

Empirical Evaluation of the Possible Impacts of the Transformation of Microfinance Institutions in Africa



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For my parents Justus King'athia and Veronicah Wanjiku; My daughter Veronicah Wanjiku; My siblings Margaret Njeri, Martha Wangari, Ann Nyaguthii, Caroline Wothaya, and Thomas Kimondo.

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Abstract

This *R Markdown* template is for writing an Oxford University thesis. The template is built using Yihui Xie's `bookdown` package, with heavy inspiration from Chester Ismay's `thesisdown` and the `OxThesis` \LaTeX template (most recently adapted by John McManigle).

This template's sample content include illustrations of how to write a thesis in R Markdown, and largely follows the structure from this R Markdown workshop.

Congratulations for taking a step further into the lands of open, reproducible science by writing your thesis using a tool that allows you to transparently include tables and dynamically generated plots directly from the underlying data. Hip hooray!

Declaration

This is my original work and has not been presented before for a degree in this or any other University.

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List of Abbreviations

CGAP	Consultative Group to Assist the Poor.
DEA	Data Envelopment Analysis.
DMFI	Deposit Taking Microfinance Institution.
EAP	East Asia and the Pacific.
ECA	East and Central Asia.
FinTech	Financial Technology.
FSB	Financial Stability Board.
FSPs	Financial Services Providers.
GNI	Gross National Income.
IFC	International Finance Corporation.
IMF	International Monetary Fund.
IPOs	Initial Public Offers.
KIVA	KIVA Microfund.
KREP	Kenya Rural Enterprise program.
LAC	Latin America and the Caribbean.
MENA	Middle East and North Africa.
MF	Microfinance.
MFI(s)	Microfinance Institution(s).
MIS	Management Information Systems.
MIX	Microfinance Information Exchange.
NBFIs	Non-Bank Financial Institutions.
NDMFI	Non-Deposit Taking Microfinance Institution.
NGO	Non-Governmental Organisation.
OIBM	Opportunity International Bank of Malawi.
OLS	Ordinary Least Squares.

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OL-SASL	Opportunity International Savings and Loans LTD.
OSS	Operational Self-Sufficiency.
RCT	. . . . .	Randomized Control Trials.
RFI	. . . . .	Regulated Financial Institution.
SAPs	. . . . .	Structural Adjustment Programs.
SET	. . . . .	Social Exchange Theory.
SFA	. . . . .	Stochastic Frontier Analysis.
SHGs	. . . . .	Self-Help Groups.
SMEs	. . . . .	Small and Medium Enterprises.
SSA	. . . . .	Sub-Saharan Africa.
USAID	. . . . .	United States Agency for International Development.

“Asking for investors to come is the wrong direction completely. ... If you are inviting investment from the market, they are looking for their return. That is the wrong message. Micro-credit should not be presented to investors as a ground for making a lot of money out of the poor people – that is a shame.”

— Prof. Muhammad Yunus.

1

Introduction

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1.1 Background to the Study

Advocates of Microfinance institutions (MFIs) hail the industry for availing financial services to the poor and the financially excluded. Data from 2015, for example, shows that MFIs availed \$92.4 billion to 116.6 million borrowers and accepted \$58.9 billion from 98.4 million depositors (Market 2014). Supporters of Microfinance (MF) further associate it with improved household welfare (Meador and Fritz 2017; You 2013), increased purchasing power and a higher employment rate (Raihan et al. 2017; Lopatta and Tchikov 2016). Also, MF supporters contend that it leads to improved gender parity

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(Mafukata et al. 2017; Zhang and Posso 2017), and enables families to cope with the effects of climate change (Fenton et al. 2017) among other benefits¹.

Other researchers, however, have uncovered mixed outcomes from Microfinance (MF) interventions. For example, Ganle et al. (2015) found that while some women indeed get empowered as a result of access to credit, most have little control over the subsequent spending while a significant proportion suffers harassment from MF agents' for failing to repay the loans. Van Rooyen et al. (2012) also arrive at a similar conclusion.

On the other extreme, some scholars dispute the benefits of MF altogether. For instance, some researchers posit that MF does not boost employment and education among the rural poor (Bauchet and Morduch 2013). Other researchers link micro-credit to increased child labour (Hazarika and Sarangi 2008), increased gender inequalities in access to finance (Zulfiqar 2017), and reduced entrepreneurial spirit among the poor (Field et al. 2013). The apprehension around the high-interest rates charged by MFIs and inappropriate lending practices that fail to account for the social, cultural, and economic context of the target clients is also gaining prominence (Chester et al. 2016). Taken together, the case against MF paints a bleak future of MF. Some studies recommend a re-examination of the MF business model and call for better regulation of the industry (Johnson 2013; Ghosh 2013). Without reforms, conclude Chester et al. (2016), "the MF industry could not only ruin the lives of many borrowers but also ruin itself."

Despite these contradicting views, MFIs continue to attract interest from governments, state agencies, donor organisations, philanthropists and increasingly commercial providers of capital. Initially, MFIs ran on the non-governmental organisation (NGO) model relying chiefly on donors to finance their operations (D'Espallier et al. 2017). The NGO oriented model has been emphasising the social mission of MFIs- that is, availing financial services to the poor and the financially excluded (Ashta and Hudon 2012). The model played down the profit motive (ashta, 2013).

However, in the last two decades, some MFIs have been transforming their institutional structure from NGOs to commercial entities (D'Espallier et al. 2017). This study

¹The quotation comes from an interview of Professor Muhammad Yunus. The video is available at <https://nextbillion.net/an-interview-with-muhammad-yunus/>

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seeks to evaluate the possible impacts of the transformation of MFIs on their financial sustainability and outreach to the financially excluded. Transformation is a process where an MFI converts from a donor-funded NGO to a regulated financial institution (RFI) that derives its capital primarily from commercial sources. The rationale for the transformation is that it would not only enable MFIs to access commercial sources of capital but also lead to improved financial sustainability, efficiency and social performance (Louis et al. 2013).

Other benefits of the transformation include improved customer service, a more extensive range of products, and enhanced control and governance (Srncic et al. 2008). Consumers and other stakeholders would also reap the benefits of the regulation of MFIs both directly (Meagher et al. (2006), and indirectly (Hartarska and Nadolnyak 2007). Nevertheless, the process of transformation is complicated and dependent on the country-specific regulatory framework. Thus, although most research delineates a point in time when an MFI ceases to be an NGO and becomes a commercial entity, there are essential preparations before the transformation that are often overlooked (D'Espallier et al. 2017).

The transformation of MFIs leads to a change in their capital structure and hence, governance. As research in corporate finance indicates, there is a link between the capital structure of corporations and their financial performance. For example, family-owned businesses that have lower leverage exhibit higher profitability (Hamid et al. 2015) in line with the pecking order theory of capital structure. Other studies indicate that leverage is positively related to performance (Fosu 2013; Berger and Udell 2006), including that of MFIs (Kar 2012) in line with the agency theory. The effects of capital structure on financial performance may vary across industries, regions, and even depending on the performance metric chosen.

However, MFIs have a double bottom line. Transformed MFIs strive to perform well financially as well as socially. Turning a profit enables MFIs to be sustainable going concerns. Social performance, on the other hand, is the source of legitimacy for MFIs, and the critical reason for receiving donations and subsidies. MFIs should offer financial services to the section of the population neglected by the mainstream financial

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institutions. The existence of a social mission in addition to financial goals makes it harder to evaluate the effects of capital structure on MFI performance compared to purely commercial firms.

There is an extensive body of research on the effects of the transformation of MFIs. Much of this research has compared the performance of MFIs before and after the conversion. There is a consensus that the conversion of MFIs has the potential to affect both the financial and social performance of the transformed MFIs (Chahine and Tannir 2010; Mersland and Strøm 2010). However, there is disagreement regarding the direction and magnitude of the effects of transformation (Mersland and Strøm 2010; D'Espallier et al. 2017).

Similarly, the few studies that examine the effects of the resultant capital structures of the transformed MFIs on their performance have uncovered mixed results. For instance, Bogan (2012) established that the use of grant capital by MFIs led to decreased sustainability and operational self-sufficiency. Hoque et al. (2011) and Kar (2012) uncover a negative relationship between leverage and outreach, whereas Kyereboah-Coleman (2007) finds the opposite using data from Ghana. This study examines the sources of capital for transformed MFIs in Africa and the extent that new capital structures impact on financial inclusion.

For MFIs that have transformed, researchers have yet to establish the factors that influence their level of sustainability and outreach. Much of the research examines financial and social performance separately instead of being the two sides of the same coin. Moreover, although a substantial number of MFIs have transformed, some still operate as NGOs. Little research that questions why some MFIs transform while others retain the NGO model. If financial sustainability for MFIs is so desirable, then it is not apparent why some MFIs would stick to an NGO, not-for-profit model that is not sustainable.

In light of the highlighted deficiencies, this study has the broad objective of evaluating the possible impacts of the institutional transformation of Microfinance institutions in Africa. The impacts include how such transformation influences sustainability and financial inclusion by MFIs in Africa. The study utilises a sample dataset comprising 775

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MFIs from 40 countries in Africa available. The data is available from the Microfinance Information Exchange (MIX) and the MIX market database of the World Bank.

1.2 NGOs to Banks: Rationale for Transformationing MFIs

Critics of the NGO based model of MFIs cited its unsustainability and blamed it for crowding out alternative providers of MF services (Kota 2007). Moreover, donors could not be relied upon to fund MFIs indefinitely. Also, dependence on donor funding left the MFIs exposed to global macroeconomic shocks (D'Espallier et al. 2017), which spread across countries through the financial system (Schnabl 2012). For instance, the global financial crisis led to a decline in development assistance and capital flows to developing countries which, in turn, affected MFI financing (Leach-Kemon et al. 2012; Wagner and Winkler 2013).

Thus, in the absence of alternative sources of finance, MFIs are likely to experience funding shortages in crisis periods (Constantinou and Ashta 2011). Additionally, researchers have uncovered a link between the state of bilateral political relationships between countries and the flow of funds to MFIs (Garmaise and Natividad 2013). Consequently, a diplomatic or trade row could also affect the flow of funding to MFIs, especially in the characteristically vulnerable developing countries. Thus, the NGO model is not only unsustainable but also susceptible to both political and economic dynamics.

On this backdrop was a realisation that availing financial services to the poor could be pursued as a profit-based value proposition (Rhyne and Christen 1999). The introduction of the profit element meant that MFIs could carry out their services without relying extensively on donations and subsidies (Duvendack and Maclean 2015). In the long run, the sustainability arising from the transformation of MFIs would enable them to expand access to financial services to the poor and the financially excluded (Brown et al. 2012; Sarma 2011). However, given that the central focus of MF was on the poor, researchers began to question the compatibility of the pro-poor agenda of MFIs with the profit-oriented school of thought. At the heart of the debate, which continues to

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date, is that commercialisation of MFIs could result in mission drift² away from serving the poor in pursuit of profits (Im and Sun 2015; Mia and Lee 2017).

Literature is abundant on the question of whether the transformation of MFIs causes mission drift. Some studies take the position that the transformation results in mission drift (Mia and Lee 2017; Wagenaar 2012; Lopatta, Tchikov, et al. 2017; Roberts and Whited 2013). Other scholars find the transformation to be beneficial or at least not causing mission drift (Im and Sun 2015; Lützenkirchen et al. 2012; Quayes 2012; Mersland and Strøm 2010). Another strand of related research uncovers both positive and negative results from the transformation (Kar 2012; Caudill et al. 2009). There is also lots of research on the effects of the conversion on social versus financial outcomes and efficiency (Bogan 2012; Kar 2012; Tchuigoua 2014; Khachatryan et al. 2017). However, little research has probed the questions raised in this proposed study. The next section is an overview of the transformation of MFIs globally and in Africa.

1.3 Overview of the Transformation of MFIs

In 1992, PRODEM, an MFI in Bolivia converted into Bancosol, a commercial bank. This change marked the beginning of the transformation of MFIs to commercial entities. Since then, numerous MFIs have transformed (Table 1.1.) . Note that most of the initial MFIs transformed into commercial banks or finance companies, apart from Card Rural Bank, which changed to a rural bank and Banco ADEMI which turned into a commercial development bank. This trend has been consistent to this day. Beyond the MFIs highlighted in Table 1.1, other MFIs that have transformed outside Africa include BRAC (Bangladesh) and ACLEDA (Cambodia), among others.

In Africa, many MFIs have changed to commercial entities from the year 2000 and beyond. In Uganda, for instance, the Bank of Uganda granted an operating license to Uganda Microfinance Union (UMU), three years after starting off the road to the transformation. In Kenya, several MFIs have transformed into commercial entities,

²Mission drift occurs when, upon the conversion from the NGO to the commercial model, the MFIs place more emphasis on attaining the financial objectives. This leads to a reduced focus on the social objectives of MFI of alleviating poverty by availing financial services to the poorest of the poor and the financially excluded segments of the society.

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Table 1.1: Sample of Transformed MFIs

NGO_name	New_name	New_structure	Country	Year
PRODEM	BANCOSOL	Commercial Bank	Bolivia	1992
CORPOSOL	FINANSOL	Commercial Finance Company	Colombia	1993
AMPES	Financiera Calpia	Finance Company	El Salvador	1995
PRO CREDITO	Caja Los Andes	Finance Company	Bolivia	1995
CARD	CARD Rural Bank	Rural Bank	The Philippines	1997
ADEMI	Banco-ADEMI	Commercial Development Bank	Dominican Republic	1998
ACP	MIBANCO	Commercial Bank	Peru	1998
K-REP	K-REP Bank	Commercial Bank	Kenya	1999

Source:
Campion and White (1999)

including Faulu (2010) and the Kenya Women Finance Trust (2010). OIBM in Malawi (2002), PRIDE (2009) in Tanzania and OI-SASL (2013) in Ghana, has also transformed into commercial entities.

The examination of the transformation of the MF industry should sensibly start with the review of the changing landscape in the national financial sectors. Typical characteristics of financial sectors in most countries include Intense competition, increased innovation, and rapid technological changes. Consequently, the MF services space is no longer the preserve of MFIs. The industry has attracted mainstream commercial banks, MF-oriented commercial banks, credit unions, building societies, and insurance companies. Financial technology (FinTech) firms have also come in (individually or in partnership with mainstream financial institutions) by offering mobile³, internet-based⁴ MF service, and peer-to-peer/crowdlending⁵ (Table 1.2). Although some researchers have argued that the digital divide could limit the effectiveness of FinTech based MFIs outfits (Yartey 2017; Griffoli 2017), the prevalence of low-cost smartphones indicates that digital MF could be the future of the industry (Yum et al. 2012). To sum up this

³An example of this is M-Shwari, a mobile based platform operated by Safaricom and the Commercial Bank of Africa. It allows customers to save and borrow money using their mobile phones. The savings also attract interest.

⁴Kiva Microfunds (commonly referred to as kiva.org) is an example of an internet-based MF services provider. Operating in more than 80 countries, the platform aims at offering microloans to end poverty. Other examples include Branch (branch.co) and Tala (tala.co).

⁵Peer to peer lending, also called crowdlending is a system where loan applicants are connected to investors with cash to lend through an online platform. Note that the platform providers do not take deposits or lend out their money but merely link borrowers to prospective lenders. Cumplo and prosper.com are among the prominent examples of these kinds of MF services providers.

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Table 1.2: Sample of Internet and Mobile MF Providers

MF_Provider	Country	Platform
KIVA Microfund	Global	The Internet
Stonehenge Telkom	Global	The Internet/ Mobile
M-Shwari	Kenya	Mobile
AYE Microfinance	India	The Internet/ Mobile
CUMPLO	Chile	The Internet (Peer to peer)
Prosper.com	USA	The Internet (Peer to peer)
Popfunding.com	South Korea	The Internet (Peer to peer)

Source:

Authors' Compilation from the Literature

point, the changing MF landscape means that MF providers have to streamline their operations to improve their efficiency and to maintain relevance in the market.

Furthermore, although MF was initially targeted at the poorest of the poor, predominantly living in remote rural villages where mainstream banks could not reach, MFIs now target all the financially excluded individuals. Thus, MFIs (and their competitors) do offer MF services in urban areas, and even operate in developed countries [kota2007microfinance]. This paradigm shift has had several implications. For example, there has been a rise of microfinance-oriented commercial banks that were never MFIs initially. In other cases, some commercial banks have acquired MFIs, and thus incorporated into the mainstream commercial banking portfolio. In some other instances, there have also been mergers between an MFI and a commercial bank ⁶.

Moreover, there have been mergers between MFIs. In the most extreme cases, MFIs have converted entirely into commercial banks and have been duly regulated under banking laws. This rapidly shifting landscape may also inform the need for MFIs to transform to efficiently compete in a market that is gaining traction amongst players from mainstream financial industries.

The transformation of MFIs is not without its challenges. In one particularly extreme case, the conversion of MFIs to for-profit entities was declared unconstitutional in Kosovo (Hasani and Čukalović 2013) ⁷. Also, three additional categories of problems

⁶Equity Bank in Kenya is an example of a microfinance oriented commercial bank. MFIs such as CONFIE in Nicaragua and Genesis in Guatemala arose from mergers between an MFI and a commercial bank.

⁷The Kosovar Civil Society Foundation (KCSF), FOL Movement, Kosovo Democratic Institute (KDI) and 55 NGOs filed a suit challenging the legality of the conversion of Microfinance NGOs into joint stock companies. In 2013, the conversion was declared unconstitutional in the Republic. The full

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arise in the process of converting MFIs into for-profit legal corporations: the integration into the formal financial system, ownership, and governance, and organisational development (Campion and White 1999). The integration of the transformed MFIs into the formal financial system raises several challenges. For example, the political and economic environment determines the timing of successful transformations. Thus, the economic and political climate is an essential factor to consider (Kenya 2012).

Transformation also implies setting up a board that oversees the running of the organisation. The board typically sets the mission and vision of the organisation as well as its investment strategy. Thus, an ineffective board could hinder the implementation of transformation (Campion and White 1999) and even the performance of an MFI post-transformation. Lastly, issues such as the organisational culture and human resource development are critical to a successful transition. For most MFIs that have moved from the NGO model, the management has to act to alter the culture of the organisation to cater for a more commercial, and thus, a more customer-centric orientation (Christen 2001). These adjustments have resulted in substantial costs of training and mentorship.

1.4 Motivation for the study

Different schools of thought hold differing views regarding the potential consequences of the transformation of MFIs. The sustainability perspective⁸ considers the transformation as desirable for MFIs to attain financial self-sufficiency. On the other hand, the welfare standpoint sees the transformation as conflicting with the social mission of MFIs. The win-win approach attempts to reconcile both the welfare and the sustainability perspectives by bringing together the potential benefits from both schools of thought (Kodongo and Kendi 2013). The debate between the proponents of these three schools of thought has dominated the research on the institutional transformation in MFIs.

judgement can be accessed from the following site, http://www.gjk-ks.org/repository/docs/K097_12_AGJ_ANG.pdf

⁸The sustainability approach to the provision of microfinance is also called the financial systems approach. The approach takes the position that the integration of MF with the mainstream financial sector is the only way to ensure that MF could achieve large scale outreach without continued donor dependency (Rhyne and Christen 1999). Microfinance enters the marketplace, New York, USAID.

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A broad range of research has documented the institutional change in the MF industry (prominent first examples include, (Ledgerwood 1998; Ledgerwood and White 2006). The subsequent research examined the effects of the change on the trade-off between financial sustainability and social performance. A remarkable pioneering example of research in this area is that of Frank et al. (2008), who found that transformation led to a higher client outreach, higher growth in the loan portfolio, and higher product diversification. More importantly, they established that conversion allowed more women customers to access services, although the overall percentage of women receiving the services declined. Subsequent studies support their view, for example, (Hartarska and Mersland 2012; Bos and Millone 2015; D'Espallier et al. 2017).

A substantial extension of studies on the transformation of MFIs has examined the financing structures in the transformed MFIs. However, there are mixed outcomes from the research, and hence there is no consensus on the direction and magnitude of the effects of the transformation on financial and social performance. For instance, (Bogan 2012) examined the relationship between capital structure and MFI efficiency and sustainability. The study uncovers a link between capital structure, MFI size, and financial performance. Specifically, there is a negative relationship between the use of grants and financial performance. These results are close to the outcomes of the research by (Hudon and Traca 2011). They also found a positive relationship between grant financing at low levels and financial performance, which turns negative beyond a certain threshold, in line with (D'Espallier et al. 2017).

A related study by Kar (2012) found no relationship between debt financing and breadth of outreach and women participation as loan clients and recommended research along this line about equity financing. Subsequent research has not resolved this stalemate (Hoque et al. 2011; Kyereboah-Coleman 2007; Khachatryan et al. 2017; D'Espallier et al. 2017). The mixed outcomes from previous studies motivate the focus on the effects of capital structure on the performance of MFIs in this research.

Much of the existing strand of research on MFI transformation stems from the perceived possibility of mission drift by MFIs that have undergone the change from the NGO based model to the commercial model. The primary manifestation of the

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transformation has been the domination of debt, deposits, and equity in the capital structure of the transformed MFIs (The Microfinance Information Exchange, 2017). Figure 1.1 shows the funding structure of 1330 MFIs across the globe that avail their data to the MIX pooled database. The regional disparity in the financing structure is particularly striking. In Latin America and the Caribbean (LAC), Eastern Europe and Central Asia (ECA), East Asia and the Pacific (EAP), and Africa, MFI source their capital mainly from deposits. In contrast, MFIs in South Asia get most of the capital from borrowings. In North Africa and the Middle East, debt and equity are equally likely to be a source of funding for MFIs.

Except for the MENA region, equity consistently consists of less than 25% of the funding of MFIs, with the figure being lowest in Africa (18%), LAC (18%), and ECA (16%). Debt is a chief source of funding compared to equity with four of the six regions having debt accounting for more than 25% of the total funding. The exception is Africa and LAC, where borrowings account for 11% and 18% of the total funding. Notable also is the unusually small proportion of deposits to total capital observed in the MENA region. The regional disparity in financing patterns for MFIs provokes several questions. Why is there such a regional disparity in capital structures among MFIs?

Moreover, in the African setting, do such regional disparities exist? If the disparities exist, then what explains the disparities? This study seeks the determinants of the observed financing structures among transformed MFIs to inform policy-making not only for the MF sector but also targeting the entire capital market. This study addresses this open issue from the capital structure perspective regarding the financing of hybrid organizations.

The examination of the capital structure of MFIs is necessary because the transformation of MFIs implies that both the proportion and the importance of donor sector funding would be declining in most MFIs. The increasing importance of commercial funding the commercial interest perspective should be the foundation from which researchers examine whether or not transformed MFIs are achieving financial sustainability and social mission. It is only when such research establishes how the

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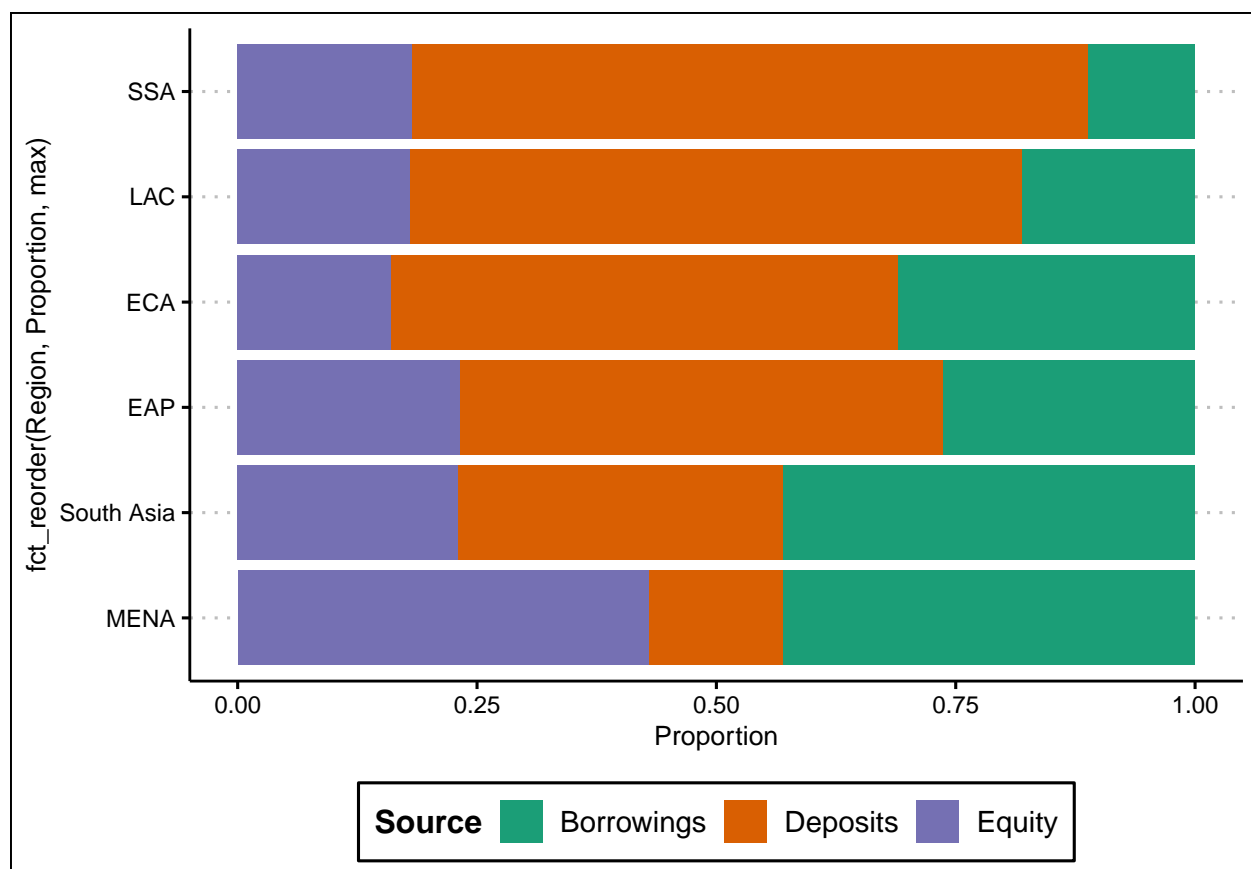


Figure 1.1: Funding structure of MFIs Across the Globe by Region (2015)

business orientation affects the social mission of MFIs that the need for corrective action gets flagged timeously.

Although the transformation of NGOs has its merits, most MFIs have still not transformed (D’Espallier et al. 2017). Therefore, a key output of the proposed study will be the motives behind some MFIs transforming while other MFIs retain the NGO model. The current literature has been overly concerned with the transformed MFIs and not addressed this issue. Even among the transformed MFIs, researchers have not uncovered the drivers of the decision by MFIs to transform and the necessary preconditions for transformation. The existing research takes for granted that MFIs transform to be sustainable. Given the benefits of transformation touted in the numerous studies, then most MFIs should have already transformed.

Moreover, as Morduch and Ogden (2019) argues, if there is no trade-off between financial performance and social performance of transformed MFIs, then NGOs would

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not exist. However, this is not the case. It appears, therefore that some additional factors influence the decision by MFI to either transform or retain the NGO model. As noted, there is no conclusive evidence on the effects of MFI transformation on their performance. These contradicting results could be because of numerous unknown reasons. It is in order, therefore, to establish the factors that influence the sustainability and outreach of transformed MFIs. Similarly, establishing the factors that moderate the relationship between capital structure on the one hand and the financial performance and social performance of MFIs in Africa will be a novel contribution to the research.

Recent literature also suggests that the performance of MFIs is dependent on the broader macroeconomic conditions as well Ahlin et al. (2011), and is country-specific (D’Espallier et al. 2017). Thus, in the analysis of the institutional transformation of MFIs, cross-country and regional differences must be factored in. However, most studies have not considered the cross country and regional variations. Failure to consider regional disparities means that the extant research fails to capture local contextual peculiarities.

These regional differences motivate the choice of MFIs in Africa as the unit of analysis. By focusing on Africa, the study will isolate the regional and country heterogeneity of the effects of transformation, an issue that could have affected the results of research based on pooled global datasets. Thus, the output of the study will be unique to Africa and therefore more actionable. To sum up this section, the proposed study significantly extends the existing literature on MFI transformation. The next section outlines the purpose statement.

1.5 Purpose Statement

The primary aim of this proposed research is to evaluate how the the transformation of MFIs in Africa impacts their financial and social performance.

1.6 Research Questions

The study specifically seeks answers to the following research questions.

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1. Why do some MFIs in Africa transform into the commercial model while others retain the NGO Model?
2. To what extent has the institutional transformation of MFIs in Africa affected financial inclusion?
3. After transformation, what factors explain the joint level of sustainability and outreach by MFIs in Africa?
4. What are the factors that influence the choice of financing sources by transformed MFIs in Africa?
5. How is capital structure related to the performance of transformed MFIs in Africa?

1.7 Significance of the Study

In pursuing the stated objectives, this study will fill a theoretical deficiency in the capital structure of quasi-commercial organisations that have a social dimension of value. The context of shareholder and debtholder primacy was the foundation of the development of capital structure theories. Arguments from this genesis of capital structure theories have failed to factor in corporations with extra dimensions of value, such as the achievement of social goals. As a case in point, Modigliani and Miller capital structure theory may not be entirely applicable to MFIs where value also has a social facet. In the Modigliani and Miller capital structure theory, the value of a firm is the sum of equity and debt components in the capital structure of a corporation. The value of a company is an increasing function of the debt proportion of capital structure up to the point where the costs of financial distress outweigh the benefits of the interest tax shield. In the process, the study will also fill an empirical deficit on the relationships between capital structure on the one hand, and financial performance, social performance, and efficiency of transformed MFIs in Africa. The empirical output has implications on policy direction relating to MFIs in Africa.

The study also has a variety of policy implications. These policy implications are related to the research objectives. For instance, what are the factors that drive MFIs to transform or fail to transform? The answer to this question would inform the crafting of

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policy if transformation is indeed desirable. Moreover, what are the drivers of financial inclusion, outreach, and sustainability of MFIs after the transformation? Lastly, what are the determinants of the choice of financing sources? It is worth noting that if the drive for institutional transformation is to achieve the desired effects, then the change in the MFI funding structures must not compromise the achievement of social objectives. If the conversion of MFIs negatively affects social performance, there would be no way to justify the transformation of MFIs. If indeed the transformation of MFIs was meant to improve their sustainability, this must not be to the detriment of social performance.

Also, if the transition results a decline in social performance, then the transformation could be treated as the transition point of transformed MFIs into the mainstream banking system (Kent and Dacin 2013). It is crucial therefore to investigate the outcomes of the change to inform the design of a framework that would not expose the poor and financially excluded to the same level of exclusion by the financial system that MFIs ought to address. Doing this would be tantamount to allowing MFIs to use the underprivileged as a ladder to climb into the mainstream system, and abandoning them shortly after, which raises ethical questions.

Similarly, the identification of factors that influence the choice of financing structures has implications for the design of policies aimed at the capital market. For the same reasons, the identification of factors that influence the social performance of transformed MFIs will also be useful, not just for policy design, but also for managerial decision making. Also, the calibration of a mix of debt and equity for transformed MFIs that optimises financial and social performance will inform both policy-making and managerial decision making.

Finally, the efficiency of MFIs is a significant determinant of both the financial and social performance of MFIs. According to the efficiency theory, the positive relationship between concentration and profitability is indicative of the tendency of firms that are efficient to be successful and hence dominant in their industries (Lipczynski et al. 2005). Efficiency gains could result from economies of scale and cost-saving schemes initiated by the management. Enhanced efficiency by MFIs is, therefore desirable. However, the efficiency of MFIs should encompass both financial and social dimensions. The

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entry of commercial sources of capital may affect the both the financial and social efficiency of MFIs in line with agency theory. It is therefore vital to establish the relationship between capital structure and efficiency to inform both the management and stakeholders of the dynamics in the MFI sector regarding effectiveness in the new era of commercial funding.

1.8 Outline of the Study

The remainder of the study will be structured as follows. Chapter two locates microfinance in the financial intermediation space and traces the genesis and evolution of the transformation. Chapter three lays out the theoretical framework of the study, focusing on the agency theory and profit incentives, capital structure theory, and the institutional theory. The subsequent five chapters each delves into one research question, laying out the methodologies applied and the results. The last chapter concludes.

2

Financial Intermediation and the Transformation of Microfinance Institutions: A synthesis

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2.1 Introduction

This chapter provides contextual information that lays the foundation for the review of the empirical literature on the transformation of MFIs. The chapter starts by introducing financial intermediation and then locates microfinance in the financial intermediation space. The section subsequently presents an overview of the evolution of microfinance and the drift towards the conversion of MFIs from the NGO model to the commercial model. Next, the chapter presents the extent of the transformation of MFIs in selected African countries, including the manifestation of the transformation of MFIs. The section concludes by outlining the challenges that MFIs face in the transformation process.

2.2 Need for Financial Intermediation

Financial intermediaries play a central role in the economy (Kodres, 2017). They contribute to economic development by transforming the maturity and liquidity of assets, providing leverage, and transferring credit risk (Uddin et al., 2014, Valickova et al., 2015, Gajjala and Gajjala, 2016). By channelling excess funds from the individuals and institutions to those that have deficit savings the intermediaries resolve the problem of information asymmetry between lenders and borrowers and cut costs associated with the duplicated screening of potential borrowers (Greenbaum et al., 2015).

Typical services provided by financial intermediaries include brokerage and qualitative asset transformation ¹ (Greenbaum et al., 2015, Gobat, 2017). Financial intermediation allows individuals to make long-term consumption and investment decisions and overcome liquidity constraints associated with the uncertainty of income streams (Greenbaum et al., 2015). In doing so, financial intermediaries allow for the efficient

¹Examples of brokerage services include transaction services (e.g. deposits and cash transfer), financial advice, screening, origination, and funding (loan issuance). On the other hand, qualitative asset transformation involves monitoring, guaranteeing, liquidity creation and the management expertise associated with these activities. See GREENBAUM, S. I., THAKOR, A. V. & BOOT, A. 2015. Contemporary financial intermediation, London, Academic Press. for more details of the services offered by financial intermediaries.

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allocation of capital that improves total factor productivity (International Monetary Fund (IMF), 2017) which contributes to economic growth (Chang et al., 2017). Also, financial intermediaries create money and act as conduits for the transmission of monetary policy (Greenbaum et al., 2015). In turn, financial intermediaries generate revenue primarily from the spread between lending and deposit rates, the sale of securities and fees from customer services (Cosci et al., 2015).

Commercial banks are among the most prominent financial intermediaries. However, there exists a wide array of alternative financial intermediaries which offer services like those of commercial banks, yet they are not commercial banks. The Financial Stability Board (FSB) classified such institutions as shadow banks² (Financial Stability Board, 2017). Examples of shadow banks include credit unions, mutual funds, broker-dealers that finance their assets using repos, insurance companies, finance companies, and MFIs. Central banks do not regulate most shadow banks. For this reason, most shadow banks cannot, for example, get emergency loans from the central bank. Also, deposit insurance does not cover most deposits of shadow banks (Kodres, 2017).

By their very nature and scale, shadow banks were not a priority for regulators and policymakers until after the 2007 global financial crisis triggered by defaults in the shadow banking system. It was after the crisis that researchers and policymakers realised that the shadow banking sector could be endogenously destabilising, especially with the interconnectedness of the modern global financial system (FSB, 2017). Shadow banks have since been subject to increased regulatory oversight (Adrian and Narain, 2017). Despite the benefits conferred by the access to and use of financial services, financial intermediation also has its drawbacks. For instance, the profit margin enjoyed by the intermediary has the net effect of increasing the cost of borrowing and reducing the rate of interest on deposits. Consequently, disintermediation, the reliance by large borrowers on direct rather than indirect finance, is gaining popularity (Greenbaum et al., 2015).

²FSB definition of shadow banking is “the credit intermediation involving entities (fully or partially) outside the regular banking system.”

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Furthermore, the mainstream financial intermediaries like commercial banks face hurdles in availing financial services to the poor and the financially excluded (including the business ventures these parties pursue³). At the base of the pyramid, information opaqueness of the clientele poses a monumental challenge against the provisioning of financial services. For instance, deprived rural dwellers often lack credit histories, a result of being geographically isolated, and financially excluded for prolonged periods (Alimukhamedova et al., 2015).

Also, individuals in this market segment often lack collateral to secure credit (Brière and Szafarz, 2015). Besides, the tiny amounts of cash transacted at the bottom of the pyramid result in substantial diseconomies of scale (Abate et al., 2014, Cobb et al., 2016). Moreover, the products and services offered by mainstream banks often do not meet the immediate needs of the poor (Gajjala and Gajjala, 2016). Lastly, difficulties in contract enforcement, especially in low-income countries, exacerbate the situation (Klapper and Singer, 2014). Thus, at the bottom of the pyramid, the problem of information asymmetry, lack of tangible assets, and the small scale of operations manifest more acutely.

In the same vein, indigent and financially excluded clients exhibit low levels of literacy and a high incidence of extreme poverty. Consequently, the level of financial illiteracy at the base of the pyramid is similarly high that it hinders the utilisation of financial services, even when they are available (Engström and McKelvie, 2017). Thus, until the advent of microfinance, most of the Microfinance (MF) market segment was not catered for by the mainstream financial intermediaries. Researchers still find that most of the persons in this segment suffer from financial exclusion (Kota, 2007).

Before the entry of microfinance, informal financing arrangements, like direct financing between family members and friends, family and community merry-go-rounds, self-help groups (SHGs), neighbourhood retail traders and shylocks often filled the void (Klapper and Singer, 2014). These informal mechanisms and alternative formal financial intermediaries like Microfinance Institutions (MFIs) and other shadow banking

³Research indicates that small businesses ran by the poor (mostly agricultural-based microenterprises), and SMEs, experience financial exclusion, especially lack of access to credit to finance their operations as well as access to savings products.

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institutions remain the significant players in offering financial services to the poor and the financially excluded (Klapper and Singer, 2014). In this context, the next section highlights the rise of MF, a significant part of the shadow banking system committed to availing financial services to the poor and the financially excluded.

2.3 Rise of Microfinance

As already noted, the social and economic empowerment of the poor and the financially excluded, particularly among women and rural dwellers are central to the validation of microfinance (Engström and McKelvie, 2017). The broader view remains that poverty reduction is not only desirable but also has positive externalities. It is in with this hindsight that, in awarding the Nobel Peace Prize to Mohammed Yunus and the Grameen Bank, the Nobel Committee cited the link between poverty reduction and peace (“Announcement of the 2006 Nobel Peace Prize,” 2006).

It is paramount to distinguish between MF as a concept, and in reference to the providers of MF services. As a concept, MF refers to the provision of financial services to the financially excluded sections of the population. A large body of institutions and individuals provide the services, including but not limited to MFIs, public and private commercial banks, NGOs, civil society organisations of public interest (OSCIPs). Other providers include international development organisations, commercial retailers, post offices, credit unions, and informal money lenders (Ledgerwood and White, 2006, Marconatto et al., 2016). Nevertheless, the provision of MF has received both support and condemnation from researchers and policymakers.

Despite the reservations about MF, researchers, and policymakers deemed it a useful tool to avail financial services to individuals previously excluded from the financial system (D’Espallier et al., 2017b). Moreover, given the limitations of the formal banking system, advocates of financial inclusion pushed for microfinance as the viable alternative to efficiently reach the poor and the financially excluded (Chester et al., 2016). Unlike mainstream financial institutions, MFIs reach the poor through innovative approaches such as group lending, regular repayment schedules, progressive lending

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(dynamic incentives), and collateral substitutes (Bhuiyan et al., 2016). MFIs also focus more on women and people living in rural areas (Ghosh, 2013).

The model followed by the modern microfinance business is attributable to Mohammad Yunus and Grameen Bank operating in Bangladesh from the mid-1970s (Ghosh, 2013). After the Yunus and Grameen Bank microfinance model gained traction, the number of MFIs operating has exploded across the globe. Table 2.1 gives the current estimated size of the microfinance market based on data from the MIX pooled database. However, not all MFIs avail their data to the database, and hence the data is an under-representation of the scale of the industry.

Initially, researchers and policymakers hailed MF as the magical apparatus to resolve the problems of development and poverty (Ghosh, 2013). Researchers have associated MF with increased investment by pre-existing business ventures (Newman et al., 2017) and a reduction in gender inequalities (Shahriar and Garg, 2017, Newman et al., 2017, Mafukata et al., 2017, Zhang and Posso, 2017). Further, there is a direct relationship between MF and household welfare (Meador and Fritz, 2017, You, 2013), purchasing power and employment rate (Lopatta and Tchikov, 2016, Raihan et al., 2017). Also, MF supporters contend that it enables families to cope with the effects of climate change (Fenton et al., 2017) and also deal with the shocks arising from natural disasters (Calis et al., 2017).

Furthermore, researchers have found that access to microcredit leads to higher business start-ups while increasing the profitability of existing businesses (Klapper and Singer, 2014). Other social indicators that have a positive relationship with MF include the savings rate among the poor, health, child mortality, education, and financial inclusion (Shahriar and Garg, 2017, O'Malley and Burke, 2017). At the macro-level, researchers have found an inverse relationship between the size of the MF in a country and poverty levels (Ahlin et al., 2011). Also, research indicates that MF significantly influences economic development by directly increasing the purchasing power of beneficiaries and indirectly via improved capital accumulation and increased employment rate (Lopatta and Tchikov, 2016, Raihan et al., 2017). Given these findings, it was not a

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surprise that the UN declared 2005 the international year of microcredit followed by the award of the Nobel Peace Prize to Muhammad Yunus and the Grameen Bank in 2006.

Region	FSPs	Borrowers_000	%_Borrowers	Gross_Loans_000	%_Gross_Loan	Depositors	%_Depositors	Desposits_USDMillions	%_Deposits
Africa	193	5778	0.05	8490	0.09	17298	0.18	9212	0.16
EAP	136	16258	0.14	15064	0.16	16118	0.16	7687	0.13
ECA	136	3083	0.03	9900	0.11	5091	0.05	7664	0.13
LAC	345	22495	0.19	38843	0.42	23709	0.24	27293	0.46
MENA	27	2148	0.02	1353	0.01	465	0.00	251	0.00
South Asia	196	66929	0.57	18794	0.20	35109	0.36	6886	0.12
Grand Total	1033	116691	1.00	92443	1.00	98420	1.00	58994	1.00

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However, some researchers view MF as a double-edged sword that is beneficial to individuals and society but also has some unintended consequences (Ganle et al., 2015, Van Rooyen et al., 2012). For example, Ganle et al. (2015) and Van Rooyen et al. (2012) found that while some women indeed get empowered as a result of access to credit, most have little control over the subsequent spending. A significant proportion suffers harassment from MF agents' for failing to repay the loans. These coercive loan recovery practices ignited the "no pago" protests movement in Nicaragua ⁴ and led to several incidences of suicide by MF loanees in Andhra Pradesh, India ⁵ (Bastiaensen et al., 2013, Wright et al., 2016). These MF crises resulted in intervention by authorities in both countries, lifting the veil on the dark side of MF. Similarly, although MF does allow women to raise their income levels, in some instances, it has also led to an increase in domestic conflict (Salia et al., 2017).

Furthermore, Newman et al. (2017) uncovered an insignificant link between MF and improvements in consumption, although spending on business-related investment does rise. Shahriar and Garg (2017) also find that the relationship between MF and both business size and profitability only holds in the long run, calling into question the benefits of the short-term loans offered by MFIs. Research has concluded that MF does not often reach the poorest, as they get crowded out by the better-off clients (Abeysekera et al., 2014). Sir Fazle of BRAC, an MF operating in Bangladesh, attributes the failure by the poorest to borrow on stigmatisation by the society, where "fellow villagers viewed them (the poor) as hopeless cases" (Zulfiqar, 2017b).

⁴In mid-2008, a movement called "movimiento no pago" (Spanish for "a movement for non-payment of loans") led by over-indebted farmers in Nicaragua protested MFIs operating in the area. The protests were triggered by the arrest of MFI debtors in default. The movement gained political support, including from the president of Nicaragua, Daniel Ortega. In the end, laws were passed that favored the indebted, including the fixing of interest rates at 16% and an extension of loan recovery periods.

⁵In 2010, the government of the state of Andhra Pradesh, India, passed an ordinance to protect borrowers from harassment from MFI agents. This came in the backdrop of suicides committed by some indebted MFI clients, protests by MF borrowers, and reports of increasing violence targeted at MFIs. The Andhra Pradesh Microfinance Institutions (Regulation of Money Lending) Ordinance, 2010 requires all MFIs to register with the state government, specify the areas they operate in, the rate of interest and their system of operation and loan recovery. The law also set stiff penalties for coercive loan recovery, prohibited multiple loans to the same borrower, and capped interest chargeable not to exceed the principle loan amount GHOSH, J. 2013. Microfinance and the challenge of financial inclusion for development. Cambridge Journal of Economics, 37, 1203-1219.

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Likewise, Aguilera et al. (2017) posit that in the short term, some clients of MF benefit more than others. For example, compared to men, women customers of MF get lower profits from their MF funded businesses. On the same line, older women generate fewer profits compared to younger women. Furthermore, Akotey and Adjasi (2016) conclude that the benefits of microcredit are enhanced or sustained only when coupled with microinsurance. Thus, as Onyuma and Shem (2005) note, microcredit alone cannot cure the ills associated with financial exclusion and poverty. The implication is that MF should look beyond microcredit by offering other financial products. Recent developments in MF have seen the introduction of savings products, microinsurance, pension products and cash transfer services (Chandrasekhar and Anantharaman, 2015).

However, there is also a substantial body of research that disputes the benefits of MF (Bateman, 2010a, Bauchet and Morduch, 2013). For instance, the opponents of MF contend that it does not fund genuinely entrepreneurial activity but instead focuses on small retail operations that neither allows the poor to escape poverty nor even have a significant effect on economic growth (Aguilera et al., 2017). MF leads to a glut in the market for similar products by the poor that causes default and overindebtedness. Moreover, the enterprises funded through MF often do not develop linkages with the formal economy, thus inhibiting the development of synergies in productive activities which further limits innovation and productivity improvements (Ghosh, 2013). Furthermore, some researchers posit that MF does not boost employment and education among the rural poor (Bauchet and Morduch, 2013). Others link micro-credit to increased child labour (Hazarika and Sarangi, 2008), increased gender inequalities in access to finance (Zulfiqar, 2017a), and reduced entrepreneurial spirit among the poor (Field et al., 2013).

Still, some researchers are chiefly concerned with the high-interest rates charged by MFIs and inappropriate lending practices that fail to account for the social, cultural, and economic context of the target clients (Chester et al., 2016). The basis of the lending practices of modern MF is the logic of western capitalism that stresses individual wealth accumulation. By contrast, poor communities emphasise economic processes

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(not outcomes), shared roles, survival, and varied economic activities which acts as a collective safety net (Chester et al., 2016).

Researchers have thus argued an over-emphasis on individual achievement, and the advent of group lending is likely to set back social cohesion as members segregate themselves into groups, directly or indirectly monitor each other and impose sanctions on loan defaulters (Chester et al., 2016). Moreover, the logic of western capitalism that forms the basis of MF degrades community ownership and control over assets. Finally, researchers have argued that the narrow definition of MF may be detrimental to the broader development agenda in poor communities, including the provision of physical infrastructure, security, education and health services (Ghosh, 2013).

Furthermore, some researchers claim that the high-interest rates charged by MFIs are unaffordable by clients, and only serve to trap them in a debt cycle (Wright et al., 2016). Researchers have likened the high-interest rates charged by MF to a poverty penalty, raising ethical concerns (Chang et al., 2017). Moreover, a substantial number of MF clients get credit from several MFIs. The subsequent confiscation of assets further lowers social status (Paprocki, 2016).

Microcredit was meant to promote the welfare of the poor by funding entrepreneurial activity. However, some researchers have pointed out that it is not reasonable to presume that all poor people desire to or have the capacity to engage in such activity. As Ghosh (2013) asserts, some MF clients pretend they want credit to fund microenterprises but use the cash for subsistence, health care, and school fees. Some even use the loans to buy durable goods like televisions. Scholars assert that it is simplistic to assume that the lack of access to capital is the primary reason behind limiting the engagement of poor people in entrepreneurial activity. As Kimmitt and Munoz (2017) note, capital is a necessary but not sufficient condition for innovation and the uptake of entrepreneurial economic activity, even among the poor. There are additional resources that are complementary to money such as human capital, social capital, and effective institutions that are lacking in most impoverished communities.

Moreover, even in cases where all these preconditions are present, they may not be enough to trigger structural changes necessary for the reduction of poverty — the

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environment where these institutions operate matters. Thus, the evaluation of the success or failure of MF must take into account the context of the situation, such as political freedom, economic facilities, social opportunities, transparency guarantees, protective security (Sen, 2014), and even cultural norms (Shahriar and Garg, 2017). It is against this backdrop that some studies recommended a reexamination of the MF business model and called for better regulation of the industry (Johnson, 2013, Ghosh, 2013). Without reforms, conclude Chester et al. (2016), “the MF industry could not only ruin the lives of many borrowers but could also ruin itself.”

The debate surrounding the contradictory results arising from MF interventions has preoccupied researchers in MF for a prolonged period. Researchers have pointed to the weaknesses in the numerous methods used to evaluate the performance of MFIs (Awaworyi Churchill and Nuhu, 2016), institutional factors (Kimmitt and Munoz, 2017), and diverse cultural norms (Shahriar and Garg, 2017) for the discrepancies.

2.4 Bankrolling MF: The Place of Subsidies and Grants

Before the advent of transformation, most MFIs relied on donor grants and subsidies to finance their operations. Grants are private funds from individuals and corporations, whereas subsidies are funds provided by the government to organisations that benefit the public. Although data is hard to come by, some studies estimate that only 23% of MFIs across the globe operate without subsidies and grants (D’Espallier et al., 2013).

Consultative Group to Assist the Poor (CGAP) (2017) estimates that both public and private donors provided US\$ 2.9 Billion in funding to MFIs in 2013. In comparison, the funds raised by MFI through the sale of debt and equity instruments, and guarantees amounted to US\$ 13.8 Billion, US\$ 3.7 Billion and US\$ 1.4 Billion, respectively. Different funding agencies tend to use various instruments to support MF activities. Bilateral agencies and foundations, for example, mostly use grants as opposed to development finance institutions that typically use debt, only using equity and guarantees sparingly. Multilateral agencies mainly give loans to governments and grants to MFIs for technical

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assistance. Government mostly offer subsidies to MFIs (Consultative Group to Assist the Poor (CGAP), 2017).

The provision of the grants and subsidies allowed MFIs to reach the poor without the pressure to generate profits to sustain their operations (D’Espallier et al., 2013). Likewise, subsidies are useful for setting up start-ups and risky ventures where alternative funds are not available (Bogan, 2012). The subsidies and grants thus played a significant role in the setting up of the MF industry when the mainstream financial intermediaries did not consider it a viable business venture and commercial funding were unavailable.

As Hudon (2010) note, the presence of subsidies and grants allows the MFIs to charge lower interest rates. However, other researchers posit that MFIs could still manage to charge low-interest rates if they manage their expenses better, even in the absence of subsidies. Further, given that some grants and subsidies support capacity building of MFI staff, the presence of subsidies could indicate better management and operational practices, which have implications on both social and financial performance of the MFIs. On the contrary, some scholars argue that subsidies may encourage lax management leading to inefficiencies (Ghosh, 2013).

Researchers also argue that subsidies and grants serve to repress the rationing role played by interest rates (Hudon, 2010). Interest rates are not only a source of revenue for financial intermediaries but also ensure that only viable projects access financing. It means that a project must generate a rate of return to service the interest payments and make sufficient returns for the investors. The presence of subsidies and grants means that MFIs may fund poor quality projects which reduces social welfare in the aggregate. As Kota (2007) argues, the subsidised MFIs also crowd out the efficient financial intermediaries. In this respect, Ghosh (2013) and Bayai and Ikhide (2016) call for the design of smart subsidies that do not distort the market but rather serve to strengthen the institutions.

Furthermore, the presence of subsidies in MFIs may push out informal credit suppliers. Although the discussion around informal money lenders is mainly adverse, they still form a significant source of credit for poor households (Klapper and Singer, 2014). The conversation around offering financial services to the poor should then be about

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how MF can serve to supplement, rather than completely replace the informal financial sector. Instead, the western driven research discourse around MF and poverty dwells on the need to replace the inefficient informal financial systems with an efficient, formal system modelled on western capitalist thinking. The direction taken by researchers fails to reflect on the social-cultural inclinations of the members of poor communities (Chester et al., 2016) and rules out the existence of alternate “systems of exchange” beyond the price-driven model dominant in economics and finance literature (Biggart and Delbridge, 2004).

Lastly, subsidies diminish incentives by MFIs to develop and offer new products. If financing from subsidies is guaranteed, then MFIs lack the motivation to diversify their revenue sources. Indeed, before transformation, most MFIs offered only microcredit (Cozarenco et al., 2016) although legal restrictions did not allow MFIs to provide some products, for instance, savings. After the transformation, the range of the services provided by MFIs expanded. The expansion of the services provided by MFIs post-transformation is, to some extent, the evidence against the reliance on subsidies and grants by MFIs.

2.5 Alternatives and Complements to MF

Based on the criticism of microfinance, the financial system has witnessed the development and adoption of new strategies to reach the poor. However, these new approaches are not exactly meant to replace MF, but rather to complement it by bridging its shortcomings. A prominent case is the use of mobile money which has proved to be a useful tool for expanding financial inclusion. In Kenya, for example, M-Pesa, M-Kopa, and M-Shwari have contributed positively to financial inclusion by allowing the poor to pay bills, save, transfer and receive money conveniently at a relatively low cost (Klapper and Singer, 2014, Ndung'u et al., 2017). Numerous financial institutions and Fintech companies across the globe have since developed and adopted the mobile money platform. MFIs have espoused mobile money and web technologies to reach their clients (Griffoli, 2017, Ouma et al., 2017).

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“Graduation” program is an alternative scheme where indigent persons are provided with an asset, for example, cattle and offered training in livestock management⁶. Results from random controlled trials (RCT) indicate that such “graduation” programs are more successful than the provision of microcredit alone. According to Bishop and Rodríguez (2017), graduation programs result in more wealth and raises the demand for food and other durable goods among the poor people participating in the program. However, the programs are not only expensive but also hard to implement in urban settings where agricultural activity is limited. Furthermore, such wealth generating programs, make products such as savings and insurance even more useful to clients (Cozarenco et al., 2016).

Finally, governments and other organisations in several developing countries give conditional cash transfers to individuals who meet specific criteria (Rawlings and Rubio, 2005, Tadesse and Zewdie, 2019). For example, a scholarship program operational in Cambodia make cash transfers to households contingent upon the enrollment of children in school (Ferreira et al., 2017). In Kenya, there is a program that awards specified cash awards to citizens above 70 years of age living in poverty (Sandra and Juan, 2017). However, in addition to implementation challenges, conditional cash transfers are affected significantly by political leadership, program administration and even natural disasters (Rodgers, 2014). Moreover, conditional cash transfers have an incentive effect on individuals; where non-poor individuals change their behaviour to receive benefits meant for the poor (Brown et al., 2017). Also, there is mixed evidence regarding the efficacy of cash transfer programs (Sandra and Juan, 2017).

2.6 MF to Financial Inclusion: The Paradigm Shift

Recent developments have seen researchers and policymakers start to rethink the central place of MF in achieving financial inclusion (Cobb et al., 2016). The new financial inclusion paradigm recognises that MF is just one element of a broader set

⁶A graduation program could also involve providing a poor person with seeds, fertilizer, crop insurance and training in plant husbandry. The resources are provided on loan to be repaid at an agreed rate of interest. The One Acre Fund, an NGO based in Eastern Africa, has experimented with this model.

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of strategies for financial sector development. They call for the development of long-term policies that would enable the players in the financial system beyond MF to avail their services to the poor and the financially excluded (Ghosh, 2013). Thus, although MF has made a valuable contribution to financial inclusion, these researchers argue that a multifaceted approach involving all the alternative providers of financial services could achieve better results (Taylor, 2012). In this respect, almost all financial intermediaries, including commercial banks, have to some extent developed products that suit the needs of the indigent and other financially excluded individuals (Johnson, 2013, Ndung'u et al., 2017).

Recommendations to achieve financial inclusion include the development of policies to keep interest rates low and keeping in check to destabilising capital flows (Lund and Harle, 2017). Also useful are legal, fiscal and monetary mechanisms to influence the flow of credit to the poor and the financially excluded. These researchers contend that the achievement of these objectives would require some form of subsidies and grants (Ghosh, 2013).

The financial inclusion paradigm has resulted in heightened competitive pressure among financial intermediaries. Increased competition is forcing MFIs to pay attention to the minimisation of operational costs to boost efficiency. In this respect, MFIs are seeking economies of scale (by netting in more customers) and economies of scope (by rolling out more products beyond microcredit), and leveraging on mobile and web technology and agents in place of brick and mortar branches (Muriu, 2016). Overall, the competitive pressure, the rise of the neoliberal political-economic paradigm, legal requirements and pressure from donors has resulted in some MFIs transforming from NGOs to commercial entities (Muriu, 2016, Kar, 2016). The transformation of MFIs is changing the financial intermediation landscape, even for the indigent clients. The conversion of MFIs is detailed next.

2.7 Transformation of MFIs

At the initial stages of MF development, most MFIs operated as NGOs, raising capital mainly from the public and private donations. However, starting in 1992, some MFIs have converted to commercial entities sourcing funds in the capital market and emphasising profitability and sustainability, simultaneously with the pursuit of their social mission of serving the poor. Bateman (2010) traces the momentum for the transformation of MFIs from NGOs to commercial entities to the rise of neo-liberalism in the mid-1970s. Core to the neo-liberal paradigm was the need for all institutions operating in the economy to be financially self-sustainable. Thus, economic liberalisation, commercialisation, and privatisation of public enterprises characterised the neo-liberalism wave.

In developing countries where most of the formal MFIs operate, the IMF and the World Bank induced structural adjustment programs (SAPs) were the significant indicators of the global reach of neo-liberalism. SAPs were designed to allow the economies of target countries to be more market-oriented (Easterly, 2003). Similarly, the World Bank, USAID, and other donor agencies pushed for the transformation of MFIs with the aim of expanding MFI outreach without the need for subsidisation (Ghosh, 2013). For MFIs, the adjustments meant that the interest rates charged were to be determined by market forces in place of the below-market, subsidy-supported rates (Bateman, 2010a). Similarly, MFIs that undertook the transformation worked to increase the client base to lower the fixed cost per client and offered incentives to senior managers, including significant ownership stakes in the MFIs (Lauer, 2008). In some other countries, for example, Georgia, legal changes forced MFIs to transform into commercial entities⁷.

With neo-liberalism, most of the donor organisations that channelled funding to MFIs also pushed for the commercialisation of the MFIs. To date, a substantial number of MFIs have converted to commercial entities. Notable though is that most MFIs have survived the neo-liberal onslaught and still operate as NGOs (D’Espallier, Goedecke,

⁷Legislation enacted in Georgia required that all NGOs cease engaging in MF activities by December 31, 2007 LAUER, K. 2008. Transforming NGO MFIs: Critical ownership issues to consider, New York, Consultative group to assist the poor (CGAP)

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Hudon, & Mersland, 2017). The shift from the NGO model to the commercial model has several implications. First, researchers point out that the profit motive has the potential to shift the focus of MFI's away from their social mission of serving the poor and the financially excluded to the emphasis on financial returns. "Mission drift" is the term used to describe this potential change in business model focus (Mersland & Strøm, 2010).

Similarly, the departure from predominant reliance on donor funding to commercial funding has implications from the agency theory perspective. In this respect, agency conflicts may manifest between shareholders on the one hand, and the management, debt-holders, private and public donors on the other, and this influences the performance of the MFI (Fama, 1980). Also, agency conflicts have the potential to affect the funding structure and performance of MFIs (Berger and Bonaccorsi di Patti, 2006, Le and Phan, 2017). Consequently, researchers have raised questions regarding how well MFIs have balanced financial self-sufficiency and the pursuit of social goals after the shift to the new business model. It is upon this basis that the world bank launched an equity fund to support MFIs to meet the costs of the transformation and to safeguard their social mission (Frank et al., 2008).

2.8 Schools of Thought on the Transformation of MFIs

As noted, state agencies, donor agencies, and philanthropists were the most significant sources of funding for MFIs (Ledgerwood, 1998, Ledgerwood and White, 2006). The initial thrust for MF arose from the desire to lift the billions of people that languished in poverty, mostly in third world countries. Availing credit to the poor was and is still seen as an essential first step towards breaking the vicious cycle of poverty. However, some researchers contest this view (Bateman, 2010a, Adams and Vogel, 2016, Onyuma and Shem, 2005). Thus, MFIs were established solely to tackle human misery that arose from the scourge of poverty.

In the circumstances that motivated the establishment of the first MFIs like Grameen, the profit motive was ethically incompatible with the MF agenda (Ghosh, 2013, La Torre,

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2006) due to the ethical concern around the “financialization” of poverty (Mader, 2016). Yunus had emphasised the need for MFIs to maintain low interest rates, in contrast with the usurious rates charged by moneylenders in rural Bangladesh that Grameen Bank and other MFIs were supposed to replace (Bateman, 2010a). Consequently, MFIs set the interest rate below the market rate. Accordingly, MFIs operated as NGOs, focusing more on their social mission of serving the poor and the financially excluded than the generation of profits. The welfare approach to the provision of MF underpinned this model.

Proponents of the welfare approach argued that MFIs could attain their social mission without being financially self-sufficient (Kodongo and Kendi, 2013a). The welfare approach further holds that the social purpose of MFIs is paramount and incompatible with financial sustainability. To the researchers who subscribe to this school, financial viability (commercial orientation) and an emphasis on the social mission (development positioning) of MFIs are different approaches that have different aims and motives (Toindepi, 2016). They cite ample body of empirical studies that uncover a decline in social performance by MFIs that have to pursue both the profit motive and the social mission (i.e., transformed) in support of their view. Bos and Millone (2015) and Mia and Lee (2017), for instance, find that capital market funding is subject to mission drift, the evidence against the feasibility of the institutional transformation of MFIs.

Over time, however, some researchers and policymakers began to question the feasibility of the welfare approach. Their primary concern was that the reliance by MFIs on donor funding, though socially desirable, was not a viable strategy. The result was the institutional sustainability school, an antithesis of the welfare school. The new school championed the financial self-sufficiency of MFIs, a stand that raised ethical concerns (Mersland and Strøm, 2010). Despite the attacks from the moral standpoint, researchers pointed out that sustainability confers advantages to MFIs that outweighs the potential drawbacks. First, sustainability allows MFIs to be able to source capital from the financial markets and hence improve control and governance, and customer service (see section 1.3). Likewise, the diversity in funding sources permits the extension of financial services to a broader group that would not be possible under the limited

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financing available to NGOs. Moreover, the diversity of capital sources cushioned the MFIs from global economic shocks and political uncertainties that affect the flow of donor funds (Garmaise and Natividad, 2013, D'Espallier et al., 2017b). Indeed, some research is supportive of the sustainability school. For example, Tchakoute-Tchuigoua (2010) found that private driven MFIs perform better financially when performance is measured using portfolio quality. They further documented that for-profit MFIs are more socially efficient as compared to their NGO counterparts. Besides, there is also evidence that transformed MFIs score better regarding general outreach, growth in loan portfolio, outreach to women, and the range of products evolved (Frank et al., 2008).

However, there are other studies which have found that the two paradigms can coexist without significant loss of social functionality (Mersland and Strøm, 2009, Mersland and Strøm, 2010). This compromise view, called the win-win approach, is an attempt to reconcile the social mission school and the institutional sustainability approach. This school asserts that it is possible to balance sustainability with the attainment of social goals (Kodongo and Kendi, 2013a). A prominent study in support of this paradigm is Louis et al. (2013) who uncover a positive relationship between social efficiency and financial performance, using data of 650 MFIs across the globe. Similar results from a study based on 31 MFIs in Africa, and applying the Generalized Structural Equation Models, found a direct positive effect (and an indirect adverse effect) running from viability to depth of outreach (Ayele, 2015).

Despite the different schools, the MFI transformation movement appears to have taken a firm footing in the MF industry. Thus, the discussion around the merits and demerits of transformation, though necessary, may not be addressing the new reality. To resolve the challenges posed by the commercialisation of MFIs, the output from studies that examine the effects of the novel MFI organisational structures on the social versus financial performance comparison of MFIs would be useful. Such studies would also offer solutions and policy direction that will guide the future path of this vital sector. The next section highlights the current state of the MF industry in Africa, including the extent of the conversion of MFIs in Africa from NGOs to commercial entities.

2.9 Microfinance in Africa and the Extent of the Transformation of MFIs

The financial sector in Africa is still relatively shallow by global standards and trails the world in size, financial sustainability, and outreach (Azad et al., 2016). African countries saw a five-fold increase in financial access, a 40% increase in GDP per capita and an explosion of mobile money (Klapper and Singer, 2014, Beck and Cull, 2014). Still, less than one in five individuals in the continent have access to financial services, although there are significant regional disparities (International Monetary Fund (IMF), 2017, Beck and Cull, 2014). Microfinance and the informal financial sector have played a crucial role in availing financial services to the poor and the financially excluded (Klapper and Singer, 2014, Engström and McKelvie, 2017).

In Africa, several MFIs have converted to commercial entities, the first being K-REP in Kenya in 1999. However, most MFIs in Africa still operate as NGOs, or a hybrid of NGO and commercial model, meaning that donations form a substantial part of the capital of MFIs (Bayai and Ikhida, 2016). The next section provides an outline of the MF industry in Africa and also a synopsis of the extent of the transformation of MFIs in selected African countries.

2.9.1 Microfinance in Africa: An Overview

Given its geographical size, cultural diversity, varied colonial heritage, and differing levels of social-economic development, microfinance in Africa is hardly homogeneous. The cross-country and regional differences manifest both in the nature and levels of development of the MF industry across the continent. For instance, the MF industry in North Africa is closer to that of countries in the Middle East given the shared language and religion. Thus, although the countries in North Africa are members of the African Union, the Microfinance Information Exchange (MIX) categorises North Africa together with the Middle East (as the MENA region). The discussion on microfinance that follows mainly dwells on the Sub-Saharan African (SSA) countries. Where available, though,

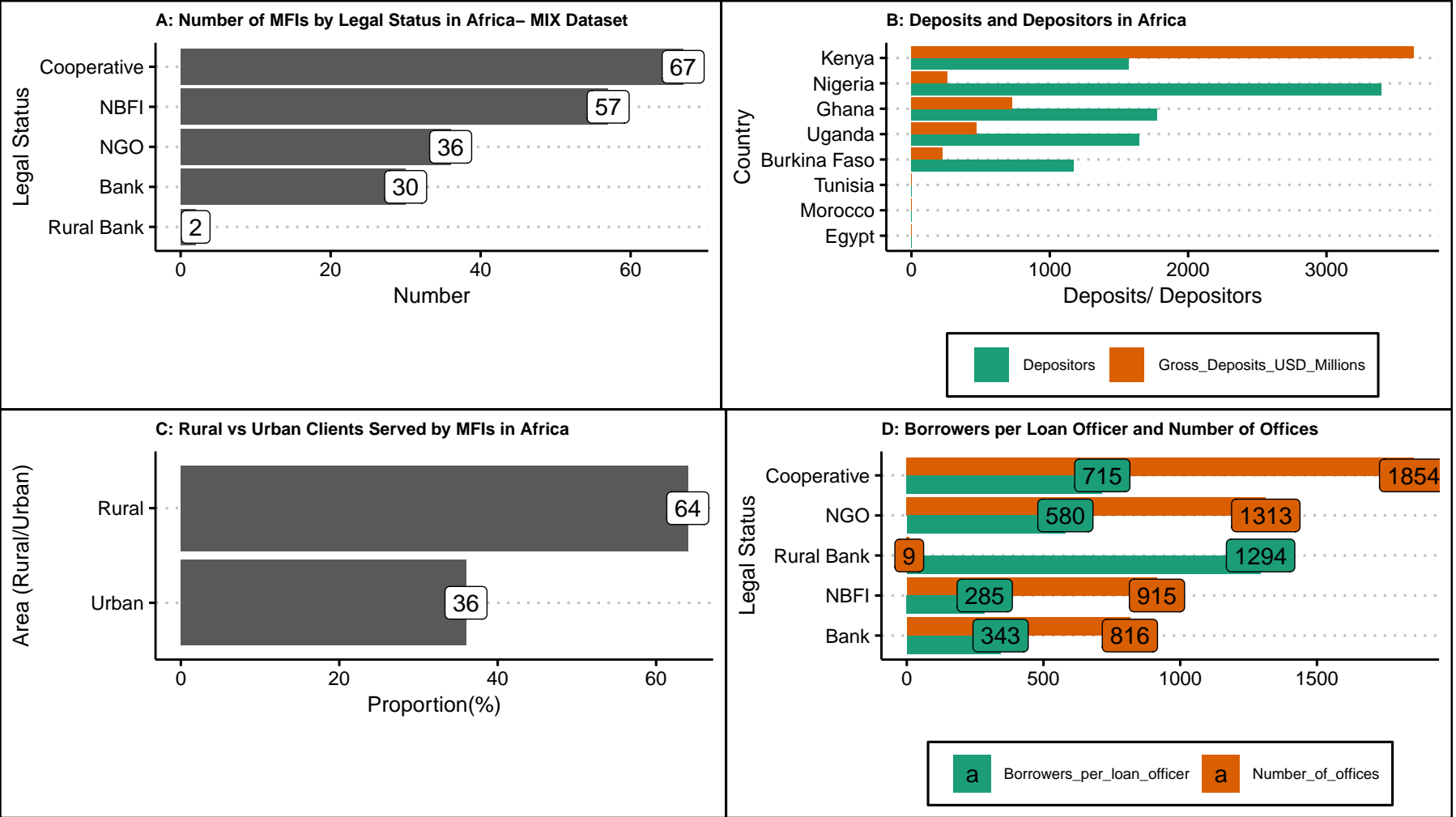
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data from North Africa are also incorporated. Overall, the data are just an estimate given the large informal financial market in Africa (Klapper and Singer, 2014).

Undoubtedly, the most extensive MF market in Africa is Nigeria both regarding borrowers and depositors. By 2015, Nigeria had 1,698,800 borrowers and a gross loan portfolio of US\$ 542,500,000. However, Kenya had the highest gross loan portfolio of US\$3,290,400,000 against 374,000 borrowers indicating a higher average loan size. Figure 2.1 (Panel A) below is a visualisation of the relative size of MFIs in Africa.

True to its purpose, Microfinance in Africa lends primarily to Microenterprises, SMEs, and households. Figure 2.2, panels C shows that the bulk of the loans by count goes to microenterprises (84.6%) and household financing (11.5%). SMEs hold 3.5% of the loans, whereas large corporations have a negligible 0.4% of the loans. Note that these statistics are counts of individual loans granted, not monetary worth. What is in dispute is whether MFIs in Africa and indeed the world over, reach the poorest of the poor. Thus, although most of the lending goes to microenterprises, it is not clear whether the poorest and the financially excluded own these microenterprises (Beck and Cull, 2014). Moreover, even where the welfare of the poor and the financially excluded has improved, it is not clear whether such improvements are a result of MF interventions (Awaworyi Churchill and Nuhu, 2016).

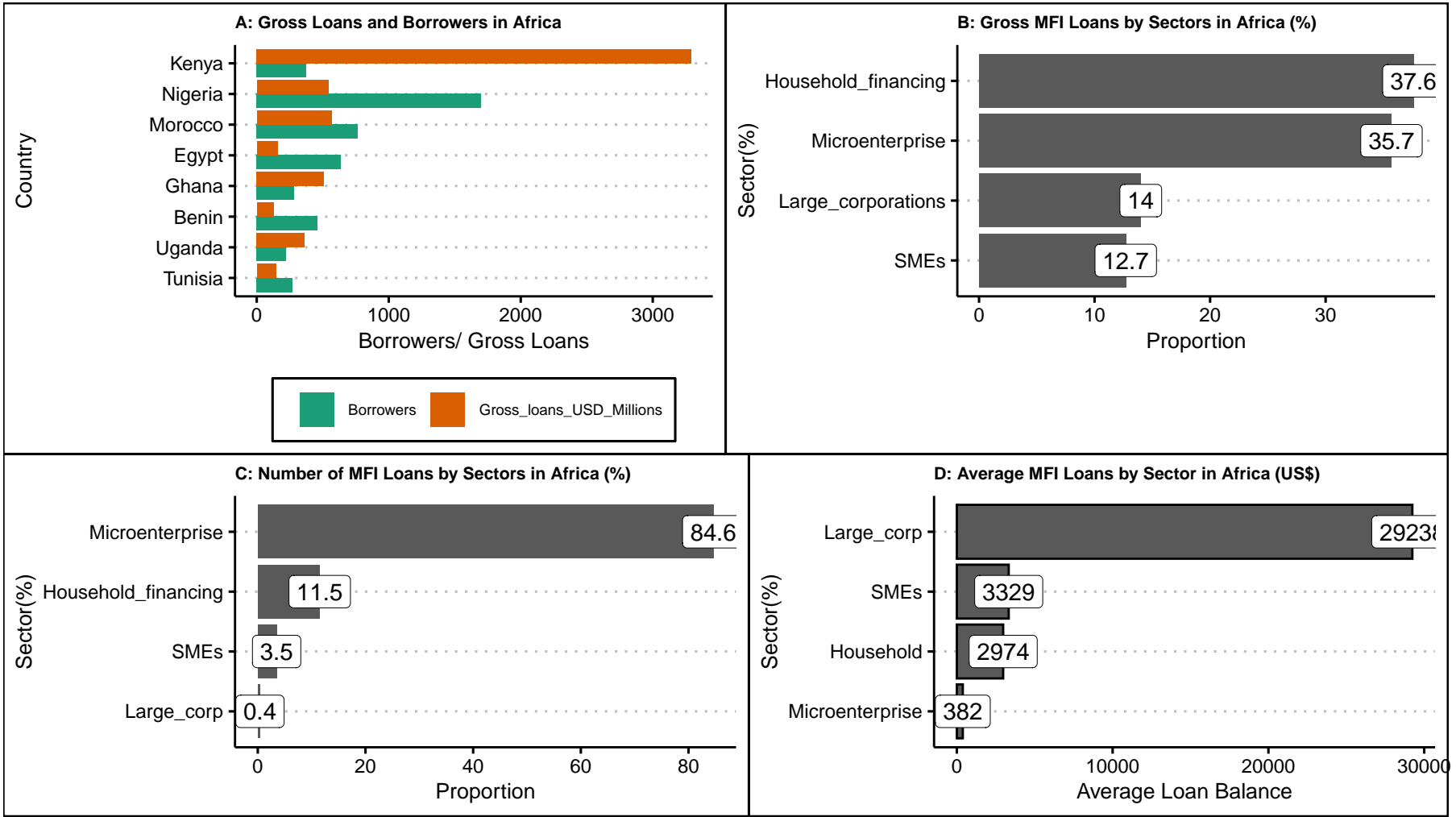
Metrics on MFIs Africa



Source: Construction from MIX data

Figure 2.1: Metrics on MFIs Africa

Metrics on MFI Loans in Africa



Source: Construction from MIX data

Figure 2.2: Metrics on MFI Loans in Africa

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To illustrate the difficulty that researchers face in evaluating the impact of MFIs on the poorest segments of the society, consider the following two cases. Pitt and Khandker (1998) applied the Randomized Control Trials (RCTs) and found that group-based lending benefits the poor. However, when Roodman and Morduch (2014) replicated the study by applying a robust linear estimator and dropping outliers, they found that the results do not hold. Ghosh (2013) also replicated an evaluation report by USAID of the Self-Employed Women's Empowerment (SEWA) based in India and found most of the positive evaluations not to hold after factoring in individual characteristics of the participants. It is thus difficult to arrive at a firm conclusion that MF positively impacts on the poor given the methodological weaknesses inherent in MF impact evaluation methods (Awaworyi Churchill and Nuhu, 2016).

For the total gross loan portfolio, a similar picture emerges, although the distribution is not as extreme as that of the loan counts above. Figure 2.2 panel B illustrates that household financing and microenterprises hold the highest shares of the gross loan portfolios at 37.6% and 35.7%. The share of the gross loan portfolio held by large corporations and SMEs rises to 14% and 12.7%, respectively. Thus, although microenterprises and households produce the highest number of borrowers, the average loan amount lent to microenterprises and households is much smaller compared to SMEs and large corporations. The distribution may be an indicator or confirmation that indeed MFIs may not reach the poorest given that large enterprises receive only 0.4 % of the loans by count but which amounts to 14% of the gross loan portfolio.

Figure 2.2 panel D shows the average loan balances held by microenterprises, households, SMEs and large enterprises. Although large enterprises hold 0.4% of the loans granted by count, the average loan size is 77 times larger than that of a microenterprise. Similarly, SMEs, with 3.5% of loans by count, have an average loan size that is nine times larger than that of a microenterprise. Thus, many microenterprises and households borrow relatively smaller amounts compared to SMEs and large enterprises. Again, it is not clear whether the loans do reach individuals at the very bottom of the pyramid where households subsist on less than a dollar a day.

2.9.2 Transformation of MFIs in Selected Africa Countries

This section highlights the extent of the transformation of MFIs in Africa. The section draws on the available data from the MIX pooled database and the IMF 2017 Financial Access Survey database. The study draws a sample of 2 countries from each of Africa's five regions based on the number of MFIs submitting data to the MIX pooled database (at least 5). Next, the relative sizes of the gross loan portfolio and deposits form the basis of the selection. However, the study also includes Ethiopia ⁸ in the Eastern African region. Table 2.3 shows the summary statistics relating to MFIs in the selected countries. Note that for Southern Africa, only South Africa meets the criteria. Botswana, Namibia, Lesotho, and Swaziland have no MFIs submitting data to the MIX pooled database.

⁸In Eastern Africa, three (3) countries are examined. The addition of Ethiopia is based on the fact that it is among the African countries with the lowest level of capital market development, and notably lacking a stock market THE OFFICIAL MONETARY AND FINANCIAL INSTITUTIONS FORUM 2017. Barclays Africa Group Financial Markets Index 2017. Johannesburg: Barclays Africa Group Limited.. However, Ethiopia also has an extensive MF sector with substantial state involvement AYELE, G. T. 2015. Microfinance Institutions in Ethiopia, Kenya and Uganda: Loan Outreach to the Poor and the Quest for Financial Viability. African Development Review, 27, 117-129.. It is the view of the researcher that Ethiopia would be a useful addition to the study

Table 2.1: Regional Statistics for MFIs, Gross Loan Portfolio, and Deposits (2015)

Country	Region	FSP.Count	Loan.Officers	No.of.Borrowers..000	Gross_Loans_USD_Millions	Average_Loan_USD	Desposits_USD_Millions
DRC	Central Africa	8	658	175	130.4	547	66.1
Cameroon	Central Africa	10	1068	189	344.1	1824	408.3
Ethiopia	Eastern Africa	3	371	174	34.8	200	12.6
Kenya	Eastern Africa	11	2402	374	3290.4	1232	3632.0
Uganda	Eastern Africa	18	999	223	363.3	230	472.1
Morocco	North Africa	6	3398	764	566.4	742	0.0
Egypt	North Africa	4	1687	640	157.6	246	0.0
South Africa	Southern Africa	1	486	139	20.8	150	0.0
Nigeria	West Africa	11	5580	1699	542.5	319	260.3
Ghana	West Africa	10	645	281	507.8	1787	727.4

Source:

Microfinance Information Exchange, MIX (2017)

Note:

¹ The Global Outreach & Financial Performance Benchmark Report – 2015 is the chief source of the data

² However, the MIX database on <http://www.themix.org/mixmarket/countries-regions> is the source of the number of FSPs.

³ The study uses the African Union classification system on regions of Africa

2.10 Manifestation of the Transformation of MFIs

The transformation of MFIs from NGOs to commercial entities has manifested itself in several ways. These include increased reliance on commercial capital, the advent of regulation, and a broader range of financial services on offer. The next sections describe these manifestations.

2.10.1 Reliance on Commercial Sources of Capital

As already noted, MFIs relied on grants and subsidies to finance their operations. However, starting in the 1990s when MFIs began to convert to formal organisations they began sourcing capital from commercial sources. However, the presence of commercial capital means that MFIs had to also strive for financial returns, given that research indicates that commercial logic drives the private funders.

Commercial capital is accessible to transformed MFIs since they appear more creditworthy. The perception of creditworthiness is especially crucial given that most investors favour the governance, risk management and regulatory oversight associated with transformed MFIs when assessing the risk-return profile of investments (Frank et al., 2008). Consequently, most of the transformed MFIs issued financial assets (debt and equity) and mobilised deposits to raise additional capital. Some MFIs are even securitising their loan portfolios, for example, ICICI (India) in 2003, the first MFI to do so (Dieckmann et al., 2007). A few MFIs have even floated their shares through IPOs, such as SKS in India in 2010 (Chen et al., 2010) and the Mexican MFI Banco Compartamos in 2007 (Ashta and Hudon, 2012). However, some researchers have disparaged the IPOs as a mechanism of self-enrichment by a few at the expense of the poor (Ghosh, 2013).

The transformation was a vital step in accessing commercial capital given that, for example, most jurisdictions do not allow non-regulated entities to collect deposits or sell financial assets (Dieckmann et al., 2007). Availability of commercial capital allowed MFIs to free themselves from capital constraints by allowing MFIs to diversify the sources of capital beyond donor funds. Also, research shows that MFIs which mobilise savings are less vulnerable to adverse market conditions (Frank et al., 2008). Likewise,

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donor funds are negatively prone to economic downturns and politics (Garmaise and Natividad, 2013). However, the presence of commercial capital implies that the MFIs must generate enough revenue to not only meet their social goals but to guarantee the expected financial return to the providers of capital. The presence of a financial objective and the social mission means that MFIs must optimise a double bottom line (Mersland and Strøm, 2010). MFIs must also manage their cost of capital, and deal with the agency costs arising from the entry of shareholders and bondholders.

Nevertheless, the shift to commercial model is no guarantee that funding from the capital markets will necessarily flow to transformed MFIs. Factors such as a country's legal tradition, creditor rights, and financial sector development are important determinants of the flow of formal external financing to MFIs (Tchakoute-Tchuigoua, 2014). On the other hand, the entry of commercial funding could shift the focus of MFIs away from their social mandate (Casselman and Sama, 2013). Much of the debate on transformation revolves around the effects that this shift has had on the social and financial performance of MFIs.

Bogan (2012) notes that the source of capital could influence sustainability and social mission attainment by MFIs. The roots of the argument are that funding source is directly linked to the level of monitoring and hence may incentivise or discourage efficiency. Other factors such as the regulatory environment influence the capacity of an MFI to attract certain classes of capital. Table 2.4 below highlights the relative merits and demerits of various sources of funding considering the agency theory. It is vital to note that most of the transformed MFIs operate on a mix of various capital sources. The most common combination is that of debt, deposits, equity, and grants. Given the merits and demerits of each source, it is not clear how the influences associated with each source interact and shape the performance of MFIs, both socially and financially. Most researchers have adopted a dichotomy-based approach to the study of the sources. For example, some studies compare firms with mostly commercial funding vis-à-vis those with grants. In some other studies, researchers based their analysis on the source of funding, public or private.

Table 2.2: Funding Sources and Critique)

SOURCE	BENEFITS	CHALLENGES
Grants	Best for funding startups or risky ventures where alternative funds are unavailable Donor monitoring improves social efficiency	No financial efficiency incentives
-	-	-
Quasi-equity	Low cost (Similar to concessional debt)	Accessible to or from mature institutions
-	-	-
Traditional Equity	Improved efficiency due to management oversight. MFI taps into the formal capital market, making MFI independent of donors and debt-holders and other external funding	Accessible only by licensed/listed MFIs; Shareholders demands may cause short-term focus, resulting in inefficient practices May result in mission drift
-	-	-
Deposits	Low cost of funding and makes MFI independent of donors and debt-holders and other external funding	Accessible to licensed MFIs; High costs of product development; High costs of product development
-	-	-
Concessional loans	Low cost of funding Interest tax shield	Distort markets and reduce incentives to mobilise deposits Potential financial distress (low)
-	-	-
Commercial loans	Monitoring encourages efficiency Interest tax shield	Potentially high financial distress costs

Source:

Adapted from Bogan (2012)

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Beyond, monitoring, the regulatory environment may determine the sources of funding. Capital sources such as deposits, public debt, and equity are subject to regulatory approval and oversight. The next section examines the rise of regulation for MFIs.

2.10.2 Regulation

The financial markets legislation “defines the rules, controls, and sanctions which restrict and enable the behaviour of participants in financial markets” (Marti and Scherer, 2016). Legislation targeted at the MFI sector has risen concomitant with the transition from the NGO model to the commercial model. The regulation is meant to maintain stability in the MF sector (and the economy in case of spillovers), encourage competition, protect depositors and borrowers, and maintain the payment systems (Johnson, 2013). The laws targeted at the MF sector were in response to several negative experiences among MFIs across the globe, and also due to the pressure from MFIs and other interest groups for the development of MFI specific regulations (Campion and White, 1999). In Bangladesh, for instance, indigent clients lost their savings due to the incompetence and fraud by some MFIs (Paprocki, 2016). In Nicaragua, the “no pago” movements raised concerns that MFIs could harm communities by trapping them in unsustainable debt (Bastiaensen et al., 2013). Moreover, cases of suicide by over-indebted MFI clients in India added to the ethical concern around MF practices (Roodman, 2012). Furthermore, a service such as deposit-taking and the entry of commercial funds meant that regulation to protect depositors and other stakeholders from the ownership and governance, management, portfolio, and new industry risks associated with commercially oriented MFIs (Meagher et al., 2006) was necessary. Finally, the 2007 global financial crisis served to illustrate that even the shadow banking system can generate economic shocks that can affect the entire financial system and indeed the economy (Meeks et al., 2017).

In the absence of MFI specific legislation, the initial MFIs that transformed did so under commercial banking laws (Campion and White, 1999, Siwale and Okoye, 2017). However, numerous countries have developed legislation specific to MF. Examples of countries that have MFI specific legislation include Kenya (2006), Bolivia (starting

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from 1958 to 2002)⁹, Nepal (1996, 1999, 2002), and Indonesia (1992, 2003) (Meagher et al., 2006). In most of these countries, the provisions in MF laws mostly follow a variant of the CAMELS rating model used in bank supervision or a variant of the model. The rules emphasise minimum capital and capital adequacy requirements, asset quality, management quality, earnings liquidity, and the sensitivity to market risk (Daher and Le Saout, 2013).

However, regulation is costly both socially and financially both to the MFIs and to the regulators. The costs arise mainly due to the involvement of a significant proportion of skilled labour necessary for effective regulatory compliance (Cull et al., 2011). Also, as Marti and Scherer (2016) argue most jurisdictions follow the technocratic approach to the development of financial regulation. Unlike the inclusive approach to legislation, the technocratic approach ignores the affected parties (like the MFI clients), focusing instead on experts and special interest groups. The inclusive approach favours both the means and the ends of financial regulation. Given the contested nature of poverty and financial exclusion, especially the approaches to tackle them, the researchers recommend the inclusive approach.

Finally, research has not found compelling results regarding the benefits of regulation on both the financial and social performance of MFIs. For example, Cull et al. (2011) demonstrate that regulatory supervision leads to reduced outreach to women and other customers that are costly to reach. Similarly, Siwale and Okoye (2017) do not find evidence that regulation of MFIs helps augment the social mission of MFIs, just as Hartarska and Nadolnyak (2007) find no evidence that regulation positively influences both financial and social performance. The researchers do note, however, that regulation has restored confidence in the MFI sector and served to professionalise the provision of MF services.

⁹There are several laws that govern MFIs in Bolivia. These include the Law on Banks and Financial Entities (1993), Central Bank of Bolivia Law (1995), Property & Popular Credit Law (1998), Law for Normative Strengthening & Financial Supervision (2001), and the Solidary Bond Law (2002). These laws apply to all private financial funds (FFPs), open savings and loan cooperatives (CACs), and commercial banks. CACs are also governed by the General Law for Cooperative Associations (1958) together with Supreme Decree No. 24439 (1996). FFPs are also subject to the Supreme Decree No. 24000 (1995).

2.10.3 Broader Range of Services Offered by MFIs

Commercialisation saw the reduction in donor funding and the push by commercial capital providers for a financial return, in addition to the pursuit of their social mission. Further, the commercialisation also led to increased competition between commercial banks and MFIs at the base of the pyramid. MFIs adapted to the increased competition and demands from the providers of capital by offering additional products tailored to meet the needs of the poor and the financially excluded (Cozarenco et al., 2016). The rollout of the new products was also meant to increase customer loyalty, attract new customers, reduce institutional risks and improve competitiveness (Frankiewicz and Churchill, 2011). Thus, the product range has expanded to include savings products, microinsurance, cash transfer services, pension accounts, leasing, grants, and a range of non-financial services¹⁰.

The microsavings product is similar to the savings products offered by mainstream commercial banks, credit unions, and building societies. The only significant distinction is the scale of the savings, with MFIs dealing mainly with small savings garnered from the needy individuals. Although the initial assumption was that the poor could not save due to their limited income, research indicates that the indigent clients demand both credit and savings products simultaneously (Afzal et al., 2015). However, the study concludes that the poor are a different lot and thus it is not enough to avail a savings product to them. MFIs must avail the right savings product along with facilitation as the standard savings product offered by commercial banks may not get the poor to save (Chandrasekhar and Anantharaman, 2015).

Money transfer, on the other hand, allows one party in a transaction to move cash to another individual or institution in a scenario where the physical exchange of cash is not possible. For example, M-Pesa is a popular mobile phone-based platform in Kenya that people use to pay utility bills, school fees, and even for government services (Maake et al., 2014). Before the advent of MF, such services usually involved the use of a money order drawn in a post office at substantial cost and inconvenience to the parties

¹⁰The non-financial services offered by MFIs include health education, skills training, and social awareness.

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Table 2.3: Uptake of Microinsurance

Region	Agricultural_Risks(%)	Health_Risks(%)
Africa	0.10	0.74
Latin America	0.36	1.24
Asia and Oceania	0.60	0.74

Source:

Platteau et al. (2017)

involved. The other mechanisms for cash transfer offered by MFIs include checks and bank drafts, electronic fund transfers (EFT), and services based on proprietary networks such as the Western Union and Moneygram (Ouma et al., 2017). Given that MFIs are accessible to the poor, they are in a better position to offer these services at the base of the pyramid.

Microinsurance, or insurance for the poor, is aimed at cushioning the poor against unexpected shocks. The low uptake of the conventional insurance products has led to the push for this model of risk mitigation. Unlike microcredit, microinsurance involves the poor making regular premium payments and cannot quickly be packaged as a group product as has been the case with the microcredit group schemes (Platteau et al., 2017). Also, Armendáriz and Morduch (2010) argue that insurance for the poor is risky given the prevalence in poor communities of infectious diseases and higher susceptibility to natural disasters like droughts and floods. Also, information problems, higher per unit transaction costs of insurance, and difficulties in contract enforcement in poor communities make microinsurance especially perilous and needing to be creatively designed.

Thus, in designing microinsurance products, MFIs must take cognisance of the precarious conditions in which the poor live. To encourage the poor to cover themselves against risks deterrents such as price, quality, trust, and liquidity must be addressed (Platteau et al., 2017, Eling et al., 2014). Table 2.6 illustrates the extremely low uptake of microinsurance in the three regions, with health insurance faring slightly better than agricultural insurance.

Another product offered by MFIs is micro-pensions. Any pension scheme aims to provide some steady flow of income from retirement to death. Micro-pensions

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involve the medium and long-term savings schemes that generate capital which the scheme then invests in a variety of assets. The financial flows from these investments are then used to support the non-working elderly (Frankiewicz and Churchill, 2011). Pensions were devised in the western world during the industrial revolution when formal employment gradually replaced casual and self-employment. The challenge with micro-pensions is that most of the MFI clients are engaged in informal, mostly self-employment. It means, therefore that their cash flow is very uneven. Furthermore, most of the cash that the microentrepreneurs produce is prioritised towards the provision of the bare necessities of life, and not business growth or savings. Lastly, some MFIs are even involved in the distribution and marketing of clients output (Armendáriz and Morduch, 2010).

Although product diversification is beneficial to MFIs, it also poses several challenges. For example, some products may result in financial losses due to low demand or the lack of appropriate delivery channels, as in the case of micro-insurance (Platteau et al., 2017). Also, some products offered by MFIs may affect the uptake of another product, a form of cannibalisation (Elabed and Carter, 2015). Cannibalisation is frequent among the various classes of savings accounts, as the experience by Association for Social Advancement (ASA) in Bangladesh demonstrated (Campion and White, 1999, Meagher et al., 2006). Moreover, the failure of a product is likely to affect the image of the MFI among its clients. Furthermore, the diversity of products may affect the service quality as the staff's attention is spread across more products. Lastly, the primary concern in MFIs is that the product diversification may cause mission drift (Christen and Cook, 2001, Chahine and Tannir, 2010).

2.10.4 Efficiency, Financial Performance, and Sustainability

The entry of shareholders and bondholders in addition to the traditional donors presumably increases the level of monitoring of the management (Stoughton and Zechner, 1998). From the agency theory perspective, monitoring is one of the means of resolving the agency conflicts. Also, bondholders and shareholders are likely to give MFIs an increased commercial orientation, through, for example, the expertise they

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bring in by way of the board of directors and the management team they hire (Lauer, 2008). Furthermore, some MFIs have adopted performance-based compensation schemes to address agency conflicts (Bateman, 2010a). Thus, any examination of the transformation of MFIs from lenses of the agency theory points towards improved efficiency and financial performance. Indeed, most studies have found a positive correlation between the injection of commercial capital and the financial performance of MFIs (Louis et al., 2013). For instance, Daher and Le Saout (2013) find that transformed MFIs perform better financially. They note, however, that the better financial performance is inconsistent with social performance. Moreover, researchers have reservations regarding the improvements in financial performance by transformed MFIs. They point to the tendency of transformed MFIs to increase interest rates, engage in aggressive marketing and loan collection methods and offer incentives to managers based on volumes of loans (Ghosh, 2013). These tendencies may be detrimental to clients, lower portfolio quality, and leads to market saturation (Hoque et al., 2011).

On the other hand, there exists conflicting evidence on the effects of the transformation on social performance (and social efficiency), although increased commercial orientation may point to reduced social emphasis (Cobb et al., 2016, Daher and Le Saout, 2013). Other researchers find mixed outcomes (Abdulai and Tewari, 2017). It is then not clear whether the benefits of the transformation of MFIs accrue only to the providers of capital, clients, or to both parties. The inconsistent research output point to a significant research gap. Awaworyi Churchill and Nuhu (2016) pose an essential question, “What has failed? Microfinance or evaluation methods?”. The lack of consensus amongst researchers despite the abundance of research in the area indicates the need for more research.

2.10.5 Enhanced Control and Governance

The entry of commercially oriented shareholders and debt holders has the potential to enhance the control and governance of MFIs. First, commercial funders emphasise tightening the systems of internal controls and thus leading to improved management of the MFIs (Mersland and Strøm, 2010, Mersland and Strøm, 2009). Secondly,

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board representatives of commercial providers of capital are likely to uphold higher professional standards and possess the technical expertise to drive the organisation in the right direction. Also, the transformed MFI must conform with the local banking regulation, including the setting up of a board committee, management structures, disclosures, and stringent risk management procedures (Frank et al., 2008). Likewise, the transformation also leads to the hiring of experienced human resource personnel that may have a bearing on the performance of the transformed MFI. Some of the research that uncovers a positive association between MFI transformation and improved financial performance attribute part of this improvement to enhanced control and governance. However, some research finds that the governance of MFIs affects neither their financial performance nor the outreach to the poor (Mersland and Strøm, 2009).

2.10.6 Improved Customer Service An essential consequence of the commercialisation of MFIs is customer orientation. One example of customer positioning is the development and provision of additional products like micro-insurance and microsavings (Chandrasekhar and Anantharaman, 2015). The new products are geared to meet the customer needs better. To increase customer convenience, most MFIs have adopted technology (Ouma et al., 2017). The fact that MFIs have done away with the one size fits all approach in product design is an illustration of increased customer focus.

Importantly though is that the microfinance space has become more competitive with the entry of commercial banks that offer similar products (Kar, 2016). Also, the presence of shareholders and debtholders keen on a financial return means that the MFIs must strive towards retaining the existing customers and winning over new customers (Ballwieser et al., 2012). It means therefore that the customer experience is a critical differentiator in both the financial and social success of MFIs. Thus, the transformation of MFIs usually involves significant costs in the training of staff in customer care.

Other Motives for the Transformation of MFIs According to Christen and Cook (2001), there are several other reasons why MFIs transform into commercial entities. CGAP notes that legislative change may force an MFI to transform. For example, in Ghana, all MFIs are required to register with the Bank of Ghana (Bank of Ghana, 2016). Georgia

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enacted a law requiring NGOs to cease engaging in MF. Such a legislative requirement provides new institutional requirements for engaging in MF activities. MFIs also transform to gain legitimacy in the eyes of investors, customers, peer financial institutions and other lenders. The legitimacy would allow the transformed MFIs to access funds and raise additional capital with ease. Lastly, some MFIs have explicitly transformed to allow their employees or clients to become owners (Lauer, 2008). The move is designed to increase employee loyalty and minimise agency conflicts between employees and the management.

2.11 Challenges of Transforming MFIs

The transformation of MFIs from NGOs to commercial entities poses several challenges. First, the transformation is costly- both financially and the in the time consumed (Frank et al., 2008). For instance, transformed MFIs incur higher costs arising from the increased reporting requirements and compliance with regulatory procedures (Meagher et al., 2006). The transformation also leads to increased spending on infrastructure (e.g., physical and logical security infrastructure) and human resources (e.g., lawyers, financial consultants, managers, and MFI personnel). Finally, the new products launched by transformed MFIs require extensive market research and marketing (Campion and White, 1999).

Also, legal and other administrative challenges plague the transformation process. In Kosovo, for example, there was a ruling that declared the transformation of MFIs into shareholder-owned funds unconstitutional (The Constitutional Court of the Republic of Kosovo, 2013). On the other hand, Georgia banned NGOs from offering MF services (Lauer, 2008). In the case of Georgia, the ban meant that the NGOs had to transform, spin-off their MF segments into separate business entities or abandon the MF business altogether. The administrative challenges arise out of three problems inherent in the conversion of MFIs into commercial stand-alone legal entities: integration into the formal financial system, ownership, and governance, and organisational development (Campion and White, 1999, Lauer, 2008, Mori and Mersland, 2014). The integration

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of the transformed MFIs into the financial system raises several challenges. First, in most jurisdictions, there were no specific regulations tailored for MFIs. Thus, MFIs transforming had little choice of an appropriate organisational structure (Campion and White, 1999). Most MFIs that transformed had to adopt the commercial banking structure with the attendant regulatory requirements, including the minimum capital. However, with the maturity of the regulatory framework, MFIs can choose from a variety of organisational forms, such as commercial MFIs, rural banks, commercial banks, or a variant of an NBFIs. Several jurisdictions have created a legal framework specific to MFIs which has aided the transformation processes for MFIs.

Before transformation, and even after, the move from the NGO setting to a commercial setting is a challenging process for most MFIs. For instance, the MFI must expend resources to develop commercial, organisational culture, acquire additional human resources and organise training programs to orient the existing staff members on the new business model. The development or acquisition and implementation of a management information system (MIS) suited for modern banking are especially pressing and costly procedures (Campion and White, 1999). For most MFIs that have moved from the NGO model, the culture of the organisation employees must be altered to cater for a more commercial, and thus, a more customer-centric culture. These issues relating to organisational development results in substantial costs of training and mentorship (Campion and White, 1999).

Furthermore, the MFI transformation ushers in new equity and bondholders. The new ownership team involves international investors, employee stock ownership programs, and local private investors. The original NGO is usually part of the shareholding, although highly diluted (Périlleux et al., 2012). Most of the new owners require some form of financial return. In the case of K-Rep, identifying potential shareholders and negotiating a shareholder's plan took a substantial amount of time (Mersland, 2009, Servin et al., 2012, Campion and White, 1999).

Moreover, the new ownership structure requires that a board should be set up to oversee the running of the organisation. The board typically sets the mission and vision of the organisation and sets the investment strategy of the organisation. Setting up

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a useful board to steer an MFI through a transformation process is itself a challenge (Mori and Mersland, 2014). The new governance mechanism and the profit motive may create strains between the different stakeholders in the MFIs.

Also, the political-legal and social-economic environment pose a challenge to the transformation of MFIs, including the timing of the transformation. On the legal side, strict usury laws, tax legislation, and provisioning requirements may limit the financial sustainability of a transformed MFI (Meagher et al., 2006, Johnson, 2013). Like in the case of Georgia and Kosovo highlighted earlier, political-legal interventions may be the ultimate determinant for the decision to transform. As the experience with K-Rep shows, the economic environment has a bearing on the valuation of assets and the speed of license processing by regulators. For instance, the banking crisis in Kenya led to a delay in the licensing of K-Rep by about two years (Campion and White, 1999). The next chapter lays out the conceptual framework of the study.

3

Possible Impacts of the Transformation of MFIS: A Conceptual Framework

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3.1 Introduction

This section focuses on outlining a conceptual framework of the possible impacts of the transformation of MFIs globally and particularly in Africa. The chapter first addresses the low level of transformation of MFIs across the globe. Next, the section describes the theoretical basis for the link between MFI transformation and performance, followed by the techniques for measuring the financial and social performance of MFIs. Subsequently, the section provides a critical review of the empirical literature on the effects of the transformation of MFIs, and the relationship between ownership structure, organisational structure, and efficiency of the transformed MFIs, on the one hand, and their financial and social performance, on the other. The section concludes by examining the determinants of the performance of transformed MFIs.

3.2 Drivers/ Roadblocks to MFI Transformation

As noted by D'Espallier et al. (2017a), although a substantial number of MFIs have adopted the commercial model, a significant number still operate as NGOs. Given the benefits that come with commercialisation, it is hard to justify the low levels of transformation among MFIs. Further, MFIs seeking to transform usually have substantial access to financial and technical support before and after transformation (Bateman, 2010b, Campion and White, 1999) from organisations like the World Bank, and USAID. If the transformation of MFIs is so desirable, what is hindering the mass transformation of MFIs to the commercial model? Put another way, what factors drive, enable or hinder the transformation of MFIs? The section highlights the challenges that MFIs face in the transformation process and draws insights from institutional theorists.

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3.2.1 Financial and Administrative Challenges

The costs and administrative challenges of the transformation could partly explain why so many of the MFIs continue to operate as NGOs. As Campion and White (1999) note, an MFI should only undertake to transform when it is internally capable of bearing the costs and time involved. For instance, an MFI should transform when it can navigate the administrative pitfalls, like the process of applying for licensing and the attendant requirements. It is not clear at what point an MFI is internally capable of transforming either regarding financial resources (assets base) or length of operation or a combination of these and other factors. Campion and White further advised that MFIs should consider transformation only when it is the best strategy, and the regulatory environment is conducive. Researchers have not addressed these issues comprehensively in the existing literature to pinpoint the suitable preconditions for transformation. Alternate explanations for the failure by MFIs to transform come from the institutional theory.

3.2.2 Institutional Theory Perspective

The institutional theory gives some useful insights regarding inertia on the transformation of MFIs. The institutional theory seeks to explain the development of the structure of rules, norms, and routines in organisations. The theory examines how specific structures get accepted as the standard ways guiding social behaviour, and ultimately decline and get discarded (Scott, 2004). The theory holds that the institutional environment is more influential in the development of formal structures in organisations than market pressures (DiMaggio and Powell, 1991).

The institutional theory is not only focused on the persistence and convergence in organisations but is also concerned with change and de-institutionalisation. The institutional theory aims to explain the creation, transformation¹ and the impacts of institutions (DiMaggio and Powell, 1991). Thus, although economic pressures have a bearing on organisations, the institutional environment significantly influences the way

¹In the case of MFIs, the transformation involves the deinstitutionalization of the NGO model and the institutionalization and legitimation of the commercial model of conducting MF business.

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that actors interpret the meaning and consequences of the economic forces. Finally, the institutional theory notes that organisations often adopt established institutional structures without critical scrutiny on the path to gaining legitimacy in the institutional environment (Dacin et al., 2002).

The institutional theory draws from a variety of disciplines. In the 19th century, the theory borrowed heavily from economics, political science, and sociology. The works of Karl Marx, Emile Durkheim, Marx Weber, Herbert Spencer and Charles Cooley were particularly influential. Later, the theory expanded and borrowed from cognitive psychology, evolutionary and transaction cost economics, social history, ethnomethodology, and the new cultural studies in anthropology and sociology. Economists such as John Commons and Thorstein Veblen had argued for the examination of the historically changing rules that govern economic transactions. They pointed out that economics had overemphasised rationality and ignored habit, routines, procedures, conventions, roles, and rules as drivers of economic behaviour (Scott, 2004). Moreover, historical institutionalism stresses the role which current institutional structures play to influence subsequent arrangements and directions of change. Accordingly, historical institutionalists view the evolution of institutional structures as path dependent (Dacin et al., 2002).

As detailed by Ritzer (2005), institutional theory rests on a set of assumptions. The first assumption is that institutions, as governance structures, embody rules for social conduct. Secondly, actors accord legitimacy to those groups and organisations that conform to these rules. This legitimation is a condition that contributes to the survival of firms. In the case of MFIs, offering financial services to the poor and the financially excluded is the source of legitimacy which some researchers argue is under threat due to the transformation. Moreover, the theory assumes that inertia, a tendency to resist change, is inherent in institutions. Lastly, the historical evolution of institutions matters. The emphasis on the historical setting implies that past institutional structures constrain and channel new arrangements and shapes future evolution of firms.

One form of pressure from the institutional environment is coercive pressure. Coercion implies some form of implicit or explicit push to conform. Coercive pressure

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is exceptionally high where the institution is highly dependent on the institutional environment from which the pressure to conform arises (Meyer and Rowan, 1977). Pioneer MFIs were relatively more donor-dependent. Hence, donors like the World Bank and other donor agencies, had leverage to place considerable pressure on MFIs to transform especially with the rise of neo-liberalism (Ostry et al., 2017). In the case of the institutional transformation of MFIs, the donors theorised against the existing, not-for-profit organisational model. The theorisation included the specification of the failings of the not-for-profit model and the vindication of the practices of the commercial approach in light of pragmatic considerations (Dacin et al., 2002) and real or perceived benefits.

The institutional theory not only provides insights regarding the transformation of MFIs but also insights into the financial and social performance of MFIs post-transformation. Thornton (2002) provides an analogy of publishing firms that transformed from the professional editorial setup to the market-led positioning, a trend prevalent in numerous industries (Thornton et al., 2015). The author argues as follows, in line with the institutional theory:

In the context of the publishing industry, the meaning and legitimacy of various sources of organisational identity and strategy and structure are shaped by a prevailing institutional logic. Publishers may identify with publishing as a profession by building their personal reputations in the industry, or publishers may identify with publishing as a business by improving the market positions of their firms. Second, institutional logics determine which issues and problems are salient and the focus of management's attention. For example, publishers may focus on increasing sales by concentrating on author-editor networks in product development; or publishers may focus on increasing profits by emphasising control of resource competition in the product-market. Third, institutional logics determine which answers and solutions are the focus of management's attention. For example, publishers may adopt strategies of growth by focusing on organic growth and building personal imprints; or publishers may concentrate on acquisition growth and building market channels (Thornton, 2002).

The dilemmas that publishers faced is similar to what MFIs are facing currently. In the context of transformed MFIs, the manifestation of social conduct is the ability to

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meet their social mission by focusing on the financially excluded. On the other hand, MFIs are expected to meet a new threshold of financial sustainability. The research debates points to the rationalisation of the new MFI business model. However, failure to conform to the expectations of attaining their social mission may render the new business model and even the entire MF industry illegitimate. The lack of legitimacy may put the survival of the transformed MFIs at risk.

Although the transformation of some MFIs fits well within the explanations of the institutional theory, it fails to account for many MFIs that have not transformed. The critics of the institutional theory, however, provide some useful insights into the persistence of non-transformation of MFIs. The critics contend that the theory is used merely to explain the homogeneity and persistence of phenomena and that it does not explain “de-institutionalisation” equally well. They argue that organisations do not merely drive change, but that they also change over time, often in response to external demands or pressure. Furthermore, the rate and nature of change differ across organisations (Dacin et al., 2002).

Contemporary research lumps together all MFIs and attempts to describe aggregate changes. However, given the specificity of the drivers to transform, such studies do not give a proper account of the reasons for transformation or the lack of it. Similarly, analysis based on global level data may crowd out institutional specific and regional specific manifestations of the institutional transformation of MFIs. It would be worthwhile to perform an in-depth study of individual organisations to uncover individual peculiarities because of the changes at the micro level, which could also include institutional specific, country-specific and regional specific drivers for MFI transformation (mersland, 2017).

Little empirical research has explored the factors that drive the decision by MFIs to transform. Most of the researchers take transformation for granted, or maybe as an occurrence that unfolds as the MFI matures. It would be worthwhile to establish the institutional and other factors that hinder the transformation of MFIs to commercial entities. Such research could point out the characteristics of MFIs that have undergone a successful transformation. Also, the research would link the pre-transformation state

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of the MFIs and the post-transformation financial and social performance. The output from such specifically oriented research would then point to the indicators that the management of MFIs and policymakers would consider when evaluating the success or failure of a potential MFI transformation.

3.3 MFI Transformation and Performance: Theoretical Insights

Researchers have widely explored the theme of the transformation of MFIs. The primary literature, for example, Campion and White (1999) and Mersland and Strøm (2010) mainly dealt with the implications of the transformation of MFIs, especially regarding possible mission drift. Other studies have compared commercial MFIs against those MFIs operating as NGOs. Some researchers have welcomed the presence of NGOs in the MF industry as an attempt to address market failures. However, some scholars have attacked the comparison between NGO and commercial MFIs. Central to their argument is that utility maximisation, not profit maximisation better explains the behaviour of firms in markets with mixed preferences (Bos and Millone, 2015). This section provides a theoretical background on the link between the transformation of MFIs and their performance.

3.3.1 Agency Theory

This section describes the agency theory and its implication to the study.

3.3.1.1 What is Agency Theory?

Agency theory deals with the principal-agent relationships where one party (the principal) engages another party (the agent) to act on their behalf. The principal delegate's decision making to the latter. Both the principal and the agent are interdependent but may have different goals and attitudes towards risk (Ballwieser et al., 2012, Eisenhardt,

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1989). Suffice it to note that the principal-agent relationships extend beyond that between shareholders and managers, and could include, among others, the relationship between shareholders and debtholders.

3.3.1.2 Historical Overview of the Agency Theory

Although hardly acknowledged, Adam Smith had mentioned the concept of agency theory arising out of the separation of ownership from management in 1776. In line with the agency theory, Smith stated the following in his renowned book, *The Wealth of Nations*.

The directors of such (joint-stock) companies, however, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company- Adam Smith (Jensen and Meckling, 1976).

In an agency relationship, information asymmetry makes it difficult or expensive to verify what the agent is doing. Also, the divergence in attitude towards risk between the two parties is problematic because the objectives of both the principal and the agent may differ based on their risk preferences (Sun et al., 2016). Ex-ante, agents may misrepresent their abilities, and the principal cannot verify their skills at the time of hiring or even when the agent is working (Eisenhardt, 1989). The unverifiability of competencies presents the adverse selection problem. On the other hand, the agents may, after hiring, exert too little effort in their work, and also undertake other activities that are harmful to the principal (Tirole, 2006). The ex-post manifestation of information asymmetry is the moral hazard problem.

Following Smith, Berle and Means (1932) confirmed the extent of the dispersion of ownership arising from the separation of ownership from control in industrial firms in the United States. They traced the separation to the industrial revolution, the rise of stock markets, and the advent of organised labour and trade unions (Bendickson et al., 2016). Berle and Means noted that the separation meant that the suppliers of capital

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essentially gave up ownership to become mere recipients of financial returns, turning private corporations into quasi-public organisations. They argued that such separation disenfranchised the owners by ceding too much power to managers. Consequently, as subsequent research indicated, the dispersed ownership would result in shareholder apathy² in monitoring the management (Battaglini et al., 2016).

With the inevitable separation of shareholding and management, monitoring by institutional and individual investors holding large blocks of shares could mitigate shareholder apathy. Large investors have the capacity and incentive to monitor the management given that the benefits they derive from monitoring exceed the costs of failing to do so. However, the shareholders holding a substantial equity stake could, on the other hand, abuse their position by extracting private benefits of control (Dyck and Zingales, 2004, Doidge, 2004). Hence, there is a trade-off between the potential advantages in the concentration of ownership and the drawbacks of near-absolute dispersion. Considering their findings, Berle and Means asserted that a corporate revolution had occurred and predicted that corporations characterised by dispersed ownership would dominate economic activities. They also projected growth in the size of firms and the concentration of the economy.

3.3.1.3 Positivist Versus the Principal-Agent Approach to Agency Theory

James Burnham (1941) stated that managers are self-interested and opportunistic, assumptions that later became central to the agency theory (Bendickson et al., 2016). Subsequently, research on agency theory followed two strands: the positivist approach and the classic principal-agent approach. As Eisenhardt (1989) notes, the two methods share a standard unit of analysis and assumptions but differ in the application of mathematical techniques, the choice of the dependent variable, and style.

The positivist approach focused on identifying the situations where the objectives of the owners and the managers diverge and suggested mechanisms for aligning the

²The apathy arises due to the free rider problem. Where ownership is dispersed, no individual stockholder will be motivated to monitor the management because the entire cost of monitoring is borne by the individual shareholder, whereas the benefits accrue to all. This gives rise to rational apathy that allows the management to run the firm at their whims.

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objectives. In doing so, the positivists dwelt exclusively on the agency conflicts that arise between the owners (shareholders) and the managers. Prominent examples of positivist research include Berle and Means (1932), Jensen and Meckling (1976), Fama (1980), and Fama and Jensen (1983).

Jensen and Meckling (1976) examined ownership structure, including how equity ownership by managers could mitigate agency conflicts. Fama (1980) considered the role of capital and labour markets as information mechanisms to control the management. Fama and Jensen (1983) posited that the board of directors was an information system that could be applied to lessen opportunism by managers in large corporations. The positivist approach is the most prominent in the finance literature and forms the basis of the various standard definitions of the agency theory. The paper by Jensen and Meckling (1976) is especially significant.

In this influential paper, Jensen and Meckling (1976) noted that the separation of ownership from the day to day management of the firm gave rise to agency conflicts due to moral hazards where managers do not always act in the best interests of the shareholders. These agency conflicts manifest themselves in the form of insufficient effort, entrenchment strategies, extravagant investments, and self-dealing by the management (Tirole, 2006).

Researchers have proposed mechanisms to resolve the agency conflicts, and as a result, incur agency costs. The first is the use of incentives to design an efficient principal-agent risk bearing mechanism, for example, by the use of performance-based compensation schemes. Secondly, the principal must monitor the performance of managers- for instance through the employment of auditors. Alternatively, the managers incur bonding costs to demonstrate a commitment to the principal's goals (Bosse and Phillips, 2016). In markets with weak investors protection regulations and an extreme dispersion in ownership, institutional investors and large individual investors holding controlling stakes are better placed to monitor managers (Goergen and Renneboog, 2003). Thus, the ownership of corporations has implications on the level of monitoring and presumably the performance of firms. Finally, other mechanisms aimed at aligning the interests of the principal with those of the agents

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including ceding some proportion of ownership to the managers (Ang et al., 2000), the managerial labour market and the market for corporate control (Ballwieser et al., 2012). However, it is not possible to design a scheme that will fully align the incentives of managers and shareholders. This divergence results in residual loss (Fama and Jensen, 1983).

However, agency conflicts do arise between other parties beyond owners and managers. In this respect, the classic principal-agent approach extended the application of agency theory to the other forms of agency relationships such as shareholders-debtholders, employer-employee, lawyer-client, and buyer-supplier. Logical deduction and rigorous mathematical proofs are the hallmarks of the principal-agent approach. The output from this school is a set of general theories applicable to a broad variety of principal-agent relationships. Principal-agent literature addresses the agency relationship between shareholders and bondholders.

The prominent principal-agent literature includes Demski and Feltham (1978), Eisenhardt (1985), and Eisenhardt (1988). In brief, the paradigm prescribes the optimal contract (be it outcome-based or behaviour based) between the principal and the agent under varying degrees of outcome uncertainty, risk aversion, information systems, goal conflict, task programmability, outcome measurability, and the length of the agency relationship (Eisenhardt, 1989)³. Both the positivist and the principal-agent paradigms are, however, complementary. The positivist approach is a subset of the broader principal-agent approach. While the positivist approach identifies the different contract alternatives to mitigate the agency conflicts, the principal-agent approach prescribes the most efficient contractual arrangement.

3.3.1.4 Criticism of the Agency Theory

Nevertheless, several researchers have criticised the agency theory. Much of the criticism has been directed mainly at the more popular positivist paradigm, with little of it aimed at the principal-agent paradigm. Some researchers hail the agency theory

³EISENHARDT, K. M. 1989. Agency theory: An assessment and review. *Academy of Management Review*, 14, 57-74. has presented a comprehensive overview of both the positivist and the principal-agent view of the principal-agency relationship.

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for offering a more complex view of organisations. However, Perrow (1986) condemned the positivist agency theory for being “trivial, dehumanising, and even dangerous” (Eisenhardt, 1989) while others scholars view it as minimalist (Hirsch and Friedman, 1986), tautological and lacking rigour (Jensen, 1983). Perrow (1986) further asserted that the theory addressed no apparent problems and was one-sided as it ignored the potential exploitation of workers. Also, he questioned the empirical verifiability of the theory, although subsequent research did test the theory empirically (Eisenhardt, 1989). The view by Perrow is in line with Hirsch and Friedman (1986) who assert that the agency theory is excessively narrow, and focused only on the stock price.

Although empirically verifiable, agency theory fares weakly in such tests. For example, Murphy and Jensen (1990) found no conclusive link between CEO pay and stock price. Frydman and Jenter (2010) found weak evidence for incentive alignment as an explanatory agency construct for CEO pay. Tosi et al. (2000), after reviewing US executive compensation from 1936 to 2005 also found that agency theory is inconsistent with the available evidence. The most stinging rebuke of the agency theory came after the global financial crisis that started in 2007. Research into the causes of the crisis uncovered that strong incentives are not always optimal. The sub-optimality of strong incentives is especially prominent where there are no precise measures of the agent’s efforts, in situations that require multitasking, and where cooperation between agents is essential. In such circumstances, Roberts (2010) argues that weak rather than strong incentives are necessary.

Additional criticism of the agency theory arises from assumptions. For instance, by self-interest, agency theory assumes that the providers of capital are responsible, whereas, the managers are opportunists waiting for every chance to swindle. However, the same could also hold for the providers of capital. As Miller and Sardais (2011) illustrated in their case study, the providers of capital may act against the long-term interest of the firm by forcing managers into actions that only have short-term benefits, but that is harmful in the long term. On the other hand, some steward like agents may use their superior information for the long-term benefit of stakeholders. Such

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short-termism has been the subject of research since the global financial crisis of 2007, yet there is scant research on the drivers of the myopic management (Dallas, 2011).

Furthermore, in criticising the assumption of self-interest, Bosse and Phillips (2016) view self-interest from the context of fairness and reciprocity on the part of the CEO. They argue that in the implementation of rules to check CEO discretion, boards must act with positive reciprocity to minimise welfare reducing revenge acts from the CEO. Also, the persistence of CSR initiatives by firms may be indicative of some degree of altruism amongst investors, although the motives of CSR are subject to debate (Glegg et al., 2017) which could be present in the MFIs even after the transformation. Nevertheless, research indicates that commercial providers of funds are driven by commercial logic, while development logic drives donors (Cobb et al., 2016). The self-interest assumption implies that with commercialisation, the social dimension of microfinance is likely to be secondary to the achievement of financial objectives.

Furthermore, the assumptions that organisations are profit-seeking is in direct conflict with the operation of MFIs pre-transformation. Evidence on transformed MFIs however, indicates a shift towards profit positioning (Chahine and Tannir, 2010, D'Espallier et al., 2017a). Also, agency theory leaves no room for non-pecuniary, intrinsic motivation, which is subject to debate. Furthermore, agency theory presumes that the agent's utility is positively contingent on financial incentives, and negatively with effort. Moreover, the theory assumes that time preferences are calculated mathematically using the exponential discount function. Finally, the theory assumes that both effort and motivation increase monotonically with rewards. All these assumptions have come under criticism and led to the development of behavioural agency theory⁴.

The other limitations of the agency theory usually arise out of the assumptions that firms operate in a tax-free environment and that stocks are non-voting. While

⁴The behavioural agency theory relaxes some of the assumptions of the mainstream agency theory. In contrast with the standard agency theory which focuses on monitoring costs and incentive alignment, the behavioural agency theory (BAT) focuses on agent performance. The BAT argues that the objectives of the shareholders are likely to be achieved if the agent is motivated to perform to the best of their ability. The theory incorporates intrinsic motivation and inequity aversion, and relaxes assumptions on risk and time discounting. A detailed presentation of the study is presented by PEPPER, A. & GORE, J. 2015. Behavioral agency theory: New foundations for theorizing about executive compensation. *Journal of Management*, 41, 1045-1068.

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these assumptions allow for the development of the model, they are unrealistic. The existence of taxes may explain why firms take up debt, but this does not explain why debt structures vary across industries and companies, and over time (DeAngelo and Roll, 2015), although differentials in the magnitude of the initial capital outlay explain part of the cross-industry difference.

Finally, the theory fares poorly in explaining the governance and performance of firms that are family-owned, firms engaged in strategic entrepreneurship, and those that take part in social entrepreneurship that have a double bottom line (Bendickson et al., 2016). MFIs fall into the latter category, given that they have both a financial goal and a social mission. As Bendickson et al. (2016) conclude, insights from network theory and the social exchange theory could when used together with the agency theory, better explain the performance of firms characterised by the double bottom line.

3.3.1.5 Implications of Agency Theory of MFI Transformation

Given the agency resolution mechanisms, the transformation of MFIs to commercial entities has several implications. First, the entry of shareholders and debt-holders can induce discipline among managers given the increased monitoring. Thus, commercialisation could influence financial performance and the efficiency of MFIs (Berger and Bonaccorsi di Patti, 2006, Khachatryan et al., 2017). On the other hand, commercialisation is also likely to affect social performance (D’Espallier et al., 2017a).

Moreover, research suggests that ownership structure influences the capital structure of firms. For example, institutional ownership is associated with higher leverage ratios (Sun et al., 2016). Research further indicates that the choice of capital structure can also mitigate agency conflicts between shareholders and managers. High leverage or low equity value reduce the agency costs of outside equity (Berger and Bonaccorsi di Patti, 2006).

Also, the nature of ownership- that is, institutional, or individual and the ownership structure may also influence the degree of monitoring and hence the financial and social performance. A high level of ownership dispersion is likely to be detrimental to monitoring, as opposed to large blocks of ownership by individual and institutional

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investors (Becht and Röell, 1999). As noted earlier, however, such concentrated ownership may be harmful due to the tendency to extract private benefits of control. Debt is a tool to reduce managerial discretion for two reasons. Primarily, debt reduces the free cash flows that managers can misuse or misapply. Besides, debt holders offer an additional layer of monitoring, and hence the view of banks and other financial intermediaries that provide debt as delegated monitors (Diamond, 1996). The presence of debt raises the threat of liquidation, where managers lose their salaries, perquisites, and even reputation (Jensen and Meckling, 1976).

However, the entry of debtholders in transformed MFIs poses a new set of conflict: the agency conflicts between shareholders and debtholders. As providers of capital, both shareholders and debtholders have an interest in the performance of the firm. However, the shareholders have limited liability but remain residual claimants after settling the debt. On the other hand, the debt-holders earn a fixed income but could lose their investment if the firm fails. The concern for the debtholders is that the owners may use the borrowed money to make risky investments. The motivation for the risky investment is that if the investment succeeds, the owner keeps the residual, but if it fails, the debt-holder suffers substantial losses (Chu, 2017). As a result, the debtors also monitor the management intensely.

Given this analogy, the capital structure may moderate the balance between the achievement of social goals and financial performance, given that investors are assumed to prioritise self-interest. For debtholders who are recipients of a fixed return, the emphasis on the social mission of MFIs is likely to be a disadvantage. However, the effects of the commercialisation of microfinance are likely to be subject to several additional factors. These factors comprise but are not limited to the degree of share ownership vis-à-vis dispersion. Thus, the establishment of the influence of the changes in MFIs must take cognisance of a myriad of factors both within and without the organisation that may have a bearing on the different dimensions of performance by MFIs.

3.3.2 Capital Structure Theory

The capital structure theories attempt to explain the financing mix of a firm regarding the proportion of debt and equity in the firms' long-term funding. Modigliani and Miller (1958) developed the most prominent theory of capital structure. According to this theory, the choice of the mix of debt and equity is irrelevant; that is, it does not affect the value of the firm. Later refinements of the theory to include taxation, and the costs of financial distress concluded that considering financial frictions; financing structure does matter. This section does acknowledge both the net operating income and the net income theories of capital structure. However, the section deals primarily with the Modigliani and Miller capital structure theories which dominate the thinking around the capital structure. The section also provides a discussion of the pecking order theory.

The MM theory is the backbone of modern thinking on capital structure. Developed by Franco Modigliani and Merton Miller starting from 1958, the theory has four components, namely MM propositions I, II, III and IV. In MM 1, Modigliani and Miller viewed the value of a firm and its capital structure to be independent. Put another way, the cost of capital did not vary with changing the capital structure. Instead, the value of a firm was dependent on its expected performance and commercial risk (Myers, 2001, Chang, 2015). The proposition implied that an optimal capital structure did not exist.

MM II recognised the existence of corporate taxes. With corporate taxes, they concluded that the financing structure of a firm does matter because interest on the debt is an allowable deduction for taxation, while dividends on both common and preferred stock are not (Dempsey, 2014). The variance in value between a levered firm and an all-equity firm is the interest tax shield, that is the tax-saving because of having paid interest on the debt. The inference is that the optimal capital structure is 100% debt, which goes against the observed practice of corporate financing.

The MM III improved on MM II by integrating personal taxation. The inclusion of personal taxation changed the objective of the firm from that of minimising the corporate tax bill to that of minimising all taxes, both corporate and personal, which both the bondholders and shareholders face. Put another way the firm should arrange

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its financing to maximise the after-tax (both personal tax and corporate tax) income. Under this scenario, corporate borrowing is better if the after-tax income is higher than that without taxes, otherwise, it is advisable to borrow less. This approach introduced the concept of the relative tax advantage of debt. However, it is MM IV, also called the trade-off theory, that dominates the capital structure debate.

3.3.2.1 Trade-off Theory

MM IV was a refinement of the MM III, recognising that although debt has its merits, it raises the probability of financial distress. Thus, managers must strike a balance between the tax benefits of debt against the reality that a firm increases the likelihood of default, the higher the debt in the capital structure (De Jong et al., 2011). For this reason, MM IV is also called the trade-off theory. The costs of financial distress may be direct, for example, the legal costs of reorganisation. Indirect costs may include the loss of customers, suppliers, employees, receivables, and the loss associated with the fire sale of assets (Ehrhardt and Brigham, 2016). The following equation summarises MM IV.

$$V_l = V_u + T_s - FDS \quad (3.1)$$

Where

- V_l is the value of a levered firm.
- V_u is the value of an unlevered firm, that is, a firm with no debt in its capital structure.
- T_s is the present value of the tax shield, the product of the interest expense and the corporation tax rate.
- FDC is the present value of financial distress costs.

The introduction of financial distress has significant implications on the capital structure of firms. With financial distress costs, firms tend to avoid too much debt. Mature, profitable firms tend to rely on internally generated funds as do corporations with little cash flows and intangible assets. Firms with tangible assets for use as collateral have high leverage as do firms with high cash flows. Also, distress costs

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mean that firms would favour debt that is easily reorganizable, which favours bank loans rather than debt from public capital markets. For flexibility, firms tend to deal with few banks and opt for a few classes of debt (Ehrhardt and Brigham, 2016).

The trade-off theory has two important strands. As described above, the static trade-off theory seeks to balance between the tax advantage of debt and the potential costs of financial distress. However, subsequent research later demonstrated that under certain conditions, the tax disadvantage at the individual level offset the tax advantage of debt at the corporate level (Bradley et al., 1984). The research developments led to the introduction of an array of leverage-related costs such as bankruptcy costs themselves, agency costs of debt, loss of non-debt tax shields (e.g., accelerated depreciation and investment tax credits that reduce corporate tax liability), and the presence of personal taxes on dividends.

Thus, the calibration of the optimal capital structure must involve the balance between the tax benefits of debt on the one hand, and a range of leverage-related costs on the other. The choice of optimal capital structure then turned into an empirical issue investigating the significance of the various leverage-related costs. Much of this subsequent research indicates that the choice of an optimal capital structure is industry-specific, influenced by non-debt tax shields, and financial and trade cycles (Miao, 2005). Further, the level of debt varies with industry output, plant closings, firms' entry into the industry, and even capital investments by firms (Myers, 2001). The dynamic trade-off theory asserts that firms have a target capital structure depending on their specific characteristics. Thus, firms will issue securities that bring them closer to their target capital structures (Elsas et al., 2014). In other words, the theory asserts that mean reversion to the optimal capital structures characterises firms financing. Notable in this theory, though is that firms incur costs in adjusting their capital structures to their desired optimal levels. The speed of adjustment to the optimal structures is also subject to research, and a significant point of contention for the dynamic trade-off theory. There is, however, no evidence of a universal optimal or target capital structure in firms of industries (Elsas and Florysiak, 2015).

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The starting point of the critique of the trade-off theory is the empirical soundness of the model. Whereas taxes are inevitable, bankruptcy is rare, and so it is not proper to give equal weights to the probabilities in the choice of capital structure. Under this scenario, firms should have much higher leverage than is observed in practice. Whereas the tradeoff theory explains why firms adjust their high leverage by buying back debt and not by issuing new equity, it is weak in explaining extended under-leverage by firms. The under-leverage could be cured by issuing debt and buying back shares, an adjustment process rarely observed in practice (Myers, 1984). In explaining the leverage level of firms, the trade-off theory has a very low coefficient of determination and cannot satisfactorily explain differing leverage levels across apparently similar firms. Furthermore, the theory cannot explain the choice of leverage targets by firms. Lastly, Welch (2004) notes that stock returns explain about 40% of debt-equity ratio, a situation that should not occur if firms repurchased debt or issued equity to counteract the effects of stock returns of the debt-equity ratios. However, more recent empirical review of capital structure decisions points to a tendency for managers to issue stock when there has been a share price run-up, in support of the tradeoff theory and managerial market timing (Elsas et al., 2014).

3.3.2.2 Pecking Order Theory

Donaldson (1961) laid the foundations for the pecking order theory, stating that “Management strongly favoured internal equity as a source of new funds to the exclusion of external funds except for occasional unavoidable ‘bulges’ in need for funds” (Myers, 1984). Myers and Majluf (1984) brought the pecking order theory to the fore. The theory contends that in raising capital, corporations are also subject to floatation costs- costs associated with the issuance of financial assets. The floatation costs compound the information asymmetry faced by investors. Most corporations, therefore, issue capital in a predetermined order usually starting with the cheapest. Most firms will start by raising capital internally using their retained earnings. When retained earnings are exhausted, firms resort to short-term marketable securities. Preferred stock, debt

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and common stock respectively are usually the least preferable (Chirinko and Singha, 2000, Fama and French, 2002).

The assumption behind the pecking order theory is that managers have an information advantage over investors (information asymmetry). Under information asymmetry, managers will tend to issue risky securities when they are overpriced. Investors, aware of managers information advantage, interpret any issue of securities as a signal pointing the valuation of the company's securities. Investors thus discount the firms new and existing securities when new issues are announced (Fama and French, 2002). Usually, investors and by extension the capital markets react negatively to new stock issues (Myers and Majluf, 1984, Chirinko and Singha, 2000). The logic behind the adverse reaction is that if the prospects of the firm were favourable, there would be no need to dilute the ownership structure, and hence reduce the future earnings per share of the firm. On the other hand, capital markets usually react positively to the issue of debt.

A more complex modification to the pecking order theory assumes that firms are concerned with, not just current financing costs but also with future financing costs. Thus, to balance the present and future costs of financing, firms with substantial expected investments maintain leverage. The low leverage helps firms to avoid having to forego future lucrative investments and minimise any material costs of financial distress. It also allows firms to avoid financing such future lucrative investments with new risky securities. The leverage allowance is called the reserve borrowing capacity. The reserve borrowing capacity allows corporations to have the flexibility to issue securities to take up attractive investment opportunities that arise by quickly issuing debt (Ehrhardt and Brigham, 2016). Furthermore, firms tend to set dividend policies that allow the firm to meet most of its immediate financing needs using internally generated funds. In this respect, the dividend ratio maintained by firms tends to be sticky; that is, it tends to be steady, and not exhibit sudden fluctuations unless the firm is in financial distress.

Although some of the pecking order theory's predictions are valid, there is no evidence that the theory is of first-order importance in determining the capital structure of firms. For example, there is a definite relationship between expected investment

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and book leverage. Profitability, on the other hand, is negatively related to leverage. However, Myers (1984) cites some firms that issue stock when they could instead issue debt. Thus, the pecking order theory does not explain everything in corporate financing. Moreover, it is hard to define the reserve borrowing capacity as this will vary from one firm to the other. Finally, the pecking order theory depends on sticky dividends but gives no hint why dividends should be sticky.

3.3.2.3 Factors Influencing the Choice of Financing Sources by Firms

The capital structures adopted by firms tend to vary across countries of operation, asset structures and operational risks faced by firms. Given that firms operate in different macroeconomic and microeconomic environments, and have different growth options, competitiveness, legal, and tax frameworks, they must adapt their capital structures to remain competitive. Thus capital structures vary across industries, countries and firm sizes. Table 3.1 and Table 3.2 summarises the firm-specific and country-specific determinants of capital structure respectively. Other than Moyo (2013) which was the primary source of information, the table lists other pertinent literature sources.

Table 3.1: Firm-Level Capital Structure Determinants

FIRM.SPECIFIC.FACTOR	EXPLANATION
Asset tangibility	Firms can use tangible assets as collateral for debt funding. Thus, firms with more tangible assets usually have more debt at a lower cost than firms with less tangible assets (Campello and Giambona , 2011; Ojah and Ombati , 2016).
Profitability, dividend and equity repurchases, and earnings volatility	Profitable firms are usually large and mature with free cash flows to support debt repayment and thus hold more debt. Firms take up debt to minimise cash that managers could misallocate. The debtholders act as delegated monitors and further act to monitor management. Similarly levered are small fast-growing firms which generate non-debt tax shields from their capital expenditures. Thus, small but fast-growing firms have higher leverage. Firms with higher volatility have a higher probability of financial distress than those with lower volatility. Thus, firms with high earnings volatility take up less debt. (Barclay and Smith , 2005; Gwatidzo and Ojah , 2009; Ojah and Ombati, 2016).
Competitiveness	Unlike firms operating in monopolistic or oligopolistic market conditions, firms in competitive industries have lower debt. The high debt would make a firm lose competitive advantage in the product market given that interest increases operating leverage (De Jong et al., 2011)
Size and growth rate	A large firm that has high profits, more tangible assets, and limited growth options and thus, uses debt to reduce free cash flows to curb agency conflicts. Small firms, unlike large firms, need to maintain flexibility to avoid agency costs of underinvestments. Hence, they rely more on equity (Barclay and Smith, 2005; Barclay et al., 2006; Gwatidzo and Ojah, 2009).
Bankruptcy, financial distress costs and credit ratings	Firms with more debt have a higher probability of financial distress and hence borrow less. The opposite is the case for firms with less debt. Firms with higher credit ratings have higher debt, unlike firms with low credit ratings that have low debt (Barclay and Smith, 2005; De Jong et al., 2011).
Firm access to capital markets	The better chance the firm has access to the capital markets, the easier it can raise both debt and equity. A firm's access to capital markets is a function of its size and financial performance . High-quality firms tend to have more leverage as they have the option to raise both debt and equity with ease. Medium quality firms are usually bank-oriented and have medium levels of debt. Low-quality firms rely on private debt which is costly or unavailable. Thus, they tend to have low leverage (Barclay and Smith, 2005; Ehrhardt and Brigham, 2016; Ojah and Ombati, 2016).

Table 3.1: Firm-Level Capital Structure Determinants (*continued*)

FIRM.SPECIFIC.FACTOR	EXPLANATION
Internal funds deficiency and investment programs	A firm with internal funds deficiency that has good investment options will issue more debt instruments. On the other hand, a firm with adequate internal cash and poor investment prospects tends to issue equity (De Jong et al., 2011).
State of stock and bond markets, and the degree of firm capital market orientation	If the stock market is bullish, the firm will issue equity as the firm maximises net cash issue proceeds. In a bear market, managers will favour debt. Additionally, firms will issue debt when it is cheaper and less risky than equity, and thus the cost of debt (interest rate) is a significant determinant of capital structure (Ehrhardt and Brigham, 2016).
Tax factors	Debt gives a tax advantage to firms, but the costs of financial distress can outweigh the tax advantage of debt. The cut-off where the tax advantage of debt outweighs the costs of financial distress is not clear-cut. However, firms will always seek to maximise the interest tax shield while guarding against the costs of financial distress. Most firms will have debt in their capital structure to take advantage of the interest tax shield (De Jong et al., 2011).
Peer or industry capital structure	Financing patterns of firms tend to follow the financing structures of their peers, especially the better-performing ones. Thus, firms in an industry tend to have similar financing structures (Ehrhardt and Brigham, 2016).
Managerial factors	Managers strive towards earning extra material rents (perquisites). Hence, they favour higher profitability and larger firms. Managers adopt capital structures that maximise their wealth. Research indicates that inside/ managerial ownership is positively related to higher leverage. However, other researchers find the opposite and the debate is still unsettled (Agrawal and Mandelker, 1987; Kim and Sorensen, 1986; Jensen et al., 1992).

Source:

Authors synthesis of literature from Moyo (2013), Gwatidzo & Ojah, 2009, and Ojah & Ombati (2016) among other sources

Table 3.2: Country-Level Capital Structure Determinants

FACTOR	EXPLANATION
Country macroeconomic conditions and business cycles	Business cycles affect the returns on equity. The market timing theory suggests that firms will issue equity when prices are high, that is during boom periods. Conversely, firms are more likely to issue debt in bear markets Al-Zoubi et al. , 2017).
The structure, performance, and regulation of the capital markets.	Countries are either stock market-oriented or bank oriented. The level of stock market development, investment banking relations, corporate governance practices and the nature of investor protection laws, determine the degree of orientation. Most firms in bank oriented countries source their capital from debt and have high leverage. Firms in stock market-oriented firms tend to issue more equity and are less leveraged (Matias and Serrasqueiro, 2017; Ojah and Ombati, 2016).

Source:
Authors synthesis of literature from Moyo (2013), Gwatidzo & Ojah, 2009, and Ojah & Ombati (2016) among other sources

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When evaluating the factors listed above in considering the transformation of MFIs, several implications surface. First, given that access to capital markets is a crucial determinant of a firm's capital structure, the level of capital market development could play a role in the decision of MFIs to transform. Similarly, the MFI size and growth rates could also be significant predictors of the decision by MFIs to transform. The factors listed above also explain the intertemporal variations in capital structure and the speed with which firms' capital structures adjust from temporary states of disequilibria.

3.4 Quantifying the Performance of MFIs

Given the double bottom line characteristic of MFIs, measuring their performance is complex and contested. Extant literature measures both financial and social performance separately. Even then, researchers cannot agree on a single scale. For instance, in measuring the financial performance of MFIs and indeed of any firm, there are a variety of metrics, ranging from the return on assets, return on equity, to profit margin ratios. Similarly, for social performance, metrics range from the number of women borrowers, the average loan size to loans granted to rural dwellers.

Notable, though, is that there is no single metric used to measure both the financial and social performance of MFIs mainly because the two measures lack a standard or common unit. This section examines the variety of measures used to measure both financial and social performance of MFIs and ends by describing the recent developments in the measurement of MFI performance and offers some concluding remarks and reflections.

3.4.1 Financial Performance of MFIs

Firms with sound financial performance metrics can meet their obligations as they become due (Ehrhardt and Brigham, 2016). For instance, financially healthy firms can pay their employees and suppliers, and leave a surplus that they distribute to the providers of capital and/or retain some cash to expand their operations. In the case of MFIs, the better financial performance also means that they can provide MF

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services without excessive reliance on donations and grants. Furthermore, MFIs may apply the profits generated to expand outreach to the poor at a lower cost, a move that researchers term as cross-subsidisation and mission expansion (Mersland and Strøm, 2010). There are among several measures for quantifying the performance of MFIs, the most common are the financial ratios. A commonly used financial ratio is the return on assets (ROA). ROA is the ratio of the MFIs net operating income and the assets.

$$ROA = \frac{NetOperatingIncome}{Assets} \quad (3.2)$$

ROA is a simple ratio to calculate and indicates management's efficiency in utilising MFIs assets to generate returns for the providers of capital. The aim is to maximise the ratio and, at a minimum, generate enough revenue to cover the risk-free rate and compensate the providers of capital for the systematic risk facing the MFI (Mersland and Strøm, 2014). ROA lacks a clear cut off point. Researchers often use operational self-sufficiency (OSS) to measure the financial performance of MFIs. OSS is an indicator of the ability of a firm to cover its expenses. There are two variants of OSS: OSS 1 and OSS 3. OSS 1 is defined as follows,

$$OSS1 = \frac{OperatingRevenue}{ExpensesonFunding, LoanLossProvisions, andOperations} \quad (3.3)$$

If $OSS > 1$, then the MFI can cover its expenses and have some leftover for growth. At $OSS = 1$, then the MFI is just able to meet its expenses with no leftover. At the opposite end, an $OSS < 1$ means that the MFI cannot meet its expenses (Mersland and Strøm, 2014). OSS 2 on the other hand, is defined as follows,

$$OSS1 = \frac{OperatingRevenue}{OperatingExpense} \quad (3.4)$$

The calculation of OSS 2 does not factor in the cost of funding. According to Mersland and Strøm (2014), eliminating funding costs is paramount given that funding sources vary a lot between MFIs and across regions. It means, therefore that managers cannot directly influence funding costs. Moreover, in the modern finance industry,

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operating costs are getting increasingly meaningless especially with the reduced role of physical infrastructure. The weakness of both OSS 1 and OSS 2 is that they ignore the cost of funding associated with equity (Mersland and Strøm, 2014). The omission is understandable given the difficulty in determining the cost in developing countries with shallow financial markets. Financial self-sufficiency (FSS) is another commonly used measure. FSS goes beyond the OSS 1 by adjusting the accounting values to reflect the market values in line with fair value accounting rules. With the adjustment, the FSS then becomes,

$$FSS = \frac{\text{Adjusted Operated Revenue}}{\text{Adjusted Expenses on Funding, Loan Loss Provisions, and Operations}} \quad (3.5)$$

Christen et al. (1995) developed the FSS. The researchers highlighted the need to adjust the accounting values for inflation and implicit and explicit subsidies (Mersland and Strøm, 2014). Overall, financial ratios are transparent and standardised. However, some of the figures used are generated subjectively via management judgment, for instance, provisions for loan losses (Ehrhardt and Brigham, 2016). While financial sustainability measures inform about the financial status of the MFI, they do not indicate the extent to which the MFI is reaching the poor. The next section describes the measures of the second dimension of MFI performance: outreach.

3.4.2 Social Performance (outreach) of MFIs

The other primary goal of MFIs is to supply financial products to the poor, especially women and rural dwellers, in developing countries. The extent to which MFIs can reach the poor is called outreach and is the degree of social performance. The social performance of MFIs has two dimensions: depth and breadth. The depth of outreach refers to the extent of poverty of the clients served by MFIs. The breath, on the other hand, refers to the absolute number of potential MFIs clients reached, or the scale of operations (Bibi et al., 2018).

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Table 3.3: Individual Measures of the Social performance of MFIs

METRICS	PROXY
Breadth of Outreach	Loan portfolio; Credit clients; Average loan; Savings; savers.
Depth of Outreach	Average loan; Average loan/ GDP per capita; Female borrowers; Rural borrowers.

Source:

Mersland and Strøm (2014)

Note:

* The higher the value of breadth measures, the higher the breadth of outreach.

† Also, the growth of the breadth values is a vital indicator of the direction of the industry.

‡ For average loan and average loan divided by GDP per capita, the lower the value, the higher the depth of outreach.

§ For female and rural borrowers, the higher the number, the higher the depth of outreach

¶ Growth rates are also significant in this respect. See Mersland and Strøm (2010) for details

Recognising the multi-dimensionality of MFIs, the social performance task force (SPTF) has developed several measures of social performance. Similarly, The French Comité d'Echanges, de Réflexion et d'Information sur les Systèmes d'Epargne-crédit (CERISE) also developed a set of social performance indicators (SPI) (Mersland and Strøm, 2014). The SPTF outreach composite index takes into account the “provision of financial services to the poor and the financially excluded, improvement of quality and appropriateness of financial services, and improvement of the economic and social conditions of clients. The index also considers that MFIs must strive to ensure social responsibility to clients, employees, and the community served” (Mersland and Strøm, 2009). Similarly, the CERISE SPI composite index makes use of “targeting and outreach, products and services, benefits to clients, and social responsibility.” However, given the difficulty in understanding composite indices and controversies in weights assignment when constructing indices, researchers still use the individual measures of MFI outreach (Chattopadhyay and Mitra, 2017). Researchers use several significant proxies for breadth and depth of outreach as shown in the Table 3.3.

The following commentary is on a few of the metrics in Table 3.3 above. Usually, women exhibit high levels of poverty and, thus, there is an overlap between indigent clients and the number of women. Furthermore, researchers argue that a loan made to a woman may benefit the household more and, hence, the focus on women. Also, given that researchers have found high repayment rates among women, it is easier for a woman client to acquire a loan. However, as men tend to start more informal businesses, it could be that men acquire loans from MFIs through women (mostly

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wives). Also, credit services to women may reduce the obligation of men to contribute to their families (Mersland and Strøm, 2014).

There are two reasons why MFIs should focus on rural areas. First, income levels are lower in rural areas than in urban areas. With increased rural-urban migration, the labour force available for agriculture is reducing. Technology often fills the void left by reduced agricultural labour which calls for more investments. These technological improvements create demand for credit and other financial services (Mersland and Strøm, 2014).

Researchers have used the average loan as a proxy for depth of outreach. The lower the average loan size, the higher the implied depth of outreach (D’Espallier et al., 2017a). However, the metric has several shortcomings. First, the average loan size may increase because the financial position of the clients has increased. Also, accumulation of loan arrears may also lead to higher loan size. Moreover, even where an MFI places a cap on the loan size a client can take, the clients may respond by taking loans from multiple institutions as experience from Nicaragua and India shows (Bastiaensen et al., 2013). Further, the average loan size is affected by extreme values of some loans and also fails to consider the cross-subsidisation benefits where MFIs give massive loans to some individuals and institutions to expand outreach to the poor (Chattopadhyay and Mitra, 2017, Bibi et al., 2018). Similar shortcomings also plague the average loan size to GDP per capita metric. To address the weaknesses of both the traditional measures of the social performance of MFIs, Bibi et al. (2018) develop a social performance metric based on market shares held by MFIs. They define their measure of the breadth of outreach as follows.

$$MSB_{ij} = \frac{NAB_{ij}}{TAB_j} \quad (3.6)$$

Where MSB_{ij} represents the measure for the breadth of outreach (the market share of microfinance borrowers). - NAB_{ij} refers to the number of active borrowers in MFI i in country j . - TAB_j refers to the total number of MFI borrowers in country j . They further define the depth of outreach as,

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$$MSBA_{ij} = \frac{\frac{NAB_{ij}}{TAB_j}}{\frac{A_{ij}}{TA_j}} \quad (3.7)$$

- Where $MSBA_{ij}$ measures the depth of outreach. It is defined as the market share of the number of borrowers, computed as the market share of borrowers scaled by the market share of assets.
- NAB_{ij} is the number of active borrowers in MFI i in country j.
- A_{ij} is the total assets of MFI i in country j.
- TA_j refers to the total MFI assets in country j.

Extreme values of loans influence a social performance measure such as the average loan size. The new measure of depth developed by Bibi et al. (2018) corrects for the deficiency by using relative loan sizes in the place of absolute loan sizes. Furthermore, the value of the metrics falls between zero (0) and one (1), that strengthens comparison across MFIs. Also, the empirical tests of the suggested measures show that they provide a better measure of social performance than the traditional metrics (Bibi et al., 2018).

However, the metrics are country-specific and are not useful in the cross country, regional and global comparative contexts. Furthermore, the measures utilise a single dimension of social performance and ignore financial performance. It means that the new metrics do not present a comprehensive view of the performance of MFIs. More importantly, most researchers examine the financial performance, and the social performance of MFIs separately. A measure of the performance of MFIs that incorporates both the financial and the social metrics would be advantageous. The next section examines the recent developments in the measurement of the performance of MFIs.

3.4.3 Developments in Assessing Performance of MFIs

Given the shortcomings of the traditional measures of the performance of MFIs, some researchers have suggested alternate measures. Royo et al. (2017) suggest a multidimensional measure of performance that simultaneously captures both the financial

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and social performance of MFIs. The measure that they have developed captures the trade-off between financial performance and social performance that has raised concerns about possible mission drift by transformed MFIs.

The measure suggested utilises the goal programming concept developed by Charnes et al., in 1955. Researchers interpret goal programming under the philosophy of satisfaction with multiple objectives, unlike the mathematical optimisation techniques that have a single objective. The central idea is that individuals desire to minimise the non-optimization of (multiple) goals. The methodology, however, recognises that it is hard to achieve all goals simultaneously.

Extending the goal programming beyond the model of Charnes, et al., the solution suggested by Royo et al. (2017) combines different goal programming models to pick combinations of performance that have maximum consensus, and penalising combinations that have a high degree of conflict. Alternatively, the researchers could pick the combinations that have a maximum conflict against those that follow the general trend without loss of meaning. The score is the sum of all weights, which has a maximum value of one, provides the degree of the non-achievement of the set of goals, in this case, financial performance and social performance.

Another notable study by Chattopadhyay and Mitra (2017) makes a case for the adoption of a two by two (2x2) classification matrix that captures both financial and social performance. The matrix gives a code of one (1) to the MFI that meets both the financial and social objectives. The matrix codes other cases as zero (0). Table 3.4 below illustrates the classification. The researchers point out that by applying the logistic regression (LR), a variant of the generalised linear regression model, based on the matrix could shed light on the factors that affect the ability of an MFI to achieve (or fail to achieve) the twin objective of financial performance and outreach. The advantage of the proposed metric is its ability to capture both the financial and social performance in one score.

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Table 3.4: Classification Matrix: Joint Financial and Social Performance of MFIs

		Achieves_Financial_Goals?	Achieves_Financial_Goals?
		YES	NO
Achieves_Social_Goals?	YES	Class 4 (SS)	Class 2 (FS)
Achieves_Social_Goals?	NO	Class 3	Class 1 (FF)

Source:

Adapted from Chattopadhyay, Manojit, and Subrata Kumar Mitra (2017)

Note

¹ In labelling the classes, we start with financial sustainability followed by social performance.

² The letters F and S stand for Fails (F) and Succeeds (S), respectively.

³ For instance, FS means the MFI fails (F) financially but succeeds (S) socially.

3.5 MFIs Transformation and Performance: Empirical Review

With time, a substantial number of MFIs converted to commercial entities, and empirical analysis on the effects of the transformation was then possible (Abeysekera et al., 2014, Mia and Lee, 2017, D’Espallier et al., 2017a). Some researchers hold that mission drift is bound to occur in transformed MFIs as better-off clients crowd out the poor in the access to MFI credit (Hishigsuren, 2006). Other scholars and practitioners hold the opposite view. This sections examines the arguments on either side and additional factors that may exacerbate or reduce the extent of mission drift.

Campion and White (1999) argue that the presence or absence of mission drift in a transformed MFI is partly a corporate governance issue, and an outcome of the challenges of the scaling up of MF services. They note that good corporate governance allows the management to balance between financial performance and outreach. An alternate view is that mission drift is a misinterpretation of cross-subsidization and progressive lending. Thus, MFIs may reach out to clients who are better off to cross-subsidize loans for the poor and financially excluded (Abeysekera et al., 2014). Some research finds managers were not aware of the presence of mission drift as is quantified using the standard metrics (Hishigsuren, 2007). The finding underlines the view by Marti and Scherer (2016) that different social groups such as employees, management,

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and MFI clients are likely to have different views, including varying definitions of social welfare. Thus, the presence or absence of mission drift may not arise out of deliberate management decisions, but instead, out of conflicting viewpoints on social welfare between researchers, policymakers, and practitioners.

Part of the problem associated with the research on mission drift is the variety of proxies used to measure social performance. Mersland & Strøm (2010) and many other researchers quantified social performance by the average loan balance per borrower and the ratio of average loan balance per borrower to GNI. Some researchers have reservations regarding the use of the average loan size and the average loan size scaled by GNI per capita as proxies for mission drift. The critics argue that higher average loan size could be an indicator of progressive lending and cross-subsidization. Also, a dynamic economy may benefit SMEs, which, in turn, may demand more significant loans. They also point out that regions with relatively low proportions of indigent clients might be wrongly perceived to be drifting from their mission. Also, as noted, a few large organizations and individuals have large loan balances with MFIs that may bias the average loan balance upwards without necessarily indicating the presence of mission drift. Armendáriz and Szafarz (2011) further argue that the observed higher average loan sizes by MFIs could arise from the “interplay between their mission, the cost differentials between poor and unbanked wealthier clients, and region-specific clientele parameters” (pp. 341).

Consequently, researchers have suggested alternate measures of mission drift including, among others, the number of women borrowers, number of loans, X-efficiency scores, yields on the gross loan portfolio, and the number of borrowers in rural areas. However, most of the studies highlighted below use the average loan size, usually scaled with the GNI per capita, as a measure of mission drift. Table () captures additional proxies for depth and breadth of outreach, their strengths and shortcomings. For lack of better metrics, researchers continue to use them.

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3.5.1 Empirical Studies Demonstrating Mission Drift

Some researchers hold that financial performance and social performance by MFIs are negatively related. This view is central to the mission drift proponents who assert that the pursuit of financial goals is incompatible with the achievement of social objectives. Early empirical research in support of the hypothesis includes Christen and Cook (2001) who explored whether transformation made MFIs abandon indigent clients. They noted that transformed MFIs often had higher average loan sizes and higher average loan size scaled by GNP per capita compared to the non-transformed MFIs. Supporting this position, Kent and Dacin (2013) argue that commercial banking logic has, over time, displaced the social roles of MFIs targeted at addressing financial exclusion and poverty.

Recently, Mia and Lee (2017) also arrived at a similar conclusion by applying both static and dynamic panel data estimation techniques on a sample of 169 Bangladeshi MFIs over the period 2009-2014. The researchers conclude that mission drift may occur when MFIs seek higher financial returns. However, they note that cost efficiency neutralizes the extent of mission drift. Thus, the degree of cost efficiency is an essential moderating variable for MFIs that experience mission drift. Hence, if transformation results in an improvement in cost efficiency, then mission drift should not be a cause for concern.

Also, Cull et al. (2011) examine the existence of mission drift in MFIs using instrumental variables regression and treatment effects to control for non-random assignment of supervision. They find that profit-oriented MFIs respond to supervision by reducing outreach to the poor and other customers that are costly to reach and instead focus on sustainability. On the contrary, MFIs running the NGO model that has a weaker commercial focus tend to maintain outreach at the expense of profitability. The researchers also find that MFIs curtail outreach to women and customers who are costly to reach. They further find that regulated MFIs with a weaker commercial focus maintain outreach at the expense of profitability. The research supports Cobb et al. (2016) who find that private providers of funding emphasize profitability, whereas the public, donors and governments stress social performance.

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Bos and Millone (2015) goes further and explores the extent of mission drift by benchmarking the X-Efficiency scores based on revenues, depth of outreach (average loan size), and breadth of outreach (number of loans). The researchers found that MFIs that have a high depth of outreach also have the highest levels of breadth of outreach and profits for the same input mix. The study further uncovers significant trade-offs between financial sustainability and social performance. Similarly, Mersland and Strøm (2010), using panel data estimations with instruments, find that high-cost MFIs, fund more individual borrowers, fewer women and focus more on urban areas. Low-cost MFIs display the reverse. These results indicate that the depth of outreach and financial sustainability could be pursued together if MFIs emphasise improving their efficiency by managing their costs.

Lastly, Dorfleitner et al. (2017) examined the factors that cause MFIs to fail socially. First, they find that MFIs with better portfolio quality are less prone to social failure. Second, MFIs with a higher percentage of donations and regulated MFIs also have a lower possibility of social failure. Finally, they find that fast-growing MFIs are more likely to fail socially. The results indicate that financial sustainability, as proxied by portfolio quality, could play a role in the achievement of the social mission given that commercial MFIs have better portfolio quality (Tchakoute-Tchuigoua, 2010), in support of the mission expansion and cross-subsidization school of thought. Similarly, expansion of MFIs, usually resulting in a breadth of outreach, may be detrimental to the outreach to the poorest.

3.5.2 Evidence Against the Existence of Mission Drift

On the other hand, Abeysekera et al. (2014) find no significant evidence of mission drift in their study, upon using static panel data model based on a sample of MFIs in Vietnam. For robustness, they measure outreach using a variety of measures: average loan size, interest cost to clients, and breadth of outreach. However, they uncover the presence of mission drift when they apply dynamic panel data models. The researchers

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conclude that the initial conditions (such as the initial average loan size, and micro-regional differences) and other time-varying factors play a role in the degree of mission drift experienced by MFIs.

Kar (2013) further invalidates the concerns about mission drift by using a sample of 409 MFIs from 71 countries. He uses a variety of proxies as well to measure mission drift, including average loan size, number of women borrowers, and the depth of outreach-profitability linkage. Using fixed effects model, and controlling for size, age, loan delivery method, legal status and geographical location, the study fails to confirm the presence of mission drift in the sampled MFIs. Thus, although mission drift could be MFI-specific, the researchers point to the lack of dynamism in age and the failure to decompose the size of MFIs into subsidised and unsubsidized components could be the significant drawbacks in establishing the presence of mission drift.

Finally, Roberts (2013) also find no evidence of mission drift. In the study involving 358 MFIs and using OLS model, he finds that although commercial MFIs reduce service to rural clients, they serve more women and maintain the same average loan size. The results imply that sustainability enables MFIs to reach more clients without necessarily locking out the poorest, a position also held by Nurmakhanova et al. (2015) in their study based on a global dataset of MFIs.

Abdulai and Tewari (2017) uncover mixed results on mission drift. They find an insignificant link between sustainability and outreach by applying correlation analysis and the fixed-effects model. They uncover an insignificant relationship between sustainability (as measured using the operational self-sufficiency, OSS) and the average loan size scaled by the per capita GNI. However, they find the depth of outreach, measured using the number of borrowers to be positively related to sustainability. These results confirm the concerns by researchers regarding the appropriate measures of mission drift.

3.5.3 Culture and Mission Drift

Manos and Tsytrinbaum (2014) extend the research by Abdulai and Tewari (2017), exploring the place of culture in mission drift using a sample of 800 MFIs in 30 countries

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for the period 2000-2010. Using two-step fixed effects panel regression², they find that MFIs that operate in cultures characterized by avoidance of high uncertainty and more future orientation perform better socially but score poorly on financial metrics. The results are in contrast with those of cultures with assertiveness and performance orientation that score better financially. Also, MFIs operating in cultures with a high score on gender equity focus less on extending financial services to the poor, as opposed to those operating in cultures with high power distance levels. Thus, cultural factors specific to countries and regions could also explain the regional variations in the degree of mission drift by MFIs.

3.5.4 Mission drift and Globalisation

Moreover, in evaluating the role of globalization on the performance and mission drift of MFIs, Forkusam (2014) find that the ratio of FDI to GDP is positively related to the average loan size, and inversely with the number of borrowers. The study applies the fixed effects panel regression to control for omitted time-invariant features such as country and culture. These relationships uncovered in the study suggest that increased globalization and the ensuing rise in international capital flows may result in MFI mission drift. The implication is that international capital in search of financial returns has little place for social performance by MFIs. It means, therefore, that international commercial capital flowing to MFIs is fraught with mission drift.

3.5.5 The Place of Individual Credit Officers in Mission Drift

Interestingly, Beisland et al. (2017) take the argument about mission drift further by arguing that the behaviour of credit officers could also explain mission drift. Their study used a mixed-methods approach. First, the researchers ran correlations and tested for differences in the mean number of clients using t-statistics and chi-square statistics. Next, they ran a pooled OLS regression and random effects regression with standard errors. To complement the quantitative methods, the researchers obtained qualitative data from focus group discussions with credit officers and managers of the MFIs.

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They found a positive relationship between credit officers experience in years and the size of the loans they grant. In other words, the more experienced a credit officer is, the larger the loan size they are likely to approve. Furthermore, the researchers uncovered that credit officers with more experience approve fewer loans to the young and the disabled, in line with Labie et al. (2015). To start with, due to the information opaqueness of MFI clients, MFIs usually give powers to credit officers to accept or reject loan applications. The subjective preferences of credit officers could then be at play in their decision making.

The preferences of credit officers could be due to several reasons. First, most MFIs have introduced incentive-based pay for credit officers and managers. The negative relationship between the compensation and risk could make credit officers shun high-risk clients (like the poor) to reduce the risk in their loan book. The results of the study are robust even after controlling for gender, education, marital status and branch affiliation. Consequently, the research recommends the training of credit officers to check the “personal” mission drift uncovered by the study. The results of the study suggest the need for a careful examination of the MFI-specific factors that may drive mission drift, and which researcher often miss when they use pooled global datasets.

In a similar study conducted in China, Jia et al. (2016) examine the relationship between the personal characteristics of loan officers and the size and quality of their loans. The study applied fixed effects regression analysis at the loan officer level and assessed the period after the MFI had adopted the commercial model. The researchers found that loan officers with a career background in farming and local government were less prone to mission drift (that is, the average loan size of their portfolio did not rise), and did so without compromising portfolio quality. Thus, socially conscious MFIs could do with a human resource background check for potential recruits for loan officer positions in a bid to curb mission drift. In addition to staff training, background checks on employees, Ramus and Vaccaro (2017) also argue that stakeholder engagement and social accounting are viable ways to address mission drift among social enterprises, which includes hybrid organizations like MFIs.

3.6 Transformation and the Efficiency MFIs

The other strand of literature has examined the relationship between efficiency and the social performance of transformed MFIs. Efficiency here refers to the ratio of output to inputs by MFIs. An efficient MFI should produce the maximum possible outputs given a set of inputs. Researchers have applied several techniques to measure efficiency. However, data envelopment analysis (DEA) and stochastic frontier analysis (SFA) are the dominant techniques.

DEA is a non-parametric, a-theoretical technique that uses sets of multiple inputs and multiple outputs to estimate the best production frontier. Initially proposed by Charnes et al. (1978), DEA involves the construction of a virtual output over a virtual input without defining a production function. There are two variants of the DEA. The original DEA-CCR (CCR for Charnes, Cooper, and Rhodes) assumes constant returns to scale. Banker et al. (1984) developed DEA-BCC (BCC for Banker, Charnes, and Rhodes) which allows for variable returns to scale. The advantage of DEA is that it does not require the specification of the functional form for the calculation of efficiency scores Cook et al. (2014).

Furthermore, DEA is not data demanding and can handle small samples and multiple inputs and outputs without having to standardise them. DEA also avails explicit improvement targets for inefficient decision-making units (DMUs) (Paradi et al., 2017). The downside is that DEA does not handle measurement errors well and cannot handle noise in the data, treating all deviations as inefficiencies. It also assumes that firms are homogeneous and use a similar set of inputs to produce outputs making comparisons of DEA scores more meaningful in a single country setting (Lebovics et al., 2016). Lastly, the DEA assumption that firms have control over inputs and outputs can be faulty as the environment, and the government can override the management in resource allocation.

Stochastic frontier analysis (SFA), on the other hand, is a parametric method. Aigner et al. (1977) and Meeusen and Van den Broeck (1977) simultaneously formulated SFA. Subsequently, numerous researchers have used SFA to evaluate production, cost,

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revenue, profit and other models of goal attainment. The original formulation of SFA is as follows.

$$\beta x + v - u \tag{3.8}$$

In the equation, Y is the observed outcome, and $\beta x + v$ represents the optimal or stochastic frontier, for example, the maximum production or the minimum cost. In the optimal frontier, βx is the deterministic part whereas v is the stochastic part. The amount by which an entity fails to reach the stochastic frontier is the level of inefficiency that u captures. There are many extensions of SFA that are beyond the original specification. SFA allows for technical inefficiency but also provides for random shocks beyond the control of management that may affect output (Kumbhakar et al., 2015). The limitation of SFA is the assumption that there exists a functional form. Furthermore, it is hard to specify the error structure, especially the probability distribution. Lastly, the premise of continuity inherent in SFA and other econometric approaches to measuring efficiency may lead to approximation errors (Cullinane et al., 2006).

Thus, for given MFI inputs, how much is the MFI able to generate regarding financial returns and outreach to the poor. Lebovics et al. (2016) explore whether there is a trade-off between financial efficiency and social efficiency of MFIs in Vietnam. They use DEA to quantify both financial and social efficiency. The study uses regression analysis and uncovers no trade-off between financial efficiency and social efficiency. The results do not favor either the poverty-lending view or the financial-systems view approaches to MF provision. These results are similar to those of Bedecarrats et al. (2012) who argue that MFIs could achieve both financial and social performance as long as the MFI has practical social performance management strategy. These views reinforce the argument by Abeysekera et al. (2014) that mission drift could be a corporate governance problem.

Haq et al. (2010) examined the efficiency of 39 MFIs from Africa, Asia and Latin America using the DEA approach. The objective was to uncover the MFI types (Bank MFIs or NGO MFIs) that were most efficient at simultaneously minimising costs (hence

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maximising financial performance) and reaching out to poor households. Under the production approach, they found that NGO MFIs are the most efficient at reaching the dual objectives. However, under the intermediation approach, the research indicates the reverse. The results show that Bank MFIs could be better suited to lower costs associated with defaults. However, NGO MFIs achieve the dual objectives of financial sustainability and performance better.

Research by Hermes et al. (2011) used a sample 1,300 observations and measured efficiency using SFA. The study found a negative relationship between outreach and efficiency of MFIs. More specifically, the study found that those MFIs with low average loan balance- a measure of the depth of outreach, are less efficient. Moreover, the study finds a negative relationship between breadth of outreach as measured using the number of women borrowers and the efficiency of MFIs. The argument presented to explain the negative relationship between efficiency and outreach is that transformation of MFIs generates costs which drive down outreach, especially to high-cost clients (Cull et al., 2011). Roberts (2013) also concludes that commercialization of MFIs moves them further away from their efficient frontier of social performance. Also, there is a direct relationship between commercialization, operational costs, and interest rates. Similarly, Abate et al. (2014) also use the SFA approach and find that there is a trade-off between outreach and the efficiency of MFIs in Ethiopia. The researchers first run an SFA regression and obtain the error term, μ , which is the measure of inefficiency. Next, they regress the inefficiency score against average loan size, women borrowers, and organization form, while controlling for age and size of the MFI.

Serrano-Cinca and Gutierrez-Nieto (2014) also recommend the need for cost efficiency by transformed MFIs in the face of reduced donor support. Their research draws on the Pareto 80/20 principle and logistic regressions on data for both drifted and non-drifted MFIs. The researchers draw parallels with the dot-com industry and recommend that MFIs should focus on raising their efficiency levels instead of raising prices (interest rates). Finally, they recommend a business model based on high turnover, instead of wide profit margins to drive MFI sustainability. However, given

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the intense competition in the MF sector, it is not clear whether the high turnover, low margin MFI business model is feasible.

3.7 Capital Structure and the Performance of MFIs

Before transformation, the presence of donations in the capital structure of MFIs was indicative of an emphasis on the social mission. It is, however, unclear whether the entry of commercial capital could overwhelm the social orientation of MFIs. From the business strategy perspectives, it is not apparent why commercially driven individuals and entities should care about the social performance of the MFIs. However, some researchers posit that corporate social responsibility (CSR) activities serve to resolve information asymmetries between firms and creditors. Hence, firms with a social mission have higher leverage and exhibit a faster speed of adjustment to the target capital structure (Yang et al., 2017).

The research output on the relationship between leverage and financial performance is mixed. Some researchers have found the relationship between leverage and financial performance to be positive. For instance, Detthamrong et al. (2017) find such a positive relationship in their study of Thai firms using OLS regression. Also, Abor (2007) using data for SMEs from Ghana and South Africa and applying panel regressions that debt level is directly related to financial performance as measured by Tobin Q.

The other studies that also conclude that a positive relationship between capital structure and financial performance exists include Abor (2005), Berger and Bonaccorsi di Patti (2006) and Gill et al. (2011). For instance, Fosu (2013), using fixed effects model and GMM finds that leverage is positively related to financial performance, with competition-enhancing the relationship. Most of these studies fail short of explaining the reasons behind the relationship. The study by Chakravarty and Pylypiv (2015) that finds that MFIs with private funding are better able to screen borrowers and monitor borrower repayment rates. Consequently, such MFIs have lower portfolio risk and fewer delinquent loans. The results of this study could explain the positive relationship between capital structure and financial performance of MFIs.

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Other studies, mostly based on emerging markets point to a negative relationship between debt and financial performance. The results imply that the costs of financial distress outweigh the benefits from the tax shields, at least in developing countries (Le and Phan, 2017). Similarly, Zeitun and Tian (2014) also uncovered a negative relationship between leverage and both the accounting and market measures of performance of firms in Jordan. Similarly, Hamid et al. (2015) uncover a negative relationship in their study based on family firms. These results could be indicative that for MFIs, the costs of potential financial distress exceed the benefits generated by the interest tax shields. The introduction of private capital could also make managers of MFIs risk averse and thus set aside much higher than optimal precautionary savings to deal with any potential financial distress, as do MFIs facing subsidy uncertainty (Armendáriz et al., 2013a).

Midway between the two extremes, some researchers posit that capital structure can have both positive and negative effects on a firm's financial performance. Such researchers have proposed that at low levels, firms reap the benefits of the tax shield, which gets overwhelmed by the costs of financial distress beyond a limit of leverage. The study by Lin and Chang (2011) is an example of research supportive of this position. Margaritis and Psillaki (2010) also arrived at similar results by applying the quadratic functional form. From the discussion, the research on the link between capital structure and the financial performance of firms is inconclusive even in the mainstream corporate finance. The mixed results point to critical moderating variables on the link between capital structure and financial performance. The variables could relate to firm-specific factors and cross-country heterogeneity.

Nevertheless, researchers have extended the study of the link between capital structure to financial performance to MFIs. Khachatryan et al. (2017) find a link between the level of deposits in the previous year and financial performance using data from Eastern Europe. The positive relationship indicates that deposits could lower the cost of capital and hence increase sustainability. Further, they find that concessional loans do not significantly affect financial performance. Social loans and subsidies, however, are associated with lower profitability. However, the study does not delve into the possible

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impacts of equity capital and debt on the financial performance of MFIs. Filling this gap, Ayele (2015), using data for MFIs operating in Ethiopia, Kenya and Uganda found a negative relationship between debt-to-equity ratio and financial viability. Although these studies differ in countries covered, institutions considered, methodologies and data representation, the lack of a consensus makes policy-making difficult at the institutional and national levels. In their research in the context of social performance, Khachatryan et al. (2017) find a positive relationship between social grants and the depth and breadth of outreach using seemingly unrelated regressions. Further, they found that concessional loans are positively related to outreach, as do social loans and subsidies. Another study by Hoque et al. (2011) found that leverage has adverse effects on outreach, productivity, and risk. They note, for example, that although the absolute numbers of indigent clients reached by MFIs increase, the proportion goes down due to the increased cost of capital, which implies higher default rates and hence higher portfolio risk.

On the contrary, Kyereboah-Coleman (2007) applied pooled OLS and the fixed effects model on a panel dataset of MFIs in Africa and found a positive relationship between leverage and financial performance. The researcher also found that leveraged MFIs enjoys economies of scale, allowing them to deal with information asymmetry and hence lower portfolio risk. Similarly, Dorfleitner et al. (2016) examined the factors that influence access to debt capital by MFIs using probit and Poisson regressions. The study uncovered a positive relationship between MFI access to MF Investment Vehicles (MIV) funding to maturity (measured by age, size of MFI and debt-to-asset ratio) and performance. For instance, more mature MFIs easily access debt capital from MIVs, as do firms with better financial performance regarding portfolio quality. Furthermore, MFIs that retain focus on their social mission have better access to debt financing. These results indicate that mature MFIs with better financial and social performance should then have more debt in their capital structure than do firms that do not meet the criterion.

3.8 Subsidies and Grants and the Performance of MFIs

It appears that the presence of donor funds is also a significant driver of social mission achievement, either because it allows MFIs to lower their cost of capital, reduces the pressure on the management to make profits or that donors emphasize on the outreach to the poor. Overall, the researchers note that there is a thin line between mission drift and cross-subsidization, which makes it difficult for researchers to distinguish them empirically. However, when D’Espallier et al. (2017a) use the event study methodology, which addresses the concerns highlighted above, they still uncover a sharp rise in average loan size attributable to the transformation of MFIs.

In their analysis of the effects of aid volatility on mission drift, D’Espallier et al. (2017b) find that average loan size is inversely related to aid volatility. On the other hand, interest rates charged on loans are directly related to aid volatility. The researchers conclude that most MFIs have internalized and use average loan size as a signalling device to demonstrate a commitment to the social mission. They also use interest rates to adjust for uncertainty. Armendáriz et al. (2013a) argue that subsidy uncertainty results in mission drift among MFIs as they seek to build up precautionary savings to cushion themselves financially by serving wealthier clients.

For MFIs, subsidies form a substantial percentage of the ownership structure of MFIs. Except for 23%, the other MFIs have a portion of subsidies and grants in their capital structure (D’Espallier et al., 2013). Analysing the effects of capital structure on the performance of MFIs is more complicated in the presence of the subsidies and grants. Research indicates that donors direct most of their funding to those MFIs that meet their social mission. Even for the MFIs that have not transformed, there is a significant reduction in the magnitude of donor support. Consequently, these NGOs have adopted various mechanisms to run their operations in the face of the reduced financial support from donors.

D’Espallier et al. (2013) note that in Africa and Asia, MFIs cope with the lack of donations by charging higher interest rates. In Latin America, on the other hand, MFIs with less donor funding tend to serve fewer women. Unsubsidized MFIs in Eastern Europe

3. Conceptual Framework on Transformation of Microfinance Institutions

and central Asia serve less indigent individuals. Overall, the researchers find that the lack of subsidies worsens the social performance of MFIs, but the effects vary across regions. Also, they argue that there exist trade-offs even among the social measures, for instance between service to women versus interest rates charged (D'Espallier et al., 2013). However, researchers have not arrived at a consensus regarding the existence of mission drift for transformed MFIs.

Furthermore, Cozarenco et al. (2016) analyze the characteristics of MFIs that supply savings products on a global dataset of 722 MFIs for the years 2005-2010. They find that MFIs that receive donations and subsidies have a lower tendency to offer savings products. They conclude that subsidies and grants generate negative externalities on product diversification by MFIs.

Some research also indicates that the source of the donations matters. For instance, Chakravarty and Pylypiv (2015) find that MFIs with more private donor funds tend to have lower rates of the portfolio at risk and fewer delinquent loans. Thus, the management of such MFIs improves significantly with private funding, presumably due to the monitoring role that private funders play. In a related study, Hudon (2010) also notes that better-managed MFIs tend to attract more donations. Overall, the presence of subsidies appears to have a significant link with the social performance of MFIs. However, the presence of subsidies may discourage the development of products, such as savings. Lastly, the source of the funding matters, with MFIs relying on public subsidies faring worse on both metrics.

3.9 What are the Determinants the Capital Structures of Transformed MFIs?

Research on the determinants of the capital structure of MFIs is scanty. Most of the available literature deals dwell on the capital structures of mainstream corporations. For financial institutions, which come close to MFIs, Gropp and Heider (2010) found that the determinants of capital structure for financial firms are like those of non-financial

3. Conceptual Framework on Transformation of Microfinance Institutions

firms and that capital regulations and buffers are of secondary importance. Section () covers the determinants of the capital structure of corporations in detail.

Additionally, Ledgerwood and White (2006) attribute the capital structure of MFIs to maturity and the institutional life cycle. The institutional life cycle theory posits that the financing structure of an MFI varies with the stage of the MFI in the life cycle. At the early stages, the MFIs finance their operations mainly through donations and concessionary funds, given that commercial funders find MFIs too risky. At the early stage, most MFIs operate as NGOs. In the second phase, MFIs tend to focus on the expansion of operations and thus look beyond donations to meet their financing needs. The MFIs supplement their donor funding and subsidies with equity financing (from NGOs and public investors) and seed capital from international finance institutions. At the final consolidation phase, MFIs concentrate on attaining sustainability and formalizing their operations. At the consolidation phase, MFIs raise additional capital through debt (using foreign donor funds as guarantees) and deposits (Bayai and Ikhida, 2016).

Researchers like Bayai and Ikhida (2016) attribute part of the disparities to regulatory provisions relating to the ways MFIs can raise capital as well as historical legacies on saving and lending. Thus, the level of maturity of an MFI is likely to affect the capital structure of MFIs. For individual sources of capital, research indicates that donors are likely to contribute more to MFIs that have verifiable accounting information, and those MFIs that emphasize on their social mission (Hudon, 2010).

Also, donors funding is positively correlated with the tangible assets, past due loans and the size of an MFI, indicating that even donors evaluate the riskiness of the MFIs they fund, using this information as a screening mechanism. However, donor funding is not influenced by the profitability of the MFI, meaning that indeed donors mostly have a social orientation. On the other hand, more profitable firms (with more even profit distribution) with more tangible assets (and bigger) and with a corporate organizational structure have easier access to debt capital. Moreover, the credit ratings of the MFIs do not influence their capital structure (Tchakoute-Tchuigoua, 2015).

There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.

— Charles Darwin (Darwin 1859)

4

Customisations and extensions

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This chapter describes a number of additional tips and tricks as well as possible customizations to the `oxforddown` thesis.

4.1 Front matter

4.1.1 Shorten captions shown in the list of figures (PDF)

You might want your list of figures (which follows the table of contents) to have shorter (or just different) figure descriptions than the actual figure captions.

Do this using the chunk option `fig.scap` ('short caption'), for example `{r captain-image, fig.cap="A very long and descriptive (and potentially boring) caption that doesn't fit in the list of figures, but helps the reader understand what the figure communicates.", fig.scap="A concise description for the list of figures"}`

4.1.2 Shorten captions shown in the list of tables (PDF)

You might want your list of tables (which follows the list of figures in your thesis front matter) to have shorter (or just different) table descriptions than the actual table captions.

If you are using `knitr::kable` to generate a table, you can do this with the argument `caption.short`, e.g.:

```
knitr::kable(mtcars,
             caption = "A very long and descriptive (and potentially
             boring) caption that doesn't fit in the list of figures,
             but helps the reader understand what the figure
             communicates.",
             caption.short = "A concise description for the list of tables")
```

4.2 Shorten running header (PDF)

You might want a chapter's running header (i.e. the header showing the title of the current chapter at the top of page) to be shorter (or just different) to the actual chapter title.

Do this by adding the latex command `\chaptermark{My shorter version}` after your chapter title.

For example, chapter 2's running header is simply 'Cites and cross-refs', because it begins like this:

```
# Citations, cross-references, and collaboration {#cites-and-refs}
\chaptermark{Cites and cross-refs}
```

4.3 Unnumbered chapters

To make chapters unnumbered (normally only relevant to the Introduction and/or the Conclusion), follow the chapter header with `{-}`, e.g. `# Introduction {-}`.

When you do this, you must also follow the heading with these two latex commands:

```
\adjustmtc
\markboth{The Name of Your Unnumbered Chapter}{{}}
```

Otherwise the chapter's mini table of contents and the running header will show the previous chapter.

4.4 Beginning chapters with quotes (PDF)

The OxThesis LaTeX template lets you inject some wittiness into your thesis by including a block of type `savequote` at the beginning of chapters. To do this, use the syntax ````\block type='savequote'``.¹

¹For more on custom block types, see the relevant section in *Authoring Books with R Markdown*.

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Add the reference for the quote with the chunk option `quote_author="my author name"`. You will also want to add the chunk option `include=knitr::is_latex_output()` so that quotes are only included in PDF output.

It's not possible to use markdown syntax inside chunk options, so if you want to e.g. italicise a book name in the reference use a 'text reference': Create a named piece of text with `'(ref:label-name) My text'`, then point to this in the chunk option with `quote_author='(ref:label-name)'`.

4.5 Highlighting corrections (HTML & PDF)

For when it comes time to do corrections, you may want to highlight changes made when you submit a post-viva, corrected copy to your examiners so they can quickly verify you've completed the task. You can do so like this:

4.5.1 Short, inline corrections

Highlight **short, inline corrections** by doing `[like this]{.correction}` — the text between the square brackets will then **be highlighted in blue** in the output.

Note that pandoc might get confused by citations and cross-references inside inline corrections. In particular, it might get confused by `"[what @Shea2014 said]{.correction}"` which becomes `(what Shea et al. 2014, said){.correction}` In such cases, you can use LaTeX syntax directly. The correction highlighting uses the soul package, so you can do like this:

- If using biblatex for references, use `"\hl{what \textcite{Shea2014} said}"`
- If using natbib for references, use `"\hl{what \cite{Shea2014} said}"`

Using raw LaTeX has the drawback of corrections then not showing up in HTML output at all, but you might only care about correction highlighting in the PDF for your examiners anyway!

4. Customisations and extensions

4.5.2 Blocks of added or changed material

Highlight entire **blocks of added or changed material** by putting them in a block of type correction, using the syntax ````{block type='correction'}````.² Like so:

For larger chunks, like this paragraph or indeed entire figures, you can use the correction block type. This environment **highlights paragraph-sized and larger blocks** with the same blue colour.

Note that correction blocks cannot be included in word output.

4.5.3 Stopping corrections from being highlighted

To turn off correction highlighting, go to the YAML header of **index.Rmd**, then:

- PDF output: set `corrections: false`
- HTML output: remove or comment out – `templates/corrections.css`

4.6 Apply custom font color and highlighting to text (HTML & PDF)

The lua filter that adds the functionality to highlight corrections adds two more tricks: you can apply your own choice of colour to highlight text, or change the font color.

The syntax is as follows:

Here's [some text in pink highlighting]{highlight="pink"}
Becomes: Here's **some text in pink highlighting**.

[Here's some text with blue font]{color="blue"}
Becomes: **Here's some text with blue font**

Finally — never, ever actually do this – [here's some text with black highlighting and yellow font]{highlight="black" color="yellow"}
Becomes: **here's some text with black highlighting and yellow font**

²In the **.tex** file for PDF output, this will put the content between `\begin{correction}` and `\end{correction}`; in gitbook output it will be put between `<div class="correction">` and `</div>`.

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The file `scripts_and_filters/colour_and_highlight.lua` implements this, if you want to fiddle around with it. It works with both PDF and HTML output.

4.7 Including another paper in your thesis - embed a PDF document

You may want to embed existing PDF documents into the thesis, for example if your department allows a ‘portfolio’ style thesis and you need to include an existing typeset publication as a chapter.

In gitbook output, you can simply use `knitr::include_graphics` and it should include a scrollable (and downloadable) PDF. You will probably want to set the chunk options `out.width='100%'` and `out.height='1000px'`:

```
knitr::include_graphics("figures/sample-content/pdf_embed_example/Lyngs2020_FB.pdf")
```

In LaTeX output, however, this approach can cause odd behaviour. Therefore, when you build your thesis to PDF, split the PDF into an alphanumerically sorted sequence of **single-page** PDF files (you can do this automatically with the package `pdftools`). You can then use the appropriate LaTeX command to insert them, as shown below (for brevity, in the `oxforddown` PDF sample content we’re only including two pages). *Note that the chunk option `results='asis'` must be set.* You may also want to remove margins from the PDF files, which you can do with Adobe Acrobat (paid version) and likely other software.

```
# install.packages(pdftools)
# split PDF into pages stored in
  figures/sample-content/pdf_embed_example/split/
#
  pdftools::pdf_split("figures/sample-content/pdf_embed_example/Lyngs2020_FB.pdf")
# output = "figures/sample-content/pdf_embed_example/split/"
# grab the pages
```

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```
pages <- list.files("figures/sample-content/pdf_embed_example/split",
  full.names = TRUE)

# set how wide you want the inserted PDFs to be:
# 1.0 is 100 per cent of the oxforddown PDF page width;
# you may want to make it a bit bigger
pdf_width <- 1.2

# for each PDF page, insert it nicely and
# end with a page break
cat(stringr::str_c("\\newpage \\begin{center}
  \\makebox[\\linewidth][c]{\\includegraphics[width=", pdf_width,
  "\\linewidth]{", pages, "}} \\end{center}"))
```

‘I Just Want to Hack Myself to Not Get Distracted’: Evaluating Design Interventions for Self-Control on Facebook

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ABSTRACT

Beyond being the world’s largest social network, Facebook is for many also one of its greatest sources of digital distraction. For students, problematic use has been associated with negative effects on academic achievement and general wellbeing. To understand what strategies could help users regain control, we investigated how simple interventions to the Facebook UI affect behaviour and perceived control. We assigned 58 university students to one of three interventions: goal reminders, removed newsfeed, or white background (control). We logged use for 6 weeks, applied interventions in the middle weeks, and administered fortnightly surveys. Both goal reminders and removed newsfeed helped participants stay on task and avoid distraction. However, goal reminders were often annoying, and removing the newsfeed made some fear missing out on information. Our findings point to future interventions such as controls for adjusting types and amount of available information, and flexible blocking which matches individual definitions of ‘distraction’.

Author Keywords

Facebook; problematic use; self-control; distraction; ICT non-use; addiction; focus; interruptions

CCS Concepts

•Human-centered computing → Empirical studies in HCI;

INTRODUCTION

Research on ‘Problematic Facebook Use’ (PFU) has investigated correlations between Facebook use and negative effects on outcomes such as level of academic achievement [35] and subjective wellbeing [58, 57]. A cross-cutting finding is that negative outcomes are associated with difficulty at exerting self-control over use, as well as specific use patterns including viewing friends’ wide-audience broadcasts rather than receiving targeted communication from strong ties [13, 58].

Much of this work has focused on self-control over Facebook use in student populations [2, 44, 46], with media multitasking research finding that students often give in to use which provides short-term ‘guilty pleasures’ over important, but aversive academic tasks [76, 88, 60]. In the present paper, we present a mixed-methods study exploring how two interventions to Facebook — goal reminders and removing the newsfeed — affect university students’ patterns of use and perceived control over Facebook use. To triangulate self-report with objective measurement, our study combined usage logging with fortnightly surveys and post-study interviews.

We found that both interventions helped participants stay on task and use Facebook more in line with their intentions. In terms of use patterns, goal reminders led to less scrolling, fewer and shorter visits, and less time on site, whereas removing the newsfeed led to less scrolling, shorter visits, and less content ‘liked’. However, goal reminders were often experienced as annoying, and removing the newsfeed made some participants fear missing out on information. After the study, participants suggested a range of design solutions to mitigate self-control struggles on Facebook, including controls for filtering or removing the newsfeed, reminders of time spent and of use goals, and removing features that drive engagement. As an exploratory study, this work should be followed by confirmatory studies to assess whether our findings replicate, and how they may generalise beyond a student population.

RELATED WORK

Struggles with Facebook use

Whereas many uses of Facebook offer important benefits, such as social support, rapid spread of information, or facilitation of real-world interactions [78], a substantial amount of research has focused on negative aspects [58]. For example, studies have reported correlations between patterns of Facebook use and lower academic achievement [77, 86], low self-esteem, depression and anxiety [51], feelings of isolation and loneliness [2], and general psychological distress [15]. Such ‘Problematic Facebook Use’ (PFU) has been studied under various names (including ‘Facebook dependence’ [87] and ‘Facebook addiction’ [5]), but a recent review summarised a common definition as ‘problematic behaviour characterised by addictive-like symptoms and/or self-regulation difficulties related to Facebook use leading to negative consequences in personal and social life’ [58].

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CHI ’20, April 25–30, 2020, Honolulu, HI, USA.

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CHI 2020 Paper

CHI 2020, April 25–30, 2020, Honolulu, HI, USA

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4.8 Including another paper in your thesis - R Markdown child document

Sometimes you want to include another paper you are currently writing as a chapter in your thesis. Above 4.7, we described the simplest way to do this: include the other paper as a pdf. However, in some cases you instead want to include the R Markdown source from this paper, and have it compiled within your thesis. This is a little bit more tricky, because you need to keep careful track of your file paths, but it is possible by including the paper as a child document. There are four main steps:

1. Include the paper as a child document
2. Make file paths compatible with knitting the article on its own, as well as when it's include in your thesis
3. Make header levels correct
4. Make figure widths correct

4.8.1 An example paper in another folder

Take this simple example (files for this are in this [GitHub repository](#)):

```
|--paper_to_include
|   |--my_paper.Rmd
|   |--data
|   |   |--cat_salt.csv
|   |--figures
|   |   |--cat.jpg
|
|--thesis
```

As the chart suggests, you have another folder, **paper_to_include/** living in the same containing folder as your thesis folder. In the **paper_to_include** folder, the file **my_paper.Rmd** is where you write the paper. In **my_paper.Rmd**, you read in a

4. Customisations and extensions

CSV file found in the subfolder **data/cats.csv**, and also an image from the subfolder **figures/cat.jpg**.

4.8.2 Step 1: Include paper as a child document

In your thesis folder, create an Rmd file for the chapter where you want to include another paper. Add one or more code chunks that include R Markdown files from that paper as child documents:

```
# Including an external chapter

```{r child = "../paper_to_include/my_paper.Rmd"}
```
```

4.8.3 Step 2: Make file paths compatible

Use parameters to adjust the file path of images based on values you set in the YAML header of an R Markdown file. In **my_paper.Rmd**, create a parameter called `other_path` and set it to an empty string:

```
---
title: "A fabulous article in a different folder"
params:
  other_path: ""
---
```

In **my_paper.Rmd**, put this at the start of the filepath when you read in data or include images:

```
library(tidyverse)
library(knitr)

cat_data <- read_csv(str_c(params$other_path, "data/cats.csv"))
include_graphics(str_c(params$other_path, "figures/cat.jpg"))
```


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Finally, in your thesis folder's **index.Rmd** file, also create the parameter `other_path`. But here, set it to where the **paper_to_include/** folder is relative to your thesis folder:

```
params:
  other_path: "../paper_to_include/"
```

4.8.3.1 Note on HTML output

Note that if you want to host an HTML version on your thesis online, you will need to include graphics in the content that you host online - the internet obviously won't be able to see filepaths that are just referring to stuff in another folder on your computer!

4.8.4 Step 3: Make sure header levels are correct

Unless the paper you want to include is also written as a book, your header levels are probably going to be off. That is, the level 1 headers (`# Some header`) you use for main sections in the other paper turns into chapter titles when included in your thesis.

To avoid this, first *increment all heading levels by one* in **paper_to_include/my_paper.Rmd** (`# Some header` -> `## Some header`). Then in **paper_to_include/** create a lua filter that decrements header levels by one: Create a text file, save it as **reduce_header_level.lua**, and give it the content below.

```
function Header(el)
  if (el.level <= 1) then
    error("I don't know how to decrease the level of h1")
  end
  el.level = el.level - 1
  return el
end
```

In the YAML header of **paper_to_include/my_paper.Rmd**, use this filter:

```
---
title: "A fabulous article in a different folder"
params:
```

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```
other_path: ""
output:
  pdf_document:
    pandoc_args: ["--lua-filter=reduce_header_level.lua"]
---
```

Now, your header levels will be correct both when you knit the paper on its own and when its included in your thesis.

4.8.5 Step 4. Make sure figure widths are correct

It might be that your figure widths when knitting your paper on its own, and when including it in your thesis, need to be different. You can again use parameters to set figure widths.

Imagine you want figure width to be 80% of the page width when knitting your paper on its own, but 100% in your thesis. In **paper_to_include/my_paper.Rmd**, first add a parameter we could call `out_width` and set it to the string “80%”:

```
---
title: "A fabulous article in a different folder"
params:
  other_path: ""
  out_width: "80%"
output:
  pdf_document:
    pandoc_args: ["--lua-filter=reduce_header_level.lua"]
---
```

Then, make sure use that parameter to set the output width when you include figures in **paper_to_include/my_paper.Rmd**:

```
```{r, out.width=params$out_width, fig.cap="A very funny cat"}
include_graphics(str_c(params$other_path, "figures/cat.jpg"))
```
```

4. Customisations and extensions

Finally, create the parameter `out_width` in your thesis' **index.Rmd** file:

```
params:
  other_path: "../paper_to_include/"
  out_width: "80%"
```

Now, the output width of your figure will be 80% when knitting your paper on its own, and 100% when knitting it as child document of your thesis.

4.9 Customizing referencing

4.9.1 Using a .csl file with pandoc instead of biblatex

The `oxforddown` package uses `biblatex` in LaTeX for referencing. It is also possible to use `pandoc` for referencing by providing a `.csl` file in the YAML header of **index.Rmd** (likely requiring commenting out the `biblatex` code in **templates/template.tex**). This may be helpful for those who have a `.csl` file describing the referencing format for a particular journal. However, note that this approach does not support chapter bibliographies (see Section 4.9.2).

```
csl: ecology.csl
```

4.9.2 Customizing biblatex and adding chapter bibliographies

This section provides one example of customizing `biblatex`. Much of this code was combined from searches on Stack Exchange and other sources (e.g. [here](#)).

In **templates/template.tex**, one can replace the existing `biblatex` calls with the following to achieve referencing that looks like this:

(Charmantier and Gienapp 2014)

Charmantier, A. and P. Gienapp (2014). Climate change and timing of avian breeding and migration: evolutionary versus plastic changes. *Evolutionary Applications* 7(1):15–28. doi: 10.1111/eva.12126.

4. Customisations and extensions

```
\usepackage[backend=biber,  
  bibencoding=utf8,  
  refsection=chapter, % referencing by chapter  
  style=authoryear,  
  firstinits=true,  
  isbn=false,  
  doi=true,  
  url=false,  
  eprint=false,  
  related=false,  
  dashed=false,  
  clearlang=true,  
  maxcitenames=2,  
  mincitenames=1,  
  maxbibnames=10,  
  abbreviate=false,  
  minbibnames=3,  
  uniquelist=minyear,  
  sortcites=true,  
  date=year  
{biblatex}  
\AtEveryBibitem{%  
  \clearlist{language}%  
  \clearfield{note}  
}  
  
\DeclareFieldFormat{titlecase}{\MakeTitleCase{#1}}  
  
\newrobustcmd{\MakeTitleCase}[1]{%  
  \ifthenelse{\ifcurrentfield{booktitle}\OR\ifcurrentfield{booksubtitle}}%
```

4. Customisations and extensions

```
\OR\ifcurrentfield{maintitle}\OR\ifcurrentfield{mainsubtitle}%
\OR\ifcurrentfield{journaltitle}\OR\ifcurrentfield{journalsubtitle}%
\OR\ifcurrentfield{issuetitle}\OR\ifcurrentfield{issuesubtitle}%
\OR\ifentrytype{book}\OR\ifentrytype{mvbook}\OR\ifentrytype{bookinbook}%
\OR\ifentrytype{booklet}\OR\ifentrytype{suppbook}%
\OR\ifentrytype{collection}\OR\ifentrytype{mvcollection}%
\OR\ifentrytype{suppcollection}\OR\ifentrytype{manual}%
\OR\ifentrytype{periodical}\OR\ifentrytype{suppperiodical}%
\OR\ifentrytype{proceedings}\OR\ifentrytype{mvproceedings}%
\OR\ifentrytype{reference}\OR\ifentrytype{mvreference}%
\OR\ifentrytype{report}\OR\ifentrytype{thesis}}
{#1}
{\MakeSentenceCase{#1}}

% \renewbibmacro{in:}{}
% suppress "in" for articles
%
\renewbibmacro{in:}{%
  \ifentrytype{article}{}{\printtext{\bibstring{in}\intitlepunct}}
  %-- no "quotes" around titles of chapters/article titles
\DeclareFieldFormat{article, inbook, incollection, inproceedings, misc, thesis, unp
{title}{#1}
%-- no punctuation after volume
\DeclareFieldFormat{article}
{volume}{#1}}
%-- puts number/issue between brackets
\DeclareFieldFormat{article, inbook, incollection, inproceedings, misc, thesis, unp
{number}{\mkbibparens{#1}}
%-- and then for articles directly the pages w/o any "pages" or "pp."
\DeclareFieldFormat{article}
```

4. Customisations and extensions

```
{pages}{#1}
%-- for some types replace "pages" by "p."
\DeclareFieldFormat[inproceedings, incollection, inbook]
{pages}{p. #1}
%-- format 16(4):224--225 for articles
\renewbibmacro*{volume+number+eid}{
  \printfield{volume}%
  \printfield{number}%
  \printunit{\addcolon}
}
```

If you would like chapter bibliographies, in addition insert the following code at the end of each chapter, and comment out the entire REFERENCES section at the end of `template.tex`.

```
\printbibliography[segment=\therefsection,heading=subbibliography]
```

4.10 Customizing the page headers and footers (PDF)

This can now be done directly in **index.Rmd**'s YAML header. If you are a LaTeX expert and need further customisation that what's currently provided, you can tweak the relevant sections of **templates/template.tex** - the relevant code is beneath the line that begins `\usepackage{fancyhdr}`.

4.11 Diving in to the OxThesis LaTeX template (PDF)

For LaTeX minded people, you can read through **templates/template.tex** to see which additional customisation options are available as well as **templates/ociamthesis.cls** which supplies the base class. For example, **template.tex** provides an option for master's degree submissions, which changes identifying information to candidate number and includes a word count. At the time of writing, you must set this directly in **template.tex** rather than from the YAML header in **index.Rmd**.

4. Customisations and extensions

4.12 Customising to a different university

4.12.1 The minimal route

If the front matter in the OxThesis LaTeX template is suitable to your university, customising `oxforddown` to your needs could be as simple as putting the name of your institution and the path to your university's logo in **index.Rmd**:

```
university: University of You
university-logo: figures/your-logo-here.pdf
```

4.12.2 Replacing the entire title page with your required content

If you have a **.tex** file with some required front matter from your university that you want to replace the OxThesis template's title page altogether, you can provide a filepath to this file in **index.Rmd**. `oxforddown`'s sample content includes an example of this — if you use the YAML below, your front matter will look like this:

```
alternative-title-page: front-and-back-matter/alt-title-page-example.tex
```

| | | |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Title of your Thesis</p> <p>John Doe</p> | <p>Thesis committee</p> <p>Promoter:
Prof. dr J. Smith
Professor of Geo-information Science and Remote Sensing
Wageningen University</p> <p>Co-promoters:
Dr. Name of co-promoter
Assistant Professor, Laboratory of Geo-information Science and Remote Sensing
Wageningen University</p> <p>Other members:
Prof. dr Jury member 1, Wageningen University
Prof. dr Jury member 2, Affiliation
Prof. dr Jury member 3, Affiliation
Prof. dr Jury member 4, Affiliation</p> <p><small>This research was conducted under the auspices of the C.T. de Wit Graduate School of Production Ecology & Resource Conservation (PERC)</small></p> | <p>Title of your thesis</p> <p>John Doe</p> <p>Thesis
<small>submitted in fulfillment of the requirements for the degree of doctor at
Wageningen University
by the authority of the Rector Magnificus
Prof. Dr A.T.J. Mol,
in the presence of the
Thesis Committee appointed by the Academic Board
to be defended in public
on Date of your defense
at 4 p.m. in the Aula.</small></p> |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

4. Customisations and extensions

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>John Doe
Title of your thesis
?? pages.</p> <p>PhD thesis, Wageningen University, Wageningen, NL (2015)
With references, with summary in English.</p> <p>ISBN XXX-YYY</p> | <p>For Yihui Xie</p> | <p>Acknowledgements</p> <p>This is where you will normally thank your adviser, colleagues, family and friends, as well as funding and institutional support. In our case, we will give our praises to the people who developed the ideas and tools that allow us to push open science a little step forward by writing plain-text, transparent, and reproducible theses in R Markdown.</p> <p>We must be grateful to John Gruber for inventing the original version of Markdown, to John MacFarlane for creating Pandoc (http://pandoc.org) which converts Markdown to a large number of output formats, and to Yihui Xie for creating knitr which introduced R Markdown as a way of embedding code in Markdown documents, and bookdown which added tools for technical and longer-form writing.</p> <p>Special thanks to Chester Ismay, who created the <code>thesis2book</code> package that helped many a PhD student write their theses in R Markdown. And a very special thanks to John McManis, whose adoption of Stan Evans' adaptation of Keith Gillen's original maths template for writing an Oxford University DPhil thesis in LaTeX provided the template that I in turn adapted for R Markdown.</p> <p>Finally, profuse thanks to JJ Allaire, the founder and CEO of RStudio, and Hadley Wickham, the mastermind of the tidyverse without whom we'd all just groan up and down data science in Python instead. Thanks for making data science easier, more accessible, and more fun for us all.</p> <p>Ulrik Lengen
Linnæus College, Oxford
2 December 2018</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

5

Troubleshooting

This chapter describes common errors you may run into, and how to fix them.

5.1 Error: Failed to build the bibliography via biber

This can happen if you've had a failed build, perhaps in relation to RStudio shutting down abruptly.

Try doing this:

1. `typemake clean-knits` in the terminal tab (or run `file.remove(list.files(pattern = "*.log|mtc|maf|aux|bbl|blg|xml"))` in the R console) to clean up files generated by LaTeX during a build
2. restart your computer

If this does not solve the problem, try using the `natbib` LaTeX package instead of `biblatex` for handling references. To do this, go to **index.Rmd** and

1. `setuse-biblatex: false` and `use-natbib: true`
2. `set citation_package: natbib` under

5. Troubleshooting

output:

```
bookdown::pdf_book:  
  citation_package: natbib
```

*Alles Gescheite ist schon gedacht worden.
Man muss nur versuchen, es noch einmal zu denken.*

*All intelligent thoughts have already been thought;
what is necessary is only to try to think them again.*

— Johann Wolfgang von Goethe (von Goethe 1829)

Conclusion

If we don't want Conclusion to have a chapter number next to it, we can add the `{-}` attribute.

More info

And here's some other random info: the first paragraph after a chapter title or section head *shouldn't be* indented, because indents are to tell the reader that you're starting a new paragraph. Since that's obvious after a chapter or section title, proper typesetting doesn't add an indent there.

This paragraph, by contrast, *will* be indented as it should because it is not the first one after the 'More info' heading. All hail LaTeX. (If you're reading the HTML version, you won't see any indentation - have a look at the PDF version to understand what in the earth this section is babbling on about).

Appendices



The First Appendix

This first appendix includes an R chunk that was hidden in the document (using `echo = FALSE`) to help with readability:

In 02-rmd-basics-code.Rmd

And here's another one from the same chapter, i.e. Chapter ??:

B

The Second Appendix, for Fun

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