cent. For instance, the correlation between ROA and operating expense to assets ratio is negative 0.55. Other similar correlations include log of age and number of borrowers and; FDI to GDP and the percentage of foreign banks to total banks which is 0.40 and 0.40 respectively. Interestingly, there is somewhat weaker but still positive correlation between outreach measures and financial performance variables. ROA and OSS are significantly positively correlated but not perfect (0.45). There is also a positive correlation between the two social performance variables and ROA although low (i.e. 0.12 for average loan and 0.15 for the number of borrowers). There is also some weak but significant correlation between the transnationalization variables and performance indicators. For instance, the percentage of foreign banks to total banks is negatively related to the OSS (-0.14) and the number of borrowers (-0.17), whereas it is positively related to average loan size (0.17). Also, there is a negative significant correlation (-0.17) between average loan size and cross-border commitments. The low correlation amongst the predictor variables implies that all variables could be simultaneously included in the regression. However, many significant correlations are warnings signal that multicollinearity problem may arise when all are included simultaneously. This is solved by running different specifications of estimations to check the stability of the coefficients.

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Table 4.6: Correlation matrix of variables included in the analysis

	ROA	OSS	Average loan	ln(borrowers)	Percentage_ foreignbanks	Fdi_gdp	ln(commitments)	Capital asset ratio	Operating expense
ROA	1								
OSS	0.4458	1							
	(0.000)								
Average loan	0.1271	0.0269	1						
	(0.0679)	(0.7002)							
ln(borrowers)	0.1497	0.0616	-0.0825	1					
	(0.0313)	(0.3780)	(0.2375)						
Percentage_foreignbanks	-0.0528	-0.1455	0.1683	-0.1708	1				
	(0.4498)	(0.0365)	(0.0154)	(0.0139)					
Fdi_gdp	0.0399	0.0049	-0.1076	-0.1167	0.3902	1			
	(0.5681)	(0.9446)	(0.1227)	(0.094)	(0.000)				
ln(commitments)	0.1292	0.0558	-0.1717	0.1654	-0.1005	0.324	1		
	(0.0635)	0.4248	(0.0134)	(0.0172)	(0.1498)	(0.000)			
Capital asset ratio	0.0683	0.0672	-0.0817	-0.2055	-0.0378	0.045	-0.2006	1	
	(0.3282)	(0.3357)	(0.242)	(0.003)	(0.5885)	(0.5195)	(0.0038)		
Operating expense	-0.5550	-0.3646	-0.2424	-0.0789	0.1467	0.3047	-0.0998	0.0977	1
	(0.0000)	(0.0000)	(0.0004)	(0.2582)	(0.0349)	(0.000)	(0.1526)	(0.1615)	
Portfolio at risk (30 days)	-0.1211	-0.1652	0.0256	-0.0911	0.0319	-0.0011	0.1006	-0.089	-0.0619
	(0.0822)	(0.0174)	(0.7138)	(0.1915)	(0.6477)	(0.9875)	(0.1494)	(0.2024)	(0.3757)
ln(age)	0.1875	0.0250	0.1071	0.4032	0.0651	-0.0522	0.0945	-0.2364	-0.2018
	(0.0068)	(0.7202)	(0.1244)	(0.000)	(0.3516)	(0.455)	(0.1756)	(0.0006)	(0.0035)
HHI	-0.2268	-0.1418	0.034	0.1391	0.1317	-0.2499	-0.4519	-0.0335	0.2033
	(0.0010)	(0.0416)	(0.6265)	(0.0456)	(0.0585)	(0.0003)	(0.000)	(0.6319)	(0.0033)
NGO-dummy	-0.1597	-0.0652	-0.0855	-0.0858	0.1782	-0.0601	-0.1245	-0.0352	-0.0021
	(0.0215)	(0.3509)	(0.2207)	(0.2191)	(0.0102)	(0.3895)	(0.0738)	(0.6149)	(0.976)
ln(gdp)	0.0953	-0.003	0.1819	0.0693	-0.0449	-0.1249	-0.2654	-0.0482	0.0255
	(0.1720)	(0.9656)	(0.0087)	(0.3212)	(0.5205)	(0.073)	(0.0001)	(0.4908)	(0.7151)
Inflation	0.0395	0.0054	-0.1584	0.0049	-0.2369	0.1927	0.389	0.0878	0.0317
	(0.5718)	(0.9383)	(0.0227)	(0.9442)	(0.0006)	(0.0054)	(0.000)	(0.2084)	(0.6506)
Private credit to GDP	0.0022	0.009	-0.01	0.2429	-0.3252	-0.2408	-0.1058	0.0168	0.0172
	(0.9750)	(0.8971)	(0.8859)	(0.0004)	(0.000)	(0.0005)	(0.1291)	(0.810)	(0.8061)
Rural population share	-0.1989	-0.1101	-0.1515	0.2101	-0.0413	-0.1397	0.1608	-0.0378	0.0562
	(0.0041)	(0.1143)	(0.0294)	(0.0024)	(0.5542)	(0.0447)	(0.0207)	(0.5884)	(0.4216)

	Portfolio at risk (30days)	ln(age)	HHI	NGO-dummy	ln(gdp)	Inflation	Private credit to GDP	Rural population share
Portfolio at risk (30days)	1							
ln(age)	0.145	1						
	(0.0371)							
HHI	-0.0554	0.0813	1					
	(0.4279)	(0.2439)						
NGO-dummy	-0.0484	0.1346	0.0747	1				
	(0.4883)	(0.0532)	(0.2848)					
ln(gdp)	0.0201	0.004	0.2055	-0.0718	1			
	(0.7739)	(0.9547)	(0.003)	"(0.3039)"				
Inflation	0.0849	-0.0671	-0.3599	-0.3202	-0.2045	1		
	(0.2239)	(0.3367)	(0.000)	(0.000)	(0.0031)			
Private credit to GDP	-0.0302	0.0723	0.3189	0.0385	0.6215	-0.2374	1	
	(0.6656)	(0.3006)	(0.000)	(0.5819)	(0.000)	(0.0006)		
Rural population share	-0.0306	0.1006	0.3769	-0.0364	-0.6344	0.0627	-0.2203	1
	(0.6611)	(0.1492)	(0.000)	(0.603)	(0.000)	(0.3691)	(0.0014)	

4.3 Methodology

The descriptive statistics in Table 4.5 shows that the dataset is unbalanced, hence pooling it enables that each time; a new random sample could be drawn from the relevant population (Wooldridge, 2002, p. 128). Furthermore, this approach could produce independent, not identically distributed number of observations as the distribution of variables tend to change over time (Wooldridge, 2002, p. 129). However, the pooled ordinary least squares (POLS) estimator can be consistent and unbiased only if there is no correlation between the individual specific effects and the explanatory variables (Wooldridge, 2006, p. 462). In this case, the random effects (RE) specification β_{GLS} is the asymptotically efficient estimator while POLS or the fixed effects (FE) estimator β_{FE} is unbiased and consistent but not efficient (Hausman, 1978, p. 1263).

The Hausman (1978) specification test is normally used to make a choice between the RE and FE. The random effects model which is the null hypothesis assumes that the unobserved effect is not correlated with any of the independent variables. The test is based on the contrast vector *H* and computed as follows:

$$H = \left(\beta_{FE} - \beta_{GLS}\right)' \left(V_{FE} - V_{GLS}\right)^{-1} \left(\beta_{FE} - \beta_{GLS}\right)$$

Where

β_{FE} is the coefficient vector from the FE or consistent estimator
β_{GLS} is the coefficient vector from the RE or efficient estimator
V_{FE} is the covariance matrix of the FE or consistent estimator
V_{GLS} is the covariance matrix of the RE or efficient estimator

The test seeks to consider the difference between the two estimators. A failure to reject the null hypothesis implies that both RE and FE estimates are sufficiently close so that it does not matter which model is used, or that the sampling variation in the FE estimates is so large that one cannot conclude that the practically significant differences are statistically significant (Wooldridge, 2006, p. 498).

Following the results from the Hausman test which is presented in chapter 5, the RE model is rejected in all but for two regression models, consequently, the error term or omitted variable(s) are correlated with one or more of the independent variables. As stated in chapter 2, factors such as the income level of the client, the location of an MFI, laws governing MFIs and technological change are all important factors for which data is not available. These

factors might be correlated with one or more of the dependent variables. For example, certain countries such as Nigeria and Ethiopia have laws that limit foreign ownership in the financial sector. On the other hand, the recent microfinance law in WAEMU countries encourages foreign involvement in the microfinance sector.

Furthermore, endogeneity biases resulting from reverse causality might plague the estimation. Indeed, the causal link does not only run from foreign investment to MFI performance but also the other way around. In this view, MFI performance predicts the level of foreign involvement. As explained in subsection 3.3.2, some funders and investors would only invest in MFIs which have attained a certain level of performance. Also, foreign banks might be more prone to enter countries where MFI development is particularly low, as in these markets growth prospect may be stronger (Claessens and van Horen, 2014, p. 313). In this case, the reverse causality makes the regressor correlate with the idiosyncratic component of the error term. Subsequently, this introduces a bias in the estimated parameters (Stock and Watson, 2012, p. 222). To account for this endogeneity bias, in the robustness checks, regressions are re-estimated by using the instrument variable (IV) regressor technique where the potentially endogenous variables are instrumented by a set of instruments composed of the first and second order lags of the endogenous variables.

Additionally, according to Baltagi (2008), a joint F-test is used to check for poolability and this reveals that time, country and MFI are statistically significant at one per cent level. This implies a rejection of homogeneity across time, country and MFIs, justifying the inclusion of time, country and MFI fixed effects in the regression models. The time dummies capture global shocks that would affect all MFIs such as the 2008 global financial crisis. The country dummies are included to control for country differences in macroeconomic development, political instability and inference that might explain low regulation issues (such as having specific laws that govern different types of MFIs and having credit bureaus), or countries have specific rules on direct foreign investment. All these factors might indirectly affect all MFIs in a particular country. Lastly, the MFI specific dummies are included to capture specific time-invariant effects that are unique to each MFI such as the geographical location of MFIs. These factors might remain constant for the period analysed. Overall the inclusion of these full battery of time, country and MFI specific fixed effects is to control for national and inter-temporal variance that not be explained by the other control variables (Garrett and Mitchell, 1999, p. 3).

The equation estimated is as follows:

$$
\begin{aligned}
MFI\ Performance_{ict} = {} & ß_1\ Foreign\ bank_{ct} \\
& + ß_2 Fdi\_gdp_{ct} \\
& + ß_3 ln(commitment)_{ct} \\
& + ß_4\ Capital\ asset\ ratio_{ict} \\
& + ß_6\ Operating\ expense_{ict} \\
& + ß_7\ Portfolio\ at\ risk_{ict} \\
& + ß_8\ ln(age)_{ict} \\
& + ß_9\ HHI_{ict} \\
& + ß_{10}\ NGO\text{-}dummy_{ict} \\
& + ß_{11}\ ln(gdp)_{ct} \\
& + ß_{12}\ Inflation_{ct} \\
& + ß_{13}\ Bank\ credit\ to\ GDP_{ct} \\
& + ß_{14}\ Rural\ population\ share_{ct} \\
& + \mu_i + \alpha_c + \tau_t + \varepsilon_{ict} \qquad (4.1)
\end{aligned}
$$

Transnationalization proxies

MFI-specific variables

Macroeconomic variables

Where the outcome variable is the performance which is either the financial or social performance of MFI_i in year *t* located in country *c*, with i=1…N, t=1…. The financial performance measures include return on assets (ROA) and operational self-sufficiency (OSS). The proxies for social performance are the average loan size (average loan) and the natural logarithm of the total number of borrowers (ln (borrowers)). The first three variables (i.e. foreign bank, Fdi_gdp and ln(commitments)) represent the proxies of transnationalization. Six MFI-specific variables are included in the model, namely capital asset ratio, operating expense, portfolio at risk, ln(age), HHI and NGO-dummy. Four macroeconomic controls are also included in the model and this includes the natural logarithm of GDP to measure the economic status of a county, inflation, bank credit to GDP which measures the development of the financial sector and lastly rural population share which controls for the differences in the characteristics of borrowers. μ is the unobservable MFI-specific effect which does not change overtime, α is the country effect, τ are the unobservable time fixed effects which capture effects that vary over time but are constant over individual and ε_{ict} is the idiosyncratic error.

Finally, in seeking evidence of a trade-off between social outreach and financial sustainability, complementary performance measures are included in the extended models of financial and social performance (see models 4.2 and 4.3). Specifically, in the financial performance model (4.2), the social performance indicators of average loan size and number of borrowers are included in the models. Similarly, two financial performance indicators are included as controls in social performance models (see model 4.3). As stated in subsection

3.5.2, empirical evidence by Cull et al. (2007), Hermes et al. (2011), Hartarska et al. (2013), Abate et al. (2014), and Bos and Millone (2015) support the existence of a trade-off between social and financial performance. Consequently, it is expected that the complementary performance indicators enter the relevant models with negatively signed estimated coefficients.

$$
\begin{aligned}
ROA_{ict} \text{ or } OSS_{ict} = \; & \left.\begin{aligned} &\beta_1 \textit{Foreign bank}_{ct} \\ &+\beta_2 \textit{Fdi\_gdp}_{ct} \\ &+\beta_3 \ln(\textit{commitment})_{ct}\end{aligned}\right\} \text{Transnationalization proxies} \\
& \left.\begin{aligned} &+\beta_4 \textit{Capital asset ratio}_{ict} \\ &+\beta_6 \textit{Operating expense}_{ict} \\ &+\beta_7 \textit{Portfolio at risk}_{ict} \\ &+\beta_8 \ln(\textit{age})_{ict} \\ &+\beta_9 \textit{HHI}_{ict} \\ &+\beta_{10} \textit{NGO-dummy}_{ict}\end{aligned}\right\} \text{MFI-specific variables} \\
& \left.\begin{aligned} &+\beta_{11} \ln(\textit{gdp})_{ct} \\ &+\beta_{12} \textit{Inflation}_{ct} \\ &+\beta_{13} \textit{Bank credit to GDP}_{ct} \\ &+\beta_{14} \textit{Rural population share}_{ct}\end{aligned}\right\} \text{Macroeconomic variables} \\
& \left.\begin{aligned} &+\beta_{15} \textit{Average loan}_{ict} \\ &+\beta_{16} \ln(\textit{borrowers})_{ict}\end{aligned}\right\} \text{Social performance variables} \\
& +\mu_i + \alpha_c + \tau_t + \varepsilon_{ict}
\end{aligned}
\qquad (4.2)
$$

$$
\begin{aligned}
\textit{Average loan}_{ict} & \\
\text{or } \ln(\textit{borrowers})_{ict} = \; & \left.\begin{aligned} &\beta_1 \textit{Foreign bank}_{ct} \\ &+\beta_2 \textit{Fdi\_gdp}_{ct} \\ &+\beta_3 \ln(\textit{commitment})_{ct}\end{aligned}\right\} \text{Transnationalization proxies} \\
& \left.\begin{aligned} &+\beta_4 \textit{Capital asset ratio}_{ict} \\ &+\beta_6 \textit{Operating expense}_{ict} \\ &+\beta_7 \textit{Portfolio at risk}_{ict} \\ &+\beta_8 \ln(\textit{age})_{ict} \\ &+\beta_9 \textit{HHI}_{ict} \\ &+\beta_{10} \textit{NGO-dummy}_{ict}\end{aligned}\right\} \text{MFI-specific variables} \\
& \left.\begin{aligned} &+\beta_{11} \ln(\textit{gdp})_{ct} \\ &+\beta_{12} \textit{Inflation}_{ct}\end{aligned}\right\} \text{Macroeconomic variables} \\
& \left.\begin{aligned} &+\beta_{13} \text{ROA}_{ict} \\ &+\beta_{14} \textit{OSS}_{ict}\end{aligned}\right\} \text{Financial performance variables} \\
& +\mu_i + \alpha_c + \tau_t + \varepsilon_{ict}
\end{aligned}
\qquad (4.3)
$$

Where the outcome variables: return on assets (ROA_{ict}) and operational self-sufficiency (OSS_{ict}) in equation (4.2) measure the financial performance of MFIs while average $loan_{ict}$ and $\ln(borrowers)_{ict}$ in equation (4.3) assess the social performance of MFIs. Based on the above estimation method, regression analyses are carried out to evaluate the impact of transnationalization on microfinance performance in SSA. The following chapter (5) provides the regression results.

5 Results

This study is the first to analyse the impact of three proxies of transnationalization on microfinance performance in Sub Saharan Africa which is the world's poorest region. Section 5.1 presents the baseline results of the three proxies of transnational microfinance, namely the percentage of foreign banks to total banks, FDI to GDP and cross-border commitments. This study considers these three measures since they tend to measure different aspects of transnational microfinance. Firstly, the percentage of foreign banks to the total number of banks provides an insight on the level of competition which MFIs face as a result of the increased involvement of foreign banks in the microfinance sector. Secondly, FDI to GDP is the de facto proxy for financial globalization and captures the potential spillover effects in terms of jobs, transfer of technology and skills which might affect microfinance clients as well as MFIs. Thirdly, cross-border commitments consist of disbursed funds as well as funds yet to be disbursed which is funding coming from both private and public funders as well as investors. Subsequently, it could be argued that the above three variables would have some implications for MFI performance and mission drift.

Section 5.2 shows results regarding other analyses for further explanation of results. First, regressions analyses based on three different thresholds (i.e. 25%, 50%, 75%) of the percentage of foreign banks to total banks is carried out to evaluate to what extent these different thresholds affect microfinance performance. Second, given that the majority of FDI is channelled to the extractive sectors and particularly to oil-rich countries, analyses are carried out to evaluate if this has different implications for microfinance performance. Third, with respect to the cross-border commitments, further analyses are carried out based on the three different approaches to microfinance, the different RECs in SSA, and the 10 top receivers of cross-border commitments. Fourth, two other proxies of transnationalization, namely FDI stock and Chinn-Ito index (Kaopen) are included in the regression analyses as two other measures of transnationalization. Moreover, the sensitivity of the average loan size to extreme values is also tested. Lastly, the instrumental variable (IV) regression technique is used to account for potential endogeneity (simultaneity bias) that emanates from the fact that microfinance performance may,in turn, predict the level of foreign involvement. All these robustness tests are designed to check if the baseline results discussed in section 5.1 are altered by reasonable changes in the specifications or the use of two other proxies for transnationalization.

5.1 Transnationalization proxies and microfinance performance

The baseline results for the three transnationalization proxies and financial and social performance regressions are shown in Table 5.1 and Table 5.2 respectively. The results can be summarized as follows.

5.1.1 Transnationalization proxies and financial performance

Table 5.1 reports the findings of the financial performance measured by return on assets (ROA) and operational self-sufficiency (OSS) and the three main transnationalization proxies, the percentage of foreign banks to total banks, FDI to GDP and cross-border commitments. The result indicates that none of the three transnationalization proxies significantly affect any of the financial performance indicators. These results reject *hypotheses 1a, 2a and 3a* which suggest that the percentage of foreign banks to total banks, FDI to GDP and cross-border commitments are independently and positively related to financial performance.

With respect to ROA and OSS regressions, results are similar for three out of the six MFI-specific control variables, particularly capital asset ratio, operating expense and portfolio at risk at 30days. The coefficient of capital asset ratio is positively related to ROA and OSS in models 1, 2,4 and 5 thereby confirming *hypothesis* $4a_i$ and also previous studies by Hartarska and Nadolnyak (2007), Kyereboah-Coleman (2007), Bogan (2012) and Kar (2012) which find that better capitalized MFIs have better financial performance. A one percentage point increase in capital asset ratio is associated with one and two percentage point increase in ROA and OSS, respectively. This means that MFIs' transformation into regulated financial institutions to access equity (domestic or foreign) would improve financial performance. The coefficients of efficiency (operating expense) and risk (portfolio at risk at 30days) variables are negative and statistically related to profitability. These two results confirm *hypotheses 5a* and *6a,* respectively. The age coefficient is significant and positively related to ROA in models 1 and 2, confirming *hypothesis 7a.* This result is in accordance with the finding by Bogan (2012) who concludes that as MFIs mature they perform well financially since they benefit from learning curve advantages and better technology.

Unlike the age variable, whose coefficient is negative and significantly related to ROA, competition, on the other hand, is insignificant in the case of the financial performance indicators. This finding rejects *hypothesis 8a,* which states that competition is positively or negatively related to the financial performance of MFIs. Nevertheless, this finding supports the results of an earlier study by Cull et al. (2014) who revealed that there is no strong

relationship between competition and profitability. The coefficient for the NGO_dummy is positive and statistically significant in four (i.e. 1, 2, 4 and 5) out of the six financial performance regression models, thereby confirming *hypothesis 9a*. This result is in accordance with previous finding by Barry and Tacneng (2014) who find that NGO registered MFIs in SSA perform financially better than other organizational forms.

With respect to the four macroeconomic variables, the coefficient of GDP is not significant in any of the six models. This result rejects *hypothesis 10a* which suggest that GDP is positively related to financial performance. This finding is nevertheless, consistent with the findings by Hartarska and Nadolnyak (2007) and Kar and Swain (2014). The authors, similarly, do not find any significant relationship between GDP and financial performance. In contrast to GDP, the coefficients of inflation and private credit to GDP are both significant and exert a negative impact on OSS, while the effect of the share of rural population on both ROA and OSS is positive and statistically significant. The negative and significant inflation coefficient in relation to OSS confirms *hypothesis 11a* which suggests that inflation is negatively related to financial performance. This is consistent with previous studies by Mersland et al. (2011) and Vanroose and D'Espallier (2013). Thus, MFIs perform better in countries which are less affected by inflation since unanticipated inflation lowers the returns for MFIs. The negative relationship between private credit to GDP and OSS in models 4 and 5 is in line with findings by Vanroose and D'Espallier (2013). This finding implies that competition from well-established banks in a better financially developed economy pushes MFIs to incur higher operating costs as they hope to improve upon their services, operations and techniques in order to compete with the superior technology of banks. The rural population share coefficient is positive and significantly related to both financial performance indicators in models 1, 2, 4 and 5. This suggests that MFIs found in countries with higher rural population are more likely to operate more efficiently as they could use their direct and indirect mechanisms which facilitate the successful screening and monitoring of low-income earners in rural areas.

As regards the two complementary variables, the coefficient of average loan size is significant and exerts a positive impact on ROA only in model 2, while it is positive and significantly related to OSS in models 4 and 5. This indicates that higher loans size leads to higher ROA and OSS, thereby reinforcing the notion that higher loans would lead to better financial performance of MFIs. The coefficient of the number of borrowers is positive and statistically significant only in the OSS regression. This finding implies that an increase in the number of borrowers leads to an increase in the operational self-sufficiency of MFIs.

Table 5.1:Transnationalization proxies and financial performance (return on assets (ROA) and operational self-sufficiency (OSS))

	(1) ROA	(2) ROA	(3) ROA	(4) OSS	(5) OSS	(6) OSS
Percentage of foreignbanks	0.000753			0.000727		
	(0.000560)			(0.00172)		
Fdi_gdp		-0.00228			0.00193	
		(0.00159)			(0.00552)	
ln(commitments)			-0.00853			-0.00722
			(0.0232)			(0.0738)
Capital asset ratio	0.110***	0.104***	0.0876	0.184**	0.203***	0.0869
	(0.0214)	(0.0203)	(0.175)	(0.0717)	(0.0711)	(0.200)
Operating expense	-0.832***	-0.815***	-0.901***	-1.132***	-1.106***	-1.236***
	(0.0558)	(0.0531)	(0.256)	(0.159)	(0.168)	(0.345)
Portfolio at risk (30days)	-0.124***	-0.0830*	-0.240	-0.456***	-0.336***	-0.440
	(0.0461)	(0.0454)	(0.310)	(0.117)	(0.117)	(0.522)
ln(age)	0.0315**	0.0372**	-0.00271	0.0658	0.0625	0.0474
	(0.0157)	(0.0152)	(0.0842)	(0.0619)	(0.0612)	(0.152)
HHI	-0.0308	-0.0483	0.134	-0.0224	-0.0739	-0.0460
	(0.0340)	(0.0335)	(0.164)	(0.118)	(0.108)	(0.292)
NGO_dummy	0.102*	0.498***	0.178	0.952***	18.90***	0.0448
	(0.0537)	(0.0521)	(0.944)	(0.267)	(0.328)	(2.017)
ln(gdp)	0.000310	0.0528	-0.0322	0.118	0.204	-0.194
	(0.0655)	(0.0805)	(0.419)	(0.282)	(0.329)	(0.758)
Inflation	-0.0000190	-0.0000860	-0.00212	0.000411	0.000311	-0.0111*
	(0.000243)	(0.000265)	(0.00233)	(0.000811)	(0.000827)	(0.00621)
Private credit to GDP	0.000183	-0.000808	0.00309	-0.0154**	-0.0148**	0.00800
	(0.00162)	(0.00154)	(0.00558)	(0.00766)	(0.00710)	(0.0101)
Rural population share	0.0277***	0.0272***	0.00798	0.0727**	0.0722**	-0.0372
	(0.00886)	(0.00865)	(0.0360)	(0.0319)	(0.0313)	(0.0779)
Average loan	0.0000110	0.0000104*	0.0000502	0.000113***	0.0000745*	0.0000128
	(0.00000684)	(0.00000616)	(0.0000453)	(0.0000337)	(0.0000384)	(0.000133)
ln(borrowers)	0.00631	0.00623	0.0501	0.0802***	0.0663***	0.137
	(0.00736)	(0.00721)	(0.0513)	(0.0232)	(0.0240)	(0.0896)
Observations (MFIs)	984 (280)	1035 (305)	278 (199)	984 (280)	1035 (305)	278 (199)
Adjusted R-squared	0.81	0.80	0.77	0.86	0.82	0.93
Hausman spec.test	0.000	0.000	0.009	0.096	0.182	0.635

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Table 5.2: Transnationalization proxies and social performance (average loan and ln(borrowers))

	(1) Average loan	(2) Average loan	(3) Average loan	(4) ln(borrowers)	(5) ln(borrowers)	(6) ln(borrowers)
Percentage of foreignbanks	2.33			-0.00248		
	(3.02)			(0.00316)		
Fdi_gdp		13.46*			-0.0182**	
		(6.866)			(0.00885)	
ln(commitments)			91.13			-0.0428
			(155.7)			(0.163)
Capital asset ratio	-126.5***	-134.3***	-176.5***	0.117***	0.103***	0.124**
	(33.47)	(36.87)	(14.11)	(0.0343)	(0.0310)	(0.0483)
Operating expense	-42.81	106.0	-58.85	-0.0387	-0.302	0.234
	(137.4)	(170.7)	(425.3)	(0.371)	(0.362)	(1.285)
Portfolio at risk (30days)	-104.3	-117.6	613.4	-0.898***	-0.633***	-1.569
	(166.0)	(143.4)	(759.7)	(0.261)	(0.233)	(2.420)
ln(age)	-113.6*	-119.5	-33.90	0.604***	0.619***	0.315
	(68.73)	(79.78)	(115.3)	(0.121)	(0.115)	(0.334)
HHI	-360.9	-163.3	455.6**	-0.132	-0.0180	-0.437
	(323.1)	(271.5)	(228.0)	(0.176)	(0.158)	(0.665)
NGO_dummy	-2634.6**	-8438.0***	-1449.9***	-1.608	0.874**	-4.270***
	(1084.8)	(1066.1)	(334.5)	(1.343)	(0.364)	(0.946)
ln(gdp)	-59.98	-311.2	293.6	0.316	-0.352	0.834
	(290.6)	(379.1)	(821.6)	(0.408)	(0.470)	(1.733)
Inflation	0.465	1.271	-8.374	-0.00122	-0.00129	-0.00193
	(0.984)	(1.095)	(7.284)	(0.00156)	(0.00163)	(0.0129)
ROA	-83.18	218.1	452.9	-0.0784	-0.0927	0.176
	(166.7)	(196.7)	(511.4)	(0.382)	(0.346)	(1.357)
OSS	115.7*	45.88	-335.8	0.105	0.0742	0.873
	(59.54)	(58.50)	(306.0)	(0.0772)	(0.0592)	(0.534)
Observations (MFIs)	1013 (285)	1089 (316)	305 (211)	1013 (285)	1090 (316)	305 (211)
Adjusted R-squared	0.71	0.66	0.92	0.93	0.93	0.93
Hausman spec. Test	0.062	0.002	0.000	0.000	0.000	0.027

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 *p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Note: As a result of the lack of robust significant relationship between the financial performance indicators (ROA and OSS) and social performance indicators (average loan and ln(borrowers), the financial performance indicators have been omitted in the subsequent social performance regressions.

5.1.2 Transnationalization proxies and social performance

Table 5.2 reveals the regression results for social performance variables – average loan size and the number of active borrowers (ln(borrowers)). Unlike the financial performance results where none of the coefficients of the three transnationalization proxies exerts a significant effect on ROA or OSS, the results in Table 5.2 indicates that the coefficient of FDI to GDP is positive and significantly related to average loan size in model 2. This finding supports *hypothesis* $2b_i$ which states that the effect of FDI to GDP is positively and significantly associated with average loan size. This is consistent with the conclusion by Ahlin et al. (2011) that FDI to GDP positively affects loan-size growth. In contrast, the coefficient of FDI to GDP is negative and significant at the 5% level in the case of the number of borrowers in model 5. This suggests that an increase in FDI to GDP indirectly lead to the development of the domestic banking sector thereby creating competition for the microfinance industry, such that better-off clients might move from MFIs to commercial banks as they would get loans at better conditions and terms. This result supports *hypothesis* $2b_{ii}$ which suggest that FDI to GDP is negatively related to the number of borrowers.

With respect to capital asset ratio, Table 5.2 depicts that it's negatively and highly significant relationship to average loan size indicates that when equity increases, MFIs tend to target poor clients by granting smaller loan amounts. This confirms *hypothesis* $4b_i$ which states that capital asset ratio is negatively related to average loan size. Moreover, the coefficient of capital asset ratio tends to be positive and correlate significantly with the number of borrowers. The finding confirms *hypothesis* $4b_{ii}$,which states that capital asset ratio positively affects the number of borrowers and it is consistent with findings of an earlier study by Kar (2012) who found that higher equity increased depth outreach.

Unlike, the financial performance models in Table 5.2, where the coefficient of operating expense was negative and highly significant, the results in Table 5.2 reveals that operating expense is insignificant to the social performance indicators. This result rejects *hypothesis* $5b_i$ and $5b_{ii}$ which suggests that operating expense is negatively related to average loan size while it is positively related to the number of borrowers. This finding contradicts previous finding by Kar (2012) which found that increasing the number of borrowers leads to higher operating expense. The negative and highly significant coefficient of portfolio at risk at 30 days in models 4 and 5 in relation to the number of borrowers implies that when the portfolio at risk increases, MFIs tend to do more cautious screening and reduce their number of borrowers. This finding confirms *hypothesis* $6b_{ii}$ which suggest that operating expense is negatively

related to the number of borrowers. The negative and significant coefficient for the age variable in relation to average loan size in model 5 suggests that as MFIs mature they tend to target poorer clients with smaller loan amounts. This finding rejects *hypothesis* $7a_i$ which states that age is positively related to average loan size. However, the finding is consistent with previous findings by Olivares-Polanco (2005) and Bogan (2012) which found that older MFIs have lower loan amounts and are also more focused on female clients. On the contrary, the coefficient on the age variable suggests a positive and statistically significant impact on the number of borrowers in models 4 and 5. That is, as MFIs mature they tend to have a larger number of borrowers. The finding rejects *hypothesis* $7b_{ii}$ which suggest that age is negatively related to the number of borrowers.

Contrary to the financial performance indicators where competition was insignificant in all six models, model 3 of Table 5.2 shows a positive and significant HHI coefficient in relation to on average loan size. The positive sign of the coefficient of HHI indicates that higher concentration (which implies lower competition) leads to higher average loan sizes. This result is consistent with previous findings by Olivares-Polanco (2005) who found that with increased competition, MFIs search for more profitable customers by providing higher loan amounts.

The coefficient for the NGO_dummy is negative and significant associated with average loan size and the number of borrowers in five of the six models in Table 5.2. This means that NGO-registered MFIs reach poorer clients than non-NGO registered MFIs. This result confirms *hypothesis* $9b_i$ which states that NGO is negatively related to average loan size. Conversely, these very MFIs tend to have lesser number of borrowers when compared to non-NGO registered MFIs. This result can be interpreted as follows: the fact that most NGOs are restricted by law to collect deposits indirectly limits their number of borrowers. This is because MFIs often require that clients have some savings before they are eligible for loans. Consequently, holding all else constant, a low number of depositors would mean a lower number of borrowers. This finding contradicts *hypothesis* $9b_{ii}$ which states that NGO is positively related to the number of borrowers. It also challenges previous findings by Barry and Tacneng (2014) who found that NGO-registered MFIs had a significantly higher number of borrowers as compared to their non-NGO counterparts.

As regards the two macroeconomic variables, Table 5.2 shows no significant results of any of the macroeconomic variables affecting social performance. These findings reject *hypotheses* $10b_i$ *and*$10b_{ii}$ which suggests that GDP is positively related to average loan size and the

number of borrowers. It also rejects *hypothesis* $11b_i$ and $11b_{ii}$ which states that inflation is negatively related to the number of borrowers, while it is positively related to average loan size. Finally, the result shows that the coefficient of OSS is positive and significantly related to average loan size in model 1. This implies that higher loan size leads to better operational performance of MFIs.

5.1.3 All three transnationalization proxies and performance

When all regressions proxies are simultaneously included in the regressions, the results in Table 5.3 reveals that just the coefficient of FDI to GDP is negative and statistically significant in the case of the number of borrowers, while FDI to GDP exerts an insignificant impact on average loan size. This result differs slightly from the baseline result where FDI to GDP was significantly associated with the social performance indicators. Aside from this, just the coefficient of operating expense is negative and significant in both ROA and OSS regressions. With respect to the social performance measures, capital asset ratio significantly affects both social performance measures – average loan and number of borrowers. Unlike capital asset ratio which is significantly associated with both social performance measures, the impact of competition (HHI) is positive and correlate significantly with average loan size. These three results are in line with the baseline results.

Table 5.3: All three transnationalization proxies and performance

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
Percentage of foreignbanks	0.00299	0.0122	3.097	0.00787
	(0.00429)	(0.00824)	(9.452)	(0.0164)
Fdi_gdp	-0.00110	0.0103	6.954	-0.0485*
	(0.00539)	(0.0105)	(12.28)	(0.0253)
ln(commitments)	-0.0220	-0.105	63.00	0.0259
	(0.0323)	(0.0986)	(179.1)	(0.196)
Capital asset ratio	0.115	0.154	-174.2***	0.160***
	(0.190)	(0.202)	(13.71)	(0.0428)
Operating expense	-0.865**	-1.275**	-97.33	-0.804
	(0.381)	(0.505)	(269.2)	(1.188)
Portfolio at risk (30 days)	-0.263	-0.448	842.1	-2.687
	(0.336)	(0.508)	(746.7)	(2.080)
ln(age)	0.00926	0.125	-65.46	0.372
	(0.0920)	(0.144)	(120.8)	(0.422)
HHI	0.142	-0.218	853.5***	-0.677
	(0.196)	(0.302)	(320.0)	(1.148)
NGO_dummy	0.405	0.899	-321.4	2.714
	(0.341)	(0.574)	(2034.1)	(4.866)
ln(gdp)	-0.0641	-1.081	590.7	1.866
	(0.539)	(0.883)	(1076.0)	(2.269)
Inflation	-0.00262	-0.00971	-1.907	-0.0343
	(0.00381)	(0.00773)	(7.893)	(0.0207)
Private credit to GDP	0.00464	0.0152		
	(0.00540)	(0.00960)		
Rural population share	0.0179	0.0104		
	(0.0560)	(0.104)		
Average loan	0.0000470	0.0000109		
	(0.0000495)	(0.000124)		
ln(borrowers)	0.0412	0.131		
	(0.0538)	(0.0854)		
Observations (MFIs)	240 (168)	240 (168)	257 (175)	257 (175)
Adjusted R-squared	0.71	0.94	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

5.2 Robustness of the results

The baseline regression analysis presented in section 5.1 shows that only FDI to GDP affects the social performance indicators of MFI, while the other two transnationalization proxies (i.e. the percentage of foreign banks to total banks and cross-border commitments) are insignificant to all four performance indicators. To further probe the interpretation, other empirical analyses are carried out to investigate whether the degree of foreign bank presence affects microfinance performance. This means that regression analyses are carried out based

on three different thresholds (25, 50 and 75 %) of foreign bank presence. With respect to FDI to GDP, regression analyses are carried out to examine whether the potential spillover effects of FDI on performance are significantly different in oil-exporting versus oil-importing countries. As regards cross-border commitments, three other analyses are carried out namely, different approaches of microfinance, regressions based on the different RECs, and the 10 top receivers of commitments. In addition to the above analyses, two other proxies of transnationalization, namely FDI stock and Chinn-Ito index (Kaopen) are included in the regressions analyses. Moreover, the sensitivity of average loan size to extreme values is also tested.[59] Lastly, the instrument variable technique (IV) regressor technique is used to account for potential endogeneity biases that may run from the fact that microfinance performance predicts the level of foreign involvement. These robustness tests are designed to check if the results discussed before are altered by reasonable changes in the specification or the use of other proxies for transnationalization.

5.2.1 Degree of foreign bank presence

In subsection 4.2.1, it is pointed out that while some countries such as Benin and Mozambique have a very high percentage of foreign banks of about 75 per cent to total banks; other countries such as Ethiopia and Nigeria have laws restricting foreign ownership in the financial sector. As noted by Claessens and Lee (2003), Clarke et al. (2005) and Detragiache et al. (2008), there are reasons to expect that at a particular threshold, the percentage of foreign banks to total banks in an economy might differently affect the overall domestic financial sector. Consequently, analyses are carried out by grouping countries into three different thresholds, namely countries with more than 25 per cent of foreign banks to total banks (dummy_25), countries with more than 50 per cent of foreign banks to total banks (dummy_50) and lastly countries with more than 75 per cent of foreign banks to total banks (dummy_75). The results in Table 5.4 and Table 5.5 show significant results for two of the interaction terms, namely the percentage of foreign banks to total banks interacted with the dummy for countries with more than 50 per cent of foreign banks (dummy_50) and the percentage of foreign banks to total banks interacted with the dummy for countries with more than 75 per cent of foreign banks to total banks (dummy_75).[60]

[59] The sum of gross loan portfolio is included as an additional independent variable in the average loan regressions in order to control for the sensitivity of average loan size to extreme values. The results of this analysis are not different from the baseline results (see Appendix A).

[60] The regression result of MFIs operating in countries with more than 25 per cent of foreign banks to total banks (dummy_25) is presented in Appendix B).

5.2.1.1 Countries with more than 50 per cent of foreign banks to total banks

Table 5.4 indicates that the coefficient of the interaction between the percentage of foreign banks to total banks and the dummy for countries with more than 50 per cent of foreign banks (dummy_50) is negative and significantly associated with the number of borrowers in model 4, while it is insignificant in the case of the three other performance measures. This finding confirms *hypothesis 1b*$_{ii}$ which suggests that the percentage of foreign banks to total banks is negatively related to the number of borrowers.

Table 5.4: Countries with more than 50 per cent of foreign banks to total banks

	Financial performance		**Social performance**	
	(1)	**(2)**	**(3)**	**(4)**
	ROA	**OSS**	**Average loan**	**ln(borrowers)**
Percentage of foreignbanks	0.000925	0.0000158	-2.061	0.00543
	(0.000670)	(0.00229)	(4.890)	(0.00381)
Percentage of foreignbanks	-0.000186	0.000769	4.338	-0.00774***
x dummy_50	(0.000336)	(0.00143)	(5.368)	(0.00236)
Capital asset ratio	0.110***	0.184**	-113.4***	0.102**
	(0.0214)	(0.0719)	(39.58)	(0.0398)
Operating expense	-0.833***	-1.127***	-76.77	-0.156
	(0.0563)	(0.159)	(91.48)	(0.295)
Portfolio at risk (30 days)	-0.125***	-0.454***	-152.5	-0.948***
	(0.0462)	(0.117)	(175.6)	(0.257)
ln(age)	0.0314**	0.0665	-103.8	0.617***
	(0.0158)	(0.0620)	(68.61)	(0.121)
HHI	-0.0319	-0.0179	-311.7	-0.221
	(0.0344)	(0.117)	(289.3)	(0.170)
NGO_dummy	0.100*	0.961***	-198.5	-0.456
	(0.0542)	(0.270)	(219.4)	(0.323)
ln(gdp)	-0.00178	0.126	15.62	0.285
	(0.0656)	(0.285)	(311.6)	(0.409)
Inflation	-0.0000243	0.000432	0.580	-0.000865
	(0.000243)	(0.000810)	(0.889)	(0.00154)
Private credit to GDP	0.0000730	-0.0149*		
	(0.00168)	(0.00790)		
Rural population share	0.0276***	0.0729**		
	(0.00887)	(0.0320)		
Average loan	0.0000106	0.000115***		
	(0.0000070)	(0.0000343)		
ln(borrowers)	0.00600	0.0815***		
	(0.00749)	(0.0237)		
Observations (MFIs)	984 (280)	984 (280)	1013 (285)	1013 (285)
Adjusted R-squared	0.81	0.86	0.71	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

One possible explanation is that when the proportion of foreign banks to total banks is greater than 50 per cent, foreign banks stand in direct competition with MFIs such that clients move from MFIs to foreign banks as they are able to use their superior information technology to offer loans at lower costs and interest rates than MFIs.

As regards financial performance indicators, models 1 and 2 in Table 5.4 depict similar results with the baseline results where the coefficient of six control variables are significantly related to ROA, while eight are significantly associated with OSS. However, with respect to average loan, model 3 of Table 5.4 shows some slight differences with respect to the baseline results. That is, only the coefficient of capital asset ratio is negative and significantly influencing average loan size, whereas, in the baseline regression, the coefficients of three variables (capital asset ratio, HHI and NGO_dummy) showed a statistically significant effect on average loan size.

5.2.1.2 Countries with more than 75 per cent of foreign banks to total banks

Table 5.5 shows the effect of foreign banks on the performance indicators in countries with a higher share of foreign banks relative to domestic banks. The coefficient of the interaction term between the percentage of foreign banks to total banks and the dummy for MFIs operating in countries with more than 75 per cent of foreign banks (dummy_75) is significantly related to three out of the four performance indicators. Firstly, it is negative and significantly related to ROA, implying that MFIs operating in countries with more 75 per cent of foreign bank tend to have lower ROA. This finding rejects *hypothesis 1a* which suggest that the percentage of foreign banks to total banks is positively related to the financial performance. This result could be interpreted as increased competition from a high proportion of foreign banks in an economy pushes MFIs to incur higher costs to improve the quality of their services and operations as they hope to compete with foreign banks with superior technology and reputation. This leads to a reduction in ROA. This result is in line with the banking literature by Barajas et al. (2000), Clarke et al. (2000) and Hermes and Lensink (2004) which showed that foreign bank presence was associated with higher cost and declining interest rates margins for domestic banks.

Secondly, model 3 of Table 5.5 indicates that the coefficient of the interaction term is positive and significantly related to average loan size. This finding suggests that MFIs operating in countries with more than 75 per cent of foreign banks to total banks tend to face fierce competition such that they are forced to target richer clients with larger loan sizes as a means to cover their operational costs. This finding is consistent with previous finding by Cull et al.

(2014) which revealed that greater share of total banking sector assets held by foreign-owned was associated with larger loan amounts.

Table 5.5: Countries with more than 75 per cent of foreign banks to total banks

	Financial Performance		Social Performance	
	(1) ROA	(2) OSS	(3) Average loan	(4) ln(borrowers)
Percentage_foreignbanks	0.00143**	0.00250	-0.259	0.00213
	(0.000589)	(0.00195)	(3.847)	(0.00336)
Percentage_foreignbanks	-0.000384*	-0.000999	1.616*	-0.00283**
x dummy_75	(0.000227)	(0.000682)	(0.952)	(0.00128)
Capital asset ratio	0.110***	0.185**	-125.5***	0.124***
	(0.0211)	(0.0718)	(34.01)	(0.0347)
Operating expense	-0.832***	-1.131***	-106.8	-0.102
	(0.0552)	(0.160)	(86.31)	(0.295)
Portfolio at risk (30 days)	-0.120***	-0.446***	-174.5	-0.910***
	(0.0452)	(0.116)	(179.4)	(0.262)
ln(age)	0.0327**	0.0689	-106.4	0.621***
	(0.0157)	(0.0622)	(67.58)	(0.120)
HHI	-0.0352	-0.0339	-391.2	-0.0800
	(0.0341)	(0.117)	(318.1)	(0.181)
NGO_dummy	0.490***	19.18***	-191.6	-0.469
	(0.0599)	(0.271)	(178.9)	(0.315)
ln(gdp)	-0.0135	0.0819	5.033	0.305
	(0.0657)	(0.280)	(291.8)	(0.408)
Inflation	-0.000113	0.000166	0.991	-0.00159
	(0.000242)	(0.000807)	(0.931)	(0.00154)
Private credit to GDP	0.000245	-0.0152**		
	(0.00162)	(0.00765)		
Rural population share	0.0320***	0.0840**		
	(0.00953)	(0.0329)		
Average loan	0.0000117*	0.000115***		
	(0.00000702)	(0.0000347)		
ln(borrowers)	0.00548	0.0781***		
	(0.00727)	(0.0234)		
Observations (MFIs)	984 (280)	984 (280)	1013 (285)	1013 (285)
Adjusted R-squared	0.81	0.86	0.71	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Lastly, the coefficient of the interaction between the percentage of foreign banks to total banks and the dummy for countries with more 75 per cent of foreign banks is negative and significantly associated with the number of borrowers. This result is similar to the results in Table 5.4 which points out that a large proportion of foreign banks in an economy forces MFIs' clients to move to foreign banks since they can obtain loans at better conditions (lower costs and interests) as opposed to MFIs who lack often superior technology and reputation.

With respect to ROA in Table 5.5, the coefficient and significance are similar with the baseline results where six out of the 12 control variables affect ROA. These include capital asset ratio, operating expense, portfolio at risk (30 days), ln(age), NGO_dummy and rural population share. However, unlike the baseline results, where the coefficient of average loan was insignificant in the case of ROA, model 1 in Table 5.5 illustrates that the coefficient of average loan size is now positively and significantly related to ROA. This result supports the assertion that higher loan size leads to higher ROA. Also, in relation to OSS, model 2 in Table 5.5 show that eight out of the twelve control variables are significantly related to OSS. These, include capital asset ratio, operating expense, portfolio at risk (30 days), NGO_dummy, private credit to GDP, rural population share, average loan and ln(borrowers). In addition, the overall results of the social performance indicators are consistent with the baseline results, where the coefficient of capital asset ratio, portfolio at risk (30 days) and age are significantly associated with the social performance indicators.

5.2.2 Oil-exporting versus oil-importing countries

Figure 4.2 in chapter 4 depicts that for the period 2000-2012, the majority of FDI flows went to oil-exporting countries. These countries include Angola, Cameroon, Chad, Republic of Congo, Democratic Republic of Congo, Cote d'Ivoire, Gabon, Nigeria and Sudan (World Bank Group, 2015). Regression analyses are carried by including an interaction between FDI to GDP and a dummy for oil-exporting countries (dummy_oil) as an additional independent variable and these results are presented in Table 5.6.

Interestingly, the result shows that the coefficient of the interaction between FDI to GDP and the dummy for oil-exporting countries (dummy_oil) is positive and significantly related to the number of borrowers in model 4, while it is insignificant in the three other models. This result can be interpreted as FDI flows to oil-extractive sector provides some opportunities for spillover effects by indirectly creating jobs and demand complementary such that clients now have a stable source of income and they can demand loans from MFIs who would be more likely to grant loans to these clients than if they did not have a source of income. This finding contradicts the theoretical argument by Farole and Winkler (2014) that the potential spillovers from primary or extractive sector FDI can be limited because it creates fewer jobs and this does not translate into sustainable growth in the long run. Aside from this, the coefficients and significance of all other variables are very much in line with baseline results.

Table 5.6: FDI to GDP and performance for oil-exporting countries

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
Fdi_gdp	-0.00299*	-0.00172	16.67**	-0.0239**
	(0.00178)	(0.00511)	(7.269)	(0.00969)
Fdi_gdp x dummy_oil	0.00502	0.0260	-28.79	0.0441**
	(0.00385)	(0.0268)	(23.55)	(0.0181)
Capital asset ratio	0.104***	0.202***	-122.7***	0.103***
	(0.0201)	(0.0708)	(36.70)	(0.0314)
Operating expense	-0.816***	-1.111***	-124.2	-0.318
	(0.0530)	(0.167)	(100.1)	(0.282)
Portfolio at risk (30days)	-0.0852*	-0.347***	-145.5	-0.669***
	(0.0457)	(0.120)	(146.8)	(0.232)
ln(age)	0.0387**	0.0702	-112.3	0.632***
	(0.0152)	(0.0601)	(80.11)	(0.115)
HHI	-0.0487	-0.0764	-162.4	-0.0296
	(0.0335)	(0.109)	(270.6)	(0.158)
NGO_dummy	0.216***	1.568***	-541.9*	-3.812***
	(0.0612)	(0.226)	(299.6)	(0.404)
ln(gdp)	0.0444	0.160	-226.1	-0.393
	(0.0807)	(0.324)	(378.8)	(0.466)
Inflation	-0.0000806	0.000339	1.337	-0.00109
	(0.000265)	(0.000826)	(1.079)	(0.00162)
Private credit to GDP	-0.000825	-0.0149**		
	(0.00154)	(0.00707)		
Rural population share	0.0271***	0.0717**		
	(0.00865)	(0.0313)		
Average loan	0.0000106*	0.0000759**		
	(0.00000616)	(0.0000378)		
ln(borrowers)	0.00587	0.0644***		
	(0.00722)	(0.0243)		
Observations (MFIs)	1035 (285)	1035 (285)	1089 (316)	1089 (316)
Adjusted R-squared	0.80	0.82	0.66	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

5.2.3 Cross-border commitment analyses

The section provides regression analyses based on three main analyses, namely the three different approaches of microfinance, regressions based on the different RECs, and the 10 top receivers of commitments.

5.2.3.1 Different approaches of microfinance institutions

The results presented in section 5.1 are based on the assumption that all MFIs are simultaneously seeking to achieve a balance between their social and financial performance. However, as stated in subsection 3.4.2, some MFIs are not able to achieve this balance. In

practice, therefore MFIs may choose to follow either the welfarist approach (i.e. social performance) or the institutionist approach (i.e. financial performance). In order to identify these different approaches, the study uses factor and cluster analysis which has also been used by previous research by Luzzi and Weber (2007).

In the first place, factor analysis is used to generate one synthetic indicator for each of the dimensions (one for social and one for financial). Based on this analysis, two factors are retained-- factor 1 and factor 2. Factor 1 is explained by return on assets and operational self-sufficiency and this is interpreted as financial performance. Factor 2 is explained by average loan and number of borrowers, therefore interpreted as social performances (see Appendix C). These two factors are now used as the new variables for social and financial performance.

The next step is to use cluster analysis to partition MFIs into subsets so that each subset (cluster) shares a common trait that corresponds to their performance levels. The goal is to group MFIs with similar social and financial performance characteristics, while those belonging to different groups are as disparate as possible. The k-median clustering approach is used since it minimizes absolute deviations rather than the sum of squared residuals and also tends to be less susceptible to outliers. At the beginning of the clustering, each of the 211 MFIs (*n* observations) with *m* characteristics (based on the two scores of performance) is considered as a separate cluster. A similarity index-the Manhattan distance between the average scores of two clusters is computed for all *n*(n-1)/2* potential pairs of observations and the two closest are grouped. The same procedure is applied to the *n-1* remaining clusters, which means *n-1*(n-2/2)* distances. This process continues until all observations belong to the same group and hence create a hierarchy of clusters. The only problem with agglomerative clustering is that it leaves open the choice of the optimal number of clusters (Milligan and Cooper, 1985, p. 159). Subsequently, it is important to use certain stopping rules to determine the optimal number of clusters.

Milligan and Cooper (1985) investigated 30 stopping rules and singled out Calinski–Harabasz pseudo-F index and the Duda–Hart index as two of the best rules. Calinski–Harabasz pseudo-F index indicates distinct clustering and the number of clusters with the highest index value should be chosen. On the contrary, with the Duda–Hart index, the number of clusters with the lowest index value should be selected. Based on Calinski–Harabasz pseudo-F index, the three-cluster solution is selected because it provides the largest pseudo-F value as compared

to the four-cluster and five-cluster solutions (see Appendix C). Figure 5.1 below illustrates the three-different clusters.

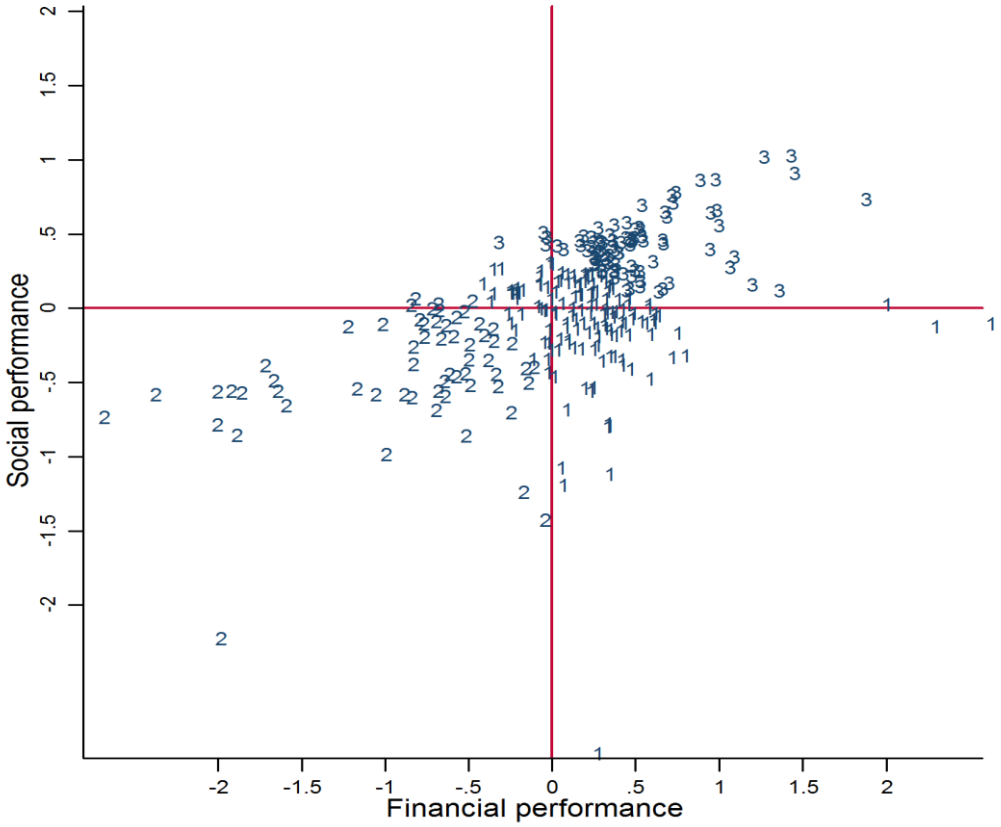

Figure 5.1: Scores and clusters for MFIs according to their performance

Figure 5.1 shows that the majority of MFIs belonging to cluster1 tend to pursue an institutionist approach and are therefore relatively effective on financial performance indicators. MFIs in cluster 2 perform poorly on both their social and financial performance, hence worst-case MFIs. Lastly, MFIs in cluster 3 perform well on both social and financial dimensions, and consequently double-bottom line MFIs. The above plot, however, illustrates that the trade-off between outreach and sustainability is not very obvious. In the case of trade-off, MFIs would have been situated along a line going from the top left to the bottom right. This can be explained by the negative relationship between average loan size and the number of borrowers.

Table 5.7: Cross-border commitments and performance for cluster 3 MFIs

	Financial performance		Social Performance	
	(1) ROA	(2) OSS	(3) Average loan	(4) ln(borrowers)
ln(commitments)	-0.00648	-0.000920	73.36	-0.0647
	(0.0234)	(0.0761)	(191.2)	(0.173)
ln(commitments) x dummy_c3	0.000704	0.00718*	-8.370	0.0235**
	(0.00205)	(0.00380)	(5.096)	(0.0102)
Capital asset ratio	0.0922	0.109	-368.8	1.082*
	(0.175)	(0.188)	(235.2)	(0.608)
Operating expense	-0.892***	-1.187***	-180.4	-0.539
	(0.263)	(0.338)	(342.6)	(1.255)
Portfolio at risk (30 days)	-0.244	-0.495	640.1	-1.990
	(0.304)	(0.476)	(715.2)	(1.790)
ln(age)	-0.000531	0.0558	-155.9	0.696
	(0.0843)	(0.152)	(157.2)	(0.534)
HHI	0.127	-0.0423	625.2*	-0.512
	(0.167)	(0.283)	(318.4)	(0.947)
NGO_dummy	0.278	0.0999	2306.1**	3.013
	(0.947)	(1.997)	(937.0)	(2.473)
ln(gdp)	-0.0193	-0.253	196.9	0.908
	(0.439)	(0.764)	(1246.9)	(2.404)
Inflation	-0.00218	-0.0110*	-2.836	-0.0252
	(0.00243)	(0.00563)	(7.316)	(0.0205)
Private credit to GDP	0.00308	0.0105		
	(0.00581)	(0.0110)		
Rural population share	0.00392	-0.0594		
	(0.0382)	(0.0773)		
Average loan	0.0000596	0.0000280		
	(0.0000480)	(0.000161)		
ln(borrowers)	0.0496	0.109		
	(0.0568)	(0.0992)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-sq	0.77	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Regression analysis results based on the three different clusters show that the coefficient of the interaction between cross-border commitments and the dummy of double-bottom line MFIs or MFIs in cluster 3 (dummy_c3) has a significant positive relationship with OSS and the number of borrowers (Table 5.7).[61] This result implies that once MFIs are able to achieve a balance in their social and financial performance, further increases in cross-border commitments enhances its operational performance as well as its breadth of outreach.

[61] Regression results for cluster 1 (dummy_c1) or institutionist MFIs are presented in Appendix C.

Table 5.8: Cross-border commitments and performance for cluster 2 MFIs

	Financial performance		Social Performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
ln(commitments)	-0.00315	0.00543	71.32	-0.0615
	(0.0214)	(0.0689)	(157.3)	(0.142)
ln(commitments) x dummy_c2	-0.00454*	-0.0132***	14.46	-0.0379*
	(0.00238)	(0.00456)	(11.65)	(0.0172)
Capital asset ratio	0.0804	0.0610	-324.4	0.971*
	(0.185)	(0.197)	(200.7)	(0.560)
Operating expense	-0.822***	-1.015***	-359.0	-0.0868
	(0.287)	(0.351)	(379.9)	(1.185)
Portfolio at risk (30 days)	-0.210	-0.355	468.3	-1.541
	(0.313)	(0.518)	(629.9)	(1.547)
ln(age)	-0.0307	-0.0370	-51.51	0.426
	(0.0761)	(0.138)	(163.1)	(0.391)
HHI	0.107	-0.110	670.5*	-0.636
	(0.156)	(0.273)	(340.0)	(0.917)
NGO_dummy	0.540	0.900	2495.5***	2.543
	(0.905)	(1.986)	(821.2)	(2.309)
ln(gdp)	0.178	0.379	-343.7	2.322
	(0.415)	(0.747)	(996.3)	(2.294)
Inflation	-0.00224	-0.0113*	-3.888	-0.0225
	(0.00232)	(0.00613)	(8.120)	(0.0212)
Private credit to GDP	0.00285	0.00784		
	(0.00503)	(0.00997)		
Rural population share	0.0215	0.00611		
	(0.0352)	(0.0797)		
Average loan	0.0000691*	0.0000513		
	(0.0000411)	(0.000116)		
ln(borrowers)	0.0402	0.103		
	(0.0517)	(0.0943)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.77	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Table 5.7 also shows that the coefficients of two out of the 12 independent variables significantly affect both financial performance indicators (ROA and OSS). First, while the coefficient of operating expense is negatively and highly significant for both ROA and OSS models, the coefficient of inflation is negative and significantly related only in the case of OSS. Nevertheless, both results are consistent with the baseline results.

Table 5.8 depicts regression results of the interaction term between cross-border commitments and welfarist MFIs. The results show that the coefficient of the interaction term is negative and significantly related to both financial performance indicators and the number of

borrowers. This means that further increases of cross-border commitments to worst-case MFIs weaken both their operational and financial discipline as they get the impression that they can be bailed out if things go wrong. It could also imply that the availability of cross-border commitments generates agency costs problems as they receive incoherent instructions from different funders and investors, subsequently forcing them to face difficulty in improving upon both their financial and social performance.

5.2.3.2 Regional economic communities in SSA

As noted in section 2.5, the development of the microfinance sector could be influenced by the different RECs and this would indirectly affect the degree of foreign involvement in the microfinance sector. For instance, the new microfinance law for WAEMU countries pushes for consolidation and encourages more foreign ownership in the microfinance sector. While other countries such as Nigeria and Ethiopia continue to restrict foreign ownership in the financial sector. Moreover, the data presented in subsection 4.2.1 illustrates that the majority of cross-border commitments is channelled to EAC and WAMZ countries. Therefore, analyses are performed with respect to the different five RECs specifically, Economic and Monetary Community of Central Africa (CEMAC), East African Community (EAC), West African Economic and Monetary Union (WAEMU), West Africa Monetary Zone (WAMZ), and Southern African Development Community (SADC) which are highlighted in section 2.5. Interestingly, the results presented in Table 5.9 and Table 5.10 reveal that the coefficient of the interaction between cross-border commitments and the respective CEMAC dummy (CEMAC_dummy) and WAMZ dummy (WAMZ_dummy) are significantly related to performance, while the coefficients of the interaction between cross-border commitments and the three other RECs is insignificant.[62] Table 5.9 shows regression analysis for MFIs operating in CEMAC. The positive and significant coefficient of the interaction between cross-border commitments and the dummy_CEMAC indicates that higher cross-border commitments to this REC would lead to higher number of borrowers. This result can be interpreted as follows: cross-border commitments to MFIs in CEMAC tends to provide additional funding for lending portfolios such that MFIs are able to provide more loans to many more clients.

[62] Regression results for the three other RECs (i.e. EAC, WAEMU and SADC) are presented in Appendix C.

Table 5.9: Cross-border commitments and performance for MFIs found in CEMAC

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
ln(commitments)	-0.0108	-0.0180	99.65	-0.0705
	(0.0251)	(0.0796)	(162.4)	(0.171)
ln(commitments)	0.0368	0.175	-371.9	1.267**
x dummy_CEMAC	(0.0796)	(0.188)	(656.3)	(0.517)
Capital asset ratio	0.0911	0.104	-174.4***	0.150***
	(0.176)	(0.202)	(9.094)	(0.0361)
Operating expense	-0.901***	-1.235***	-86.22	-0.858
	(0.257)	(0.347)	(237.3)	(0.895)
Portfolio at risk (30 days)	-0.250	-0.488	804.1	-2.603
	(0.320)	(0.534)	(733.1)	(2.069)
ln(age)	0.000338	0.0618	-87.91	0.499
	(0.0860)	(0.157)	(110.6)	(0.395)
HHI	0.124	-0.0950	659.8**	-0.983
	(0.176)	(0.280)	(282.8)	(0.708)
NGO_dummy	0.601	-1.005	-1497.2***	-3.880***
	(1.613)	(2.533)	(312.3)	(1.026)
ln(gdp)	-0.0477	-0.268	276.1	1.251
	(0.427)	(0.769)	(824.2)	(1.820)
Inflation	-0.00217	-0.0113*	-6.929	-0.00899
	(0.00237)	(0.00611)	(6.178)	(0.0143)
Private credit to GDP	0.00317	0.00838		
	(0.00563)	(0.0103)		
Rural population share	0.0101	-0.0273		
	(0.0370)	(0.0820)		
Average loan	0.0000504	0.0000137		
	(0.0000457)	(0.000133)		
ln(borrowers)	0.0484	0.129		
	(0.0533)	(0.0930)		
Observations (MFIs)	278(199)	278(199)	305(211)	305(211
Adjusted R-squared	0.76	0.93	0.92	0.92

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Table 5.10: Cross-border commitments and performance for MFIs found in WAMZ

	Financial performance		Social performance	
	(1) ROA	(2) OSS	(3) Average loan	(4) ln(borrowers)
ln(commitments)	-0.0175	-0.0376	71.79	-0.0709
	(0.0251)	(0.0716)	(168.0)	(0.188)
ln(commitments)	0.283	0.956*	198.9	1.313
x dummy_WAMZ	(0.241)	(0.508)	(425.5)	(0.953)
Capital asset ratio	0.0759	0.0474	-173.4***	0.151***
	(0.168)	(0.169)	(9.075)	(0.0337)
Operating expense	-0.895***	-1.216***	-55.78	-0.865
	(0.249)	(0.329)	(231.5)	(0.895)
Portfolio at risk (30 days)	-0.277	-0.564	713.0	-2.374
	(0.285)	(0.422)	(715.4)	(2.150)
ln(age)	0.00678	0.0795	-74.30	0.479
	(0.0802)	(0.142)	(111.7)	(0.388)
HHI	0.105	-0.144	565.8**	-0.759
	(0.161)	(0.294)	(251.1)	(0.705)
NGO_dummy	0.00850	0.718	300.7	-1.240
	(0.745)	(0.809)	(401.4)	(1.256)
ln(gdp)	0.130	0.353	233.2	2.034
	(0.397)	(0.684)	(716.9)	(1.845)
Inflation	-0.00122	-0.00805	-6.169	-0.00931
	(0.00219)	(0.00617)	(6.458)	(0.0149)
Private credit to GDP	0.00383	0.0105		
	(0.00533)	(0.00988)		
Rural population share	-0.0214	-0.137		
	(0.0358)	(0.0843)		
Average loan	0.0000245	-0.0000741		
	(0.0000474)	(0.000111)		
ln(borrowers)	0.0351	0.0859		
	(0.0494)	(0.0780)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.77	0.94	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Aside from the coefficient of the interaction term which is significant in the case of OSS, the overall results in Table 5.9 are in line with the baseline results presented in Table 5.1 and Table 5.2. Models 1 and 2 in Table 5.9 show that the coefficients of two control variables, namely operating expense and inflation tend to significantly affect financial performance indicators. While the coefficient of operating expense is negative and correlate significantly with both ROA and OSS, inflation exerts a negative and significant influence on OSS. With respect to the social performance indicators, the coefficient of capital asset ratio is negative and significantly related to average loan size, while it exerts a positive and significant effect

on the number of borrowers. Also, the coefficient of competition which is measured by HHI is positive and significantly related to average loan size. The coefficient of NGO_dummy is negatively related to both social performance indicators.

Table 5.10 indicates that the coefficient of the interaction term between cross-border commitments and the WAMZ_dummy is positive and significant to OSS, but it is insignificant to the three other performance indicators. This result indicates that cross-border commitments tend to improve operational efficiency by providing cheaper sources of funding for MFIs. It could also mean that cross-border commitment is able to improve the overall market infrastructure in terms information sharing techniques, consequently leading to lower loan loss portfolios. As presented in section 2.5, five countries but for Guinea operate credit bureaus which are also used by some MFIs to reduce information asymmetry.[63] Apart from the coefficient of the interaction term which is positive and significantly related to OSS, just the coefficient of one other variable (i.e. operating expense) is negative and significantly related to both financial performance indicators. This result supports *hypothesis 5a* which states that operating expense is negatively related to financial performance.

With respect to the social performance regressions, the coefficient of capital asset ratio is negative and significantly related to average loan size, while it is positive and correlate significantly with the number of borrowers. Also, the effect of competition – as measured by HHI – on average loan size is positive and statistically significant. The above two results are consistent with the baseline results.

5.2.3.3 Top receivers of foreign flows

Table 5.11 shows that results remain the same even after controlling for 10 countries which received the highest cross-border flows for 2011. Moreover, these countries are amongst the countries with very profitable MFIs.[64] Consequently, the question is, if cross-border commitment channelled to these countries is triggered by the profitable MFIs operating in these countries. The results in Table 5.11, however, indicate that the interaction between cross-border commitments and the dummy of the 10 top receivers of cross-border commitments (top receivers_dummy) does not significantly affect either the social or the financial performance indicators of MFIs in these countries.

[63] The five countries include The Gambia, Ghana, Nigeria, Sierra Leone and Liberia.

[64] These countries include Ethiopia, Dem Rep of Congo, Nigeria, South Africa, Kenya, Uganda, Tanzania, Ghana, Senegal, and Cameroon.

Table 5.11: Top receivers of cross-border funding for the period 2007 -2011

	Financial performance		Social performance	
	(1) ROA	(2) OSS	(3) Average loan	(4) ln(borrowers)
ln(commitments)	-0.0355	-0.0374	123.9	-0.187
	(0.0340)	(0.107)	(220.3)	(0.249)
ln(commitments)	0.0847	0.0949	-117.9	0.497
x top receivers_dummy	(0.0583)	(0.139)	(233.4)	(0.380)
Capital asset ratio	0.101	0.102	-174.0***	0.149***
	(0.170)	(0.198)	(9.299)	(0.0368)
Operating expense	-0.902***	-1.237***	-52.92	-0.982
	(0.251)	(0.345)	(224.6)	(0.891)
Portfolio at risk (30days)	-0.286	-0.491	752.6	-2.453
	(0.293)	(0.495)	(757.2)	(2.196)
ln(age)	0.00963	0.0612	-83.44	0.489
	(0.0835)	(0.152)	(110.3)	(0.388)
HHI	0.124	-0.0575	597.7**	-0.789
	(0.164)	(0.289)	(278.3)	(0.730)
NGO_dummy	0.127	-1.573	-2268.2	4.137
	(1.682)	(2.719)	(3693.0)	(6.567)
ln(gdp)	-0.0101	-0.170	180.4	1.568
	(0.418)	(0.744)	(789.8)	(1.892)
Inflation	-0.00150	-0.0104*	-5.514	-0.0145
	(0.00241)	(0.00620)	(6.105)	(0.0148)
Private credit to GDP	0.00379	0.00878		
	(0.00567)	(0.0102)		
Rural population share	-0.0130	-0.0607		
	(0.0390)	(0.0812)		
Average loan	0.0000454	0.00000742		
	(0.0000451)	(0.000129)		
ln(borrowers)	0.0420	0.128		
	(0.0537)	(0.0910)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.77	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

5.2.4 Other proxies of transnationalization

Two other proxies of the transnationalization are included in the regression analyses, particularly FDI stock and Chinn-Ito index (Kaopen.) The results of these analyses are presented below.

5.2.4.1 FDI stock and microfinance performance

FDI to GDP is often used as a *defacto* indicator to measure transnationalization; however, it has three main drawbacks. First, FDI data capture only cross-border investment involving equity participation thus omit non-equity cross-border transactions such as intra-firm flows of goods and services. Second, cross-country comparisons may not be accurate, because of differences in the definition of what constitutes FDI and portfolio equity (Quinn et al., 2013, p. 495). Third, there are also different valuation criteria such as accrued value, market value

or sometimes it is based on its book value. Lastly, FDI flows are very volatile. In order to mitigate these problems, it is preferable to use the sum of gross stock of foreign assets and liabilities as a ratio of GDP (Kose et al., 2010, p. 4289). Subsequently,FDI stocks are estimated by either cumulating FDI flows over a period of time or adding flows to an FDI stock that has been obtained for a particular year from national official sources or the IMF data series on assets and liabilities of direct investment (United Nation Conference on Trade and Development, 2015). This data is obtained from the WDI. Table 5.12 presents results of regression analysis where FDI stock is used as another proxy of transnationalization.

Table 5.12: FDI stock and performance

	Financial performance		**Social performance**	
	(1)	**(2)**	**(3)**	**(4)**
	ROA	**OSS**	**Average loan**	**ln(borrowers)**
Fdi_stock	0.000000504	0.00000242**	-0.00104	0.00000675***
	(0.000000575)	(0.000000963)	(0.00150)	(0.00000221)
Capital asset ratio	0.103***	0.225***	-131.9***	0.104***
	(0.0196)	(0.0702)	(34.87)	(0.0298)
Operating expense	-0.834***	-1.065***	59.24	-0.291
	(0.0465)	(0.151)	(158.2)	(0.336)
Portfolio at risk (30days)	-0.0900**	-0.325***	-103.7	-0.720***
	(0.0430)	(0.108)	(129.1)	(0.238)
ln(age)	0.0357***	0.0754	-75.78	0.590***
	(0.0137)	(0.0572)	(61.20)	(0.108)
HHI	-0.0307	-0.0788	-137.2	-0.0337
	(0.0288)	(0.101)	(244.6)	(0.152)
NGO_dummy	1.025***	2.748***	-1913.9**	-0.621
	(0.259)	(1.013)	(877.6)	(0.983)
ln(gdp)	0.0122	0.256	-190.0	0.0963
	(0.0545)	(0.238)	(268.4)	(0.359)
Inflation	-0.0000542	0.000522	0.610	-0.000193
	(0.000242)	(0.000856)	(0.949)	(0.00150)
Private credit to GDP	-0.000740	-0.0170**		
	(0.00154)	(0.00666)		
Rural population share	0.0238***	0.0674**		
	(0.00703)	(0.0275)		
Averageloan	0.00000926	0.0000728*		
	(0.00000621)	(0.0000388)		
ln(borrowers)	0.00571	0.0604***		
	(0.00662)	(0.0224)		
Observations (MFIs)	1148 (323)	1148 (323)	1211 (335)	1212 (335)
Adjusted R-squared	0.82	0.82	0.69	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

The results in Table 5.12 indicate that FDI stock positively and significantly affects OSS and the number of borrowers. This suggests that MFIs operating in countries with more FDI stock

are able to gain some potential spillover effects, through better infrastructure and this goes a long way to reduce their operational performance and they are able to grant more loans to many borrowers.

5.2.4.2 Chinn-Ito Index (Kaopen) and microfinance performance

The three main proxies of transnationalization are based on the *de facto* level of financial globalization. *De facto* indicators, however, do not completely account for constraints in cross-border flows that are generated by legal restrictions on capital movement. Consequently, it makes sense to consider if the legal restrictions on capital flows have an impact on microfinance performance.

Table 5.13: Kaopen and microfinance performance

	Financial performance		**Social performance**	
	(1)	**(2)**	**(3)**	**(4)**
	ROA	**OSS**	**Average loan**	**ln(borrowers)**
Kaopen	-0.0159	-0.110	-41.14	0.243*
	(0.0339)	(0.0881)	(98.17)	(0.147)
Capital asset ratio	0.104***	0.220***	-133.6***	0.104***
	(0.0195)	(0.0702)	(35.54)	(0.0302)
Operating expense	-0.830***	-1.080***	30.78	-0.253
	(0.0463)	(0.151)	(159.0)	(0.335)
Portfolio at risk (30days)	-0.0874**	-0.348***	-99.45	-0.695***
	(0.0415)	(0.109)	(128.5)	(0.232)
ln(age)	0.0354***	0.0638	-122.4*	0.597***
	(0.0135)	(0.0561)	(69.92)	(0.105)
HHI	-0.0268	-0.0472	-142.2	-0.0167
	(0.0281)	(0.100)	(242.6)	(0.149)
NGO_dummy	0.212***	1.534***	-8221.8***	-0.679
	(0.0577)	(0.224)	(949.0)	(0.993)
ln(gdp)	0.0182	0.280	-208.5	0.121
	(0.0550)	(0.239)	(261.6)	(0.357)
Inflation	-0.0000246	0.000285	0.854	-0.000814
	(0.000235)	(0.000837)	(0.925)	(0.00150)
Private credit to GDP	-0.000578	-0.0160**		
	(0.00148)	(0.00678)		
Rural population share	0.0225***	0.0636**		
	(0.00704)	(0.0276)		
Averageloan	0.00000862	0.0000631*		
	(0.00000579)	(0.0000363)		
ln(borrowers)	0.00641	0.0623***		
	(0.00657)	(0.0222)		
Observations (MFIs)	1165 (327)	1165 (327)	1228 (338)	1229 (338)
Adjusted R-squared	0.82	0.81	0.68	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Therefore, the Chinn-Ito Index or Kaopen which is one of the most commonly used *de jure* measures of transnationalization is included in the regression. This measure is based on a binary dummy variable that codifies the tabulation of restrictions on cross-border financial transactions reported in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions (AREAR)* (Chinn and Ito, 2006, p. 4). It is calculated as the principal component of the three original variables pertaining to regulatory controls over current and capital account transactions, the existence of multiple exchanges and the requirements of surrendering export proceeds (Ito and Chinn, 2016, p. 2). The index ranges from -1.83 to +2.5 with higher values indicating a more open capital account.

Table 5.13 shows that the coefficient of Kaopen is positive and significantly associated only with the number of borrowers (model 4) but it is insignificant to the three other performance indicators. This suggests that MFIs operating in countries with fewer restrictions on their capital account tend to have a higher number of borrowers.

5.2.5 Instrument variable regressions

The baseline results presented in Table 5.1 and Table 5.2 assumes that the three proxies of transnationalization are exogenous to profitability and outreach of MFIs. However, while some unobserved omitted variables are accounted for through MFIs, country and time fixed effects other omitted variables that vary both across MFIs or country and time might be correlated with both the dependent variables and one or more of the independent variables. For instance, certain countries such as Nigeria and Ethiopia have laws that limit foreign ownership in the financial sector, while WAEMU countries have recently passed laws that encourage foreign investment in microfinance. Another concern is that endogeneity biases resulting from reverse causality might plague the estimation. This means that the MFI performance might predict the level of foreign involvement. For instance, foreign banks might be more prone to enter countries where MFI development is low since growth prospects in these markets are more likely to be stronger.

The instrument variable (IV) estimation is used to account for this potential endogeneity problems where the endogenous variables are instrumented with variables that are correlated with the endogenous variables but uncorrelated with the financial and social performance indicators. Following Vanroose and D'Espallier (2013), the potential endogenous variables (in this case the percentage of foreign banks to total and FDI to GDP) are instrumented by a set of instruments composed of their first and second order lags. However, in the case of cross-border commitments, lagged variables cannot be calculated because data is available

biennially (i.e. 2007, 2009, and 2011). Subsequently, cross-border commitments is instrumented by the variable "political stability and the absence of violence/terrorism". This variable measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism and it is obtained from Worldwide Governance Indicators (WGIs) of the World Bank. This variable is assumed to be correlated with cross-border commitments given that social and commercial investors might be interested in the political situation of a country before making their investment in microfinance. However, it is assumed to be uncorrelated with omitted variables such as income level of a client or the location of an MFI.

Table 5.14: First-stage regression of Percentage_foreign banks

					Number of observations	770
					Number of MFIs	217
					Partial R-squared	0.47
	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
Percentage_foreignbanks						
L1	0.807448	0.063562	12.7	0.0000	0.682586	0.932310
L2	-0.168513	0.046133	-3.65	0.0000	-0.259138	-0.077886

F test of excluded instruments
F (2, 216) = 81.63
Prob > F = 0.0000

Table 5.15: First-stage regression of FDI to GDP

					Number of observations	780
					Number of MFIs	237
					Partial R-squared	0.06
	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
Fdi_gdp						
L1	0.219233	0.05584	3.93	0.0000	0.109614	0.328854
L2	-0.171778	0.06927	-2.48	0.0130	-0.307773	-0.03578

F test of excluded instruments
F (2, 236) = 10.76
Prob>F = 0.0000

Table 5.16: First-stage regression of Cross-border commitments

				Number of observations		278
				Number of MFIs		199
				Partial R-squared		0.06
	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
ln(commitments)						
Political stability	-0.369683	0.177952	-2.08	0.039	-0.720277	-0.01908

F test of excluded instruments
F (1, 198) = 4.32
Prob>F = 0.0391

It should be noted the instruments stated above should meet two assumptions for them to be treated as valid instruments. Firstly, they ought to be sufficiently correlated with the endogenous variable(s) and secondly, they are to be uncorrelated with the error term.

Tables 5.14-5.16 show the first stage regression for the instruments of three transnationalization proxies. Table 5.14 shows that the instruments (i.e. L1 and L2) are highly correlated with the percentage of foreign banks to total banks. Moreover, it shows the F-test for the identification of weak instruments of 81.63 which is above the typical rule of thumb of F>10 as stated by Stock and Yogo (2005). This is also true for the instruments (i.e. L1 and L2) for FDI to GDP (see Table 5.15). However, with respect to cross-border commitments, its instrument (political stability and the absence of violence/terrorism) is a weak since the F-statistic is less than 10 (i.e. 4.32).

As shown in Table 5.17 and Table 5.18, the p-values of endogeneity test suggest that all the three transnationalization proxies are exogenous in the financial and social performance regressions. That is, the null hypothesis of exogeneous variables cannot be rejected at the 5% level. With respect to the Hansen J-test, a high value of chi^2 and very low p-value indicates that some instruments are correlated with the error term, consequently the endogeneity problem persists. In the case of cross-border commitments regression, since the number of instrument (L) is equal to the endogenous variable (K) , the Hansen J-test (1982) is equally identified, thus the p-value of Hansen J test =0.000 as shown in models 3 and 6 in Table 5.17 and Table 5.18. In the case of the two other transnationalization proxies (percentage of foreign banks to total banks and FDI to GDP), since L > K, there is a set of over identifying restrictions. Consequently, the instruments independence of the residuals or error term can be tested with the Hansen J-test which is distributed at chi^2 with (L-K) degrees of freedom. The results show that the validity of the over identifying restrictions cannot be rejected.

Although there are differences in the signs of the coefficients and standard errors, the overall pattern of results in Table 5.17 and Table 5.18 is similar to that of the baseline models. For example, all the coefficients of the three transnationalization proxies are negative but insignificant to the financial performance indicators. With respect to the social performance regressions, model 4 in Table 5.17 indicates a negative and significant coefficient in relation to the number of borrowers, whereas it had been insignificant in the OLS regression (model 4 of Table 5.2). With respect to the other control variables, the overall results are very similar with the baseline regressions. In short, the IV regressions reinforce the conclusion drawn from OLS regressions that the three transnationalization proxies do not affect microfinance performance.

Table 5.17: Transnationalization proxies and financial performance (Second-stage regressions)

	(1) ROA	(2) ROA	(3) ROA	(4) OSS	(5) OSS	(6) OSS
Percentage of foreignbanks	-0.000229			-0.000397		
	(0.000999)			(0.00324)		
Fdi_gdp		-0.0132			-0.0284	
		(0.00841)			(0.0380)	
ln(commitments)			-0.0260			-0.0357
			(0.0686)			(0.158)
Capital asset ratio	0.117***	0.112***	0.0600**	0.121	0.164*	0.189
	(0.0447)	(0.0406)	(0.0286)	(0.0865)	(0.0973)	(0.256)
Operating expense	-0.768***	-0.752***	-0.724***	-1.487***	-1.248***	-1.812
	(0.107)	(0.0950)	(0.155)	(0.201)	(0.267)	(1.326)
Portfolio at risk (30days)	-0.171**	-0.153**	-0.177	-0.429**	-0.363**	-1.360
	(0.0689)	(0.0715)	(0.152)	(0.175)	(0.169)	(1.465)
ln(age)	0.0166	0.0309	0.0272	0.119	0.0281	-0.00724
	(0.0248)	(0.0248)	(0.0195)	(0.0878)	(0.116)	(0.235)
HHI	-0.0512	-0.0538	0.256	-0.212	-0.222*	1.198
	(0.0419)	(0.0432)	(0.271)	(0.129)	(0.123)	(2.796)
NGO_dummy	-0.261***	0.163***	-0.0267	-1.306***	0.558***	-0.118
	(0.0118)	(0.0244)	(0.0188)	(0.0487)	(0.0662)	(0.148)
ln(gdp)	0.00340	0.115	-1.144	0.153	0.716	-17.44
	(0.0865)	(0.125)	(4.223)	(0.416)	(0.604)	(43.55)
Inflation	0.000281	0.000106	-0.00134	0.00114	0.000875	-0.0250
	(0.000330)	(0.000369)	(0.00329)	(0.00123)	(0.00178)	(0.0386)
Private credit to GDP	0.000193	-0.000578	0.00752	-0.00889	-0.00965	0.0466
	(0.00239)	(0.00226)	(0.00532)	(0.00569)	(0.00612)	(0.0513)
Rural population share	0.0304**	0.0238	-0.00953	0.0754	0.0672	-0.478
	(0.0149)	(0.0148)	(0.122)	(0.0559)	(0.0519)	(1.339)
Averageloan	0.00000864	0.0000129*	-0.0000218	0.000112***	0.0000828*	-0.000120
	(0.00000842)	(0.00000727)	(0.0000361)	(0.0000371)	(0.0000464)	(0.000361)
ln(borrowers)	0.00397	0.00298	-0.000224	0.0876***	0.0658*	-0.0403
	(0.0117)	(0.0115)	(0.0171)	(0.0276)	(0.0350)	(0.176)
Observations (MFIs)	770 (217)	780 (237)	272(194)	770 (217)	780 (237)	272(194)
Hansen J-test (p-value)	0.782	0.0119	0.000	0.0929	0.0202	0.000
Endogeneity test (p-test)	0.462	0.5195	0.699	0.3038	0.1567	0.5567

Clustered robust standard errors in parentheses at MFI-level; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effect

Table 5.18: Transnationalization proxies and social performance (Second-stage IV regressions)

	(1) Average loan	(2) Average loan	(3) Average loan	(4) ln(borrowers)	(5) ln(borrowers)	(6) ln(borrowers)
Percentage_foreignbanks	3.251			-0.00929*		
	(4.107)			(0.00558)		
Fdi_gdp		-53.19			-0.00245	
		(73.39)			(0.0322)	
ln(commitments)			295.5			-0.417
			(250.7)			(0.435)
Capital asset ratio	-97.22***	-111.6***	-174.1***	0.0746***	0.0753***	0.149***
	(29.63)	(21.48)	(6.390)	(0.0219)	(0.0257)	(0.0252)
Operating expense	-258.7	-53.36	-45.60	-0.216	-0.643	-0.961
	(180.0)	(214.0)	(185.9)	(0.701)	(0.591)	(0.634)
Portfolio at risk (30days)	-125.4	-124.1	634.9	-0.728***	-0.629**	-2.195
	(246.6)	(283.6)	(611.4)	(0.230)	(0.269)	(1.570)
ln(age)	-250.4	-65.28	-69.95	0.383	0.379	0.458
	(163.6)	(108.6)	(85.64)	(0.279)	(0.282)	(0.293)
HHI	-271.0	-99.83	598.6***	-0.116	0.0775	-0.728
	(424.1)	(267.6)	(185.1)	(0.277)	(0.256)	(0.551)
NGO_dummy	-488.5***	-673.6***	-486.2***	0.466***	1.676***	-2.307***
	(57.69)	(67.31)	(107.0)	(0.0617)	(0.0834)	(0.371)
ln(gdp)	104.6	360.5	81.73	0.232	-1.158	1.793
	(395.6)	(650.4)	(751.6)	(0.622)	(0.883)	(1.501)
Inflation	1.061	1.273	-5.417	-0.000371	-0.00196	-0.0123
	(1.402)	(2.143)	(6.845)	(0.00230)	(0.00280)	(0.0117)
Observations (MFIs)	795 (222)	825 (248)	299(206)	795 (222)	825(248)	299(206)
Hansen J-test p-value	0.2735	0.2853	0.000	0.2612	0.1339	0.000
Endogeneity test p-value	0.0896	0.3806	0.0556	0.2163	0:7843	0.5749

Clustered robust standard errors in parentheses at MFI-level; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

6 Discussion and conclusion

This chapter is subdivided into three parts. The first part provides a summary of the main results that were obtained in chapter 5. The second part highlights the limitations of this study and areas for future research, while the last part provides the economic implications of this research.

6.1 Summary

The concept of microfinance which dates as far back as the fifth century in China, 11th century in Europe and 16th century in Africa, is the provision of financial and nonfinancial services to the poor by informal, semi-formal and formal institutions. Its importance to financial inclusion, development and poverty reduction is increasingly in the spotlight for either positive or negative reasons. Studies have shown that limited access to financial services is a bottleneck for poor people in developing countries and that this can hinder development and growth. Therefore, many different programmes have been used to fight poverty and enhance development with the majority of them being unsuccessful. However, because of the success story of the Grameen Bank in the 1990s, the focus has been on microfinance as one important channel through which poverty could be reduced. By using direct and indirect mechanisms to mitigate the problems of screening, monitoring of clients and the enforcement of loan payments, microfinance institutions (MFIs) have been able to provide financial and nonfinancial services to the unbanked segments of the population and particularly to poor clients. The offer of these services to the poor by MFIs has gone a long way to alleviate poverty through the improvement of consumption, income, savings, investment in health, education, women empowerment and other economic activities.

Despite these many positive results, some studies show that microfinance can have negative effects such as the exploitation of women, increased of child labour and increased inequality and vulnerability of their clients. The recent microfinance crisis in 2008 which affected many countries such as Morocco, Nicaragua, Nigeria and Andhra Pradesh (in India) which was characterised by over-indebtedness, excessive competition, high interest rates and unethical loan collection methods have raised further questions on the effectiveness of microfinance as a poverty alleviation tool in an increasingly globalized world.

In the past, governments and sponsors have promoted the microfinance movement with the hope of reducing poverty and enhancing development. This meant subsidization through the

provision of grants, subsidized equity and debt to MFIs. However, the large number of poor people worldwide and particularly in the world's poorest region (i.e. Sub Saharan Africa (SSA)) cannot be served by subsidized funding alone. Also, the SSA region has one of the lowest levels of access to finance with just 24 per cent of the adult population having access to formal financial services, as opposed to more than 80 per cent in developed countries.

Consequently, there is hope that the recent wave of increasein transnationalization between the financial global markets and the microfinance sector in SSA could provide the needed capital and could support development of the microfinance sector, both of which are necessary to meet the needs and demands of the unbanked population in this region. However, there are concerns that this involvement would push MFIs to function more like classical banks and prevent them from attaining a balance between providing financial services to the poor (social performance or development logic) and covering their costs (financial performance or banking logic), consequently leading to mission drift.

The initial group of funders and investors in microfinance were more interested in achieving developmental objectives (i.e. financial inclusion and poverty reduction) and therefore did not seek a financial gain or profit from their investments. The new group of funders and investors are channelling investments to microfinance for financial and/or social reasons. In the first case, socially responsible investors (SRIs) are interested in "impact investing" that is generating social, environmental and financial returns from their investments in microfinance. In the second case, classical investors are increasingly seeing microfinance as a new investment asset because of its risk diversification and high return advantages. This group of funders and investors is made of foreign banks such as Citibank, Deutsche Bank and HSBC which have primarily targeted safer and corporate clients, are currently targeting microfinance clients in SSA. Moreover, FDI to the region is more diversified, than it was ever before; shifting from the extractive sectors towards the service (particularly finance, information and communication technology) and manufacturing sectors. This current shift from resource-seeking FDI to market-seeking FDI has been motivated by higher returns from these sectors.

As earlier mentioned, it is often presumed that transnational microfinance provides a catalytic role in enhancing the development of the microfinance sector and could improve institutional quality that would support large numbers of poor clients. On the supply side of investment, foreign investors and funders are increasingly investing directly in microfinance or indirectly through microfinance investments vehicles (MIVs) or creating MFI subsidiaries in SSA.

Moreover, foreign banks are increasingly targeting microfinance clients because some MFIs have proven to be more profitable than classical financial institutions. In another dimension, FDI flows into SSA are gradually moving from resource-seeking to market-seeking investment. Moreover, since FDI continues to be the largest and the most stable source of finance to the region, it is increasingly being used in the development process.

The challenge here is that the presence of this new group of providers of funding to microfinance might generate agency costs, which might hinder MFIs' ability to attain a balance between its social and financial returns since each group has different motives for investing in microfinance. Moreover, the fact that funding is increasingly coming from profit-oriented investors and funders, might push MFIs to focus more on their financial than on their social performance. Also, increased competition from within the microfinance sector and also from foreign banks and their subsidiaries might make it difficult for MFIs to target poorer clients, as they struggle to keep their market share. Additionally, since the financial and microfinance sector in most SSA countries does not meet certain threshold conditions (developed financial sector, high institutional quality, quality of domestic macroeconomic policy and trade integration), the costs of transnationalization might outweigh its benefits.

This studytherefore, seeks to evaluate the effect of three proxies of transnationalization (percentage of foreign banks to total banks, FDI to GDP and cross-border commitments) on microfinance performance and mission drift. These three measures are used because they tend to measure different aspects of transnational microfinance. Firstly, the percentage of foreign banks to total banks provides an insight on the level of competition which MFIs face as a result of the increased involvement of foreign banks in the microfinance sector. Secondly, FDI to GDP tends to capture the de facto proxy of financial globalization which comes with potential spillovers effects in terms of creating new jobs, transfer of technology, and management know-how which might affect microfinance clients as well as MFIs. Thirdly, cross-border commitments which consist of disbursed funds as well as funds yet to be disbursed is funding provided by foreign funders and investors with each having different motives for investing in microfinance.

Hence, the study starts from the working hypothesis that transnationalization would directly or indirectly lead to microfinance mission drift. As discussed below, the study confirms some findings of earlier research, while other findings are inconsistent with previous studies and therefore require further investigation.

With respect to the first transnationalization proxy which is the percentage of foreign banks to total banks, the dataset consists of 280 MFIs in 27 SSA countries for the period from 1995 to 2009. The baseline results show that the percentage of foreign banks to total banks does not significantly affect either the social or the financial performance of MFIs. This rejects the hypothesis that a higher percentage of foreign banks to total banks would lead to mission drift.

In the robustness checks, countries are grouped into three different thresholds in order to assess if the degree of foreign bank presence affects performance. The three thresholds include countries with more than 25 per cent of foreign banks to total banks, countries with more than 50 per cent of foreign banks to total banks and lastly countries with more than 75 per cent of foreign banks to total banks. The result shows that MFIs operating in countries with at least 50 per cent of foreign-owned banks to total banks tend to have a lower number of borrowers. This indicates that when the ratio of foreign banks to total banks is greater than 50 per cent, foreign banks stand in direct competition with MFIs such that clients (who are often the better-off clients) move from MFIs to foreign banks as they are able to use their superior information technology to offer loans at lower costs and interest rates than MFIs. With respect to countries with more than 75 per cent of foreign banks to total banks, the results show that MFIs operating in such countries tend to have lower return on assets (ROA) ratios. This result suggests that, due to the very high proportion of foreign banks in an economy, MFIs are forced to incur higher costs to improve upon their quality of products, services and operations as they struggle to maintain their market share in the presence of foreign banks that often have superior information systems and better reputation. This result is consistent with banking literature by Barajas et al. (2000) in Colombia and Clarke et al. (2000) in Argentina who found that foreign bank presence was associated with higher costs and declining interest margins for domestic banks. Moreover, the result also shows that, in countries where foreign banks make up more than 75 per cent of total banks, MFIs are forced to reduce both their depth and their breadth of outreach. This indicates that in the face of fierce competition from a large proportion of foreign banks to total banks, MFIs tend to search for more profitable clients, while less poor clients and more productive clients who want more individual loans move from MFIs to foreign banks as they offer these financial services at better conditions. The results obtained from both thresholds suggest the tendency of mission drift and declining margins for MFIs that operate in countries with a high proportion of foreign banks to total banks.

Data for the second transnationalization proxy (measured by FDI to GDP ratio) is available for 305 MFIs from 39 SSA countries over an eleven-year period (2001-2011). Surprisingly, the baseline result shows that FDI to GDP does not affect the financial performance indicators either in terms operational self-sufficiency (OSS) or ROA. This contradicts previous findings by Vanroose and D'Espallier (2013) which revealed that FDI to GDP had a positive relationship to the operational performance of MFIs. Contrary to the financial performance baseline regressions where FDI to GDP is insignificant to both financial performance indicators, the social performance baseline regressions indicate that FDI to GDP positively influences average loan size. This suggests that MFIs operating in countries that are more open have higher average loan sizes. This finding, however, cannot be directly interpreted as mission drift since FDI to GDP may generate wage employment and higher income, consequently creating demand or making clients want bigger loans for micro-enterprise sector that would spur MFI intensive growth. This finding is similar to that of Ahlin et al. (2011) who showed that greater FDI flows leads to increase in average loan size growth. With respect to the number of borrowers, the baseline results reveal that an increase in FDI to GDP ratio leads to a fall in the number of borrowers. This can be interpreted as that MFIs found in more liberalized markets tend to move away from soft-information clients who are more costly to serve. This finding can be interpreted as mission drift.

With respect to the FDI to GDP sensitivity analysis, countries are grouped into oil-exporting and oil-importing countries since the majority of FDI flows are channelled to the oil-exporting countries. Unlike the baseline results, FDI to GDP positively affects the number of borrowers. This implies that FDI flows to the oil-extractive sector provides opportunities for spillover effects by indirectly creating jobs and demand complementary such that clients have a stable source of income and they can demand loans from MFIs who would be more willing to grant loans to these clients than if they do not have a stable source of income. The overall results disagree with the findings by Farole and Winkler (2014) who showed that market-seeking FDI provides larger spillovers effects to other sectors than resource-seeking FDI.

The third transnationalization proxy is cross-border commitments and is based on 211 MFIs from 30 SSA countries for a three-year period (2007, 2009 and 2011). The baseline results show that cross-border commitments do not affect the social or the financial performance of MFIs. Although it was feared that the different types of funders and investors and their motives would create agency costs that would lead to mission drift, the baseline results show that there is no occurrence of mission drift. This finding differs from previous findings by

Martins and Winkler (2013) for Latin America and by Mersland et al. (2011) at a global level, who argued that foreign involvement enhanced the social and financial performance of MFIs.

Cross-border commitment sensitivity analysis, however, shows that once MFIs are able to attain a balance between their social and financial performance, cross-border commitments positively affect the ROA ratio and the number of borrowers. This implies that cross-border funding to MFIs that have attained a balance between their social and financial performance would enhance both their financial and social performance. As a consequence, this can be interpreted as mission enhancement. In contrast, results show that cross-border commitments is negatively related to both financial and social performance for MFIs that perform poorly on both their social and financial returns. This result is in line with the assertion that (cheap) foreign money may lead to a "dependency trap" or disincentive on the part of certain MFIs to develop cost-effective ways of serving poor clients.

When the different regional economic communities (RECs) in SSA are considered, results show that cross-border commitments positively affect the breadth of outreach for MFIs operating in Economic and Monetary Community of Central Africa (CEMAC) countries. This suggests that cross-border commitments to MFIs operating in CEMAC countries provide an additional source of funding to MFIs which is being used to provide more loans to many more clients. With respect to MFIs that operate in the West African Monetary Zone (WAMZ), results show that cross-border commitments positively influence OSS in WAMZ countries. This implies that cross-border commitments to this REC tend to improve the operational performance through cheaper sources of funds. It is could also mean that cross-border commitments have enhanced the overall market infrastructure in terms of information sharing techniques and sources, consequently leading to less risky loan portfolios. It should be noted that all countries but for Guinea in WAMZ operate credit bureaus which are being used by MFIs to share information on clients' credit history.

Other important findings suggest that capital to asset ratio tends to positively influence both social and financial performance, thus mission enhancement. This implies that as MFIs in SSA continue to receive foreign equity from different types of funders and investors, if well managed could lead to better financially and socially performing MFIs. Moreover, the results also reveal that operating costs and risk (portfolio at risk at 30 days) are important determinants of the financial performance of MFIs in SSA. Interestingly, these two variables do not robustly affect the social performance of MFIs operating in SSA. This finding raises

important questions as regards the importance of operating costs and risk with respect to social performance indicators.

The study also shows that NGO-registered MFIs tend to have better financial performance than non-NGO-registered MFIs. Moreover, it shows that NGO-registered MFIs target poorer clients but they tend to have a lower number of borrowers than non-NGO-registered MFIs. On the one hand, this finding supports the findings by Barry and Tacneng (2014) who suggest that NGO-registered MFIs are the best model for SSA since they can use their local networks and information sharing advantages to provide smaller loans at cheaper cost. On the other hand, the need for microfinance clients to have other services like savings and insurance imposes a constraint on the NGO-model since NGOs are often restricted by law on the types of services they can offer clients in many countries. Subsequently, the recent trend in SSA by regulators which pushes for the transformation to more formal institutions is necessary for the development of the sector since many more MFIs could provide a variety of products and services. Nevertheless, it should be noted that transformation can also be costly for some MFIs and this means that the high cost of regulation could push some MFIs to cut back on segments that are more costly to reach.

The results also indicate that MFIs in SSA, when faced with competition from within the microfinance sector, tend to move away from poorer clients to richer clients who demand larger loan amounts. This means that even without competition from other classical financial institutions, MFIs are being forced to change their strategy as a result of competition which is generated from within the microfinance sector.

Another interesting finding is that the level of macroeconomic development as measured by GDP per capita effects does not affect the social or financial performance of MFIs operating in SSA.This result is in accordance with previous findings by Kar and Swain (2014) which showed that GDP per capita is insignificant to both financial and social performance indicators. Besides, a rise in inflation leads to a fall in the operating performance of MFIs since unanticipated inflation lowers the real return for MFIs. Also, MFIs operating in countries with a developed financial sector as measured by private credit to GDP tend to face difficulties with their operational performance. This is because MFIs in such countries are forced to incur costs to improve upon their services and operations as they struggle to compete with other classical financial institutions for the same group of clients. Further, a higher rural population share is associated with better financial performance. This finding

supports the theory that MFIs can use their direct and indirect mechanisms to minimise costs which are incurred when serving clients in rural areas. This suggests that an improvement in infrastructure (in terms of roads or telecommunication) in rural areas would go a long way to further reduce operating costs for MFIs, hence increasing their profits.

As concerns the complementary variables, the results show that just the social performance indicators tend to have a positive and significant relationship to the financial performance proxies. However, the relationship is not true the other way round. This finding raises further questions as to the ongoing debate on mission drift and the trade-off between financial and social performance.

Overall, although there is evidence of an increasing integration between the microfinance sector in SSA and the global financial sector, the results, however, do not show a robust evidence of the occurrence of mission drift. While some tendencies of mission drift are generated as a result of greater foreign bank presence and high FDI to GDP, on the hand, there is no occurrence of mission drift with respect to cross-border commitment variable. This therefore partly supports the hypothesis that increases in transnationalization would lead to changes in the operations and performance of MFIs that subsequently exposes them to mission drift.

6.2 Outlook

While this study makes a contribution to the ongoing debate on mission drift by analyzing a comprehensive dataset on the impact of three proxies (percentage of foreign banks to total banks, FDI to GDP and cross-border commitments) of transnationalization on microfinance performance, it is not without limitations in terms of the dataset used and proxies used to measure mission drift and transnationalization.

Firstly, though the percentage of foreign banks to total banks provides an insight of the total proportion of foreign banks in the whole economy, it does not provide an estimate of the percentage of these foreign banks directly involved in microfinance. With the availability of data, it would be best to consider, if the results remain the same after controlling for the proportion of foreign banks which are directly or indirectly involved in microfinance. Moreover, it would be important to evaluate if there are differences between the effects of foreign-owned banks from the developed countries (North) and foreign banks from emerging

countries (South) on the performance of MFIs in SSA since they may differ in their business models, method of entry and size.

Secondly, the third proxy of transnationalization which is cross-border commitments assumes that all committed funding is equal to actual flows or disbursed amounts. However, as was discussed in section 3.3, disbursed amounts might not always be equal to actual flows or what actually reaches MFIs. Besides, data for cross-border commitments was only available on a short-term basis (i.e. 2007, 2009, and 2011). Moreover, data on cross-border commitments is based at the country level and not at the MFI level. Consequently, as MFI level data on cross-border disbursed amounts or actual flows become available and also for a longer period, it would be important to assess the long-term effects of actual flows or disbursed amounts to microfinance performance and mission drift.

Thirdly, the study is limited in the definition of mission drift since the most popular proxies (average loan size and the number of borrowers) are not perfectly correlated with poverty levels of clients. This is because richer clients or firms may sometimes demand smaller loan amounts for smaller projects. Additionally, as pointed out in subsection 2.3.1, an increase in average loan size might not always reflect that MFIs are moving from poorer to richer clients however, it may be signs of progressive lending as a result of clients' successful repayment of previous loans. Moreover, the assumption that every microfinance client is a potential entrepreneur and that every microloan is equal to an income-generating activity could be misleading (Mader, 2015, p. 15). Therefore, it would be interesting to see whether the present results remain unchanged when other mission drift indicators such as poverty scorecards and poverty gap ratios are used.

6.3 Economic implications

Three main economic implications could be obtained from this study, insofar as they can be extrapolated from the period under investigation. Firstly, the fact that the percentage of foreign banks to total banks negatively affects performance only up to a certain threshold suggests that governments and policymakers in SSA could consider restricting the number of foreign banks up to this threshold, in order to prevent the neutralization of the positive effects of foreign banks on microfinance performance.

Secondly, given that FDI to GDP positively relates to the social performance of MFIs found in oil-exporting countries, supports the hypothesis that potential spillover effects through job

creation or employment can be necessary for the development of microfinance. Consequently, in order to benefit from the potential spillover effects from FDI to GDP, policymakers and governments in SSA should implement policies that enhance both the microfinance and overall financial environment in terms of the quality of human capital, physical infrastructure and institutions and in technological capacity.

Thirdly, funders and investors who are interested in maximizing profits from microfinance should target MFIs that have attained a balance between their social and financial performance. Moreover, MFIs found in CEMAC and WAMZ countries should be preferred over those operating in other regional economic economies in order to reduce the probability of mission drift. This implication does not mean that foreign investment should be concentrated in particular MFIs or just to MFIs operating in CEMAC and WAMZ countries. Yet, it supports the idea that foreign investment is necessary for microfinance sector development. Subsequently, other funders and investors could continue to invest in smaller MFIs and in other SSA countries since there is no threat of mission drift. Moreover, since the microfinance sector in SSA is still growing, there is room for further reduction in the costs in terms of better channels and the improvement of infrastructure in terms of roads, telecommunication and credit information systems. Such development would enable MFIs to reach out to even poorer client segments of the markets and enable their profitability to stay at the same level.

Taken together, the integration between the microfinance sector and the traditional financial sector would continue as more classical forms of capital replace the previously subsidized form of funding in the microfinance sector. For both sectors to benefit from this interaction, it would be necessary that funders, investors, MFIs and governments work together in understanding each other needs and demands.

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Appendix

A: Controlling for the sensitivity of average loan size to extreme values

Table A.1: Inclusion of the sum of gross loan portfolio as an independent variable

	(1) Average loan	(2) Average loan	(3) Average loan
Percentage_foreignbanks	2.329		
	(3.027)		
Fdi_gdp		12.85*	
		(6.798)	
ln(commitments)			81.31
			(156.2)
Capital asset ratio	-123.1***	-123.2***	-173.8***
	(33.78)	(36.77)	(8.872)
Operating expense	-109.5	-128.1	-65.47
	(86.61)	(99.96)	(224.7)
Portfolio at risk (30days)	-155.1	-156.3	721.2
	(175.0)	(147.4)	(722.5)
ln(age)	-102.4	-106.7	-76.88
	(68.08)	(79.52)	(110.8)
HHI	-361.4	-168.4	575.5**
	(323.9)	(271.2)	(250.0)
NGO_dummy	-150.0	-527.5*	-1462.6***
	(186.1)	(298.4)	(312.8)
ln(gdp)	-21.15	-264.3	169.5
	(296.3)	(379.0)	(762.5)
Inflation	0.672	1.395	-6.396
	(0.957)	(1.078)	(6.309)
Sum of gross loan portfolio	0.000000101***	9.53e-08***	1.82e-08
	(2.33e-08)	(2.80e-08)	(3.70e-08)
Observations	1013 (285)	1089(316)	305 (211)
Adjusted R-squared	0.71	0.66	0.92

Clustered robust standard errors in parentheses at MFI level; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects.

B: Percentage of foreign banks to total banks

Table B.1: Countries with more than 25 per cent of foreign banks to total banks

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
Percentage_foreignbanks	-0.00213	-0.000941	-1.271	0.00811
	(0.00276)	(0.00880)	(6.784)	(0.0177)
Percentage_foreignbanks	0.00283	0.00163	3.522	-0.0103
x dummy_25	(0.00261)	(0.00838)	(5.233)	(0.0172)
Capital asset ratio	0.110***	0.184**	-123.4***	0.120***
	(0.0214)	(0.0718)	(33.81)	(0.0350)
Operating expense	-0.836***	-1.134***	-114.4	-0.0832
	(0.0559)	(0.160)	(87.78)	(0.300)
Portfolio at risk (30 days)	-0.125***	-0.456***	-156.1	-0.941***
	(0.0462)	(0.117)	(175.5)	(0.258)
ln(age)	0.0302*	0.0651	-103.9	0.619***
	(0.0158)	(0.0616)	(68.21)	(0.122)
HHI	-0.0292	-0.0215	-360.4	-0.135
	(0.0342)	(0.117)	(324.1)	(0.178)
NGO_dummy	0.497***	19.21***	-151.7	-0.537*
	(0.0580)	(0.269)	(186.3)	(0.322)
ln(gdp)	0.00380	0.120	-18.78	0.344
	(0.0656)	(0.283)	(296.8)	(0.406)
Inflation	-0.0000339	0.000402	0.619	-0.000876
	(0.000242)	(0.000809)	(0.976)	(0.00154)
Private credit to GDP	0.000558	-0.0152*		
	(0.00168)	(0.00809)		
Rural population share	0.0269***	0.0723**		
	(0.00887)	(0.0322)		
Average loan	0.0000111	0.000113***		
	(0.00000685)	(0.0000337)		
ln(borrowers)	0.00637	0.0803***		
	(0.00734)	(0.0232)		
Observations (MFIs)	984 (280)	984 (280)	1013 (285)	1013 (285)
Adjusted R-squared	0.81	0.86	0.71	0.93

Clustered robust standard errors in parentheses at MFI level; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country, year-fixed

C: Cross-border commitments sensitivity analysis

Table C.1: Factor analysis/ correlation

Factor analysis/correlation		Number of obs.	305
Method:	Principal factors	Retained factors	2
Rotation:	unrotated	Number of params.	6

Factor	Eigenvalue	Difference	Proportion	Cummulative
Factor1	0.64396	0.46072	1.4537	1.4537
Factor2	0.18324	0.30800	0.4137	1.8674
Factor3	-0.12476	0.13471	-0.2816	1.5858
Factor4	-0.25947	.	-0.5858	1.0000

LR test: independent vs. saturated: chi2(6) =73.25 Prob>chi = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Uniqueness
ROA	0.5563	0.0526	0.6878
OSS	0.4999	0.1096	0.7381
Average loan	-0.0231	0.3135	0.9012
ln(borrowers)	-0.0231	-0.2649	0.8458

Note: The uniqueness column on the factor loading table shows the variance that is unique to the variable and not shared with other variables and it is always equal to one. The higher the uniqueness value, the lower its relevance of the variable in the factor model. Factor loadings are weights and correlations between each variable and the factor. The higher the load the more relevant in defining the factors dimensionally.

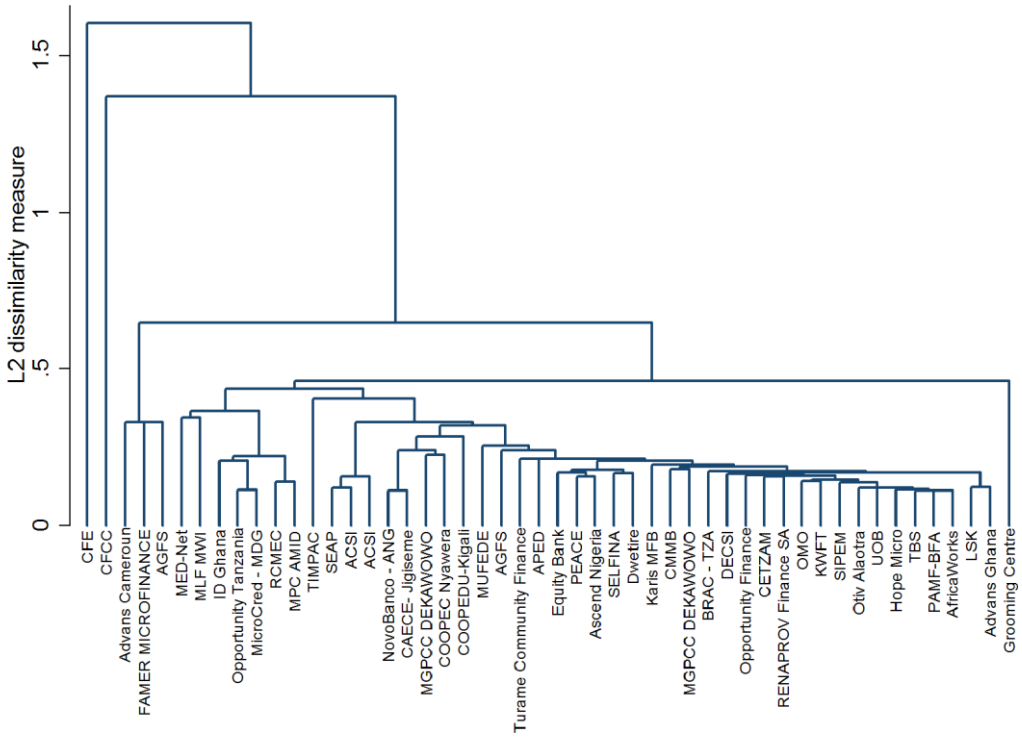

Figure C.1: Dendrogram for cluster analysis of 50 MFIs

Note: The cluster tree above shows that each MFI is considered to be a cluster. As one climbs up the tree, observations are combined until all are grouped together. The height of the vertical lines indicates the similar or dissimilarity of the two groups. For instance, the last MFI (Grooming Centre) is very different from the first MFI (CFE). This dendrogram shows analysis for 50 MFIs because it would have been too congested to display all 212 MFIs on one graph.

Table C.2: Calinski/Harabasz stopping rule

Number of clusters	Calinski/Harabasz Pseudo-F
	176.12
4	155.74
5	161.85

Table C.3: Cross-border commitments and performance for cluster 1 MFIs

	Financial performance		Social Performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
ln(commitments)	-0.00772	-0.00531	83.98	-0.0932
	(0.0232)	(0.0764)	(194.8)	(0.181)
ln(commitments) x c1	0.000965	-0.000327	0.337	0.00188
	(0.00124)	(0.00347)	(6.127)	(0.0111)
Capital asset ratio	0.0856	0.0913	-398.7*	1.167*
	(0.177)	(0.202)	(229.6)	(0.620)
Operating expense	-0.886***	-1.234***	-93.57	-0.790
	(0.265)	(0.361)	(350.7)	(1.247)
Portfolio at risk (30 days)	-0.225	-0.443	646.1	-2.018
	(0.316)	(0.517)	(706.9)	(1.792)
ln(age)	-0.00841	0.0513	-175.0	0.756
	(0.0819)	(0.152)	(148.8)	(0.512)
HHI	0.120	-0.0524	651.3*	-0.581
	(0.159)	(0.300)	(355.7)	(1.054)
NGO_dummy	0.345	0.132	2163.2**	3.419
	(0.934)	(2.040)	(926.2)	(2.546)
ln(gdp)	0.0397	-0.190	220.3	0.808
	(0.432)	(0.759)	(1213.5)	(2.640)
Inflation	-0.00223	-0.0112*	-2.802	-0.0254
	(0.00235)	(0.00623)	(8.082)	(0.0221)
Private credit to GDP	0.00243	0.00782		
	(0.00563)	(0.0104)		
Rural population share	0.0119	-0.0414		
	(0.0377)	(0.0831)		
Average loan	0.0000604	0.0000215		
	(0.0000452)	(0.000149)		
ln(borrowers)	0.0540	0.139		
	(0.0518)	(0.0923)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.77	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Table C.4: Cross-border commitments and performance for MFIs in EAC countries

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
ln(commitments)	-0.0135	-0.0122	81.21	-0.00852
	(0.0232)	(0.0772)	(156.8)	(0.185)
ln(commitments)	0.285	0.284	277.1	1.478
x EAC_dummy	(0.359)	(0.618)	(517.7)	(1.359)
Capital asset ratio	0.0920	0.0913	-172.5***	0.155***
	(0.166)	(0.197)	(8.763)	(0.0352)
Operating expense	-0.917***	-1.252***	-69.71	-0.952
	(0.258)	(0.349)	(216.3)	(0.896)
Portfolio at risk (30 days)	-0.232	-0.432	732.3	-2.261
	(0.302)	(0.523)	(728.7)	(2.070)
ln(age)	0.00385	0.0539	-80.57	0.442
	(0.0849)	(0.155)	(107.5)	(0.404)
HHI	0.0982	-0.0818	573.9**	-0.704
	(0.183)	(0.331)	(241.8)	(0.731)
NGO_dummy	-4.928	-2.431	-1472.5***	-4.050***
	(6.078)	(11.27)	(305.5)	(1.047)
ln(gdp)	0.128	-0.0346	259.7	2.095
	(0.477)	(0.912)	(799.4)	(1.867)
Inflation	-0.00524	-0.0142	-7.871	-0.0187
	(0.00362)	(0.00962)	(6.779)	(0.0173)
Private credit to GDP	0.00101	0.00593		
	(0.00572)	(0.0118)		
Rural population share	0.00373	-0.0414		
	(0.0376)	(0.0782)		
Average loan	0.0000454	0.00000798		
	(0.0000472)	(0.000135)		
ln(borrowers)	0.0477	0.134		
	(0.0530)	(0.0911)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.77	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Table C.5: Cross-border commitments and performance for MFIs in WAEMU countries

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
ln(commitments)	-0.00773	-0.0139	88.17	-0.0197
	(0.0238)	(0.0752)	(157.0)	(0.187)
ln(commitments)	-0.000763	0.00635	-7.352	0.0126
x WAEMU_dummy	(0.00251)	(0.00585)	(4.953)	(0.0154)
Capital asset ratio	0.0873	0.0895	-173.6***	0.148***
	(0.176)	(0.201)	(9.004)	(0.0353)
Operating expense	-0.901***	-1.239***	-67.40	-0.926
	(0.258)	(0.346)	(230.7)	(0.894)
Portfolio at risk (30 days)	-0.240	-0.438	715.2	-2.310
	(0.313)	(0.524)	(729.5)	(2.088)
ln(age)	-0.00166	0.0386	-68.28	0.447
	(0.0855)	(0.157)	(111.5)	(0.408)
HHI	0.134	-0.0425	575.5**	-0.695
	(0.165)	(0.292)	(246.5)	(0.694)
NGO_dummy	0.607	-1.188	-1440.1***	-4.036***
	(1.620)	(2.537)	(316.5)	(1.057)
Ln_gdp	-0.0316	-0.199	149.5	1.648
	(0.422)	(0.762)	(770.1)	(1.838)
Inflation	-0.00217	-0.0106*	-6.777	-0.0102
	(0.00240)	(0.00630)	(6.374)	(0.0149)
Private credit to GDP	0.00303	0.00854		
	(0.00572)	(0.0103)		
Rural population share	0.00864	-0.0427		
	(0.0371)	(0.0796)		
Average loan	0.0000502	0.0000126		
	(0.0000456)	(0.000135)		
ln(borrowers)	0.0503	0.135		
	(0.0520)	(0.0908)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.76	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

Table C.6: Cross-border commitments and performance for MFIs in SADC countries

	Financial performance		Social performance	
	(1)	(2)	(3)	(4)
	ROA	OSS	Average loan	ln(borrowers)
ln(commitments)	-0.0109	0.00417	88.10	0.0353
	(0.0254)	(0.0995)	(206.6)	(0.228)
ln(commitments)	0.0103	-0.0485	-25.61	-0.164
x SADC_dummy	(0.0577)	(0.140)	(201.9)	(0.354)
Capital asset ratio	0.0877	0.0866	-174.2***	0.146***
	(0.176)	(0.201)	(9.215)	(0.0344)
Operating expense	-0.902***	-1.232***	-56.24	-0.870
	(0.257)	(0.347)	(227.4)	(0.911)
Portfolio at risk (30 days)	-0.242	-0.429	725.7	-2.292
	(0.309)	(0.528)	(734.8)	(2.028)
ln(age)	-0.00399	0.0534	-73.72	0.482
	(0.0845)	(0.155)	(110.8)	(0.404)
HHI	0.138	-0.0650	571.4**	-0.721
	(0.168)	(0.312)	(254.2)	(0.669)
NGO_dummy	0.532	-2.909	320.5	-1.108
	(1.650)	(4.536)	(412.5)	(1.353)
ln(gdp)	-0.0202	-0.251	136.0	1.400
	(0.400)	(0.728)	(664.3)	(1.788)
Inflation	-0.00214	-0.0110*	-6.127	-0.00910
	(0.00234)	(0.00626)	(5.519)	(0.0150)
Private credit to GDP	0.00303	0.00827		
	(0.00558)	(0.0102)		
Rural population share	0.00951	-0.0444		
	(0.0350)	(0.0827)		
Average loan	0.0000509	0.00000922		
	(0.0000450)	(0.000136)		
ln(borrowers)	0.0506	0.134		
	(0.0510)	(0.0909)		
Observations (MFIs)	278 (199)	278 (199)	305 (211)	305 (211)
Adjusted R-squared	0.76	0.93	0.92	0.93

Clustered robust standard errors at MFI-level in parentheses; *p<0.1 **p<0.05 ***p<0.01. All estimations include MFI, country and year-fixed effects

D: Percentage of foreign banks to total banks data

Table D.1:Percentage of foreign banks to total banks in Sub Saharan Africa, 1995-2009

Country	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Angola	50	40	40	40	50	50	50	50	44	44	50	50	50	50	50
Benin	**83**	**83**	**83**	**83**	**86**	**86**	**86**	**86**	**75**	**75**	**78**	**78**	**78**	**78**	**78**
Burkina Faso	**80**	**83**	**83**	**86**	**88**	**88**	**88**	**88**	**88**	**88**	**88**	**89**	**89**	**100**	**100**
Burundi	17	17	17	17	17	17	17	17	17	17	17	20	25	50	50
Cameroon	50	50	43	43	38	56	56	56	56	56	56	60	64	73	80
Congo, Dem. Rep.	40	50	50	50	50	50	57	57	57	57	57	63	63	63	67
Cote d'Ivoire	67	70	64	64	64	64	75	75	75	75	75	75	75	75	75
Ethiopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ghana	45	46	40	40	40	40	43	40	47	53	58	52	48	48	48
Kenya	24	24	24	26	26	27	26	26	28	28	29	30	30	31	31
Madagascar	**75**	**75**	**75**	**80**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Malawi	43	43	43	43	43	38	50	50	50	50	50	43	43	43	43
Mali	20	17	17	29	38	38	43	38	38	38	38	44	44	56	56
Mozambique	33	33	38	**86**	**100**	**100**	**91**	**91**	**90**	**90**	**90**	**90**	**90**	**91**	**91**
Namibia	60	50	50	50	50	50	50	43	43	43	43	43	43	43	43
Niger	**75**	**75**	**75**	**75**	**83**	**83**	**83**	**83**	**83**	**83**	**83**	**86**	**86**	**86**	**86**
Nigeria	5	5	5	5	9	13	12	11	11	11	10	16	16	16	16
Rwanda	29	29	29	29	29	14	14	14	14	29	43	43	43	57	57
Senegal	50	50	50	50	60	60	64	64	64	64	64	77	85	83	83
South Africa	17	16	15	16	15	13	15	16	17	17	21	21	21	21	21
Sudan	9	9	9	9	8	8	8	0	8	13	13	20	27	27	27
Swaziland	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**	**80**
Tanzania	55	57	56	55	60	60	60	57	55	61	65	65	64	64	64
Togo	0	25	25	25	25	25	25	25	25	25	20	17	17	17	17
Uganda	47	53	56	60	67	67	67	71	71	71	71	79	79	76	82
Zambia	50	50	50	50	50	50	56	56	56	63	67	67	78	89	89
Zimbabwe	30	30	25	25	25	20	19	18	18	20	21	23	31	31	31

Source: Claessens and van Horen (2014, p. 320)

E: Foreign direct investment to GDP data

Table E.1: Foreign direct investment, net inflows (% of GDP) in Sub Saharan Africa, 2001-2011

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Angola	24.01	13.95	28.12	7.65	-4.26	-0.09	-1.45	2.11	3.38	-3.99	-2.90
Benin	0.62	-0.63	1.26	1.58	-0.20	-0.26	2.52	0.72	-0.28	0.82	1.62
Botswana	0.33	0.50	9.53	7.44	4.80	6.67	5.23	6.71	7.14	1.78	3.39
Burkina Faso	0.00		0.73	0.08	0.95	1.43	0.32	0.40	0.68	0.38	0.07
Burundi	-0.12	4.62	0.00	0.00	0.05	0.00	0.04	0.24	0.02	0.04	0.14
Cameroon	0.56	0.57	2.47	0.55	1.47	0.33	0.93	0.09	3.34	2.40	1.43
Central African Republic	0.52	0.17	1.95	2.25	2.40	2.35	3.34	5.88	6.08	4.62	4.97
Chad	26.90	46.49	26.04	10.57	-1.87	-4.58	-0.99	2.79	15.61	22.71	17.53
Comoros	1.37	2.15	0.24	0.19	0.14	0.20	1.65	0.87	2.57	0.72	1.12
Congo, Dem. Rep.	-4.84	6.59	6.90	6.28	2.32	2.69	17.91	14.33	-2.48	20.82	10.20
Congo, Rep.	2.44	1.72	9.24	-0.18	13.16	19.24	31.43	21.30	19.40	18.40	20.32
Cote d'Ivoire	4.24	3.25	1.20	1.83	2.13	2.02	2.24	1.99	1.72	1.56	1.43
Ethiopia	-2.00	0.02	5.45	5.43	2.16	3.60	1.16	0.42	0.78	1.08	2.07
Gabon	5.16	7.41	2.61	4.45	3.76	2.81	2.33	1.44	0.30	4.02	4.27
Gambia, The	1.68	0.96	3.75	9.59	8.60	12.55	9.78	8.14	4.38	3.90	4.01
Ghana	0.06	0.00	1.79	1.57	1.35	3.12	5.59	9.52	9.13	7.86	8.22
Guinea	0.10	0.86	2.29	2.67	0.00	0.00	0.00	0.28	2.19	0.00	17.61
Guinea-Bissau	0.04	0.21	0.84	0.33	1.52	3.09	2.72	0.79	-0.16	0.18	2.00
Kenya	1.59	0.52	0.55	0.29	0.11	0.23	2.68	0.31	0.38	0.55	1.00
Liberia	1.12	0.17	91.01	16.14	15.28	17.86	17.81	33.33	11.06	34.99	84.94
Madagascar	6.03	-0.32	0.24	1.21	1.70	5.34	10.53	12.45	12.56	9.74	9.15
Malawi	5.36	6.91	3.43	4.94	5.07	1.14	3.41	4.57	0.98	1.80	1.64
Mali	1.31	0.73	3.03	2.07	3.30	0.29	-0.70	1.15	1.15	0.29	1.64
Mozambique	1.16	0.36	7.22	4.29	1.86	2.61	5.19	5.65	9.26	10.92	16.29
Namibia	2.70	3.17	0.67	1.34	5.41	7.64	7.60	8.49	6.21	6.19	7.74
Niger	0.28	0.16	0.55	0.86	1.46	1.10	2.31	5.25	12.01	17.38	16.85
Nigeria	0.92	1.54	2.96	2.13	4.44	3.34	3.64	3.96	5.07	2.65	3.62
Rwanda	0.91	0.84	0.25	0.37	0.31	0.36	1.80	2.19	2.26	0.75	1.66

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Senegal	5.98	1.28	0.77	0.96	1.93	3.09	3.10	3.39	2.59	2.14	2.00
Sierra Leone	4.35	4.82	0.63	4.27	5.57	3.16	4.49	2.15	4.60	9.41	24.05
South Africa	2.17	7.59	0.47	0.32	2.64	-0.07	2.00	3.52	1.89	0.34	1.44
Sudan	5.29	3.66	7.65	7.04	8.69	10.05	5.34	4.85	3.45	3.19	3.02
Swaziland	5.45	3.90	-3.28	2.87	-1.77	4.11	1.23	3.50	2.08	3.49	2.32
Tanzania	2.59	2.99	3.12	1.77	6.62	2.81	3.46	6.68	4.46	4.46	4.59
Togo	3.51	1.52	2.02	3.06	4.54	4.15	2.47	1.60	1.46	3.91	1.49
Uganda	3.54	7.11	3.19	3.72	4.11	6.46	6.65	5.05	5.33	3.16	4.74
Zambia	0.06	0.41	7.99	7.15	4.97	5.75	11.47	6.41	5.43	10.68	10.32
Zimbabwe	0.07	0.15	1.79	0.73	1.30	1.17	1.71	2.23	4.01	1.76	3.53

Source:(World Bank, 2015)

F: Cross-border commitments data

Table F.1: Cross-border commitments for countries in Sub Saharan Africa, 2007-2011

Country	Dec07	Dec09	Dec11
Angola	7018396.746	7390644.984	8131123.703
Benin	39879449.84	25087924.87	35366427.9
Burkina Faso	14619606.36	42443665.57	32890314.4
Burundi	14320803.33	17234956.52	13871574.71
Cameroon	19658711.09	30404652.04	30450064.12
Central African Republic	1800310.319	1603091.454	481981.1453
Chad	31518292.04	18188222.98	19504568.35
Comoros	5396408.464	12297578	8603730.541
Congo, Dem. Rep.	15743441.42	36879314.75	56904641.69
Congo, Rep.	16810071.81	8855708.574	4082085.002
Cote d'Ivoire	3493042.799	2722643.2	6379564.818
Ethiopia	99449336.57	166405572.6	161137648.7
Ghana	123101269.7	88463094.16	128390955.7
Guinea	23113202.32	23145698.16	12307827.45
Kenya	123333124.2	145531788.5	143017600.7
Liberia	2173365.896	9125334.15	15405582.27
Madagascar	38010763.61	50543968.71	46416509.64
Malawi	23483414.38	12442505.23	22318648.17
Mali	65202858.76	98917675.23	69713009.56
Mozambique	114838431.2	120757603.3	83466539.41
Namibia	25334759.8	10534025.48	14800957.89
Niger	18477545.94	32302402.9	20183908.23
Nigeria	87782518.35	83048002.16	71468148.75
Rwanda	24431576.9	26063812.27	32721633.08
Senegal	46684982.1	73037457.38	91328319.8
Sierra Leone	26697059.83	22810558.92	11234200.39
South Africa	25140252.26	5374082.9	5927054.139
Sudan	12862349.11	30010621.16	49698697.35
Tanzania	92337943.41	85759675.78	181606937.8
Togo	22533020.04	5850737.865	9351899.705
Uganda	122073772.3	141673520.4	160291898.5
Zambia	25037321	21639073.13	26283472.54
Zimbabwe	1175033.054	2522455.435	11849769.8

Source: 2008-2012 CGAP Cross-Border Funder Survey