# An investigation of how changes to corporate governance in Nepalese microfinance institutions may increase outreach while maintaining their financial performance.

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# Abstract

Microfinance Institutions (MFIs) traditionally have a mission to provide credit to the poorest of the poor and promote sustainable pathways towards a better tomorrow. Importantly, promoting financial inclusion by providing services as alternatives to the informal financial sector of moneylenders, MFIs assist in economic and social growth.

In Nepal, the increasing demand for cash to meet social and religious obligations in largely subsistent village economies is increasingly supported by short-term seasonal migration. The removal of working-age males from communities produces a range of unanticipated and not necessarily desirable outcomes. MFIs, it is suggested, can ameliorate the problem and positively contribute to improved sustainable development outcomes. Potentially, significant gains in outreach are realistically achievable in the context of remote village settings where there is currently little access to cash. It is observed that cash requirements among the rural poor are increasing as more and more activities, such as the purchase of chattels and livestock plus other transactions such as religious festivals and weddings, now require money.

This study examines the impact of corporate governance practices on MFIs' outreach and financial performance in Nepal. In particular, it examines the relationship between corporate governance mechanisms in MFIs and their outreach and financial performance. How the Nepalese central bank, Nepal Rastra Bank (NRB), through its corporate governance directives for Banking and Financial Institutions (BFIs) influences corporate governance practices of MFIs is analysed in this study.

The good governance practices may enable the MFIs to perform better and increase MFIs' social mission as well as their sustainability. Good governance practices can reduce the hierarchical time-consuming bureaucracy and wasteful utilization of resources necessarily diverted from MFIs' mission. Defined structures of governance clarify the responsibilities and accountability that encourage transparency, contributing to a reduction in corruption, freeing available funds for MFIs' mission. Nevertheless, it is debatable what forms of governance practice

increase MFIs' performance. Bankruptcy of firms around the world, especially in mature western economies, has raised concerns about governance practices. The extent to which promulgated guidelines, flowing from these failures, are applicable in low-income countries (LICs), and Nepal in particular, is not obvious and requires examination. The standard format of governance structure in developed economic countries may not work the same in a developing economic country like Nepal, which has strong hierarchical social structures and beliefs. The best fit MFI governance structure in Nepal will arise from evidence-based research in Nepal.

This thesis makes a number of contributions to the existing knowledge of corporate governance and MFI performance in several ways. First, it provides evidence of corporate governance factors and how respective individual components influence MFI outreach and financial performance. Second, this study uses non-parametric quantile regression to analyse the data. This method is the most appropriate, based on careful diagnostic testing of the data. The non-parametric regression results differ from results noted in some prior research. Reconciling these differences illuminates some key social, ethnic and regional issues. Third, this is the first direct study on corporate governance practices and MFIs' outreach and financial performance in Nepal. Finally, the potential for future research opened by the findings in the current study are noted.

The relationship of corporate governance and MFIs' outreach and financial performance is examined based on available data. Initial efforts to obtain data from NRB and the Rural Microfinance Development Centre (RMDC), relating to MFIs enjoyed minimal success. The Mix Market database provides the basic input for creating an unbalanced data panel. The time period for which reasonable coverage is available commences in 2002, post cessation of the Maoist insurgency, and finishes with 2012, prior to the major earthquake. Department of Labour (DOL) and Central Bureau of Statistics (CBS) provide information relating to labour movements and employment. Reports and publications from the Centre for Financial Inclusion (CFI), Consultative Group to Assist the Poor (CGAP) and World Bank (WB) are used and provide useful robustness checks on data. Additional data on the corporate governance of MFIs are collected through the self-reported annual financial statement and reports, and individual MFI's websites. The

study includes regulated MFIs as those outside the oversight of NRB report even less information.

The final panel assembled, after careful diagnostic checking, did not satisfy the "poolability" requirements. Cross-sectional quantile regressions are used to examine nine core performance variables. The five outreach proxies, used were depth, breadth, average loan size, number of depositors and percentage of female borrowers as measures of social value creation. Four financial proxies, return on asset, return on equity, debt to equity ratio and operational self-sufficiency were used to inform consideration of sustainable financial performance. The findings illustrate that various governance variables impact differently across the quantiles for both outreach and financial performance measures.

These differences in the impact of governance variables are significant, with the sign of explanatory variables changing with the independent factors. The results indicate that MFIs with bigger boards, more directors that are independent, high gender diversity, and high caste diversity have less outreach in terms of the number of credit clients. Improvement in staff productivity, larger sized MFIs, maturity of MFIs, and number of employees increase an ability to serve more borrowers. Loan size become larger with the presence of independent directors and higher gender diversity on the board, and diminish with CEO duality, staff productivity, maturity of firm, and number of employees. The range of statistically significant governance variables affecting the performance output proxies points to changes that are likely to encourage MFIs in their missions and benefits individual and the nation overall.

This study can assist Nepalese MFIs to adjust their governance structures to improve their outreach and financial performance. The regulatory environment, including endemic corruption, can change to improve outcomes. The negative impact of the mandatory governance factors on MFIs outreach and financial performance indicates the need for preparing governance mechanisms for MFIs founded on country specific characteristics rather than compelling the code of practice of corporate governance mechanisms from other countries. Key principles like ethical behaviour and transparency underpin good governance but local factors are underweighted in prior research.

The robust findings of this study emphasise the need for regulatory bodies, viz.: NRB, RMDC and other related organizations, to work together to formulate and develop the policies for MFIs industry. The underlying goal is to enhance financial capability to sustain a mission of outreach to uplift the poorest of the poor. The Nepalese MFIs industry needs a better regulatory framework that will enhance corporate governance to yield enhanced outcomes and MFIs industry growth. A more efficacious framework with less emphasis on rules and more enablement of sound policy formulation may flourish under the correct conditions. NRB's Department of Microfinance Promotion and Supervision (DMPS) may be a key enabler of improved MFIs' performance. The regulators and the MFIs industry may encourage the private MFIs into synergy with the not-for-profit MFIs, which will enhance the capability of the MFIs to reach to the poorest of the poor in the rural areas in difficult geographical region in Nepal.

This study is unique to MFIs in Nepal and further research opportunities for other developing nations will promote components supporting more generalized evidence to further empower MFIs. MFIs with different governance systems in different countries may impact MFIs' financial and social mission achievements differently. MFIs in other similar economic countries, operating with the same financial sustainability and social mission, are to be measured before any generalization.

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# Thesis related research outcomes

A number of journal article and conference papers have been produced from this thesis.

## Journal article published

1. Jha, D. K., Locke, S., & Wellalage, N. (2016). Governance and regulatory issues: Microfinance and development of rural communities in Nepal. *Corporate Ownership and Control Journal*, 13(3-3), 491-501. DOI:10.22495/cocv13i3c3p8

## Conference papers

1. Jha, D. K., Locke, S., & Wellalage, N. H. (2016, 18 November). *Microfinance as a stimulant for sustainable increases in rural community living standards; A village case study in Nepal*. Paper presented at the 2nd International Conference on Inclusive Economic Growth and Sustainable Development, SDMIMD, Mysore, India
2. Jha, D. K., Locke, S., & Wellalage, N. H. (2016, 19 November). *Nepalese micro-finance institutions and their inclusive growth for 2004-2012*. Paper presented at the 2nd International Conference on Inclusive Economic Growth and Sustainable Development, SDMIMD, Mysore, India
3. Jha, D. K., Locke, S., & Wellalage, N. H. (2015, 15/16 December). *Micro-finance and development of rural communities in Nepal.* Paper accepted for the 2nd Annual International Conference on Poverty and Sustainable Development, Colombo, Sri Lanka
4. Jha, D. K., Locke, S., & Wellalage, N. H. (2015, 18th February). *Need for micro-finance in rural Nepal to stimulate sustainable increases in rural community living standards.* Paper presented at the PhD Symposium and New Zealand Finance Colloquium Department of Finance, The University of Waikato Retrieved from http://www.nzfc.ac.nz/archives/2015/symposium/

## Forthcoming

1. Corporate governance and MFIs' financial performance.
2. Corporate governance and MFIs' outreach performance.
3. Microfinance as stimulant for sustainable increase in rural community living.

# Dedication

*In the memory of my grandmother and parents*

*for all their hard work, support, encouragement and motivation*

*towards my education.*

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# List of abbreviations

| | |
|---|---|
| ADB | Asian Development Bank |
| BAFIA | Bank and Financial Institutions Act |
| BFI | Banking and Financial Institution |
| CEO | Chief Executive Officer |
| CSFI | Centre for the Study of Financial Innovation |
| CGAP | Consultative Group to Assist the Poor |
| CMF | Centre for Microfinance |
| CDLF | Community Development Loan Funds |
| DER | Debt to Equity Ratio |
| DID | Difference in Difference |
| FINGO | Financial Intermediary Non-Government Organisation |
| FMDBL | First Microfinance Development Bank Ltd. |
| GBB | Grameen Bikas Bank |
| GDP | Gross Domestic Product |
| GNI | Gross National Income |
| ICT | Information Communication Technology |
| INGOs | International Non-Governmental Organisations |
| ILO | International Labour Organisation |
| LIC | Low-Income Countries |
| NPR | Nepalese Rupees |
| MFIs | Microfinance Institutions |
| MIX | Microfinance Information Exchange |
| MFDB | Microfinance Development Banks |

| | |
|---|---|
| NBFIs | Non-Banking Financial Institutions |
| NGOs | Non-Governmental Organisations |
| NRB | Nepal Rastra Bank |
| OLS | Ordinary Least Square |
| OSS | Operational Self-Sufficiency |
| PMFDB | Private Microfinance Development Banks |
| RDB | Regional Development Bank |
| RMDC | Rural Microfinance Development Centre |
| RSRF | Rural Self Reliance Fund |
| ROA | Return on Assets |
| ROE | Return on Equity |
| SACCOs | Savings and Credit Cooperatives |
| SFCL | Small Farmer Cooperatives LTD |
| SHG | Self-Help Groups |
| SKBB | Sana Kisan Bikas Bank |
| SMEs | Small and Medium Enterprises |
| UN | United Nations |
| UNCDF | United Nations Capital Development Fund |
| WB | World Bank |

# Chapter one – Introduction

The potential for microfinance to contribute significantly to economic growth and the living standards of individuals continues to receive ongoing attention in emerging economies and low-income countries (LIC). The upside potential is promoted as large, while the downside risks associated with entrenching resources into a corrupt system are not as extensively discussed. In this thesis, governance of microfinance institutions [1](MFIs) are examined in relation to the financial and outreach performance of MFIs in Nepal.

This research is important for three main reasons. First, it examines corporate governance of MFIs in Nepal, in relation to both MFI outreach and financial performance. This is the first study in Nepal on MFI governance mechanisms and their impact on MFIs' dual mission of outreach and better financial performance. The components of performance, viz. financial and outreach are examined. The balance between financial and outreach performance is an ongoing consideration of good governance for MFIs as they strive for longer-term sustainable impact. Good governance is essential to reach a large number of clients, and without good governance, achieving the dual mission is a challenge. Outreach is crucial part of MFIs' measurement, but it is impossible to achieve outreach without better financial support because Nepal has poor infrastructure and difficult geography, which accelerates the cost of outreach, therefore making it difficult for MFIs to fulfil their social mission. As a result, MFIs that have better financial performance with no improved outreach turn to another fund supplier organization. Thus, financial performance and outreach are linked for MFIs undertaking both goals of MFIs, which will make outreach and financial efficiency compatible with each other or else they will be in conflict. Corporate governance that enhances MFIs' outreach may not necessarily do the same with financial performance and vice versa. This is where it is presumed corporate governance plays the key functional role to maintain the correlation between better outreach and financial performance. Therefore, it is necessary to examine whether corporate governance that stimulates the outreach also does the same for financial performance for MFIs in Nepal. This

[1] The Nobel peace prize winner, Md. Yunus, initiated microfinancing in 1976 and formalized Grameen Bank in 1986 in Bangladesh, keeping the social mission to alleviate the poverty.

study also gives insights into MFIs that have one goal of either outreach or financial betterment with corporate governance, and highlights the conflict among scholars' measurement, that is, whether outreach or financial performance should be the tool when measuring MFIs' performance.

Second, financial inclusiveness, especially for low income, rural poor is examined. The importance of this study increases as MFIs work for financially excluded low-income people. The role of MFIs in South Asia is critical to develop the economies of countries in the region. There are 2 billion unbanked people in the world and 625 million of them live in South Asia (World Bank, 2014b). There are 34% adults in which 32.1% are rural in Nepal, and 46.4% adults in which 43.5% are rural in South Asia, who are included in financial services with financial institution (World Bank, 2014b). The figures indicate there are huge numbers of people in some populations who are financially excluded. Therefore, the demand for financial services is higher than the institutional supplies of financial services. There are only 37% of women, 55% of men and 40% of poor households in South Asia that have an account with a financial institution (World Bank, 2014b) that increases the demand for the MFIs services in South Asian developing countries. The figures demonstrate the importance for MFIs to fulfil their social mission to alleviate poverty by increasing financial inclusion of poor people in South Asia. The importance of MFIs increases the role and importance of governance structure in financial inclusion in this region. This study may help for future policy-making in the region, even though the countries are under different governments and regulatory structures. Thus, this study has significance for governance and institutional performance to increase financial inclusion.

Third, the broader section of stakeholders, including international donors recognized in the study, adds to the usefulness of the findings in terms of policy and practical considerations. The findings of the study may provide beneficial information on Nepalese MFIs for donors, fund suppliers, creditors, investors, and stakeholders. McKinsey and Company (2002) report that 63% of investors avoid individual companies, 31% avoid countries with poor governance, and 57% of investors vary with governance practices, whereas 80% of investors would pay a premium for a well-governed company. The boards' decisions and activities have high influential impact on companies' financial success (McKinsey & Company, 2013).

The significant findings may help MFIs policymakers modify their policies to improve industry performance in Nepal and may assist individual managers to measure, inform and influence their own institutional performance.

Careful empirical analysis, using appropriate and robust methods is important. Evidence-based policy development, in part fuelled by the international donor community wanting assurance of change and progress toward both more efficient and more equitable MFIs, is increasingly important for LIC. Nepal has experienced political turmoil with the collapse of the monarchy, Maoist insurgency, coalition government, and economic drives for modern infrastructure, including replacing the damage caused by the earthquake of 2011, all in an environment where many want their inducements paid. Enhancing governance in MFIs has potential to improve productivity and living standards, so a dispassionate analysis is fundamental to such a quest.

There is little research on corporate governance and firm's performance in Nepal. The country is known as a low- and middle-income economy with unstable politics and a volatile economy. However, cooperatives, NGOs, INGOs and MFIs are widespread. Interest in MFIs and the services they offer have increased extensively.

This is the first study to explore corporate governance and its relationship with financial performance and outreach in MFIs in Nepal. The study uses historical data to explore the corporate governance impacts on financial performance and outreach in Nepal. Studying a single country's corporate governance-performance relationship provides broad analysis that can be potentially generalizable. The database for observation years is comprehensive.

Researchers have given little attention to the South Asian region. Recently, there have been a few studies done on MFIs performance, looking at different dimensions, but the studies of the direct relationship between MFIs' corporate governance and financial and outreach performance are minimal. The prior studies do not give any empirical results. The existing MFI corporate governance literature is given to understanding the dynamic nature of the corporate governance and MFIs performance relationship. The Millennium Development Goals prompted the Nepalese government to work harder to alleviate poverty, and that in turn increased the importance of MFIs' role. The Nepalese government uses NGO, INGOs,

cooperatives and MFIs as tools to increase financial inclusion to boost the local economy. The case of poor governance practices in Andhra Pradesh in India caused the government there to wake up, regulate and implement policies for better governance of MFIs. Therefore, it is important to consider whether the corporate governance structure influences MFIs' financial performance and outreach in Nepal, where corporate governance systems are not yet formalised.

Prior studies have estimated the impact of MFI governance mechanisms separately, focussing on either outreach or financial performance (Hartarska, 2005; Mersland & Strøm, 2009). This study investigates the impact of governance mechanisms on both dimensions (Hartarska & Mersland, 2012) of social mission and financial performance of MFIs in Nepal, providing banking services to low-income families.

The ethical scandals in Enron, WorldCom and others attracted the attention around the world causing people to question "how companies are directed and controlled" that is, corporate governance both inside and outside corporations (Hedrick & Struggles, 2014). Corporate governance further explains board-level leadership that enables and drives firm performance to be known as a well-governed firm.

Corporate governance comprises two mechanisms, internal and external (World Bank, 2006). Internal corporate governance requires the board of directors to monitor management in favour of shareholders' interest; external governance monitors and controls managers' behaviours. Governance mechanisms include board characteristics, board diversity, and an independent board without any influence. Governance is about achieving corporate goals (Bassem, 2009) and the governance role becomes important for MFIs as they develop the dual mission of outreach and financial performance (Hartarska & Mersland, 2012; Mersland, 2011). Better corporate governance may be a key factor for enhancing the viability of a firm (Mersland, 2011). In the literature, governance factors are frequently discussed but researchers have struggled to find the right corporate governance mechanisms that influence the performance of MFIs. There are grey areas to governance that need to be navigated with integrity, insight and intelligence (Hedrick & Struggles, 2014). A Microfinance Banana Skins survey done by the Centre for the Study of Financial Innovation (2008, 2012, 2016) identifies corporate governance as a principal risk facing microfinance, threatening its role in uplifting poor

communities. The Centre for the Study of Financial Innovation (2008, 2012, 2016) also finds that the quality of corporate governance in MFIs concerns investors. BBVA Microfinance Foundation (2011) says Latin American and Caribbean MFIs are experiencing a lack of good corporate governance practices. It is evident that good corporate governance is crucial in strengthening MFIs' financial performance and increasing their outreach (Mersland & Strøm, 2009). Donor reluctance and government budget constraints should encourage MFIs to have good governance to survive on their own by balancing outreach and operational and financial efficiency. A better balance between outreach and financial efficiency can be achieved with a good governance framework and the right incentives at MFIs level (Bakker, Schaveling, & Nijhof, 2014).

The literature provides the guidelines for ideal and effective MFIs' governance (Bakker et al., 2014; Council of Microfinance Equity Fund, 2007; Council of Microfinance Equity Funds, 2012; Hedrick & Struggles, 2014; Ledgerwood, 1998). "It is important that corporate governance does not become a one size fits all compliance exercise" (Hedrick & Struggles, 2014, p.2). The empirical results of governance and MFIs' performance are discussed below in the literature review. Attention will be paid to gender diversity, ethnic and minority diversity, CEO duality, non-executive directors and number of directors on the board are governance factors in this study. Governance mechanisms that have a significant relationship with the double bottom line of achieving both financial and social goals have been included in this research. Variables mentioned in the literature are taken for the performance proxies on availability of dataset for MFIs in Mix Market.

Drake (2012) explains that directors' behaviour changes with the implementation of a governance performance measurement. Governance performance measurement is more effective when 'relevant peer comparison data' is available (Drake, 2012). This study measures MFIs' performance using operating efficiency coefficients, OSS, and profitability; ROA and ROE for financial performance; and number of clients served in order to capture the outreach objective of serving as many poor clients as possible (Caudill, Gropper, & Hartarska, 2009; Schreiner, 2002).

The Organisation for Economic Co-Operation and Development (2004, 2015) updates principles of corporate governance, including regulations, standards,

initiatives, programmes, and much more that are indeed necessary and useful. However, by making it an administrative exercise, good governance has come to mean compliance rather than excellence, a succession of boxes to be ticked (Hedrick & Struggles, 2014). Effective boards need to move beyond mere compliance to create flexible and dynamic governance that enables them to respond quickly and adapt to the changing circumstances of business. There is no proven formula (Drake, 2012) for effective governance and the most effective approach needs to be analysed on a case-by-case basis. The spirit of governance (Hedrick & Struggles, 2014) that is linked to the culture and performance of an organisation needs to be checked with MFIs in Nepal. To analyse the impact of corporate governance on MFIs' performance in Nepal, these questions are established:

- Does the corporate governance structure affect MFIs' outreach in Nepal?
- Does the corporate governance structure affect MFIs' financial performance in Nepal?
- Can Nepalese MFIs have different board structures that will lead to improved outreach while maintaining financial performance?

The thesis is organised as follows. Chapter 2 provides background information about Nepal, a review of the evolution of MFIs in Nepal, and information about the microfinance sector; different types of MFI structures and models that operate in Nepal; the need for cash, financial supplies and coping strategies in rural and urban regions of Nepal. Financial inclusion and its implications are explained in this chapter.

Chapter 3 provides literature reviews on the empirical findings on governance factors that are relevant for this study. It describes the concept of corporate governance and its significant impact on MFIs performance. The influence of governance factors on the outreach and financial performance is explained. The hypothesis is built on the literature reviews on governance factors and MFIs outreach and financial performance in Nepal. It describes the estimation technique, that is, research framework and the conceptual models used for hypotheses development. The dependent, independent and control variables used in this study are explained.

Chapter 4 describes data sources used for data collection, data editing, data gap filling, sampling procedure, and sample size.

Chapter 5 provides a methodological and econometric framework for this study and explains the normality test of data, descriptive statistics, correlation matrix of independent variables, and other statistical tests for model specification. It also covers econometric methods and models for the empirical analysis of the thesis, corporate governance, MFIs' outreach and financial performance in Nepal.

Chapter 6 describes empirical quantiles regression results analysis with the coefficient relation at different quantiles on corporate governance, financial performance and outreach of MFIs in Nepal. This chapter contributes to the understanding of how corporate governance affects MFIs performance in Nepal.

Chapter 7 discusses the analytical cross-sectional quantiles regression results for 2012 compared to those of 2004. It explains the corporate governance practices, financial performance and outreach of MFIs in Nepal during this period. The discussion considers how different governance factors impact MFI financial performance and outreach in Nepal.

Chapter 8 concludes the thesis by providing a summary of the findings and the implications, academic contribution, limitations of the study and recommendations for further research.

## 1.1 Background of the study

The failure of organizations where bribery and misconduct seem to cause the collapse of social organizations puts economists and donors in a reluctant position. Microfinance Institutions (MFIs) were established to provide financial services to populations excluded from traditional banking institutions. MFIs' objective is to uplift the financial situation of the poor who live below the poverty line. Their role in economic development is vital in poorer countries. MFIs provide non-collateral small loans to the poor to achieve MFIs' social mission. Providing small loans is expensive which means MFIs often depend on financial subsidies. Donor or fund providers emphasize the need for MFIs to achieve their social mission rather than institutional financial achievement. However, institutional commercialization, high competition, the emergence of modern technology and the reluctance of donors is putting pressure on MFIs to become self-sustaining if they want to continue their services. The social involvement of MFIs triggers the importance of measuring their performance. Thus, social mission and financial achievement need to be considered

when measuring MFIs performance. The performance of MFIs can be measured against the same tools used for the commercial banking system.

Corporate governance plays a key role in MFIs achieving their social mission and financial performance. However, governance may differ for outreach and financial output. The governance that stimulates outreach may not be the same as the governance that fuels the financial perspective in MFIs. Governance factors are discussed extensively for structural improvement in different countries.

The study shows the structure of governance and its influence on Nepalese MFI performance, which is relatively different from other regions as reflected in prior research in different countries. The results of this study improve the understanding of the different governance factors that contribute to the financial and outreach objectives. This result gives information to stakeholders to compare their trade-off between the two objectives of MFIs in Nepal. MFIs need to have better financial performance to support their increased outreach. MFIs with no improved outreach just become grant organizations.

The study examines the financial and social benefits of expanded MFIs financial performance and outreach [2] in Nepal. Central government policy makers and research funders emphasize the necessity to develop MFIs to uplift the social and economic situation of the poor in developing nations. Potentially, significant gains in outreach are realistically achievable in the context of remote village settings where there is currently little access to cash. The cash requirements among the rural poor are increasing as more and more activities, such as the purchase of chattels and livestock plus other transactions such as religious festivals and weddings, now require money.

The barter economy has operated well but is gradually waning in importance as urban habits gain more traction in remote communities. MFIs services, in particular credit and savings extension, can be achieved by removing the access barriers in rural areas (Bos & Millone, 2015; McIntosh, Villaran, & Wydick, 2011). Acceptance of small amounts as deposits may encourage a saving practice and contribute to building confidence in saving for the future among poorer

[2]Outreach relates to the number of customers served by an MFI and the benefit the borrower achieves from the credit (Lafourcade et al., 2005).

communities. Access to finance can contribute to a long-lasting increase in income by raising investment in income-generating activities (Agbaeze & Onwuka, 2014) and to a possible diversification of income sources. An accumulation of assets may be achieved and, importantly, an improved smooth food consumption gives a better health, which may reduce vulnerability to illness. Drought and crop failures are ongoing issues in rural communities but slow and steady improvements in education, health and housing through the deliberate choices of borrowers who are in improving economic spaces will make for better lives. In addition, access to finance can contribute to an improvement of the social and economic situation of women who have very, very limited opportunities at present. Finally, microfinance may have positive spillover effects in addition to the direct economic and social improvements obtained by the borrower (Zhou & Takeuchi, 2010). The positive contribution microfinance can make to reducing poverty has convinced many governments, non-government organizations (NGOs) and individuals to put effort into supporting MFIs and their activities.

MFIs have also received criticism, including for their failure to reach the ultra-poor (Lønborg & Rasmussen, 2014; Scully, 2004), and not adequately providing benefits through financial services and programs (Aghion & Bolton, 1997). The tension between financial performance and outreach is manifest in the lack of confidence from the MFI sector and seeing the risk that the ultra-poor present as borrowers. Hulme and Mosley (1996) suggest that the poorest of the poor, the so-called core poor, are generally too risk averse to borrow for investment purposes. Therefore, they benefit only to a very limited extent from microfinance schemes (Lønborg & Rasmussen, 2014; Newman, Schwarz, & Borgia, 2014). Staff of microfinance institutions may prefer low-risk exposure, if bad debts are unfavourable in terms of bonuses or advancement, then seeing the ultra-poor as extremely credit-risky promotes a desire to avoid them (Hulme & Mosley, 1996). MFI practices may also lead to the exclusion of the core poor, such as a requirement to save before a loan can be granted (Kirkpatrick & Maimbo, 2002; Lønborg & Rasmussen, 2014; Mosley, 2001).

In an economy where rural workers receive payment in kind, there is little money in circulation. The opportunity to acquire additional poultry or grow a roof garden to supplement in-kind receipts with cash sales requires an initial investment. If there

are no MFIs operating in the area, then the moneylender, a traditional source of money, who some now consider high-country loan sharks, is one option. Migration has long been an important livelihood strategy for the people of rural Nepal. Whenever the population has risen to such an extent that people can no longer secure a livelihood, they have migrated elsewhere. Even today, poor people pursue short-term seasonal[3] migration as a livelihood strategy in Nepal. The migratory worker culture is becoming a stable pattern for survival rather than a process of generating surplus cash to invest in money-producing agriculture or trade. Often this form of work is necessary even where moneylenders operate. Worker migration is now a common situation for rural people, particularly those in more remote villages.

The poorest rural people in Nepal own no land, have no regular income sources, collateral or financial literacy. The tyranny of remoteness is an obstacle too large to address through an immediate policy change. Small incremental steps are more likely to be successful. Development of investment lending in rural communities will stimulate a trickle-down effect through paid day-labour having cash in hand. Aghion and Bolton (1997) find that the trickle-down mechanism can lead to a unique steady-state redistribution, improving the production efficiency of the economy. Applying this trickle-down mechanism in Nepal may enhance economic growth and in turn further contribute to the expansion of lending and saving activities. In Nepal, those who have more wealth and are more capable of managing resources will be creating jobs through investment and therefore producing more business or businesses. This would encourage people to work more to earn more. This process leads to local economic growth and wealth creation that benefits everyone, not just those who invest.

## 1.2 Statement of research

The study explores the potential for changing corporate governance structures in microfinance institutions (MFIs) in Nepal to enhance their outreach performance to reduce rural poverty. Microfinance loans were developed principally to facilitate entrepreneurial activities in poorer communities that are totally or partially excluded from the banking system. The aim is to reduce poverty, promote self-

[3]Seasonal migration comprises a period of a few weeks or months and implies a regular return of migrants to the original place (Shrestha 2009; Department for International Development, 2007)

employment, and improve the empowerment of socially excluded persons, particularly the poorest of the poor in society. The existing corporate governance practices in MFIs concentrate on their ability to raise capital, which creates a perception that private interests are benefiting from the vulnerability of the poor which could cause the "mission drift." There are articles suggesting that the focus of MFIs has moved to profit-making and better financial performance at the expense of outreach to poorer clients. The MFIs' priority to reach the rural poor seems in doubt. MFIs are moving into serving the urban poor, away from the rural poorest of the poor. MFIs allocation of loan amounts in urban areas increases their individual profit-making. Thus, the aim for higher profit has led to reduced outreach amongst MFIs.

In Nepal, MFIs have opened central offices in each of the country's five regions and moved to implement a more decentralised system to run more efficiently and effectively. Nevertheless, these steps are not necessarily impacting in a significant manner upon poverty reduction; rural people still struggle for daily bread. This may indicate that MFIs are not yet making sufficient penetration into capacity building for the poorer stratum of society. Preparation of enhanced general guidelines for corporate governance to overcome current inadequacies for MFIs, and dealing with cultural and regional differences through the development of a specific framework for corporate governance will afford real, tangible and sustainable additions to outreach. Outreach is central to the mission of MFIs and may be more carefully crafted into governance guidelines.

Good corporate governance in terms of strengthening stewardship, achievement of MFIs' primary objectives, and promoting further development of the industry have been asserted as key elements to enhance outreach performance, which will in turn promote sustainable growth of micro-, small- and-medium sized enterprises (MSMEs) in Nepal. These are lacking from the well-intentioned normative level of outreach, which is fostered through these structures. In addition, the financial viability of MFIs needs to be included as an important component of any empirical study. If financial performance declines too far, the solvency of the institution will be threatened. MFIs need to minimise the possibility of management failures, which may jeopardise the efficacious application of received funds from local and international donors. Transparency and accountability are essential.

In the Nepal context, there are number of factors that require consideration. There is a need for improved access to MFIs, timely engagement, non-collateral based loans, gender equity, and transparency in terms of monitoring of loan-fund use and increasing the pool of resources available. Enhancement of MFI's outreach within a framework of sustainable development will require the formulation of an MFI governance model that may require greater degrees of participation by all stakeholders and less gaming between parties trying to exploit personal advantages, which results in a reduction of both outreach and confidence in the institutional and regulatory framework.

## 1.3 Significance of study

This study analyses MFIs' corporate governance in Nepal from the perspective of enhancing outreach. There is a significant potential for enhanced outreach to positively impact the lives of many rural poor in Nepal and some of the findings may be generalizable to other low income countries (LICs). Improved outreach can promote sustainable development, which will generate further demand, growth and raise the horizons for many lower subsistence-level rural poor to escape the poverty trap in which they currently call home. The amplified outreach is not possible without better financial performance by the MFIs. Profitability and operational efficiency will define the MFIs' financial performance, and depth and width will measure outreach in this study. This is the first empirical study to measure MFIs outreach and financial performance with corporate governance practices announced as mandatory in 2007 in Nepal. This study considers the national governance system to measure its influences on MFIs performance in Nepal. The study findings can be generalized to any country with the same governance characteristics.

The wider use of outreach and financial proxies to measure the MFIs' performance will enhance the understanding of how different corporate governance mechanisms collaborate with MFIs' outreach and financial performance. Previous studies relating to MFIs in LICs are mostly descriptive and do not address the relationship between the governance system and outreach performance for rural poverty reduction, especially for Nepal. The current study, through its empirical emphasis, is clearly distinguishable from the predominantly descriptive and normative literature. Prior research has mostly been on developed economies. There has been little research on MFIs in the South Asian region. This study will fill the gap of

corporate governance mechanism and MFIs performance in this region. The differences in social, regulatory, ethnicity, politics and economy of each country may have different impacts on the nature, direction and operational processes of MFIs in emerging economies, more so than in developed economies. Governance systems may influence MFIs' performance in different countries.

The findings of the study will contribute to the empirical evidence concerning the correlation of corporate governance practices and MFIs' outreach and financial performance. The more sophisticated method of analysis used in this study increases the probability of robust results, which will have a greater likelihood of finding acceptance among analysts and officials charged with policy formulation. Aspects of MFIs in the Nepal context include internal control systems, ethnicity and sociocultural differences, regional differentiating characteristics, discriminatory impacts of Hindu caste system, and the role of donors and investors in promoting outreach performance for poverty reduction in rural areas of Nepal. It is to measure whether the internal corporate governance structure influences MFIs' outreach and financial performance in Asian countries. The external governance mechanism may be ineffective because of high political uncertainty and corruption in an emerging market. This study extends an understanding of the nature of corporate governance practices in MFIs in Nepal and the effect such practices have on firm performance.

Consideration of how MFIs reach clients with services in an effective, equitable, and efficient manner encompasses many challenges. The need for MFIs to incorporate sustainability through providing ongoing services is essential. Better governance may stimulate an awareness of the deep-rooted discrimination founded on religion, ethnicity and caste systems, which reduces output and national income. Better governance may be achieved with higher transparency, accountability and operational efficiency, which in turn will increase firm performance. Failure of MFIs in Andhra Pradesh in India caused increased concern by investors, donors, creditors and stakeholders on the fund utilization by MFIs. The unpleasant governance practices jeopardised MFI operation in the market, suggesting the need to analyse governance practices that will improve MFIs performance.

Ethnicity, while being a sensitive matter, is often taken as fixed and not to be questioned among the very conservative rural communities. Good corporate governance requires a delicate balance when handling sensitive issues but also needs to consider the interrelationships lest suboptimal outcomes become the future. Any improvement in MFIs governance that picks up stakeholders' interest will have an impact upon outreach of financial services for poverty reduction. The study, through considering the representation and understanding of these factors, can lead to improving stakeholders' interest by reduction of ethnic bias, caste bias, and discrimination.

There is a considerable body of research, focussed predominantly around publicly listed companies, relating to corporate governance and various financial performance variables. This material provides a base for exploring the financial performance link with variables in MFIs' governance, which have not yet been considered for Nepal. The study gathers secondary data for this aspect of the research.

By combining the financial performance and outreach into one study, this research explicitly recognises that the latter cannot be attained without a sustainable business model in respect of the former. An MFI in liquidation will not be engaging in outreach. MFIs play a greater role in financial inclusion in developing countries. Scholars have also criticised MFIs' involvement in mission drift from their social mission achievement. More studies need to take the importance of MFIs into consideration when studying the financial sector, rather than focusing mainly on commercial banks and other lending institutions.

To promote the usefulness of this research, it is proposed that the findings will be shared with key stakeholders. Small presentations and seminars for interested parties will be undertaken among industry members in Nepal. Further interpretation of the findings in the light of the feedback will promote the potential for the study to have more direct implications on future outreach projects.

This research will make explicit the trade-off public policies that would help to improve governance in MFIs so outreach services are enhanced for rural poor people to raise their living standards and open the door for sustainable income resources. It is anticipated that improved governance in MFIs will incorporate

matters reported on the basis of this research. Many issues will take time to work through and both regulatory and cultural changes will be needed. A glaring example is corruption and the necessity to pay bribes to secure a microfinance loan specifically designed to assist a person working their way out of poverty.

# Chapter two - Background of Nepal

## 2.1 Introduction

This chapter discusses Nepal's background, the institutionalized evolution of MFIs in Nepal, and their mission. MFIs' operational situation demonstrates the reality of the MFIs services in rural and urban regions in Nepal. The rural poor's need for cash and their ways of coping with that need is explored. MFIs' financial inclusiveness situation is explored in rural and urban regions from the dimension of financial inclusion: that is, access, uses, and quality. The informal monetary section is active in the absence of a prudential number of financial institutions in Nepal. The Nepalese MFI structures, types of MFIs and their model are explained.

## 2.2 Nepal background

Nepal is one of the world's least developed countries located in the north of South Asia. According to the World Bank (2014a) the annual per capita income of USD750 ranks 157th of 187 countries in the world in the Human Development Index. More than 80 % of the total population lives in rural areas and their livelihood depends on agriculture and related activities (World Bank, 2014a).

A landlocked republic surrounded to the north by China and to the south, east, and west by India, Nepal has potential to grow its economy, capitalizing on its location, sandwiched between the two emerging giants of India and China. Geographically, it is divided into three zones: high mountains and the Himalayas in the north, small mountains and hills in the middle, and the plain (Terai) in the south.

Nepal and India share a 1,778 km border that is very porous, making it difficult to accurately capture data on cross-border movement and undocumented migration. There is an 'open' border through the agreements of a bilateral treaty signed in 1950. According to the Treaty, Nepalese and Indians can travel and work across the border and are treated on a par with local citizens. Rural Nepalese, who have long been suffering poverty, unemployment, and more recently, a civil war, migrate to India in their thousands every year.

The Central Bureau of Statistics (2011) estimates that nearly 30% of the Nepalese population of 28 million live on less than USD14 per person per month. Some of the causes for their poverty are disparities of caste, gender, and geography.

Stimulation of migration, according to Bhattarai (2007), is a main source of income to ameliorate poverty, unemployment, declining natural resources, and more recently, the Maoist insurgency.

Bhattarai (2006) argues that there are reasons to migrate from Nepal, such as limited employment opportunities, deteriorating agricultural productivity and armed conflict. Further, he observes that many villagers go abroad to work for a while, returning with some money and the experience of living in a different geographical location. However, what is clear is that most would be worse off if they were depending solely on local employment (Walsh & Jha, 2012).

## 2.3 Evolution of institutional micro-credit activities

The formal banking system started in 1937 by establishing the Nepal Bank Limited with credit and deposit financial services to the commercial sector in Kathmandu and some urban areas in Nepal. In 1956, the Nepal Rastra Bank (NRB) was established as the central bank of Nepal to monitor and administer the banking system to control the money with a view to improving the lives of people.

The Nepal Central Bank established the Agricultural Development Bank (ADB) in 1968 to support farmers by providing credit and marketing support for agriculture and its products. It was the beginning of Nepal's rural financial services and the first microfinance in Nepal. In the process of developing the standard of living for the deprived[4] sector and rural regions, the NRB directed that all commercial banks should invest a portion of their resources into these needy groups. Furthermore, NRB mandated for all the commercial banks to invest 5% of their resources in rural development projects with 80% to be in agriculture. There is a steady upward trend in MFIs lending as reflected in Figure 1.

[4] "deprived " means "low income and especially socially backward women, tribal people, Dalit, blind, hearing impaired and physically incapacitated persons, marginalized and small farmers, craft-men, labour and landless squatters family" Nepal Rastra Bank. (2010).

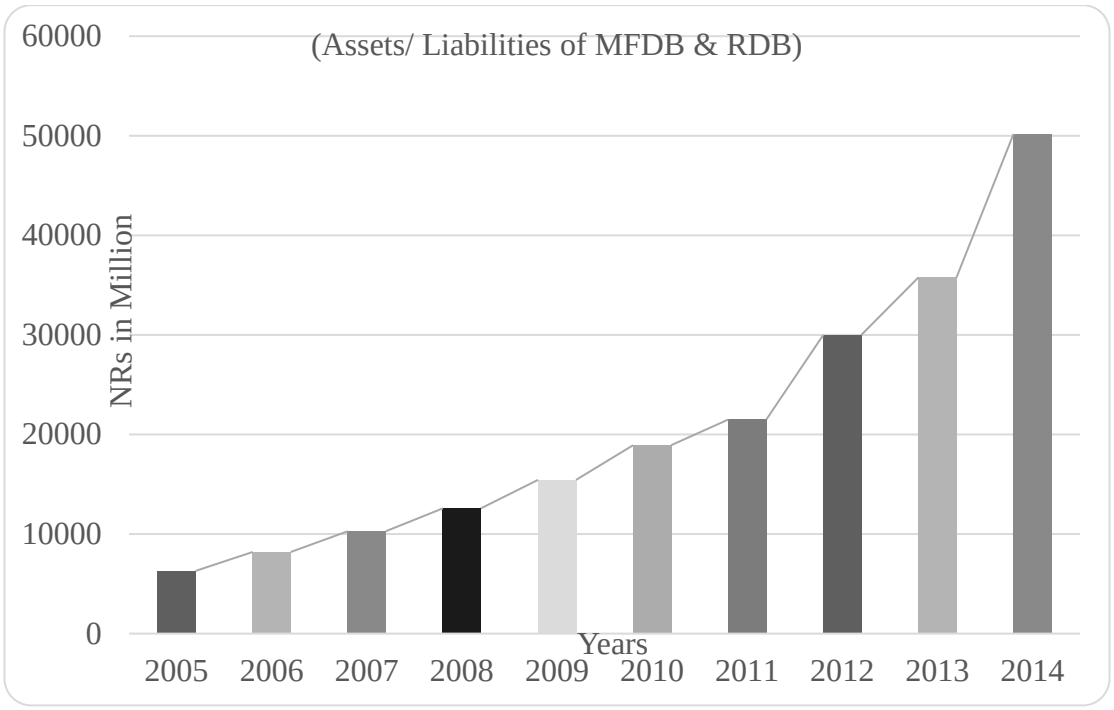



**Figure 1. Asset/ liabilities of MFDB and RDB for 2005-2014**

Data source: (Nepal Rastra Bank, 2014a)

Regional disparity is a consideration for the NRB, which encourages the private sector to participate by providing financial services in the rural areas of Nepal. In the process of facilitating financial services to the rural region, the NRB opens its doors to participating with the private sector, to continuous development and to modifying its Acts to regulate banking and financial services (Shrestha, 2009). As a minimum, the NRB should be playing a positive role in forming and executing the policies for the financial sector to enrich rural people through access to financial services. The financial sector is still in its infancy and needs more nourishing in order for it to provide services to all corners of the country. Financial services are still limited and focused on urban rather than rural areas. The rural poor, in the interior regions, consequently have no financial services and depend on traditional methods of dealing with their financial needs.

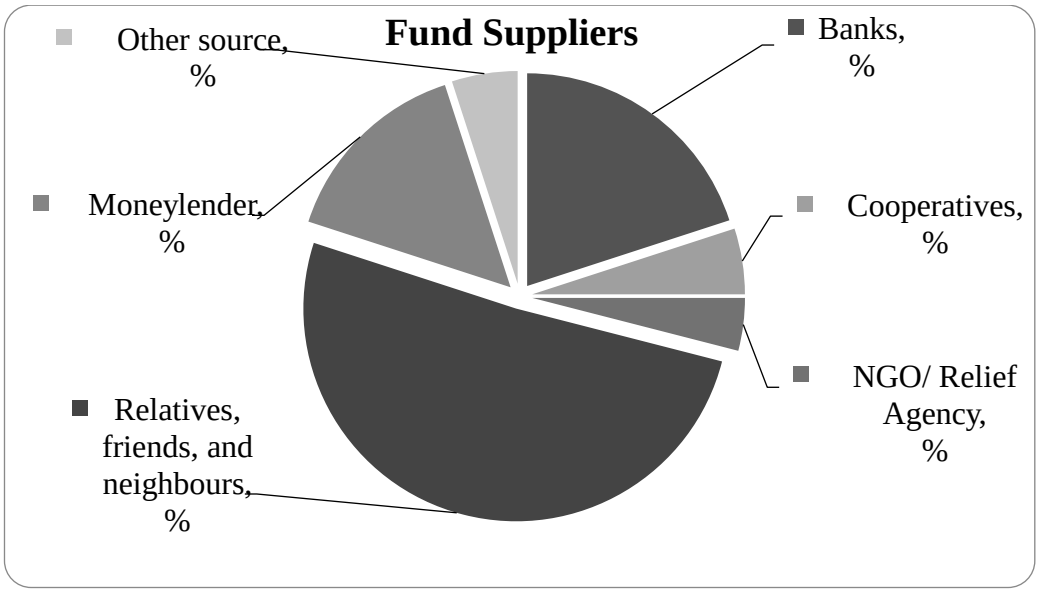



**Figure 2. Fund suppliers**

Data source: (Central Bureau of Statistics, 2011)

The formal sector's loan fund supplies, as shown in Figure 2, is 29% of total funds, comprised of 20% from banks, 5% from cooperatives, and 4% from NGO/relief agencies. The informal financial sector in rural Nepal is widespread, supplying 71% of funds, with relatives, friends and neighbours being the largest component with 51%, moneylenders providing 15%, and a further 5% coming from other sources. The informal financial services come from property owners, merchants, farmer-lenders, goldsmiths, pawnbrokers, friends and relatives or informal group institutions such as Dhikuti, Dharambhakari, and Guthi (United Nations Capital Development Fund, 2011).

The easy approach to personal credit, a short-term loan with quick access, and flexibility with or without collateral, is a popular informal financial service in rural Nepal. In most cases, the informal sector provides loans on the same day or within a week as a maximum. Most importantly, from the borrowers' perspective, lenders are flexible with the repayments. Borrowers in rural areas view informal lenders more favourably than MFIs. The forms of collateral preferred by lenders include gold or silver ornaments, bonding land or property, in some cases livestock, and even in the form of labour services.

The interest rates charged by the informal fund providers range from 25% to 60% and in some cases 100% compounded annually. Informal fund providers receive

labour services and small gifts, in addition to the repayments, given by the borrowers as a way of keeping warm relations with the fund providers.

The availability of widespread informal financial services in rural areas suggests MFIs' outreach would occur if MFIs were present and offering suitable terms. Efforts to date by the NRB to encourage formal financial institutions to establish themselves in rural areas have met with limited success.

### 2.4 Microfinance

The expanding microfinance literature encompasses a broadening understanding of the concept or usage of the term. As originally conceived by the Nobel Prize winning founder of Grameen Bank, Muhammad Yunus, the concept related to lending to the poorest of the poor in rural communities. Over time there was a mission drift towards urban poor and a greater concentration on financial performance with a corresponding de-emphasising of outreach, that is, the impact upon the lives of the poor in terms of providing a platform for sustainable employment. More recently the term has been captured in mature economies to express the work of non-governmental organisations working with the poor, often in association with budget advisory services.

An MFI is a micro-credit provider of small loan amounts to low income people who are not able to access commercial bank services. The goal for providing this micro-credit is predominantly to assist them to start an income-generating business and thus reduce poverty (Hermes, Lensink, & Meesters, 2011). Piot-Lepetit and Nzongang (2014) describe microfinance as making financial services available in a low-income community that traditionally lacks financial resources. Many researchers have defined microfinance variously. Nevertheless, the vision of microcredit supply and access to financial services to the poor and vulnerable groups cuts across most definitions. Commonly, it is seen as a tool with which to fight poverty in developing countries.

The microfinance concept moved beyond the LIC and emerging economies to be more inclusive. Hartarska (2005) proposes microfinance as being concerned with making financial services and lines of credit available to the poor and less privileged. The possibility of adding non-financial services into the package of services offered has been proposed with Bassem (2009) suggesting microfinance is provision of

financial and non-financial services to the un-bankable poor. The un-bankable or excluded is noted by Barry and Tacneng (2014) who suggest it is a means of including people to improve their welfare and living standards through improved financial access.

The broadening usage is reflected by Burkett and Sheehan (2009) in their study of MFIs in Australia, defining microfinance as a financial tool providing fair, safe, and ethical financial services to low income and financially excluded people to achieve the poverty alleviation objective by providing financial services such as small loans, savings, insurance, bill payment and money-transfer facilities, superannuation and financial advice. They did not consider the exploitative, predatory or unfair lenders as microfinance providers in their definition.

In New Zealand, the expression has found another niche in relation to debt laden poor. Nga Tangata Microfinance Trust joined Kiwi Bank in New Zealand, defining microfinance as a microcredit service provider to address poverty and not gather commercial benefits. Through this trust, one can borrow NZ$2000 to NZ$3000 with no interest for asset-building purposes that are defined as being in the form of education, family wellbeing, essential home goods and business programme setup, and debt relief purposes to households in South Auckland and Waikato regions (Quilliam, 2013). It defines further that low income people should get help to avoid being caught in the loan-shark trap (Quilliam, 2013). The first microfinance initiative was taken by the Maori Women's League in 1987 in New Zealand, and Good Shepherd Trust was the first microfinance institution in Australia in 1981 (Children's Commissioner, 2013).

## 2.5 Mission of microfinance

The mission of microfinance is to lift the poorest of the poor's economy by providing financial services. MFI provides its services to the unserved categories of society that are unable to access any other kind of banking service. MFIs that are working to increase social welfare to the poor has diverted scholars' attention away from measuring the MFIs' financial performance.

Adhikary and Papachristou (2014) observe that supply of financial services to poor families helps to generate income through self-employment and to cope with economical vulnerability. Thus, it is providing an opportunity to low income people

to become self-sufficient through saving and borrowing money. Microfinance is not only helping people to overcome poverty but also making them self-confident through self-employment and engagement in income-generating activities. MFIs' small financial support provides an opportunity for the individual poor to gain financial improvement. This individual economic improvement contributes to improvements for family, society and ultimately the country's economy. MFIs' main target customers are the less-privileged poor women in developing countries. It is assumed financially empowering women will boost family incomes. The evidence also shows that MFIs have made a significant impact on socioeconomic development by increasing household incomes, mostly through providing credit to women (Olasupo, Afolami, & Shittu, 2014).

Helping the poor is always a difficult task and an ongoing cumbersome process. It has been long argued and accepted that microfinance is a helping hand for the poor to fight poverty (Shil, 2009). The MFIs' outreach has been acknowledged, promoted and appreciated in decades. The ground reality of outreach of MFIs as providing financial services to clients at the lower levels of society in developing countries has been taken as a first objective of MFIs. Outreach to the poor is seen as the measure of success but reaching the poor is always costly. Thus, MFIs depend on donors and external funds to achieve their objective. Therefore, it is reasonable to say that the MFIs need to be self-sustaining in order to continue their financial services to the poor to help lift them out of poverty.

There are many factors that prevent the poor from getting traditional financial services: the lack of physical collateral; the often lengthy bank processes which can discourage the less educated to approach banks; and location – banks are focused on urban areas rather than rural areas when considering credit allocation (Imai & Azam, 2012). This compels the poor and isolated to become trapped in the informal financial sector, often dealing with moneylenders who exploit them with the under-valuation of collateral, higher interest rates, and lenders' monopolistic power (Shil, 2009).

MFIs provide financial services in Nepal and in other developing countries to women, small-scale entrepreneurs, and landless farmers. There is a large portion of

people who are below the poverty line and are potential credit clients left over from commercial bank services (Quayes & Khalily, 2014).

The MFIs' small loan system has benefitted many poor through their financial services. It became high on the public agenda for its financial services and the costs related to outreach. It is reasonable to say that donors, practitioners, and policy makers are concerned about the state of MFIs and that they tried to increase the efficiency in both outreach and financial performance (Mersland, 2011). It is also noted that the MFIs will only survive with competitive financial and outreach performance.

## 2.6 MFIs operations in rural Nepal

Banking services allow people to develop savings, which in turn will help them to improve their livelihood and meet unexpected expenses. Importantly, savings will increase the likelihood of obtaining a loan for investment purposes. Local investment activities will help local economies grow and stimulate job opportunities. This will be an improvement on the current situation where many cannot access financial services provided by the larger financial institutions, which effectively increases the income inequality gap. The poor remain trapped with debts for medical expenses, social obligations and sometimes consumption from which there is no escape and no way forward to earn money.

Statistics reported by the Nepal Rastra Bank (2014a) reveal that approximately 40% of the Nepalese population now have a bank account, which is far greater than the 26% in 2006. However, it is unknown whether there have been multiple accounts opened by the same person, which might cause distortions in the per person calculation. Opening a bank account requires holding identification documents, which many rural people do not have, and distance to a bank, time involved, and the opportunity cost of lost labouring pay all suggest there are significant costs to accessing a bank (Demirguc-Kunt & Klapper, 2012).

The Central Bureau of Statistics (2011) shows there are 40% and 44% of households that have access to financial services in less than or equal to half an hour and more than an hour's distance respectively. Rural households' access to financial services comes to 27%, compared to 89% of urban households. Furthermore, the percentage of households able to access banking services within an hour is highest

in the plain (Terai) region at 75%, the hilly region is 45% and the mountainous region is 17%. Even though the plains have the highest number of households with access to banking services, the interior parts of the plains region do not have ready access to banking services. In 2014, India made it compulsory for all people to have a bank account in order to be eligible to get loans and government benefit payments (Lakshami, 2014).

The Central Bureau of Statistics (2011) indicates that during the last two decades there has been little change in the number of people taking out loans. The number of households receiving loans increased but proportionally the non-included households remained constant. Any progress has not been good enough to tackle rural people's financial needs. Central Bureau of Statistics (2011) data in Table 1 shows the percentage of households receiving loans decreased in 2011 to 65 from 68.8 in 2004. However, the average number of loans remains constant at 1.6. The percentage of outstanding loans declined from 66.7 in 2004 to 62.6 in 2011, while average outstanding loans in 2011 were the same as in 1996. The financial institutions have not promoted a scheme to reach poor households or increased their outreach and service to those people who are still unattended.

**Table 1: Statistics of household loans, 1995/96 - 2010/11**

| Description | Nepal Living Standards Survey | | |
|---|---|---|---|
| | 1995/96 | 2003/04 | 2010/11 |
| Number households receiving loans | 1,9240 | 2,538.0 | 3,715.0 |
| % of households receiving loans | 61.3 | 68.8 | 65.0 |
| Average number of loans received | 1.6 | 1.6 | 1.6 |
| Number households with outstanding loans | 1,830.0 | 2,468.0 | 3,566.0 |
| % of households with outstanding loans | 58.4 | 66.7 | 62.6 |
| Average number of outstanding loans | 1.5 | 1.6 | 1.5 |

Data source: Central Bureau of Statistics, (2011)

The majority of the rural households have a low chance of getting financial institution support because they lack physical collateral; the lengthy processes of banking services discourage financially illiterate folk; and financial institutions are more focused on urban than rural areas in credit allocation.

Cumbersome processes for completing loan application documentation are a step too far for many financially illiterate poor. The supporting documents,

recommendations, and need for guarantors heightens this disparity of access between rural and urban services. This significantly increases the likelihood that rural poor will only have the informal sector of relatives/friends/neighbours or moneylenders for credit purposes.

Table 2 presents demographic and MFI information for the Janakpur region. Four of the six districts show an improvement in the number of people per branch, that is, a lower number, while one is unchanged and one has a very significant decline. When a branch closed in Ramechhap there was a big increase in people per branch. When transport difficulties are included, the low level of service provided in rural areas is compounded. There is no internet or mobile banking in these areas.

**Table 2: MFIs in Janakpur**

| Zone | Districts | MFIs Branches | | Population | Population per branch | |
|---|---|---|---|---|---|---|
| | | 2013 | 2014 | | 2013 | 2014 |
| | Sarlahi | 21 | 21 | 769729 | 36654 | 36654 |
| | Dhanusha | 19 | 23 | 754777 | 39725 | 32816 |
| | Mahottari | 15 | 20 | 627580 | 41839 | 31379 |
| | Dolakha | 4 | 5 | 186557 | 46639 | 37311 |
| | Ramechhap | 3 | 2 | 202646 | 67549 | 101323 |
| | Sindhuli | 7 | 11 | 296192 | 42313 | 26927 |

Data source: (Nepal Rastra Bank (NRB), 2014a)

A consequence of obtaining a loan from an MFI or the informal sector is the struggle to generate cash to service such loans, which may lead to short-term migration. Success stories are few, but occasionally working overseas does pay off. Pragas[5] and his three brothers spent their childhood as domestic help at Dekaha neighbouring villages. Their teen years were bonded labour and rickshaw pulling. They tried hard to pay back the debt their parents assumed on different occasions from moneylenders, normally from the same landlord where Pragas and his siblings were working as domestic help and later as bonded labour. Their parents took credit for consumption, medication for elders and themselves, and a daughter's marriage and were barely able to provide food for the family.

[5]Personal friend of researcher

Pragas got married, after his sister, and was unable on his earnings to manage consumption expenses and servicing the debt burden. They started a group for workers to migrate short-term to India. Their earnings from migrating work were enough for consumption but not debt repayment. Migration to foreign lands, such as Qatar and Malaysia, became popular among group members. Pragas decided to go to Qatar after meeting with an agent from a labour consultancy in Kathmandu. He took a loan of NRs 100,000 from a neighbouring village's moneylender. He worked for three years at Qatar and then returned home. He managed to repay the credit but he does not save money for investment.

He borrowed again to return to Qatar and this time took his two other brothers. In Qatar, he knew where to go and what to do and did not need other people's assistance. He returned to Nepal after three years with his brothers. This time they paid back the credit and bought a small piece of land where Pragas built his own bamboo house. He spent all his earnings on building the house and land. He did not have savings but he was reluctant to go abroad again. He started investigating local credit options, visiting banks that operated in the nearest towns; Janakpur and Jaleswor, the district headquarters. His time in Qatar had given him greater confidence, especially relating to financial matters. He was unable to get any help from banks, so he borrowed from a moneylender and started a business; a tea stall at his village. This time he was confident he would be able to pay back the moneylender from his local earnings. His wife and mother help him run the tea stall and he makes regular repayments to extinguish his debt. He is able to send his children to school. This is a story of an unfortunate person who is financially excluded and bound to pay higher interest rate to the local moneylender to try his luck for a better future.

MFIs should widen their wings to include these excluded rural poor in their services to make their life fortunate. MFIs can assist people like Pragas, making their life easier by providing credit facilities at a local level instead of through urban-based financial institutions. Credit facilities in rural communities save time and ease access to credit for simple people. Rural people can be motivated to become involved in financial activities to accumulate cash for their family's wellbeing.

Labour migration and remittances have their own role to play in household economic development. However, migration also has a role to play in human capital accumulation. The longer-term migrant worker, using the caste-based vocation which they grew up with, may receive an injection of new competencies through working in a foreign land. Sunam (2014), in a Nepalese village case, discusses how one man developed his tailoring skills and established a tailoring business after returning home with savings from Qatar.

Those who do not have skills can accumulate benefits by acquiring new skills working overseas and the exposure they gain puts them to the fore of the crowd to do things differently. These people are assets to their country from what they accumulate during their foreign sojourns. The foreign sojourn promotes entrepreneurship, and transferrable knowledge and skill (Aghion & Bolton, 1997; Dahal, 2014). The new working culture, habits, behaviour, norms and ideas (Levitt & Lamba-Nieves, 2010) may enable them to start their own small businesses with the little savings accrued. Their engagement in economic activities contributes to the country's economic development. As the local economy improves, new opportunities for self-employment arise and there are job opportunities for others. The success of these new businesses will provoke others to do the same. MFIs' initiations are also potentially capable of promoting significant economic success for the poor. MFIs are essential in a situation where there is minimal employment creation (Nepal Remittance Association, 2014) while government and private sectors sleep (Karobar, 2015). The MFIs' role is vital to help poor escape the poverty trap and have a better life.

### 2.6.1 Need of cash and migration as a stimulant

The opportunities for improved standards of living that will flow from expanded availability of MFI facilities in Nepal is evidential. There are 37 MFIs operating in Nepal. Despite such initiatives, there are significant regions that have no MFIs services. The need for cash continues to increase for the rural poor as they struggle to meet social and religious responsibilities. These are people who are without land and livestock, living a subsistence lifestyle on a day-to-day basis.

Increasingly, there is an expansion of the long-standing tradition of men moving to areas outside the village to earn some cash to meet financial obligations or invest

in the acquisition of poultry. As the migratory labour movement grows, in the absence of alternative mechanisms to finance basic inputs, a process of social disintegration accelerates. Villages without men, families without husbands, fathers and brothers are becoming more common and threaten traditional values. While the spread of communicable diseases, as has been seen in parts of Africa, has not been documented, the danger is present and the country is ill-prepared.

A greater penetration into Nepali rural communities by MFIs, clearly focused on outreach, could promote sustainable changes among these non-urban poor. Historically, the mission of microfinance is to lift the poorest of poor by providing financial services to invest in sustainable income-generating endeavours. Improved outreach can promote sustainable development (Shylendra, 2012) and economic growth, which will generate further demand and growth, raising the possibilities for many lower subsistence-level rural poor to escape the poverty trap at local level. Increased outreach and better financial performance of MFIs will impact local economic growth and job availability. This may stem and reverse migration, improving families' economic and social outcomes.

The majority of rural households have a low chance of getting MFIs credit. The lack of physical collateral, lengthy application processes which discourage the uneducated from applying, and lack of MFIs in rural areas mean the informal sector of moneylenders is the only real source of cash for rural poor, aside from shorter-term seasonal migratory employment. The investigation presented here considers the short-term seasonal migrant labour phenomenon, contrasting the results with what could be achieved through promoting MFIs outreach programmes with sufficient appeal to overcome the scepticism and conservative nature of the rural poor. Returning MFIs to a primary objective of growing the social economy by providing financial services to the poor is a workable programme. Microcredit loans designed principally to facilitate entrepreneurial activities in poorer communities, through starting income-generating businesses, will reduce poverty and promote social cohesion. It is noted that greater success is likely if MFI expansion is coupled with agricultural extension and business model developments. The trickle-down effect in isolated village communities is rapid as day-labour opportunities expand.

Short-term migration has become the way for self-help. The wages earned through migration are a vital source of cash but it is a cycle of poverty with little likelihood of escape. Money earned through short-term migration, in most cases, dissipates through repayment, partially or fully, to moneylenders, friends or others who supplied loans. When the purpose of the credit is for consumption, weddings, medical expenses, or travel expenses to find work, it becomes a vicious cycle. There are no surplus funds available for investment in productive use. MFIs may be able break the poverty cycle. A lack of education and financial literacy contributes to the repetitious cycle. Without mentoring and financial planning assistance, there are limited prospects for creating wealth from the meagre funds available.

### 2.6.2 Cash generation

Credit suppliers continue to meet the increasing demand for cash. As demand increases so does the cost of credit. The lack of financial inclusiveness in Nepal, as shown in Figure 2, reflects a low-level of penetration by the formal sector. The informal sector, operating in a largely unregulated setting, means there are good arbitrage opportunities in lending money. Seasonal migration (also known as labour circulation) has also long been a major feature of livelihoods in rural Nepal (Gellner, 1982). In rural settings, the majority of family members engage in migratory work. Almost without exception, at least one member of each family leaves the village in search of a job in a nearby town or city and often in the Indian border area.

Cheaper transportation costs and readily available transport facilities from the Indian boarder to cities in India encourage short-term migration. The major border crossing points from Nepal into India are serviced by railway and road transport to major Indian cities. Costs associated with short-term migration principally consist of transportation, food for the journey and funding a couple of days at the destination while finding employment. These expenses consume the majority of money provided by friends, relatives, and local moneylenders.

### 2.6.3 Positive actions toward microfinance in Nepal

There is a range of initiatives, established by successive administrations, to promote financial services and improve rural production and the quality of life for village people. In Figure 3 below, major programmes are noted. There is potential to rationalize the various schemes but no consolidation has occurred. Overlapping

programmes present a moral hazard problem and some exploit these to their advantage while others fall through the gaps.

The Central Bureau of Statistics (2011) reports an 80% use of no-collateral loans. The figure is 5% higher than the second survey of 2004 and 6% higher than first survey in 1996. This shows that the presence of MFIs and their services has produced an improvement on the previous decade. This performance has reduced pressure on land and housing as well as other categories: ruminant collateral loans, which have reduced to 12% and 3% in 2011 from 14% and 9% in 2004 (Central Bureau of Statistics, 2011). MFI financial services in Nepal have made it compulsory to an open account for their clients for their savings, credits and repayments and a savings account for saving purposes.

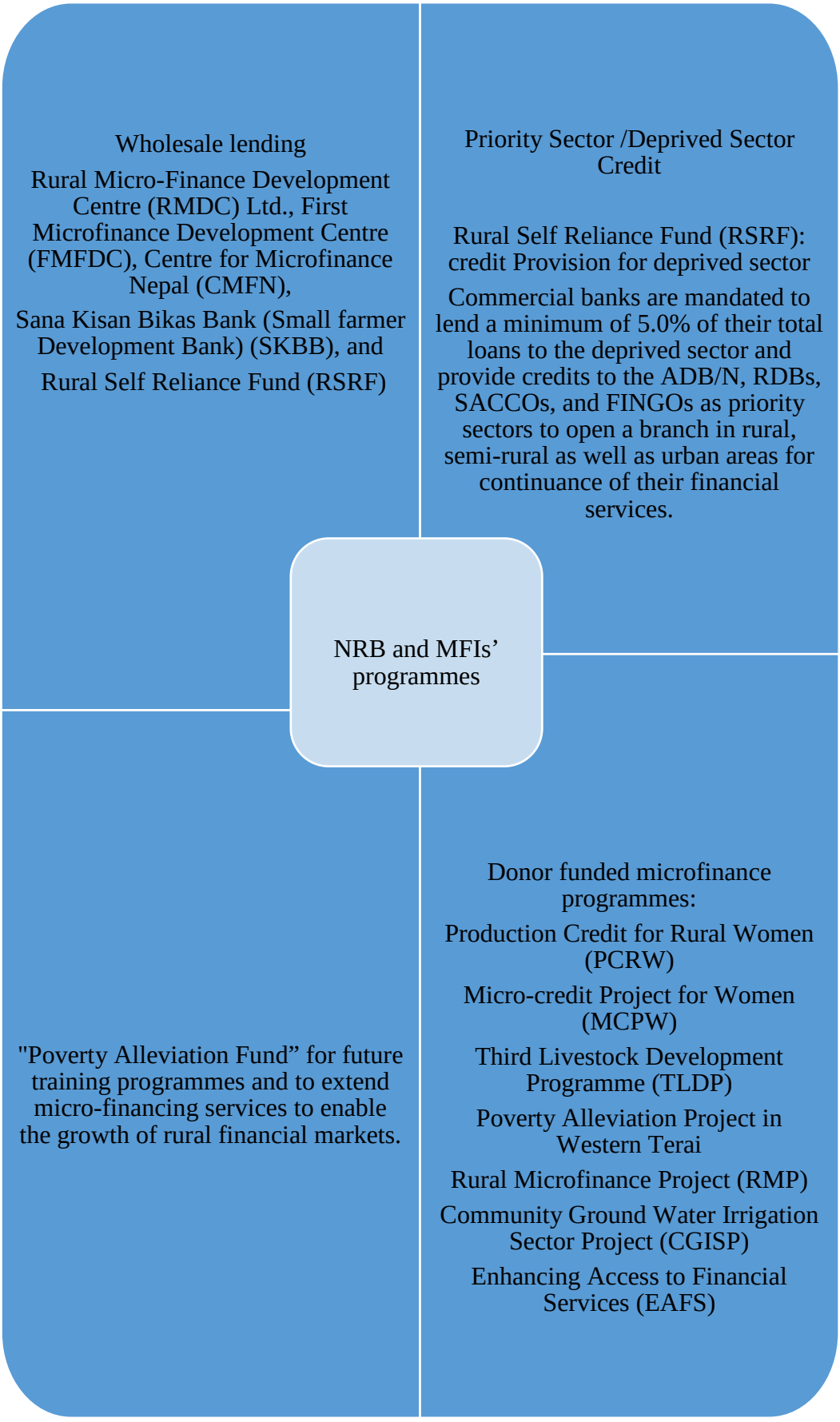



**Figure 3: NRB and MFIs' programmes**

### 2.6.4 Capital building

The need for cash for consumption and other purchases creates opportunities for the informal money suppliers to capitalize on their investments. Informal sector operators who supply cash to needy poor to fulfil their consumption and other needs are accumulating plenty of cash and growing their incomes. Capital is being limited to the money suppliers. The borrowers are unable to get rid of the debt. The moneylenders are in most cases landowners. In the rural regions, landowners are selling land for prices five to eight times higher than prices a decade ago. This gives moneylenders even more cash for their credit supply business and those landowners in the credit business find money lending less risk than sole dependence on agriculture and agricultural products. The gap between wealthy and poor is increasing. MFIs can intervene, bringing their financial services to the poor people in rural as well as urban areas for investment and creation of job opportunities at local level (Newman et al., 2014).

### 2.6.5 Sustainability

The improvement of agricultural production through self-sufficiency to capital accumulation is essential for the rural poor of Nepal. The traditional method of agriculture can result in workers being unemployed for long periods during the year and forcing them, through economic necessity, to look for employment opportunities elsewhere (Department for International Development, 2007; Walsh & Jha, 2012). Table 3 reports that the vast majority (95%) of non-land owning households rely on non-agricultural activities for the major portion of their income. For landholding households, the situation is more evenly balanced with a small majority not able to survive purely from agriculture. The sufficiency of the agricultural products for the landless households is too low at approximately 5%, implying that 95% are not self-sufficient.

**Table 3: Households and their dependence on agricultural and non-agricultural activities**

| | Total | | | | Main source of income in the household | | Sufficiency of agriculture produce | |
|---|---|---|---|---|---|---|---|---|
| | Number of holdings | Area (ha) | Farm population | Average household size | Agriculture | Non-agriculture | Sufficient for household consumption | Insufficient for household consumption |
| Holding without land | 9,327 | 172.7 | 52,538 | 5.6 | 2,484 | 6,842 | 489 | 8,838 |
| Holding with land | 71,517 | 64,804.5 | 433,462 | 6.1 | 53,597 | 17,920 | 35,474 | 36,044 |

Data source: (Central Bureau of Statistics, 2013)

Encouraging the development of efficient markets for agricultural products, in the sense of transparency regarding prices and a regulatory framework to minimize corruption and cartel practices, is an essential component for encouraging agricultural investment. A greater confidence in fair prices for agricultural products, coupled with access to capital through MFIs, will expand the quantity and range of produce available to consumers. There does need to be a market and transport for crops produced.

A recent problem relating to ginger production in Nepal serves as a salutary lesson. Nepal is the third largest producer of ginger after India and China (Prasain, 2014). The Nepalese farmers have limited training and no access to technical advice on pre- and post-production of ginger to reduce spoiling of this perishable crop by rhizome rot (Nepal Trade, 2014). The lack of a processing plant at local level means export is essential and more than 60% of Nepali ginger goes to India (Gurung, 2013). Indian importers process the ginger adding value (Gurung, 2013) and re-export it internationally.

The farmer, while benefiting from the sale, is not benefiting from the added value of processing. A producers' cooperative to store, dry and process ginger may be viable but requires investment. Without access to capital, farmers have no option but to sell ginger to the intermediaries at the offered price or face the ginger rotting (Gurung, 2013).

A ginger market, supported with soft interventions to ensure there is no monopsony present, could reduce the trend of migration or foster reverse migratory trends (Mercy Crops, 2014). The intervention of the financial institutions to facilitate the proper market for the ginger, collecting it and establishing processing centres in production regions will benefit growers and the economy. MFI support for individual growers and smaller entrepreneurs will promote a vibrant industry context. MFIs' inclusion in rural areas has a significant and positive impact on people's lives in Nepal (Rajbanshi, Huang, & Wydick, 2015) which may support the local and country economies in the long term. Furthermore, Lønborg and Rasmussen (2014) find MFIs supported poor people living are better than poor who are not supported.

The flow-on effect in terms of better diet, improved health and less reliance on imported perishables will be considerable (Mazumder & Lu, 2015; Walsh & Jha, 2012). Government intervention in supporting a more open market is a necessary component of a sustainable solution for the cash poor families to ginger up their local economies. This will have direct impact on the agricultural jobs in the region. An increase in agricultural activity will affect employment opportunities and may translate to downstream processing activities (Walsh & Jha, 2012).

Investment in lifestyle changes is not a one-off capital injection. A loan to buy a female kid (goat) can be a start. Support for good nutrition, access to good semen for breeding, basic equipment for milk collection and distribution/sale and care for kids will require ongoing investment. A small enterprise that is successful will repay the capital and interest. If it grows larger, then there is likely to be ongoing leverage required and this is good business for the MFI.

Poultry farming – duck, chicken or geese – can provide a source of protein to a family and produce for sale. When planned and managed at the local level it is obvious that not every poultry owner needs a drake, rooster or gander. The

possibility of borrowing with payment in kind for the service can lead to further spin-off business.

Cash crops offer potential and do not necessarily require much land to get started. Roof gardens are common and there is potential for improvement with a small injection of capital for quality seedlings and nutrients. The conversion of livestock manure through composting or liquefying is a basic source of nutrients. There is the potential for commonalities. If peas are grown, then pea-hay provides a good source of feed for livestock during the winter months.

MFI credit and on-the-ground agricultural extension advice is important. In communities where literacy is low, schooling is unlikely to provide the necessary knowledge and skills to bolster production, manage risks and improve productivity. MFIs individually or jointly supporting extension services can assist in remedying the knowledge/skill gaps.

Progress is happening in some areas as shown in Table 4, which presents several performance metrics. There are additional MFI activities, including more staffing and lending, but there is no evidence indicating an inclusion of the rural poorest of the poor. Delays are costly in terms of quality of life: morbidity rates, health, education and social structures, and national cohesion

The number of staff in MFIs has increased due to the number of registered MFIs increasing from 28 in 2013 to 48 in 2017. The Table 4 progress report shows that total staff involvement in MFIs increased from 3296 to 6631, which is 31%, 32%, 16%, 17% for 2014, 2015, 2016 and 2017 respectively. Total number of staff involvement decreases to 16% in 2015. However, there is 101% staff involvement improvement from 2013 to 2017. There is a significant jump of 110% in MFI branch establishment from 2013 to 2017. The number of centres increased by 135% from 2013 to 2017. The number of centres has increased by 42% for 2014, reduced by 29% in 2015, further reduced to 21% in the beginning of 2017. The sharp downfall in members, number of borrowers and number of passive members points to a potential ineffectiveness in MFIs' programmes. The closing of centres and staff inefficiency in promoting outreach to the neediest people remains a concern. MFIs' loan distribution improved to 177% from 2013 to 2017. The loan distribution increased to 41% in 2014 and then dropped 36% in 2015, and further dropped to

21% in 2017. This is indicative of the MFIs focus towards a profit objective when making loans rather than prioritizing an outreach perspective.

The number of microfinance loans repaid dropped in 2015 to 30% from 42% in 2013, and further it drops to 19% in 2017 from 44% in 2016. The outstanding MFI loans increased to 84% in 2015 from 30% in the previous year and reached 26% in 2017. MFIs loans outstanding has increased by 248% from 2013 to 2017. Loan loss provision has reached 88% from 2013 to 2017. Loan loss provision in 2015 reached 31%, up from 15% in 2013. These figures do raise some concerns about MFIs' staff efficiency and programme effectiveness in urban as well as rural areas. The percentage change in number of depositors reached to 17% in 2017 from 32% in 2014, 27% in 2015 and 17% in 2016, which is a concern as it is becoming a trend. The total saving-to-total-loan ratio reduced in 2015 to 28% from 31% in 2013. This is only a small reduction and when combined with the share of compulsory savings in total savings the decline does start to raise concerns. The proportion of compulsory savings to total savings assumed to be MFIs borrowers, reduced to 29% in 2017, 32% in 2016, 35% in 2015 from 38% in 2014 and 41% in 2013.

**Table 4: MFIs in Nepal**

| Indicator | 1st quarter 2013 | 1st quarter 2014 | 1st quarter 2015 | 1st quarter 2016 | Jan-17 | | Changes | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Nepali Calendar year | 31/12/2069 | 30/12/2070 | 31/12/2071 | 30/12/2072 | 29/09/2073 | 2014 | 2015 | 2016 | 2017 | 2013 to 2017 |
| No. of MFIs | 28 | 35 | 36 | 41 | 48 | | | | | |
| Total no. of Staff | 3296 | 4319 | 5715 | 6631 | 7731 | 31% | 32% | 16% | 17% | 101% |
| No. of Branches | 598 | 813 | 1062 | 1258 | 1555 | 36% | 31% | 18% | 24% | 110% |
| No. of Centres | 39895 | 56503 | 73076 | 93895.2 | 113484 | 42% | 29% | 28% | 21% | 135% |
| No. of Groups | 215128 | 280871.2 | 290368.2 | 352768.2 | 399579 | 31% | 3% | 21% | 13% | 64% |
| No. of Passive Groups | 8844.4 | 9959 | 11020 | 5078 | 9045 | 13% | 11% | -54% | 78% | -43% |
| No. of Members | 1163712 | 1542345 | 1476636.85 | 1793828 | 2068235 | 33% | -4% | 21% | 15% | 54% |
| No. of Passive Members | 61811 | 68543 | 52846 | 35323 | 56881 | 11% | -23% | -33% | 61% | -43% |
| No. of Borrowers | 848974 | 1060315 | 1030914 | 1247147 | 1384809 | 25% | -3% | 21% | 11% | 47% |
| *Total loans disbursed* | 129519366.8 | 181155300.9 | 249169122 | 353605056 | 433030783 | 40% | 38% | 42% | 22% | 173% |
| Microfinance Loan | 104856050.1 | 147887362.6 | 201572927.3 | 289985678 | 349679472 | 41% | 36% | 44% | 21% | 177% |
| Micro Enterprise Loan | 7900618.787 | 11301362.11 | 16610437.93 | 22946021.9 | 29214024.9 | | | | | 190% |
| Other Loan | 16762697.91 | 22789231.14 | 30985756.73 | 40673356.2 | 54137286.2 | | | | | 143% |
| *Loans Recovered* | 108504536.3 | 149228936.1 | 199152117.7 | 283307796 | 343213952 | | | | | 161% |
| Microfinance Loan Repaid | 89545338.64 | 127082834.6 | 164999794.1 | 236904443 | 282722170 | 42% | 30% | 44% | 19% | 165% |
| Micro Enterprise Loan Repaid | 5786789.956 | 7865274.145 | 11323438.36 | 16111438.5 | 20614058.7 | | | | | 178% |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Other Loan Repaid | 13172407.66 | 14280881.88 | 22828885.25 | 30291914.8 | 39877723.1 | | | | | 130% |
| *Total Loans Outstanding* | 21014830.54 | 31926362.24 | 50302718.17 | 70570768.4 | 89830045.6 | | | | | 236% |
| Microfinance Loan Outstanding | 15317580.39 | 19984277.54 | 36753899.68 | 53320645.1 | 66980524.3 | 30% | 84% | 45% | 26% | 248% |
| Micro Enterprise Loan Outstanding | 2109430.783 | 3436076.441 | 5394309.343 | 6680984.91 | 8589931.99 | | | | | 217% |
| Other Loan Outstanding | 3597397.82 | 8506008.42 | 8154509.148 | 10576648.4 | 14259589.3 | | | | | 194% |
| Overdue Loan | 668542.7994 | 527067.1495 | 470825.3157 | 906583.998 | 747031.806 | | | | | 36% |
| No. of Overdue Borrowers | 52585 | 30044 | 32742 | 63486 | 62532 | | | | | 21% |
| Total Interest Recovered | 5595176.416 | 8552126.779 | 12258424.1 | 20218678.7 | 25502604.7 | | | | | 261% |
| Total Due Interest | 468863.9296 | 450136.9224 | 474816.965 | 594098.641 | 613516.764 | | | | | 27% |
| Loan Loss Provision | 702705.4045 | 807060.935 | 1058900.39 | 1320991.72 | 1483667.51 | 15% | 31% | 25% | 12% | 88% |
| No. of Depositors | 866222 | 1142160 | 1451453.5 | 1778277.8 | 2075103.8 | 32% | 27% | 23% | 17% | 105% |
| *Total Savings* | 6409471.449 | 9917091.892 | 14200338.24 | 21483836 | 27738328.4 | 55% | 43% | 51% | 29% | 235% |
| Compulsory Saving | 2600161.822 | 3793767.201 | 5019172.834 | 6813679.44 | 8165334.13 | 46% | 32% | 36% | 20% | 162% |
| Optional Saving | 2200609.475 | 3253525.832 | 4659335.561 | 7131200.46 | 9611320 | 48% | 43% | 53% | 35% | 224% |
| Other Savings | 1265497.466 | 2338395.547 | 3731066.188 | 6204778.34 | 8260835.58 | 85% | 60% | 66% | 33% | 390% |
| Saving from People | 343202.6858 | 531403.3114 | 790763.6595 | 1334177.76 | 1700838.73 | 55% | 49% | 69% | 27% | 289% |
| Total Saving/Total Loan % | 30% | 31% | 28% | 30% | 31% | | | | | 1% |
| Total Microenterprises Loan/Total Loan % | 10% | 11% | 11% | 9% | 10% | | | | | -5% |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Microfinance Loan / Total Loan Outstanding | 73% | 63% | 73% | 76% | 75% | | | | | 4% |
| Compulsory Saving in Total Savings Ratio | 41% | 38% | 35% | 32% | 29% | | | | | -23% |

Data source: (Nepal Rastra Bank, 2013b, 2014c, 2015b, 2016b, 2017a)

## 2.7 A snapshot on financial inclusion in Nepal

The most significant observation relating to prior studies is that the majority of the Nepalese population is excluded from benefiting through readily available financial services. There are more than two million adults without a bank account according to Demirguc-Kunt, Klapper, Singer, and Oudheusden (2015). They report that 34% of the adult population (31% of women, 24% of adults in the poorest communities, and 40% of households) has a bank account in Nepal. This poses a big challenge for financial institutions to expand financial inclusion to ensure all people benefit from their services. Financial inclusion requires that financial services are available to all people and is typically defined as promoting the availability of finance at reasonable cost to the marginalised, socially excluded and regionally remote components of a population. Providing the services and products at affordable prices to people and businesses in a fair, transparent and convenient manner and respecting dignity are the hallmarks of financial inclusion (Center for Financial Inclusion, 2015; Consultative Group to Assist the Poor, 2015; Demirguc-Kunt et al., 2015). The challenge for financial institutions should not be underestimated. There is an increasing demand for access to financial services to smooth consumption, build assets, generate income and manage risk in poor households.

Financial inclusion is used as a tool to reduce poverty and to help economic growth (Demirguc-Kunt et al., 2015). It further increases individuals' prosperity by provision of access to financial services for well-performing small businesses wanting to expand with probable increases in employment, which, in turn, will boost the local economy. Ultimately, financial inclusion may reduce the differences in income inequality (Demirguc-Kunt et al., 2015). Financial inclusion is a major challenge for a developing country such as Nepal where approximately 80% of the population live in rural areas and their livelihoods depend on agricultural and related products. The explanation for low levels of financial inclusion may be as simple as the high cost and consequential low return, plus higher risk associated with providing services to rural areas of Nepal.

In the absence of formal sector financial services, that is, those provided by institutions under the control of the central bank and other government regulatory institutions, it becomes obvious that the majority of the rural poor will choose services that are available, referred to as the informal financial sector, that is, not

under the control of the central bank or other government regulations. Rural poor people may use their little savings to buy ornaments, livestock, jewellery (Consultative Group to Assist the Poor, 2015), and other forms of savings that are considered less risky than a financial institution deposit, which is in keeping with the conservative practices found in rural Nepal.

### 2.7.1 Dimensions of financial inclusion

Financial inclusion is considered in the literature in various dimensions and this study analysis relies on three: access, usage and quality. Access to financial services increases the confidence of people who benefit, grows cash savings, and the availability of credit will stimulate local economic growth. MFIs provide financial services but they also rely on their customers and educational services to enhance awareness of financial literacy among local people. The quality of financial services provided by MFIs is important in terms of fitness for use and robustness (Barman, Mathur, & Kalra, 2009; Triki & Issa Faye, 2013). The mode of service used differs between developing countries, where there is a clear preference for face-to-face transactions through a teller, and more mature economies where ATMs, internet and mobile banking are far more common (Demirguc-Kunt & Klapper, 2012).

The World Bank (2014b) reports for Nepal that the total number of adults having financial institution accounts jumped to 33.8% in 2014 from 25.3% in 2011. Nepal has 32.1% of its adult population living in rural areas, where 23.7% of rural adults belong to the poorest groups and 40% of those have a bank account. A United Nations Capital Development Fund (2015) study reveals that 40% of the adult population is banked, 61% of the adult population is formally served, 57% of the adult population is informally served and 18% of the adult population is financially excluded. Nepalese access to a financial institution account improved to 6.7% in 2014 from 3.7% in 2011. The use of bank accounts in the past years for receiving wages stands at 2.4%, government transfers 0.5%, and paying bills is 0%. The percentage of adults who have saved through a formal financial institution in 2014 improved from 9.9% in 2011 to 16.4%. Furthermore, 11.9% of adults borrowed from a financial institution, an increase from 10.8% in 2011. However, borrowings from family and friends stands at 35.1% and borrowing from private informal lenders stands at 17.8%, which again establishes that informal lending is a major source of cash for rural poor (World Bank, 2014b).

The informal sector is the more popular route for rural borrowing. The traditional moneylenders are present and engaged with villagers who without significant travel ties and additional costs cannot access the formal sector funding through MFIs or banks. Moneylenders require from borrowers a lower level of literacy and do not have complicated forms to complete and a need for identity papers. The limitation of the information on the financial access makes it difficult to estimate the factual demand for funds. However, the demand driven financial system for poverty elimination is not reaching the ground. This shows that MFIs are still in developing mode and face many challenges as they attempt to serve their clients.

On the supply side, funding for poverty alleviation comes from formal and informal institutions. Government agencies through various development initiatives, banks which are in part required to provide development money, NGOs and foreign investors, and MFIs provide the pool of funds. Remittances from overseas working Nepalese make a considerable contribution to the pool of funding. MFIs as suppliers of funds are drifting toward urban areas where it is easier to lend to employed people for consumer products rather than to the rural poorest of the poor.

Table 5 explains the sources and fund supplies for MFIs. The fund supply comes from borrowing sector in total fund supply that stands at 59.77%, 63.36%, 64.43%, and 64.1% in 2017, 2016, 2015 and 2014 respectively. The borrowing share has dropped due to the improvement in the members' savings 29% in 2017 from 26.43% in 2016, and equity 11.02% in 2017 from 10.21% in 2016. Even though equity has reached NRs 11,745,531,910 in 2017 from NRs 3,743,978,810 in 2013, borrowing share has dropped to 59.7 % in 2017 from 64.17% in 2013. The fund supplies from deposit accounts improved to 29.21% in 2017 from 22.62% in 2013. The most of borrowing comes from the wholesale institutions which receive funds from commercial banks under 'deprived sector lending' as well as donation. The deprived sector lending fund supply stands at 66,511.05m in 2016, 52550m in 2015 and 43019.82m in 2014. The saving amount is a second major source of fund supply that stood at 29.21%, 26.43%, 25.15%, 24.9%, and 22.62% in 2017, 2016, 2015 and 2014 respectively.

**Table 5: Fund supplies for MFIs**

| Sources and uses of funds of MFIs (amount in NRs. '000') | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Years | Capital fund | Capital fund share in total fund | Borrowings | Borrowings share in total fund | Deposits from member | Deposit from members share in total fund | Total supply | Total loans & advances | Surplus amount |
| Apr-17 | 11,745,531.91 | 11.02% | 63,698,124.96 | 59.77% | 31,131,390.66 | 29.21% | 106,575,047.53 | 101,683,408.05 | 4,891,639.47 |
| Jan-16 | 6,203,539.07 | 10.21% | 38,497,048.23 | 63.36% | 16,057,982.56 | 26.43% | 60,758,569.85 | 55,327,268.14 | 5,431,301.71 |
| Apr-15 | 5,852,859.16 | 10.42% | 36,193,876.09 | 64.43% | 14130407.96 | 25.15% | 56,177,143.21 | 50294985.59 | 5,882,157.62 |
| Apr-14 | 4,809,767.34 | 12.11% | 25,023,972.34 | 63.00% | 9,889,038.82 | 24.90% | 39,722,778.50 | 31,948,315.54 | 7,774,462.96 |
| Apr-13 | 3,743,978.81 | 13.21% | 18,183,403.77 | 64.17% | 6,409,476.72 | 22.62% | 28,336,859.30 | 21,014,824.63 | 7,322,034.67 |

Sources: (Nepal Rastra Bank, 2013c, 2014d, 2015c, 2016c, 2017b)

Table 5 above shows the gap between the formal sectors services and high ratio of the financially excluded population. The gap between the formal sector services and demand of the financial inclusion is being manipulated by the informal sectors.

Various patterns emerge from the data providing insights into both the issues and the lack of traction gained by policies and actions adopted to date. The discussion is divided into three sections: access, uses, and quality.

#### 2.7.1.1 Access

NRB reports that there were 241 banks and non-bank financial institutions licensed in Nepal in 2015 up from 204 in 2014. There are 30 “A” class commercial banks, 76 decreased from 84 “B” class development banks, 47 decreased from 53 “C” class finance companies, 38 increased from 37 “D” class micro-credit development banks, 15 decreased from 16 saving and credit cooperatives and 27 decreased from 30 NGOs in 2015 from

2014 as shown in Table 6. Nepal Rastra Bank (2015a) reveals total bank branches reached to 3838 in 2015, up from 3456 in 2014, and 3138 in 2013 with the population per branch dropping to 7206 in 2015 from 7646 in 2014 and 8443 in 2013.

**Table 6: Growth of financial institutions**

| Financial institutions | Growth of Financial Institutions | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1985 | 1990 | 1995 | 2000 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Commercial Banks | 3 | 5 | 10 | 13 | 17 | 18 | 20 | 25 | 26 | 27 | 31 | 32 | 31 | 30 | 30 |
| Development Banks | 2 | 2 | 3 | 7 | 26 | 28 | 38 | 58 | 63 | 79 | 87 | 88 | 86 | 84 | 76 |
| Finance Companies | | | 21 | 45 | 60 | 70 | 74 | 78 | 77 | 79 | 79 | 69 | 59 | 53 | 47 |
| Micro-finance Development Banks | | | 4 | 7 | 11 | 11 | 12 | 12 | 15 | 18 | 21 | 24 | 31 | 37 | 38 |
| Total Banks and financial Institutes | 5 | 7 | 38 | 72 | 114 | 127 | 144 | 173 | 181 | 203 | 218 | 213 | 207 | 204 | 191 |
| %age change in Financial Institutions | | 40.00 % | 442.86 % | 89.47% | 58.33 % | 11.40 % | 13.39 % | 20.14 % | 4.62 % | 12.15% | 7.39 % | -2.29 % | -2.82 % | -1.45 % | -6.37 % |
| Saving & Credit Cooperatives Limited (Banking Activities) | | | 6 | 19 | 20 | 19 | 17 | 16 | 16 | 15 | 16 | 16 | 15 | 16 | 15 |
| NGOs (Financial Intermediaries) | | | | 7 | 47 | 47 | 47 | 46 | 45 | 45 | 38 | 36 | 31 | 30 | 27 |
| Total of Cooperatives and NGOs | 0 | 0 | 6 | 26 | 67 | 66 | 64 | 62 | 61 | 60 | 54 | 52 | 46 | 46 | 42 |
| Total | 5 | 7 | 44 | 98 | 181 | 193 | 208 | 235 | 242 | 263 | 272 | 265 | 253 | 250 | 250 |
| %age change in Financial Services | | 40.00 % | 528.57 % | 122.73 % | 84.69 % | 6.63% | 7.77% | 12.98 % | 2.98 % | 8.68% | 3.42 % | -2.57 % | -4.53 % | -1.19 % | 0.00 % |

Sources: (Nepal Rastra Bank, 2015a)

The downturn in recent years as illustrated in Table 6 shows the fact sheet of financial institutions' growth in Nepal. The percentage change in financial institutional growth reflects a downturn from 2012 by -2.57%, further decreased by -4.53% in 2013, -1.19% in 2014 and no change in 2015. These decreases are attributable to the decrease in finance companies and NGOs (financial intermediaries) over consecutive years. However, numbers of MFIs have increased during the years 2011 to 2015, reaching 38 in 2015 up from 12 in 2008 and 7 in 2000. The number of financial intuitions grew even during the decade-long Maoist insurgency. This is the result of willingness of donor organisations to support MFIs and the demand for credit from rural poor. MFIs can provide the services that are not offered by commercial banks to include rural poor.

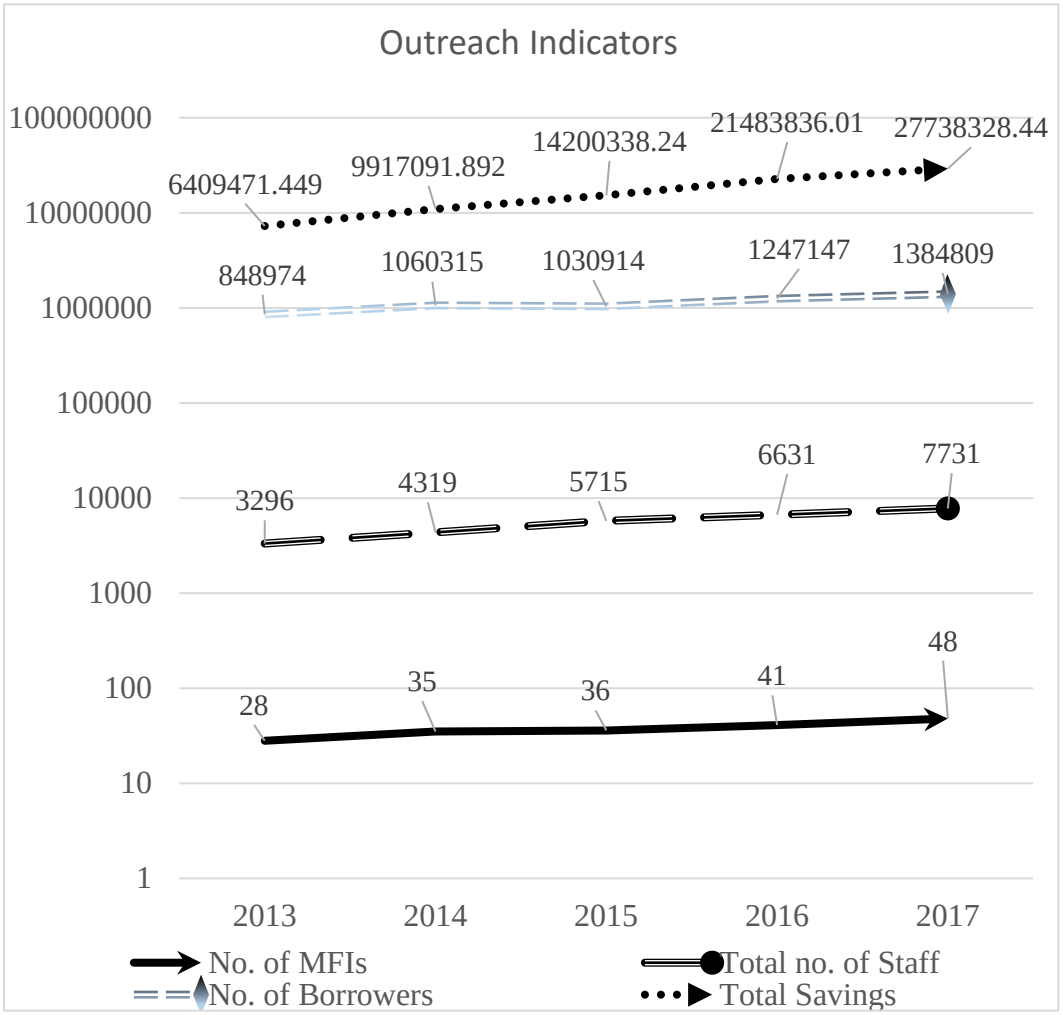



**Figure 4: MFIs outreach indicators**

Sources: (Nepal Rastra Bank, 2013b, 2014c, 2015b, 2016b, 2017a)

The total number of staff has increased steadily over the last four years as shown in Figure 4. The rate of increase in total staff is significant with increases year-on-year being over 30%. Similarly, the number of centres and groups served also show similar trends. These patterns provide initial evidence of an increase in financial inclusion from an access perspective by Nepali MFIs.

The marginalised and unbanked people who are reliant upon informal financial services may benefit from a more inclusive financial system. The World Bank (2014b) reports that access to financial institution accounts improved to 6.7% in 2014 from 3.7% in 2011.

The NRB has established four particular policies to enhance the level of financial inclusion in Nepal: to create policies and regulatory environment that allow banks and financial institutions (BFIs) to offer financial services to the remote areas which lack financial access; develop a financial infrastructure that has capacity to provide high quality financial services; to create innovative models of financial service provision that are used effectively to extend outreach to underserved regions and groups; and to increase capacity of clients to understand and utilise financial services effectively to help increase the access to financial services in rural areas (Nepal Rastra Bank, 2014b).

The NRB requires commercial banks, development banks and finance companies to lend at 5%, 4.5% and 4% respectively with the objective of enabling the poor to access credit for self-employment as a poverty alleviation strategy (Nepal Rastra Bank, 2015a). The regulation in terms of outreach to the rural poor appears positive, with above required levels of lending at 5.1% for commercial banks, 5.2% for development banks and 3.5% for finance companies. This may be the result of the NRB provision of having at least one branch in remote areas where no access to financial services had previously existed and which carries an entitlement to an interest-free loan to minimise the service cost (Nepal Rastra Bank, 2014b, 2016a). There are dangers of moral hazard behaviour emerging where internal transfer pricing of overheads results effectively in taxpayer subsidies to the financial service providers. The degree of disaggregation of data needed to monitor such an agency cost issue is not currently available.

There are 1.1 million borrowers and 1.8 million depositors who are benefitting from MFIs, cooperatives, NGOs and INGOs in Nepal (Microfinance Information Exchange, 2015). Although the number of depositors is higher than creditors, borrowing stands at US$332m and depositing at US$154.7m (Microfinance Information Exchange, 2015). The microcredit service providers use these deposit amounts for lending purposes. However, the significant gap of US$177.3m between lending and deposits indicates that the service providers have external funding to finance this lending. These external funds may come from their equity or donations, which somehow do not appear on their balance sheets. Any borrowing from other financial institutions increases the financial cost and MFIs will need to pass this on to borrowers. Asian Development Bank (2012) data indicates 1.6 million households use MFIs' microcredit services with an average loan size of US$150. Nepalese MFIs reach 30% of households in rural areas and 40% in urban areas.

The total client number served by the MFIs, (see Figure 4) had reached 1384809 by the beginning of 2017 up from 1247147 in 2016; 1,030,914 in 2015, 1,060,315 in 2014; and 848,974 in 2013 (Nepal Rastra Bank, 2013b, 2014c, 2015b, 2016b, 2017a). This shows the hopeful improvement of MFIs regarding their commitment, even though their outreach reduced by 4.3% in 2015, improved with 21% in the first quarter of 2016 and slowed down to 15% in the beginning of 2017, (see Table 4). MFI depositors reached 2075104 in the first month of 2017, up from 1778278 in 2016, 1,451,454 in 2015, 1,142,160 in 2014, 866,222 in 2013 (see Table 4). The advent of a requirement that applicants for credit must open a deposit account is reflected in these significant percentage increases. MFIs' total savings have also improved to Nepalese Rupees (NRS) 27,738,328,400 in the first quarter of 2017, up from NRS 21,483,836,000 in 2016; NRS 14,200,338240 in 2015; NRS 9,917,091892 in 2014; and NRS 6,409,471449 in 2013 (see Table 4). Although, the total savings amount has improved in numbers with 235% in 2017 from 2013, savings growth has been deteriorating; from 54.73% in 2014, to 43.19% in 2015; then 29.11% in the first quarter of 2015 (see Table 4). The drop in the number of credit clients in 2015 shows that MFIs were concentrating on raising funds rather than outreach.

Establishing branches in remote rural areas is expensive. The Rural Microfinance Development Centre (RMDC) is trying to increase financial inclusion in 75 districts

of Nepal through different programmes for MFIs, cooperatives and NGOs. It has so far reached 65 districts (Rural Microfinance Development Center, 2011). However, new directives of Nepal Rastra Bank (2016a) allow MFIs to add up the five more financially excluded districts among 22 as listed in NRB bulletin to extend their services on the current license of 10 districts services. The new policy from NRB that allowed MFIs to borrow NRs 30 million loan on 0% interest from NRB (Nepal Rastra Bank, 2016a) emboldened MFIs to start branches in remote rural areas. MFIs have less access to a significant deposit base and depend on borrowing from other institutions. Consequently, MFIs add an interest margin, which in turn makes their credit products more expensive to borrowers among the rural poor.

**Table 7: Presence of BFI and MFIs in five regions**

| BFI Class | A | | B | | C | | D | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2014 | 2015 | 2014 | 2015 | 2014 | 2015 | 2014 | 2015 | 2014 | 2015 |
| No. | 30 | 30 | 84 | 76 | 53 | 47 | 37 | 38 | 204 | 191 |
| Branches | 1547 | 1682 | 818 | 823 | 239 | 216 | 861 | 1143 | 3465 | 3864 |
| Population per branch | 17126 | 15752 | 32389 | 32193 | 110856 | 122660 | 30772 | 23180 | 7646 | 6857 |
| | A | | B | | C | | D | | Total | |
| | 2014 | 2015 | 2014 | 2015 | 2014 | 2015 | 2014 | 2015 | 2014 | 2015 |
| Eastern | 287 | 309 | 109 | 105 | 26 | 23 | 244 | 314 | 666 | 751 |
| Central | 770 | 835 | 316 | 294 | 136 | 125 | 288 | 398 | 1510 | 1652 |
| Western | 264 | 293 | 290 | 322 | 66 | 57 | 180 | 228 | 800 | 900 |
| Mid-western | 136 | 152 | 75 | 74 | 9 | 9 | 88 | 120 | 308 | 355 |
| Far-western | 90 | 93 | 28 | 28 | 2 | 2 | 61 | 83 | 181 | 206 |
| Total | 1547 | 1682 | 818 | 823 | 239 | 216 | 861 | 1143 | 3465 | 3864 |

Source: (Nepal Rastra Bank, 2014a, 2015a)

In spite of MFIs' increased outreach, their viability and institutional stability, credibility, quality of service and breadth of outreach are always questioned. The diversified financial institutions have not yet managed to provide truly inclusive access to finance in Nepal. The MFIs' lower branch presence, as reflected in Table 7, results in an increasing proportion of the population to serve per branch. MFI presence is higher than Class 'C' BFIs shown in Table 7. Despite the MFIs pushing their presence into the hilly and mountainous regions, there are still 80% of

households excluded from banking services and 75% are the poorest households (Asian Development Bank, 2013). Still 77% households depend on informal lending (Asian Development Bank, 2013).

There are more MFIs, Class "D", than commercial banks, Class "A" as shown in Table 7 but MFI branches are limited to 861 and 1,143, which is less than 1,547 and 1,682 in 2014 and 2015 respectively for Class "A". This shows that MFIs are still in developing mode and face many challenges as they attempt to serve their clients. There were 314, 398, and 228 MFI branches in 2015 that improved from 288, 244 and 180 in 2014 in Central, Eastern and Western regions respectively, with just 120 and 83 in 2015 up from 88 and 61 in 2014 in Mid-western and Far-western regions. The significant number of branches which increased in first three regions reflects the tendency to concentrate in more populated areas. However, the number of population to serve has reduced for MFIs due to the improved number of branches. The population number increased to 122,660 in 2015 from 110,856 for class "C" because of branches decrease to 216 in 2015 from 239 in 2014. Moreover, population per branch for the total BFIs has reduced to 6,857 in 2015 from 7,646 in 2014. The large number of branches of Class A commercial banks in the Central region compared to other regions and only two branches of Class "C" in the Far-western region in two consecutive years 2014 and 2015 places an extra burden of responsibility on the MFIs to serve the people in hilly and mountainous districts.

#### 2.7.1.2 Usage

It is noted that the formal BFIs are not serving the people who need them most, even with the NRB's continuous efforts since the 1950s, especially promoting services for low-income households and small businesses. It is typically the case that rural and poor households are away from financial services. Data on the usage of financial institutions indicates that the use of bank accounts in past years for wages received is 2.4%, government transfer is 0.5% and bill payment is 0% (World Bank, 2014b). For adults, 16.4% have saved with an informal financial institution in 2014 which is up from 9.9% in 2011; 11.9% of adults borrowed from financial institutions; an increase from 10.8% in 2011 (World Bank, 2014b).

To increase the use of the financial institutions, the Ministry of Finance (2013), through two national banks, implemented pension payments for retired civil

servants from January 2014. The Nepal Bank Limited and Rastriya Banijya Bank are assumed to have 185,000 pensioner accounts (Nepali Headlines, 2014, January 12).

The number of depositors improved by 32 % in 2014, 27 % in 2015, 23 % in 2016 and a 7 % in the first quarter of 2017 (see Table 4). The percentage change in total savings was 54.73 % in 2014, 43.19 % in 2015, 51 % in 2016 and 29 % in the first quarter of 2017 (see Table 4). The reduced savings in consecutive years 2012, 2013, 2014, 2015, 2016 and the first quarter of 2017 shows the use of MFIs has fallen. The Asian Development Bank (2012) observes that 56% of rural households and 59% of urban households in Nepal have deposits with banks and 82% of all households have savings in some form.

There have been successful cases of increased outreach in India with the introduction of mobile banking and electronic cards developed by a private firm, A Little World (ALW), and its not-for-profit sister organization, Zero Mass Foundation (ZMF). These options could be very useful examples for Nepalese MFIs (Arora & Kazmi, 2012). Nepalese MFIs have not yet started branchless banking, mobile banking, internet banking, and electronic (debit/credit) cards. In contrast, banking and financial institutions are providing one or more banking services to their clients with 1652 ATM outlets and 4,131,242 debit cards (Nepal Rastra Bank, 2014b). The number of credit card users reached 57,898 issued by Class “A” commercial banks (Nepal Rastra Bank, 2014b). The Asian Development Bank (2012) survey indicates that more than 50% of households (rural and urban) could adopt electronic banking based on their holding a bank deposit account. The potential for these technologies needs to be considered efficiently and effectively to improve the uses of the financial services available in the Nepalese market.

Information communication technology (ICT) services has significant role to play in using technology for promoting the development facilities for the poor. Central bank openness to adopt the technology advancement is an advantage for the MFIs to exploit in their service. However, a number of factors are the crucial milestones for the MFIs to use ICT in their services to increase their outreach: use of ICT, infrastructure, ICT familiarity, money matters, and face-to-face assistance preference.

1. *Use of ICT:* The use of ICT provides the potentiality of MFIs to reach the rural region as well as reduce the operational cost. It also exploits the risk for both parties; service providers as well as service users. ICT is still in progress in Nepal. There is limited access to internet and mobile network services in rural areas. ICT services are being formulated and used in urban more than rural areas. Nepal has yet to facilitate ICT services in remote rural regions of the country. Digital division of rural and urban service does not allow MFIs to take advantage of ICT in their services. Small scale MFIs are struggling to have enough capital as well as skilled human resources to use the ICT in their services to increase their outreach. As a result, small scale MFIs are depending on the paper-based approach, which is also the case for the large scale MFIs. Most of the MFIs have computers at their central office and continue to use a paper-based approach.
2. *Infrastructure*: The role of infrastructure is essential for MFIs to enrich the rural region. Extending MFIs services to the needy people is a hurdle. The MFIs struggle to enrich rural areas because of the poor infrastructure. Poor mobile networks and unavailability of internet services in rural regions makes it difficult for MFIs to approach to the rural region. The ICT service has divided the rural and urban region in its services, making it difficult for MFIs to reach to the rural potential clients. Also, the infrastructure is not in place, which increases their operational cost.
3. *ICT familiarity*: Rural people have no familiarity with ICT. Potential rural credit clients of MFIs are illiterate and uneducated which discourages them from using the online services some of MFIs are providing. The rural poor are unfamiliar with use of mobile phones and their services as well as being unable to afford the smartphone to connect with MFIs. Some of large scale MFIs have online websites but it is yet to be utilized in general practices as the website does not provide enough information and online services for clients. Thus, physical offices need to be approached for further information regarding the institutional services.
4. *Money matters*: Rural people have very limited understanding of money matters. The barter payment for labour is still in practice, which gives them less access and understanding of the commercialized world of cash uses in practice in rural region. There is a good example of barter exchange during

the IRS 500 and 1000 banned in India in 2016, some of the village life in Haryana, India was unaffected while cash dependence was in crisis for almost five months.

5. *Face-to-face assistance preference*: Rural people prefer face-to-face assistance. Their confidence on receiving the proper information increases when they approach the office and discuss with a person in charge the service that they would like to get. The poor online service, less information available on the institutional website, and unfamiliarity with ICT pushes rural poor to approach the physical offices. The warm welcoming face-to-face assistance provided by moneylenders is appealing for credit needy to approach.

#### 2.7.1.3 Quality

MFIs play an important role for local economic development by including the unbanked rural poor in their financial services. It is the MFIs' mission to reduce poverty by servicing low income people. However, the quality of MFI services is shabby in Nepal. Most MFIs have chosen to go into the densely populated regions for their ease of access and lower operational costs. MFI officials are guided towards the profit-making motive and the poor are not bankable (Rural Microfinance Development Center, 2011). Officials are put in a position of being selective when choosing clients, which leaves needy people with no option but to borrow from informal moneylenders. The Rural Microfinance Development Center (2011) says that over-indebtedness of clients resulting from overcrowding of MFIs in a few easily accessible areas distorts this sector. MFIs should work for needy people in rural areas instead of residents in easily accessed regions. The presence of MFIs in easily accessible regions may increase rivalry among the MFIs, which leads them further away from their founding objectives. The stakeholders, Nepalese government and NFIs all need to find a sustainable way to reach the most vulnerable and needy people in rural areas. The Rural Microfinance Development Center (2011) has stressed that equitable national development is impossible until and unless MFIs increase their outreach to the remote rural regions in Nepal. By adopting modern technology, MFIs would find it easier to deliver their services to difficult geographical and remote rural regions, that is, mobile banking, telephone

banking and cash cards could be better options than opening physical branches (Rural Microfinance Development Center, 2011).

### 2.7.2 Informal monetary sector services

Providing services and products from financial institutions to people and businesses in a fair and transparent manner at affordable prices, delivered with convenience and dignity defines financial inclusion (Center for Financial Inclusion, 2015; Consultative Group to Assist the Poor, 2015; Demirguc-Kunt et al., 2015). In the absence of formal financial services, informal financial services are embraced.

People invest their savings buying ornaments, livestock (Consultative Group to Assist the Poor, 2015), accumulating these so-called less risky assets, according to the conservative practices of rural Nepal. These folk are reliant upon the informal sources: moneylender, goldsmith, friends and relatives. The unbanked people rely on their own savings for their obligations and investment (Demirguc-Kunt & Klapper, 2012), which reduces the potential for growth and transitioning from poverty through investment income-generating assets such as livestock or small businesses such as a tea stall. This ensures the maintenance of stark income inequality and poor economic growth.

The Asian Development Bank (2012) finds 42% of households are in debt from formal and informal sources in Nepal. Further, it finds that 37% of rural and 8% of urban households borrowed from moneylenders and family members. Borrowing from family and friends stands at 35.1%, and private informal lending stands at 17.8%, illustrating that informal lending is a major cash source (World Bank, 2014b). The Asian Development Bank (2012) says average balances held with an MFI are $145 and those with informal sources such as family and friends are $85.

The informal financial sector in rural Nepal is widespread, supplying 71% of funds, with relatives, friends and neighbours being the largest component at 51%, moneylenders provide 15%, and a further 5% comes from other sources. The informal financial services come from property owners, merchants, farmer-lenders, goldsmiths, pawnbrokers, friends and relatives (Barman et al., 2009; United Nations Capital Development Fund, 2011).

The easy approach to personal credit, a short-term loan with quick access, and flexibility with or without collateral, is a popular informal financial service in rural

Nepal. In most cases, the informal sector provides loans on the same day or within a week at a maximum. The marginal difference in effective annual interest rates charged by the informal sector and formal sector is not significant in many cases.

The informal financial service is an instant solution for obligation and emergency fund needs, which places large financial burdens on households to service the loans. Short-term migration is seen as a good source of cash income to relieve financial burden and has become a tradition in remote villages to generate cash. Migration is becoming a cultural pattern for survival and repayment of moneylenders. The more desirable process of generating surplus cash from investing in money-producing agriculture or trade cannot proceed as the males in the village are working elsewhere. MFIs have the potential to break this poverty cycle. Without mentoring and financial planning assistance, there is a limited prospect of creating wealth from the inadequate funds available.

The availability of widespread informal financial services in rural areas is indicative of a demand, suggesting outreach would occur if MFIs were present and offering appropriately designed services and products with competitive timeliness. Efforts to date by the NRB to encourage formal financial institutions to establish themselves in rural areas have met with limited success.

The potential to integrate components of the informal financial sector into the formal sector is worthy of consideration. Moneylenders may partner with an MFI in an agent role. The MFI may provide additional liquidity and the moneylender could manage the loan arrangements with the understanding that over time these will be more formally structured.

### 2.7.3 Implications

The desirability of financial inclusion is seldom discussed as a goal in developing countries such as Nepal where most of the population resides in remote rural areas away from formal financial services. It is typically assumed that enhanced growth will stimulate inclusion, but an equally compelling argument is that financial inclusion stimulates growth by lowering the cost of credit and building sustainable self-sufficiency in rural areas supports policies to expand inclusiveness. There is an ongoing effort being made by the NRB to increase financial inclusion in Nepal. It

is unlikely the NRB will achieve its financial inclusion objective for the poor in geographically challenged areas.

The NRB started Grameen model banking services, following the Grameen Bank in Bangladesh, in five development regions in Nepal. These banks are independent of each other but work under NRB. Grameen banks initially made significant outreach contributions to enrich the rural poor. However, they have become more focused in urban and nearby rural regions. The weakness of the BFIs and MFIs with low outreach and focusing on profit making objectives leaves remote people reliant on informal financial providers.

Policies for BFI and MFIs are not making rapid progress to reach remote areas. The Central Bank policies on loans without interest when applied to MFIs in geographically remote areas result in “picking fruit from the low branches approach” with branches opening in the most accessible of what is deemed remote; this might mean somewhere between villages on a rural road. BFIs and MFIs have reached 65 of 75 districts in Nepal, leaving 10 districts without banking services, even though sophisticated technology is available in Nepal. Further, it is difficult to obtain data on whether these BFIs and MFIs actually reach remote areas or are just limited to an increase in the number of districts they serve. Data available to improve transparency is essential. The Nepalese government financial subsidy to MFIs and financial intermediaries should require transparency in external reporting.

As noted, policies to motivate the BFIs and MFIs to establish in remote rural areas are not gaining traction. Operational costs for the institutions and the small amount of loans borrowed is not commercially viable positioning. The small populations in remote areas means that fewer clients are served at higher cost. The lower lending and saving amounts increase the transaction costs for MFIs. The poor in hilly and mountainous areas are scattered and living at a distance from each other, rather than in communities like folk who inhabit the plains. This scattered living makes it difficult for people to form a group to be eligible for MFI credit services. A policy to promote group lending to clients is likely to be attractive to potential borrowers. As this form of borrowing is currently practised through the informal sector, such a product is necessary to promote formal lending.

The majority of rural households have little chance of getting financial institution support because they lack physical collateral; the lengthy process of banking services discourages financially illiterate folk; and financial institutions are focused on urban more than rural areas in credit allocation.

MFIs' successful use of the Grameen model of group lending in the Terai plain region illustrates the tractability of the model. Policies to have National Identification cards will assist financial institutions. However, not all people will be entitled to the cards even though their families have lived in Nepal for generations. This type of racial policy is not unique to Nepal as neighbouring Bhutan has a significant grouping of people with roots as Hindu Nepali. They are not recognised as citizens.

The poor infrastructure or no transportation service is another obstacle. It takes longer to reach places, resulting in less communication with clients. It is also more difficult for MFIs to employ and retain staff in isolated areas unless additional allowances are paid. Monitoring and performance systems need to be improved to reduce risks to the institution. Policies to improve infrastructure need to be associated with the goal of creating financial inclusion. Roading is obvious but expensive and, potentially, rural Wi-Fi is a better way to promote connectivity. Enhanced electronic communication will improve the inclusiveness of remote staff into an MFI's operations and also their families and friendship circles.

### 2.7.4 Dealing with quake and MFIs

A 7.8 magnitude earthquake in 2015 had a devastating impact upon the lives of Nepali people, commerce, production and social cohesion. It made people's life difficult for day to day activities, shelter, food and even clothing and other essential utilities like water, electricity etc. Government initiatives as of early 2017 have not reached some devastated places and been unable to build even a single shelter for people (Sharma, 2017).

MFIs, SACCO, FINGOs are the primary financial sources (National Planning Commission Nepal, 2015) for income generating activities to the poor people, particularly in the rural and remote regions in Nepal. The microfinance and cooperative sector have been harshly impacted in the quake disaster regions (National Planning Commission Nepal, 2015). Thirty one of the 75 districts are

affected and 14 of these the most impacted, which accounts 13.6% of poor living under the poverty line (National Planning Commission Nepal, 2015). It is also noted in this report that 156 out of 1049 MFIs branches in country are damaged in a way that made MFIs difficult to operate.

The livelihood of more than 2 million households, approximately 5.6 million people, is affected. It is estimated by the UN that that 94 million workdays are lost and personal income of NPR17 billion destroyed 2015 (United Nations Development Programme Nepal, 2016). National Planning Commission Nepal (2015) reports that there are 72,064 households directly affected and 53,457 livestock lost in the most effected region. The quake devastated 498,852 houses and 2,656 government buildings, 256,697 private houses and 3,622 government buildings. Forty one percent of damaged houses belong to Dalits and Indigenous communities in the most affected region (United Nations Development Programme Nepal, 2016). The preliminary impact assessment of damages reports that there are 132,000 and 155,000 members of licensed MFIs and FINGOs respectively have been affected (National Planning Commission Nepal, 2015). The BFIs (Class A, B, and C) infrastructure damage of 408 branches and 652 ATMs may cost approximately NPR 864 Million. The NRB building in Kathmandu itself needs NPR 3.1 Billion (National Planning Commission Nepal, 2015) to replace the damaged building.

According to National Planning Commission Nepal (2015), MFIs may face two major financial problems: firstly, relating to a deterioration of asset quality because of the MFIs members may have lost their lives and livelihood in quake damaged areas; Secondly, falling in liquidity leading to a contraction or cessation of lending and an inability to repay deposits. MFIs obtain 60% of funds from mandatory lending for deprived sectors of BFIs of classes A, B, and C. Potentially, there is a looming shortage of funding available due to the default risk on loans provided by MFIs and FINGOs as well as withdrawals of deposits by the members for their immediate expenses in devastated areas. MFIs have received NPR 34.5 billion under the deprived sector lending in 2015 (National Planning Commission Nepal, 2015).

Quake damage to the productive and community infrastructure significantly reduces access to basic services and livelihood opportunities (United Nations

Development Programme Nepal, 2016). People need additional credit support to finance their basic human necessities: food, shelter, clothes and basic utilities. MFI members need to withdraw their savings to finance their essential needs for their survival in this difficult time. Borrowers lose their income-generating sources and require support to make loan repayments. MFIs' credit policies require stable income-generating sources from borrowers as repayments to finance the credit and so a hopeless spiral develops.

The major sources of rural livelihood in the quake affected areas include small farms; the sale of agricultural products, vegetables and artisanal products; and jobs from local tourism (United Nations Development Programme Nepal, 2016). Family incomes, depending on farming and tourism, are suffering. The economies of devastated areas have slowed down. Loan restructures from MFIs may help credit holders to recover their livelihood. MFIs are positioned to participate in supplementary roles to support house rebuilding and repair if they have funds. The rebuilding can use salvaged materials: 80% stone, 30% wood and 25% brick in reconstruction (National Planning Commission Nepal, 2015).

Maila Lama, a carpenter in Manekharka village, rebuilt his home with some salvaged corrugated tin sheets, a doorframe and some mesh wiring building a makeshift shed from debris for his family with three young children, using a borrowed hammer and nails (Sharma, 2017). His continuing efforts have assisted more than dozen families to get a roof over their heads. Maila's initiative is a good example of work that gives the community 'a new lease on life' (Sharma, 2017). Using people like Maila for training others for building the small scale reconstruction leads to big achievements. "The recovery and reconstruction process will impact the labour and employment market, and systems need to be established to evaluate and match the demand with appropriate skill building programmes" (United Nations Development Programme Nepal, 2016). If MFIs can create 'Cash for Work' programmes to reconstruct the houses and shelters, that gives immediate income-generating opportunities, so, they can move onto the normal life track that is crucial for the developing country economy to improve.

The Nepal government's relaxation of document requirements and flow of remittance have assisted in recovery (National Planning Commission Nepal, 2015).

The average remittance received in Kathmandu stands NPR 58,967 with the highest amount NPR 89,647 and lowest at NPR 38,964 (Central Department of Population Studies, 2016). However, 45.5% of households, with migrant workers sending funds, are based in the worst hit districts and their remittance levels only reach up to NPR 25,000 (Central Department of Population Studies, 2016). This amount is too low to manage with the disaster that has taken up their belongings and preserves.

## 2.8 Why does microcredit not reach many of the poor?

For rural poor in Janakpur, there is evidence that they do not join the MFIs' programmes because they lack the skills in the particular specified programme or they lack labour resources, as family members are already fully committed and sometimes working out of Nepal. Some of them are afraid of the consequences of failing to meet a loan repayment. Most people do not want to join the programme because they think MFIs charge high interest rates. Prospective borrowers can readily compare the costs related to a loan with charges made by local moneylenders, but the knowledge to do the mathematical calculation of compounding interest on the principle amount borrowed is not available. Rules and regulations that borrowers must accept when taking a loan from an institution appear too demanding compared with the flexibility of moneylenders. A MFI loan is formal and does not give a grace period to commence making loan instalments, and this gives a bad impression of the MFI program compared with moneylenders. People in Janakpur preferred not to deal with an MFI even when one became available.

Another reason is the staff of these institutions are picky and do not reach out to the households of rural poor. It is because of the pressure placed on field staff from their senior officers who demand they collect loan repayments and make sure people do not default. If field staff performance is measured by the percentage of loan repayments and no defaults, then an adverse selection failure arises. Prospective borrowers who appear most likely to repay the loan and exhibit low default risk get the money. The poor and unskilled rural people who are the target clients are excluded.

Partnering arrangements with the local communities are difficult for MFIs that have a policy to encourage local people to take responsibility to ensure that loans are

repaid. When asked to be local representatives, there is general reluctance on the part of villagers to take on the task. The possibility of default discourages village members from wanting to be responsible for what might be an uncomfortable action. The confidence level of repayment on a group loan diminishes with individual members' poverty levels. MFI field staff play a significant role in choosing groups and their respective members. If non-performing loans have a bearing on field staff's performance records, there is low risk taking. Typically, there is no confidence that the poorest people will make their loan repayments on time, which effectively excludes them from consideration for taking out loans. Barriers within the MFI and doubts in the community combine to ensure moneylenders' hold on the poor and social pressures from short-term migratory labour will continue.

## 2.9 Nepalese MFI structures

### 2.9.1 Discussion of different types of MFIs in Nepal

There are many ways microfinance is provided; through microcredit providers such as banks, cooperatives, nongovernment organisations (NGO), and community-based funding organisations.

A potential useful taxonomy is to consider MFIs according to two different objectives: for-profit and not-for-profit. The commercialised for-profit organisations provide loan services with and without collaterals and non-commercialised MFIs also provide loan services with third party assurance. For-profit MFIs tend to have a more 'business like' role in the microfinance sector (Roberts, 2013). The largest portion of microfinance institutions fall into this category in Nepal, representing 42% (490 out of 1169 MFIs) in the Mix Market data base in 2009 (Roberts, 2013).

The various types of MFIs differ in their approach and the characteristics of services they provide to clients. Not-for-profit institutions have an objective to develop the social economy through helping the financially excluded. In contrast, for-profit institutions are profit oriented and have highly commercialised objectives which divert them away from social economic development purposes toward generating financial operating profits (Lindsay, 2010). The profit allows them to run their services on their own and to be less dependent on the subsidies and donations for a supply of funds. Thus, the motives of for-profit MFIs relate more to being

financially efficacious rather than the more traditional goal of outreach to the poor. This makes commercialised MFIs more transparent for investors concerning probability of getting a return on certain level of risk (Galema & Lensink, 2005). For-profit MFIs provide the financial services with higher secured loan amounts issued with collateral.

The MFIs started with the not-for-profit institutions that help the financially excluded people by providing microcredit loans. Financially excluded people are deemed riskier in terms of their ability to make regular instalment payments, with no collateral to support their applications. Not-for-profit MFIs do take these risks and can still financially remain solvent (Lindsay, 2010). Not-for-profit MFIs mainly operate with government grants, subsidies and funds from donors (Mersland & Strøm, 2010). This type of institution is always taking bigger risks. Regular funding supply or subsidies are essential for their operation, which enables the not-for-profit MFIs to continue their services to the financially excluded poor (Lindsay, 2010; Mersland & Strøm, 2010). Non-collateral loans are riskier as there is a chance of slippage in the repayments and then there is a no security to be sold to repay the loan. This results in losses for the funder and creates the situation of dependence on a continuous supply of money from donors. Regardless of the financial performance and dependence on the donor supply of money, it is vital for not-for-profit MFIs to continue their financial services to the poor for social development by enhancing the local economy (Lindsay, 2010; Mersland & Strøm, 2010).

It has long been argued that outreach, number of customer served, is an expression of MFIs as a social development mission. The not-for-profit and for-profit MFIs are structurally different, covering small independent cooperatives with grant capital, charitable non-government organisations (NGOs), commercial NGOs, profit-making units, and subsidiaries of banks but they work for the same social development mission.

Microfinance in Nepal has a historical background but it has become more mainstream after the establishment of the Grameen Bikas Bank in 1992. The Nepalese government's liberal financial policies in 1991 accelerated microfinance activities and involved the NGOs in poverty reduction through microcredit. Nepal's central bank, Nepal Rastra Bank (NRB), has defined microcredit in terms of limits

on the loan amount with or without collateral. Nepalese MFIs are categorised by the NRB in 'D' class for the financial services.

MFI services to the Nepalese people are operating with diversified methods and modalities as follows:

- Grameen banking model;
- Deprived sector lending model;
- Rural Self Reliance Fund (RSRF) model;
- Small farmers' cooperatives model;
- Financial non-government organisations (FINGOs) model;
- Savings and credit cooperatives (SACCOs) model;
- Project based micro-credit model; and
- Wholesale lending model.

There are three sectors: government, semi-government and non-government organisations participating in the microfinance programme. As a result, there are 31 MFIs and four wholesale microcredit lenders, 31 NGOs, 25 small farmer cooperatives and 15 savings and credit cooperatives (Nepal Rastra Bank, 2013a) and some self-help community based groups. The mode of providing financial and non-financial services of MFIs in Nepal falls into three sectors: Microfinance Development Banks (MFDB); Financial Intermediary Non-Government Organisation (FINGO); and Cooperatives: Small Farmer Cooperatives LTD (SFCL), and Savings and Credit Cooperatives (SACCOs), and Community-based organisation self-help groups. MFIs in Nepal could be divided into three sectors: formal, semiformal, and informal.

a) *Formal MFIs:* These are a government mandated model, and rural development banks regulated by the central Bank, NRB. These are for-profit organisations.

b) *Semiformal MFIs:* This is a microfinancial model that provides financial and non-financial services to the poor. These organisations are unregulated and for members' mutual financial benefit, based on the not-for-profit concept. Thus, SACCOs, Microfinance Development Banks, National Cooperative Development Bank, and FINGO come under this category. Nepalese society has a long history of cooperatives in the form of self-help groups. Cooperatives

are non-regulated. However, The Nepal government has put forward an amendment to regulate all the cooperatives.

c) *Informal MFIs*: This includes moneylenders, landlords, friends and relatives.

**Table 8: MFIs' frame**

| Societies | Licensed | MFDB |
|---|---|---|
| SACCOs | SACCOs | Grameen Bikas Banks (GBB) |
| | FINGOs | Private Microfinance Development banks (PMFDB) |

**Table 9: MFIs' orientation**

| Profit orientation | Regulation | Sectors | Institutions | Fund Suppliers |
|---|---|---|---|---|
| Not-for-profit | Unregulated | semiformal | FINGOs, SACCOs | RMDC, RSRF, NMFC, SKBB, FMDBL |
| Not-for-profit | Regulated | formal | NMFC | Autonomous/private |
| For-profit | Regulated | Formal | GBB, PMFDB | RMDC, RSRF, SKBB |
| For-profit | Unregulated | Informal | Moneylender, landlords, friends, and relatives | |
| Mutual Benefit | Licensed | | SACCOs | RMDC, RSRF, NMFC, SKBB |

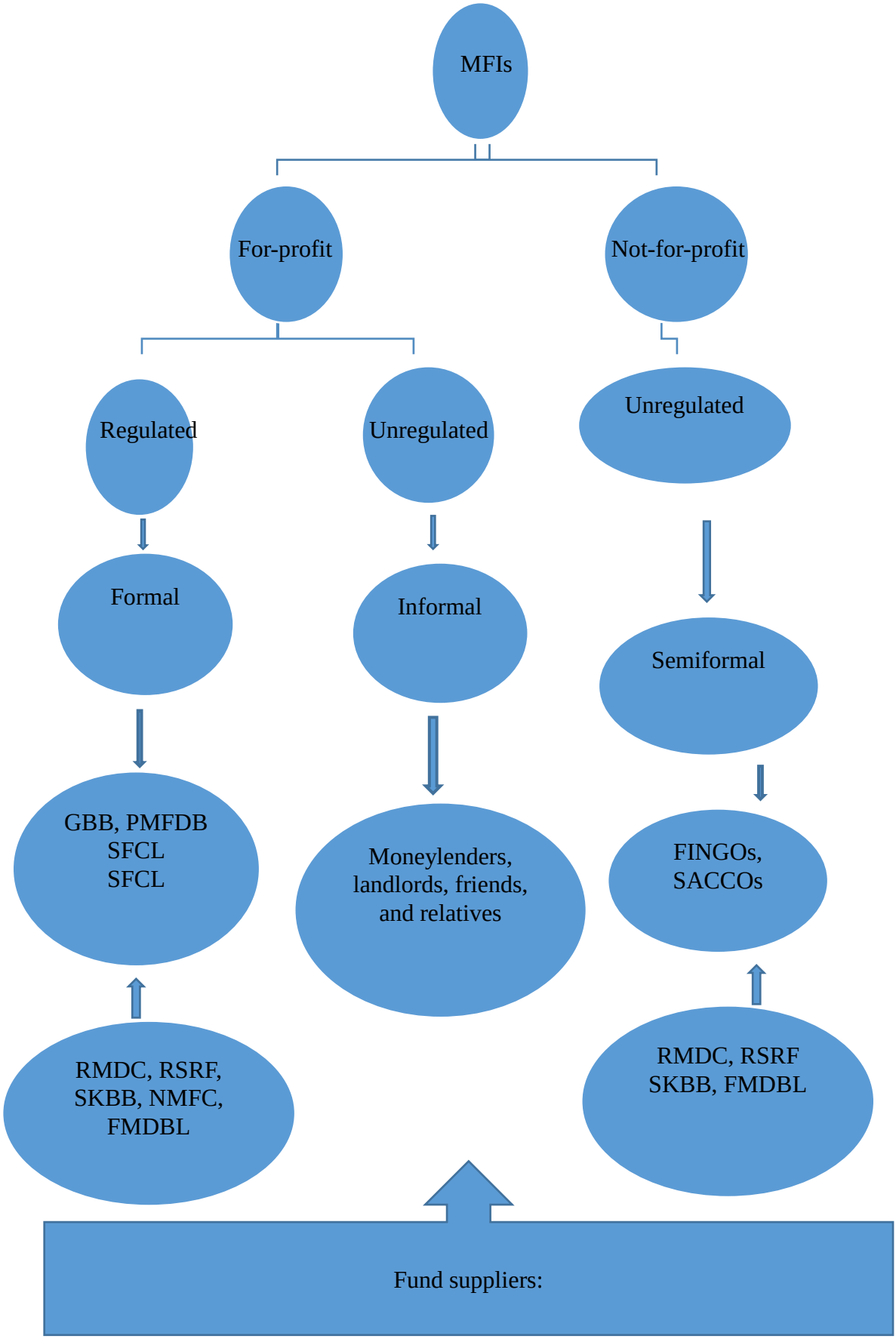



**Figure 5: MFIs structure**

### 2.9.2 Wholesale refinance institutions

There are different wholesale refinance institutions that provide loans to MFIs in Nepal to support the microfinance industry. These institutions are briefly explained below.

#### 2.9.2.1 Rural Microfinance Development Centre (RMDC)

The centre was established under the public-private partnership (PPP) programme as a joint venture with the Asian Development Bank in 1998 and other commercial banks, with NRB having 26% equity and providing guidance. RMDC provides wholesale lending to MFIs. Its untiring efforts to provide financial services to reach the poor, particularly in hilly and mountainous regions of the country, are reflected in it reaching 65 of the 75 districts in Nepal, and providing 70% of the country's MFI funding. Its staff make onsite visits to isolated and highland regions to identify the cooperative societies and engage in building their capabilities.

RMDC provides the start-up funds for microfinance operations to serve the local poor. This organisation also provides the financial services through the member organisation Microfinance Development Banks (MFDBs), Development Banks (DBs) implementing microfinance programmes, Cooperatives (COOPs) and Financial Intermediary NGOs (FINGOs). The RMDC aims to provide the financial services through these members to women who are under the poverty line. It has grown into a large wholesale lending institution with 186 members as of July 2014. It started with two MFIs in 2000 and the membership comprises 11 MFDBs, 10 DBs, 24 FI-NGOs and 141 cooperatives (Rural Microfinance Development Center, 2013). In addition to financial support, it provides technical and intensive training support to the member organisations to increase MFIs' credit quality and performance. It helps the members improve institutional capacity by providing onsite knowledge and skills training to MFI staff and clients. These are some of the programmes that build up the capacity of the institution; on-the-job training, on-site technical assistance, classroom training on different subjects, study visits and interactive workshops, all of which expose MFIs to industry best practice. In the process, it monitors and supervises the members closely, which serves the aim of attaining better quality lending portfolios, and greater efficiency.

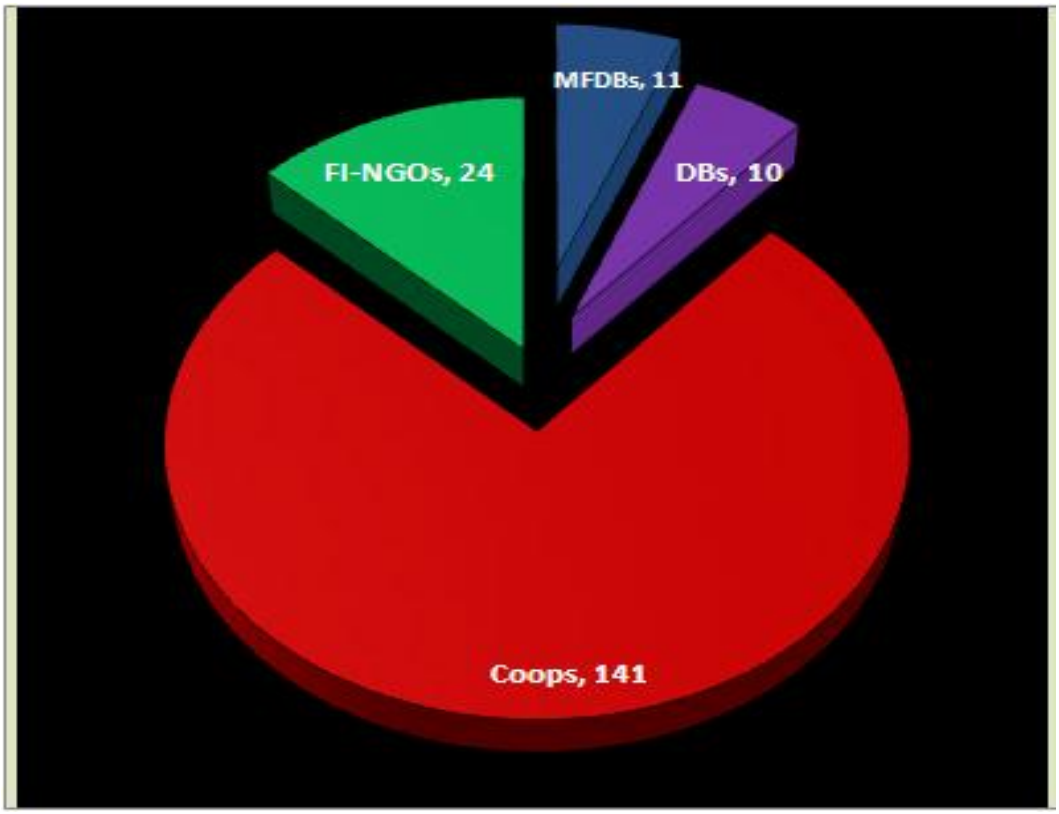



**Figure 6: RMDC members**

Data source: (Rural Microfinance Development Center, 2013)

#### 2.9.2.2 Rural Self-reliance Fund (RSRF)

The Nepal government established RSRF in 1991 for deprived people to increase income and job opportunities. It provides wholesale lending credits to the MFIs, SFCLs, FINGOs, and cooperative SACCOs to reach the deprived sector. It also considers long-term loans through the Agricultural Development Bank to provide cold storage for farmers and also for tea and cardamom wholesale credit for on-lending purposes (Nepal Rastra Bank, 2013a).

#### 2.9.2.3 Sana Kisan Bikas Bank (Small Farmer Development Bank) (SKBB)

This bank was established in 2002 to provide wholesale loans to small farmer cooperatives. The Nepalese government initiated microcredit by setting up the cooperative movement and providing microcredits to re-settlers who were affected the 1960 flood (Kayastha, 2013). In late 1968, the Nepalese government established the Agricultural Development Bank Nepal (ADBN) to provide credit and marketing support for farmers. In 1975, ADBN established the Small Farmers Development Programme with the support of United Nation of Development Programme (UNDP) and Food and Agricultural Organisation (FAO) that provided guaranteed credit for

groups and promoted group savings for group members who owned land less than 0.5 hectares.

SKBB provides financial as well as non-financial services to accelerate micro-financial services in Nepal. It offers wholesale credit to the MFIs and cooperatives to enrich the poor and low-income people in the hilly and mountainous areas. It also provides non-financial services, and technical support to the small farmer cooperatives LTD. (SFCLs) and similar types of micro-credit providers. It basically promotes and strengthens the grass–roots small farmer cooperatives LTD (SFCLs). It also runs training programmes: financial management, financial evaluation, cooperative management, bookkeeping, a replication programme, supervision and evaluation of cooperatives for an institutional capacity development programme for SFCL, which has benefitted 140,000 groups (Sana Kisan Bikas Bank, 2014). SKBB has found that women are better clients and managers of microfinance programmes than men or mixed gender SFCLs, producing better financial results for their institutions (Sana Kisan Bikas Bank, 2014). Ledgerwood (1997) finds that the repayment rate was significantly poor, reaching 50% in 1996 and the average loan size was NRS 8,000 to NRS 30,000 with interest 14-18% for individuals within the group.

#### 2.9.2.4 First Microfinance Development Bank Ltd. (FMDBL)

The First Microfinance Development Bank Ltd was established in 2010 as a wholesale lending micro-credit service to the economically and socially disadvantaged and deprived people through MFIs or community-based cooperatives. It prioritizes wholesale lending in microenterprises, businesses, and income-generating or self-employment activities to improve the livelihood of targeted people and minimize poverty. It is also committed to promoting sustainable microfinance services in Nepal by providing consultancy services for professional development, study and research, fund management, institutional evaluation and management, institutional change, and other aid services. In additional to wholesale lending, it is contributing to capacity building through microfinance training, professional training on microbusiness, seminars and other interaction programmes, monitoring and supervision and value chain creating activities by recommending MFIs to donors and other funding bodies (First Microfinance Development Bank, 2014).

#### 2.9.2.5 Centre for Microfinance (CMF)

The Canadian centre for international studies and cooperation implemented a project in Nepal funded by the Ford Foundation and the US Agency for International Development during 1998-2000. This project became autonomous and a privately owned national network organisation for strengthening the microfinance sector. In 2000, it was renamed as the Centre for Microfinance with a vision of "sustainable access to microfinance services for the poor" (Centre for Micro-Finance Nepal, 2014). It strengthens the MFIs' delivery capacity to serve the poor with microfinance services with the women as the focal point, by conducting the training, providing technical assistance to improve their technical capacity, and knowledge management in Nepalese MFIs. The Centre also explores the MFI market through its research, advocacy and advice on the policy changes involving all stakeholders, staff members and project advisors for MFIs. This is achieved through building up a network with national and international MFIs practitioners (Centre for Micro-Finance Nepal, 2014). CMF mentioned on its websites that it has 54 members including 25 microfinance experts, 2 associations, and 27 institutions in Nepal.

### 2.9.3 MFIs model in Nepal

MFIs' modality of serving the financially excluded people in Nepal is defined as Microfinance Development Banks (MFDB), Financial Intermediary Non-Government Organisations (FINGOs), Cooperatives, Microfinance programmes through donors, and Asian Development Bank (ADB). These are described and discussed below

#### 2.9.3.1 Microfinance Development Banks (MFDB)

This category can be divided into two parts: Grameen Bikas Bank (GBB) and Private Microfinance Development Banks (PMFDB) (South Asian Micro-entrepreneurs Network, 2011).

##### 2.9.3.1.1 Grameen Bikas Bank (GBB)

This bank is established by the Nepal government on a similar concept to that of the Grameen Bank of Bangladesh on the recommendation of the central bank, NRB, for the purpose of improving the living standards of the very poor, under the regional rural development bank named as a Grameen Bikas Bank (Kayastha, 2010).

Grameen banks are established in five regions of Nepal to provide the optimal level of financial services to the poor who are under the poverty line. Grameen Bank's services are focused on the providing financial services to rural women without collateral under a guarantee. It provides individual- and group- based loans where group members guarantee each other's loans. It also provides individual loans on a collateral basis. Grameen Bank's target clients are women who can get the loan on the group guarantee for a short term with no collateral at first. The loan amount and loan term period eventually depends on the members' reputation for repayments on previous loan.

#### 2.9.3.1.2 Private Microfinance Development Banks (PMFDB).

The Nepal government's regulation that 3% (Nepal Rastra Bank, 2013a) of total loan portfolio investment of commercial banks must be in the deprived sector generated the private microfinance development banks. These banks are disciplined by the fund supplier organisation, RMDC, SKBB and RSRF. This is where commercial banks and financial companies invest their mandatory 5% share of investment for rural communities development as the private MFIs. They are the members of the wholesale fund provider organisation for MFIs. PMFDBs are financed by RMDC, along with commercial banks and finance companies under the Deprived Sector Lending (DSL) scheme (South Asian Micro-entrepreneurs Network, 2011).

### 2.9.3.2 Financial intermediary Non-Government Organisations (FINGOs)

In the formulation and development of the Financial Act of 1995, the first NGO, called Nirdhan Utthan Development Bank, was established. It is licensed by the NRB as a financial intermediary. NGOs normally disburse money that they collect from deposits through MFIs as well as from wholesale credit.

They are also formed from informal self-help groups of saving and credit services providers to become a formal organisation at local level under regional administrative supervision. UNDP and some other international non-government organisations have been running their projects for strengthening local governance in MFIs. Consideration has been given to working with community organisations (COs) at the Village Development Committee (VDC) level to mobilise funds.

However, community organisations are easily waylaid into a political lobbying trap. Thus, COs are seen as a personal political benefit rather than community benefit.

#### 2.9.3.3 Cooperatives

These are divided in two categories: Small Farmers Cooperative Limited (SFCL), and Savings and Credit Cooperatives (SACCOs).

##### 2.9.3.3.1 Small Farmers Cooperative Limited (SFCL)

This cooperative model of Nepal was developed in a joint effort with the Agricultural Development Bank of Nepal and German Agency for Technical Cooperation (GTZ). It is a trial programme established by the Agricultural Development Bank of Nepal in 1975. It is a community-based self-help group of small farmers who own less than 0.5 hectares of land individually. It provides financial and nonfinancial services to low income members mostly in rural areas. It is a community group organised to meet the members' basic needs and address their interests. It executes its process of financial services through the ward of the local VDC. However, the executive committee at the top level of management will observe the ward-level leaders' recommended credit applications to make the approval decision. It provides the credit services with or without collateral. Their welcoming open-door membership policies have managed to reach all around the country from a start of just two districts in 1975. SFCL also provides wholesale loan services to MFIs to reach the very poor efficiently and effectively as well as non-financial services: social mobilisation, training, and technical services.

##### 2.9.3.3.2 Savings and Credit Cooperatives (SACCOs)

This is the community-based financing model that serves the poor and non-poor populations in Nepal. It is a self-help organisation governed and managed by its members who are drawn from the same community. The members understand and cooperate with each other to save their money together and they are able to lend money to the members at a reasonable rate of interest. This cooperative provides both saving and loan financial services to the members in local communities and they are well represented throughout the entire country. Cooperatives give a short-term loan for a minimum of three months and can extend that to more than 18 months loan for different objectives: children's marriage, celebrating a cultural ceremony, small businesses, buying modern technology that is TV, smart phone,

computer etc. The loan covers specific purposes, such as agriculture, microenterprise, housing, emergency or social reasons. It gives an opportunity for members to get loans for their consumables and business activities. They provide service options for individual or group saving products, deposits, and targeted festival and educational savings (Asia Resource Centre for Microfinance, 2004).

The Cooperative Act 1991 facilitates groups of 25 members from a community to obtain registration to operate services through the Department of Cooperatives under the surveillance of the Ministry of Cooperative and Poverty Alleviation previously in Ministry of Agriculture and Cooperatives. Cooperatives are self-regulated in Nepal. Members of the cooperatives typically know little about the cooperative services. There is no specific set of regulations formulated by government to administer. Poor regulation and supervision has resulted in SACCOs' deficiencies in good governance, standard accounting systems, and poor management practices (South Asian Micro-entrepreneurs Network, 2011). In addition to members' savings, SKBBL is the main source of financing to SACCO at 9.5% (South Asian Micro-entrepreneurs Network, 2011).

#### 2.9.3.4 Microfinance programmes through donors

There are donor funded microfinance programmes that run for the rural poor in Nepal: Production Credit for Rural Women (PCRW), Micro-credit Project for Women (MCPW), Third Livestock Development Programme (TLDP), Poverty Alleviation Project in Western Terai (PAPWT), Rural Microfinance Project (RMP), Community Ground Water Irrigation Sector Project (CGISP), and Enhancing Access to Financial Services (EAFS).

##### 2.9.3.4.1 Production Credit for Rural Women (PCRW)

It was established on 30 November 1988, aiming to support rural women by providing them with institutional loans for their improvement and productivity to improve their socio-economic status.

##### 2.9.3.4.2 Micro-credit Project for Women (MCPW)

This was established in 1993 with similar aims to PCRW but including rural and urban women for their micro-businesses through microcredit programmes to improve their socio-economic status.

#### 2.9.3.4.3 Third Livestock Development Programme (TLDP)

This was launched in 1997, with the objective to engage rural poor in livestock management and productivity, aiming to increase their income and employment opportunities.

#### 2.9.3.4.4 Poverty Alleviation Project in Western Terai (PAPWT)

This was launched in 1998 with the objective to lift the socio-economic situation of the deprived poor in the Western Terai region.

#### 2.9.3.4.5 Rural Microfinance Project (RMP)

This was established in 1998 to increase the socio-status of rural poor.

#### 2.9.3.4.6 Community Ground Water Irrigation Sector Project (CGISP)

This was launched in 1999 under the poverty alleviation programme with the objective of providing ground water irrigation facilities to deprived community farmers for agricultural productivity improvement.

#### 2.9.3.4.7 Enhancing Access to Financial Services (EAFS)

The Nepalese Government programme, financially supported by the United Nations Development Programme (UNDP) and United Nations Capital Development Fund (UNCDF) and the World Bank, is pursuing an initiative to increase access to financial services especially for urban micro- and small-enterprises (MSEs), and urban and rural low-income households. The project consists of five closely interrelated components: a technical assistance fund to strengthen the capacity of financial institutions; technical assistance to support reforms of the legal/regulatory and supervisory framework for microfinance; a line of credit for financial institutions interested in serving MSE, especially previously unbanked MSEs; technical assistance to reform state-owned microfinance institutions, that is, the Rural Self-Reliance Fund and the Regional Rural Development Banks; technical assistance to fund a public information campaign, project implementation, monitoring and evaluation. The support has been extended to nine strategic and eight innovative partners to enhance their capacity under the Fund for Inclusive Finance (FIF) component of the project. It was successfully completed in March 2013 (Nepal Rastra Bank, 2013a).

#### 2.9.3.5 Asian Development Bank (ADB)

The Asian Development Bank, Manila raises funds for the incomes of small and medium farmers project (RISMFP) to reduce the market and business risk in ten districts of Mid-western and Far-western development regions of Nepal. The idea is to support the increasing production of high value commodities (HVC) by small- and medium-sized farmers. The Ministry of Agricultural Development manages the supply funds with different stakeholders participating, including the NRB.

#### 2.9.3.6 MFIs and Technology in Nepal

Potentially, technology has a large role to play in the operations and productivity of MFIs. It is surprising that the majority of the MFIs in Nepal still use manual accounting systems. Some MFIs have a couple of desktop computers in their offices, used by the executives for major calculations, report preparation or data keeping. The high cost of technology could be the one of many reasons to have few computers and less use of technology. In addition to an erratic supply of electricity, internet facilities are not continuous and are more tenuous outside major urban centres. As a result, most of Nepalese MFIs are not connected to the internet and consequently do not have web pages.

# Chapter three - Literature review and hypothesis

## 3.1 Literature review

This chapter is a review of the literature relevant to this study. The literature available defines the different aspects of governance and its factors. Previous studies on the relationship between governance and MFI performance recommend that good governance improves firm performance. This chapter will describe the governance, governance factors and the influences on MFI outreach and financial performance. A review is made of the governance factors: board size, independent directors, percentage of female directors, CEO duality, minor directors and their impact on MFIs' performance characteristics. The governance mechanism is explained of four control variables: firm size, firm maturity, number of employees, and staff productivity.

## 3.2 Concept of corporate governance

Governance is defined as how well MFIs achieve their goal (Mersland & Strøm, 2009). Governance is concerned with the processes, systems, practices and procedures that govern institutions (Chenuos, Mohamed, & Bitok, 2014). The Cadbury Committee (1992) defined corporate governance as "the system by which companies are directed and controlled" (para 2.5). "Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders" (Organisation for Economic Co-Operation and Development, 2004, p. 11) and it is related to an institution's internal operating and control procedures. "Corporate governance concerns mainly the relationships between various categories representing firm's performance and the variables describing the governance level" (Gruszczynski, 2006, p. 252). Corporate governance is a manner of how rules, regulations (Aboagye & Otieku, 2010) and incentive (Adeusi, Akeke, Aribaba, & Adebisi, 2013) are applied and controlled. The Council of Microfinance Equity Funds (2012a) defines governance as a system of people and processes that keep an organization on track towards implementation of its major decisions. Furthermore, governing bodies are defined as being to maintain the organization's goals and mission, guide major strategic directions, manage risks, maintain an organization's health over time, and govern the entity's operations, regulations and controls in the organization (About Microfinance, 2016;

Koning, 2010). The role of the board of directors with concern for shareholders' rights and privileges, and executive decisions is defined as a corporate governance (Blair, 1995). BBVA Microfinance Foundation (2011) defines corporate governance as principles and rules that regulate an organization's operations to ensure that the organization achieves its goals. Corporate governance policies provide a framework that can be applied everywhere to any kind of organization. For MFIs, corporate governance is closely related to how the board of directors and the management manage the institution. Therefore, governance is fundamentally associated with an institution's internal operating and control procedures.

"Corporate governance is affected by the relationships among participants in the governance system" (Organisation for Economic Co-Operation and Development, 2004, p. 12). Weak governance structures and a lack of a unified code of conduct put MFIs in a critical situation (Vishwakarma, 2015) because of the nature of their business. Practitioners, scholars and researchers have discussed the mechanisms of corporate governance in different types of firms: government, non-government or private. MFIs can "protect consumers, organizations, investors, employees and the other participants" (About Microfinance, 2016) and may achieve their social as well as financial objectives (Gohar & Batool, 2015) by adopting high standards of corporate governance. The standard corporate governance system helps institutions to increase their depositors, borrowers, counter parties, and investors as well as maximize shareholders' wealth by reducing risks (Gohar & Batool, 2015). It improves "economic efficiency and growth as well as enhancing investor confidence" (Organisation for Economic Co-Operation and Development, 2004, p. 11). It plays a key role in providing strategic direction that creates transparency and trust for investors and attracts capital (Vishwakarma, 2015). It also benefits government bodies as standard practice may reduce fraud and mismanagement. Thus, corporate governance becomes one of the safest ways to restore public confidence in MFIs (Kansiime, 2009).

Corporate governance plays a role to balance corporate resources utilization and the interest of the stakeholders: shareholders, management, customers, suppliers, financiers, government and the community (Gupta & Singh, 2014). Governance addresses the leadership role in the institutional framework (Chenuos et al., 2014) that applies and follows the rules and regulations (Vishwakarma, 2015) to reach

economic and social goals. It involves the efficient use of resources, being accountable for using power, obtaining the institutional objectives, and maintaining or increasing the "shareholder value and satisfaction of other stakeholders in the context of its corporate mission" (Chenuos et al., 2014, p. 72; Kansiime, 2009). A firm may suffer competitive disadvantage when it fails to maximize share values (Bøhren & Ødegaard, 2001). Moreover, governance is a framework that safeguards and controls the relevant players (managers, employees, customers, shareholders, executive directors/managers, suppliers and the board of directors) in the market (Hewa-Wellalage, 2012). It is a mechanism by which boards of directors control managers' actions to increase the shareholders' value (Bøhren & Ødegaard, 2001) and it aligns managers with the shareholders' interest (Lehmann & Weigand, 2000).

"The corporate governance framework should promote transparent and fair markets, and the efficient allocation of resources. It should be consistent with the rule of law and support effective supervision and enforcement" (Organisation for Economic Co-Operation and Development, 2015) .

There is no question that corporate governance has a large role in solving the microfinance crisis. Vishwakarma notes that:

> MFIs need an effective governance because of their complex business to provide thrift, credit and other financial services and products of very small amounts mainly to the poor in rural, semi-urban or urban areas to enable them to raise their income levels and improve a living standard that leads to socio and economic development of the country. (Vishwakarma, 2015)

In some cases, MFIs' social responsibility is seen as cosmetic and time wasting activities on corporate governance practices (Kansiime, 2009).

There is little literature on corporate governance and firm performance available from emerging economies. The scholars' findings in developed economies are automatically assumed to be working in developing countries, which is not the case when culture, and general norms, uncertain capital markets, the pyramid structure of companies, and laws and regulations differ from one another in developing countries. This means most developing countries do not benefit from good corporate governance practices. The Organisation for Economic Co-Operation and

Development (2015) explains the “desirable mix between legislation, regulation, self-regulation, voluntary standards, etc., will therefore vary from country to country” (p. 13). Governance that works well for a firm in certain contexts and circumstances may not work well when the situation or location changes. Therefore, the governance framework needs to be adjusted (Organisation for Economic Co-Operation and Development, 2015).

Good corporate governance maximizes the “profitability and long-term value of the firm for shareholders” (Adeusi et al., 2013). Thus, companies have now realized that good governance practice improves returns and lifts customer confidence (Kyereboah-Coleman & Osei, 2008).

## 3.3 Corporate governance and MFIs’ performance

There is ongoing research appearing in the literature, focusing on corporate governance in MFIs, especially in relation to developing and LIC. Corporate governance has become more of a byword in the financial industry. It is ever more fundamental to measure its social impact and financial positive return for MFIs sustainability and aspirations. With sound governance, MFIs are able to formulate and implement strategies to achieve their goals (Council of Microfinance Equity Funds, 2012) and they can encourage the efficient use of resources and provide accountability (Aboagye & Otieku, 2010). Good governance practice may mitigate risks and ensure adequate human and financial resources to maintain MFI health (Council of Microfinance Equity Funds, 2012). Odera (2012) finds poor governance in MFIs in Kenya because the staff in the cooperatives had no defined roles and responsibilities or chain of command for decision-making, incompetent employees, and lack of management trust. Steege (1998) finds MFI governing bodies lacked many of the controls and balances of power that they should have in Colombian MFIs, Corposol. Tadele and Rao (2014) find that poor governance forced MFIs to close down in Andhra Pradesh in India because of unethical loan practices. The lack of suitable corporate governance policies is one of the main obstacles for the MFI sector's growth. These days many institutions are facing problems due to the absence of good corporate governance policies. That is why good corporate governance rules are needed to improve MFI performance to reduce information asymmetry (BBVA Microfinance Foundation, 2011).

A Microfinance Banana Skins survey done by the Centre for the Study of Financial Innovation (2008, 2012, 2016) consistently finds the lack of corporate governance policies as the second major risk for MFIs. Governance is widely perceived to be inadequate, failing to provide sufficiently strong leadership to keep MFIs on a healthy growth path. BBVA Microfinance Foundation (2011) says the lack of good corporate governance is one of the main challenges facing the sector in Latin America and the Caribbean.

The literature has recognized good corporate governance as a key element for MFI success. Good corporate governance is a "system of people, values, criteria, processes and procedures that ensure an organization is managed properly and guides it towards its mission and vision" (Barreiro & Ducasse, 2012) by the efficient use of resources (BBVA Microfinance Foundation, 2011). An institution with good governance will be more likely to achieve its objectives and goals (Aboagye & Otieku, 2010). Good governance practice improves the performance of an MFI and assures its long term survival (Thomsen, 2008). Good governance in MFIs is crucial (Bakker et al., 2014) for building up their image in their clients' view, in order to build trust. Transparency is important for maintaining society's confidence in MFIs demonstrating their work in promoting the general welfare of society, which is typically in the public and the government's interest (Aboagye & Otieku, 2010). The positive image of the institution through building up trust increases the number of customers and improves the performance of MFIs (Thrikawala, Locke, & Reddy, 2013). Further, they explain that transparency in management governs the good governance and attracts the donors as well as investors. Good governance plays a key role in creating transparency and trust for investors to attract capital (BBVA Microfinance Foundation, 2011). Good corporate governance contributes to efficient management to make decisions and uses the organizational resources to benefit clients and stakeholders (BBVA Microfinance Foundation, 2011; Odera, 2012). Thus, good corporate governance certainly improves the institution's reputation in the market and increases the clients' trust and good corporate governance is a prime concern of owners and other stakeholders of these institutions (Aboagye & Otieku, 2010). Therefore, MFIs are adopting best corporate practices to increase investor and stakeholder confidence (Vishwakarma, 2015).

MFIs are wearing two caps (BBVA Microfinance Foundation, 2011): one for the social services that particularly serve low-income people; poor and ultra-poor for socio-economic development in the country by providing financial services. For the second, they are responsible for managing their resources in the best way possible to ensure financial sustainability. MFIs also need to survive on their own for their services' continuation because MFIs runs on the donations and funding from government and international organizations. This dual nature of social and financial goals conveys the MFI vision, mission and goals through their daily operations. It is becoming crucial for MFIs to govern their service in better ways to increase their performance in order to achieve their targets and protect the institutional assets over time (Bassem, 2009). Boards of directors and senior management are challenged with this complex task, to maintain the balance in the dual roles of MFIs by formulating the right strategic vision for the institution (Vishwakarma, 2015). Thus, MFIs' governing bodies must have the right experience and knowledge to guide the institutions towards achieving their two-fold mission.

Researchers have given little attention to MFIs and their work to improve the welfare of the poor; rather, they have focused on performance. Clearly, MFIs with little or no profit would be more likely to go out of business, as funders and donor agencies would be reluctant to invest. Only the MFIs with better financial performance could continue their services. Thus, MFIs' better financial performance is a matter of concern "how MFIs can sustain themselves" (Quayes, 2012) and continue their services as a blessing for poor to come out the poverty.

The concern for measuring governance performance is vital because it provokes behavioural change in board directors (Drake, 2012). There is no proven mechanism of governance factors and performance of MFIs (Drake, 2012). The existence of good governance undoubtedly leads an organization to achieve its objectives through better financial performance and outreach (Brown & Caylor, 2006; Chahine, 2004). Good governance has a numerical impact on the operating, monitoring and auditing cost that has an impact of MFIs' survival for future service (Hartarska, 2005; Mersland & Strøm, 2009; Varottil, 2012). Thus, better corporate governance is a key to enhance MFIs' feasibility (Hartarska, 2005; Mersland, 2011; Mersland & Strøm, 2009).

Increased outreach and better financial performance cannot be achieved without good governance in MFIs. Better governance means the MFI is organized better, plans its goals and strategies better and fulfils its mission more efficiently (Barreiro & Ducasse, 2012). MFIs with good governance would lead to achieving their objectives efficiently and fostering their strategy accordingly (Rock, Otero, & Saltzman, 1998).

Unethical business practices in MFI governance, moving from non-profit to profit, can lead to disaster, as was the case in Andhra Pradesh, India, as MFIs distributed loans without pre-checking the creditworthiness of the clients (Tadele & Rao, 2014). Bassem (2009), in his self-conducted survey in the Euro-Mediterranean, reveals in his findings that the different mechanisms have differential impacts on the outreach and sustainability of MFIs. However, the right mechanism of governance and MFIs performance is yet to be determined (Hartarska, 2005; Mersland & Strøm, 2009).

Many academics and practitioners have argued the relationship between corporate governance and MFI performance. Some scholars specify various measures of firm performance as functions of measures of corporate governance, while other scholars specify corporate governance measures as functions of indicators of firm performance (Aboagye & Otieku, 2010). Kyereboah-Coleman and Osei (2008) found firm performance to be a function of corporate governance indicators while investigating corporate governance and firm performance in Africa. Gruszczynski (2006) states a firm's corporate governance rating is a function of the firm's financial statement ratios and their association with operating profit and debt ratio. However, Bøhren and Ødegaard (2001) use the firm's performance, Tobin's Q, as a function of corporate governance variables and Lehmann and Weigand (2000) use return on assets and return on equity as the dependent variables.

There has been little research conducted and the need has come to the notice to measure the correlation of governance in MFIs and their outreach and financial performance (Bassem, 2009; Hartarska, 2005; Mersland & Strøm, 2009). None of the research finds uniformity with the governance structure and firm performance. Different researchers offer with different answers on governance as an input and firm performance as an output. The literature struggles to identify the corporate governance mechanisms that influence MFIs' performance (Hartarska, 2005;

Mersland & Strøm, 2009). However, these historical governance studies should be taken as lessons that may help today. Some of the research findings are briefly discussed below. Hartarska in 2005, Cull in 2007, Kyereboah-Coleman and Osei in 2008, Mersland in 2009 and 2011, Kansiime in 2009, Bassem in 2009, Barry in 2011, Wellalage in 2012, and Thrikawala in 2016 have done studies on the relationship between governance and its impact on MFIs outreach and financial performance.

Hartarska (2005) uses data collected in three surveys for 1998-2002 from rated and unrated MFIs in Central and Eastern Europe to measure the relationship between governance and MFIs' outreach and financial performance. In her study, with the variables management remuneration, board independence and diversity, external governance mechanisms, her findings revealed that not all known governance mechanisms affect MFIs' performance. Furthermore, 'different factors have different effects' on outreach and sustainability. She also said that donor presence certainly increases the outreach of the organization but worsens financial performance. She also finds that performance-based compensation of managers is not associated with better-performing MFIs; the lower wages suggested for mission-driven organizations worsen outreach, while managers' experience improves performance. Her financial finding was that independent directors on ROA resulted in better performance, but boards of non-executive directors give less outreach and lower financial performance. She found external governance mechanisms play a limited role in the region.

Cull, Demirguc-Kunt, and Morduch (2007) use the data from 124 MFIs from 49 developing countries to measure the MFIs financial performance and outreach on the lending methodology. They found that MFIs with individual loan methodology enjoy higher profitability. However, individual loan methodology forces them to choose the wealthier customers, which places the institutions in mission drift situations. The researchers did not consider governance variables such as board characteristics or ownership type.

Mersland and Strøm (2009) conducted research with 57 countries' MFIs' self-constructed data, collected by third-party rating agencies. They considered the governance mechanism through board and CEO characteristics, ownership type,

competition and regulation, customer-firm relationship on the MFIs outreach and financial performance. They found that the firms performed well with female directors on the board. They found that there were no differences between non-profit organizations and shareholder firms in financial performance and outreach. They argued that there was a need for an industry-specific approach to MFI governance. The MFIs financial performance on ROA increased with a female CEO, and with local directors. Their results show that split roles of CEO and chairman, a female CEO, and competition are important explanations.

Mersland (2011) argues that better corporate governance of MFIs has been identified as a key to enhancing the viability of the industry. He finds saving banks' survival may improve when bank associations, depositors, donors, and local communities monitor the institutions. Financial viability increases when MFIs consider the wealthier customers along with the poor. His findings suggest the mechanism of governance and firm performance should be reconsidered, stressing regulation, for-profit ownership, and traditional vertical board control. He suggested that governance with a broader and more stakeholder-based understanding is essential.

Kansiime (2009), researching in Uganda, suggests that MFIs lose public trust, investment from donors and investors, and in some cases end up closing their services, when there is no good governance practice applied. She further explains that companies must adhere to the laws and business ethics in order to build and restore public confidence. She has also explored the reluctance of government interference in MFI operations because the nature of the business, to alleviate the poverty, makes MFIs suffer operationally and financially.

Kyereboah‐Coleman and Osei (2008) use ten years of data (1995-2004) based on the financial statements from 52 MFIs in Ghana to examine governance indicators' impact on MFIs' performance measures on outreach and profitability. They used the panel data technique as a key analytical framework. They explain that governance plays a critical role in MFI performance and that independence of the board and a clear separation of CEO and board chairperson have a positive correlation with both performance measures. They find that larger board size is more profitable with less outreach. Bigger MFIs are more profitable, but they are

unable to utilise their assets to enhance their outreach. The impact of MFIs' maturity is negative for both profitability and outreach.

Bassem (2009) uses the survey data on 42 MFIs in 21 Mediterranean countries, conducted by the author in 2006, in order to test the relationship between governance mechanisms and the performance of Euro-Mediterranean microfinance institutions (MFIs) in terms of outreach and sustainability. He finds that larger board size, and a higher proportion of unaffiliated directors delivers the trade-offs between MFIs' outreach and sustainability. More women on the board increases the outreach of MFIs and reveals that external governance mechanisms help MFIs to achieve better financial performance. MFIs may have better sustainability with regulation and the use of individual lending methodology. He also explains MFIs, active as NGOs, are more consistent with their social mission than with their financial performance.

Barry and Tacneng (2011) consider a panel of 281 MFIs in Sub-Saharan African countries registered in the Microfinance Information Exchange, including MIX, in their study over the period 1996-2008. They analyse microfinance institutions' (MFI) organizational structure and external governance impact on their performance considering three aspects: sustainability, outreach, and portfolio quality or risk. They use outreach indicators as breadth, the number of clients – both borrowers and savers - as the depth: average loan balance per borrower (in US$), percentage of women borrowers, average loan balance per borrower/GNI per capita (%), average savings balance per saver (in US$) and average savings balance per saver/GNI per capita (%). Profitability and sustainability are measured on ROA and OSS. They highlight their two findings. Firstly, non-government organizations are the "most profitable, efficient, and productive in terms of outreach among all types of institutions but are not necessarily operationally self-sufficient" (p. 5). This suggests a possible need to raise additional grants and subsidies to cover losses. Secondly, a regulation system improves the efficiency and productivity but not the portfolio quality, and the latter regulated organizations perform better socially, and consider poor clients more effectively. However, external governance (overseas regulating bodies) has no effective impact on lowering portfolio risk. Further, they argue that more client borrowers and savers go to the larger MFIs but most clients are not poor. The results are robust through using the factor analysis method.

Hewa-Wellalage (2012) uses data for 2006-2010 of multinational company subsidiaries (MNCs) and local public companies' (LPCs) subsidiary companies in Sri Lanka. She measures the mechanism of corporate governance and firms' financial performance on ROA, ROE, and Tobin's Q. She finds corporate governance positively correlates with financial performance. However, her finding on agency cost and financial performance with governance turns in a negative correlation, which differs for MNC and LPC. Some of mandatory corporate governance mechanisms have negative impacts on firm financial performance, which increases firm's agency conflicts. This suggests that a corporate governance framework is appropriate for each organisation to function properly but that "one size does not fit all" should be taken into consideration in Sri Lankan MFIs.

Another comparative study by Thrikawala (2016) on Sri Lankan and Indian MFIs with data from 2007-2012 sourced from the Mix Market and Indian microfinance network. She finds larger boards with more client representation increase the financial performance of both countries. More female representatives and outside directors on the board and an internal audit function negatively affect MFI financial performance in both countries. More international/donor representatives and fewer outside directors increases outreach in both countries. In Sri Lanka, the financial performance of MFIs improves with a female CEO, female chair, larger boards, client representatives on board and internal audit function. Financial performance declines with more female directors and more international/donor representatives on a board. More international/donor representatives and fewer client representatives on boards increases the outreach of Sri Lankan MFIs. International/donor representatives, client representatives, outside directors on the board, and an internal audit function increases the financial performance of Indian MFIs. A female CEO, more female directors and more international/donor agency representatives on the board increases the outreach of Indian MFIs.

Some other academic researchers are taking consideration for further study. Thus, governance in MFIs is an academic concern and research is now involving performance measurement instead of just outreach.

The MFIs outreach objective to serve the poor can only be possible when they can cover operating and financial costs. MFIs sustainability comes with operational

self-sustainability, when MFIs have ability to pay off their operational expenses and can generate operational revenues to have financial self-sufficiency (Hartarska, 2005). The financial sustainability and outreach could lead MFIs in the commercialization of their services and the effects on the number (breadth of outreach) and socio-economic level (depth of outreach) of the clients that are served by microfinance institutions (Piot-Lepetit & Nzongang, 2014).

## 3.4 Influence of governance variables in outreach and financial performance

Scholars are using different variables to analyse MFIs' outreach and financial performance. Measuring the social mission and financial performance of MFIs is challenging when designing corporate governance policy and balancing their social and financial goals. It is important to provide a balanced effort when measuring both financial performance and fulfilment of social goals (BBVA Microfinance Foundation, 2011).

Most scholars use profitability, operational sustainability and financial leverage as a financial tool to measure institutional financial performance. Financial performance of MFIs is measured by the profitability of the institution and most scholars use Return on Asset (ROA), Return on Equity (ROE) to measure profitability. Institutional operational sustainability is measured on Operational Self-Sufficiency (OSS) and financial leverage on Debt to Equity Ratio (DER). Profitability indicators summarize the MFIs' performance over all. However, profitability only does not explain the current state of the MFIs, but taking operational self-sufficiency into account suffices as an explanation. Profitability and self-sufficiency indicators show how well an institution is executing its operations. Therefore, whether an MFI is profitable or not can be shown from its ROA, ROE and OSS (Barry & Tacneng, 2011).

MFIs' social performance indicators are yet to be fully developed but they are a standardised form of indicators (Bakker et al., 2014). Number of clients, breadth of clients (borrowers and savers) and loan size are the main measuring tools for their outreach. However, depth of the loan, deposit account and percentage of female borrowers are other tools for measuring outreach of MFIs. Higher breadth indicates an MFI's higher social performance (Bakker et al., 2014). The breadth of

outreach is greater when MFIs serve more customers (Mori, Golesorkhi, Randøy, & Hermes, 2015). Breadth is an important measure because MFIs may face budget constraints to serve a number of clients with limited resources. Depth of outreach indicates how the net gain from microfinance of a given client is valued by society (Barry & Tacneng, 2011). Five outreach proxies: average loan balance per borrower (in NPR), percentage of women borrowers, average loan balance per borrower/GNI per capita, average deposit account; are considered as measures of MFIs' outreach (Barry & Tacneng, 2011) in this study.

Scholars have showed the association of governance with MFI performance. Aboagye and Otieku (2010) find that there is no relationship between governance and outreach and financial performance in Ghanaian rural and community banks. Mersland and Strøm (2009) find that most corporate governance mechanisms have little impact on MFIs' financial and outreach performance. Thrikawala et al. (2013) explain that good corporate governance improves the outreach and financial performance and reduces the risk in Sri Lankan MFIs. Further, as supported by Bassem (2009) and Hartarska (2005), not all governance mechanisms have a substantial impact on MFI performance, but the different factors separately affect outreach and financial performance.

The existing literature on the different internal governance factors that is board size, independent directors, percentage of female directors, CEO duality, and minority directors on the board, is discussed below.

### 3.4.1 Board size

Board size can be defined as the number of board members that MFIs have. It is always argued that there is a greater relationship between the number of board members and MFI's outreach and financial performance. It is claimed that board size has a significant impact on the institutional performance. It is not clear from previous literature what the optimal board number would be to have the better performance and outreach. However, Kyereboah-Coleman and Osei (2008) suggest that eight board members is an effective size to consider. However, Mersland and Strøm (2009) found the board size in their study ranged from seven to nine. Guest (2009) suggests that an optimal board size of fewer than ten leads to better firm performance. Hartarska and Nadolnyak (2012) suggest that board size ranging from

ten to twelve members is the optimal to increase outreach in community development loan funds (CDLF) in the USA. It has been researched by many of scholars and the evidence has contradictory results in different regions of the world. The findings of the board size and outreach and financial performance differ as to the region. Though smaller board size seems to dominate for consistency of better performance, a larger board provides better monitoring and decision-making with the integration of skills on the board. So, a larger board could turn in at the level of the situation where poor communication, co-ordination and cooperation reduces the effectiveness of the board causing firm performance to suffer (Guest, 2009).

Mori et al. (2015) find board size is positively associated with loan size and negatively associated with the female customer when it is used as a control variable in their study in East Africa. Kyereboah-Coleman and Osei (2008) find that board size is positively related to profitability and negatively related to outreach. The larger board size gives better financial performance with more profit, but lower outreach because the CEO will experience less control with the larger board. Mak and Kusnadi (2005) argued in their research findings in Malaysia and Singapore on a multivariable test of Tobin's Q that large board size is less effective in decision-making eventually reducing the firm's performance, and increasing the cost of remuneration by increasing the number of board directors who act as a supplementary rubber stamp. Eisenberg, Sundgren, and Wells (1998) find that the negative correlation between board size and profitability extends to small firms with small boards in Finland. They argued that a larger board consists of more outsiders in decision-making and thus are careful decision makers as the reputation cost in failure is higher than the private benefit in profit. Hartarska (2005), in her study of MFIs in central and Eastern Europe and Newly Independent States, found that MFIs with larger boards performed better than smaller boards on ROA measurement. Bassem (2009) found in his study in Euro-Mediterranean MFIs that larger boards increase MFI performance and give better results as their boards can make superior decisions with the mix of expertise and are less dominated by the CEO's power. Mersland and Strøm (2009) found that board size has a positive impact on the branch offices of MFIs; however, it reduces the monitoring capacity that would lead to cost effectiveness and thus affects the financial performance. Guest (2009) in his study of 2,746 UK-listed firms over 1981-2002 finds strong evidence of a negative

relation (Ness, Miesing, & Kang, 2010) between larger board size and firm performance measured on three different techniques; profitability, Tobin's Q, and share returns for large firms.

Different researchers are giving mixed findings when using board size as a variable when measuring firm performance for different regions. It is observed that the number of board members plays the key role in relation to firm performance as it relates to skill integration, better monitoring processes, and better decision-making, and overall it enhances the ability of boards in their governance functions. Thus, it is essential to take board size as a variable when testing MFIs performance in Nepal.

### 3.4.2 Board composition: Non-executive directors

Non-executive director positions are part-time and are filled from outside the company (Pass, 2004). Non-executive directors are involved in supervisory and balancing roles and control the executive directors' activities to guarantee integrity and act as a safeguard for investors (Pass, 2004), thus playing a monitoring role (Boone, Casares Field, Karpoff, & Raheja, 2007) for the quality of the executive directors. Young (2000) indicates that shareholders become acutely accountable when the non-executive directors are present on the board. Non-executive directors work as professional referees to measure managers' performance (Boeker, 1992) and protect the interests of shareholders (Kyereboah-Coleman & Osei, 2008).

Hartarska (2005) finds the more non-executive directors there are on a board, the better the outreach among MFIs in Eastern Europe and Central Asia. She also says that the firm performs more effectively and benefits with an independent board, achieving higher results. Mori et al. (2015) in their study on MFIs in East Africa find that independent directors are positively related with higher outreach; serving large numbers of clients with smaller than average loans. Aboagye and Otieku (2010) found that board independence has a positive impact on the outreach and financial performance of MFIs in Ghana (Bassem, 2009; Kyereboah-Coleman & Osei, 2008). Thus, a higher proportion of non-executive directors should be promoted (Hartarska, 2005). Pathan, Skully, and Wickramanayake (2007) find non-executive directors are significantly positively related with firm performance. Krivogorsky (2006) finds non-executive directors are positively related with firm profitability, measured on ROE in continental Europe. Dehaene, De Vuyst, and

Ooghe (2001) find that non-executive directors have a positive relationship with firm financial performance when measured against ROE. Dehaene et al. (2001) suggest that firms with more outside directors perform better. Dahya, Dimitrov, and McConnell (2008) find a positive relationship between the proportion of non-executive directors and firm performance in cross-countries' analysis for 22 countries.

Paul, Friday, and Godwin (2011) find a negative relationship with non-executive directors and firm performance when measuring ROE on firms in Nigeria. Furthermore, Koerniadi and Tourani-Rad (2012) find non-executive directors negatively affect firm value in New Zealand, measured on the ROE and ROA. On the other hand, Hutchinson, Nicholson, Wang, and Oliver (2009) find that there is no relationship between non-executive directors and firm financial performance in Australian companies. Finally, Finegold, Benson, and Hecht (2007) explain that firm performance also changes with different ratios of non-executive directors and insider directors; thus it is inconclusive (Bermig & Frick, 2007) to measure outsider presence and firm performance. Bermig and Frick (2007) find inconclusiveness on the relationship between board composition and firm performance in Germany. Similarly, Rashid (2011) finds inconclusive results of the relationship with non-executive directors and firm performance in Bangladesh. Pistelli, Geake, and Gonzalez (2012) find no significant relation with non-executive directors and MFIs' financial performance in sample of 162 MFIs across 57 countries on Mix Market data.

The mixed findings on the relationship between non-executive directors and firm performance indicates an importance to study non-executive directors as a variable in this study.

### 3.4.3 Female directors on the board

Gender diversity has been long discussed during ongoing reform practices of governance in firms in recent years (Adams & Ferreira, 2009) and it is a growing area of research (Lückerath-Rovers, 2013). The proportion of female directors in top management and on boards is low (Singh & Vinnicombe, 2004), though the evidence of female involvement is increasing, due to government laws that require a proportion of female participants on boards (Smith, Smith, & Verner, 2006).

Gender diversity escalates the effectiveness of boards (Adams & Ferreira, 2009) and integrates the talent and skills that enable boards to have higher outreach and better relations with stakeholders, which results in better MFIs' performance (Bassem, 2009; Hartarska, 2005), because a higher proportion of female directors on a board allows them to have more alternative perspectives when making decisions (Smith et al., 2006) and also enables them to reach poorer borrowers. Female directors have different work and non-work experiences and might also understand some parts of marketing better than men, which helps a board have better understanding of different situations, enhances the decision-making process and improves firms' performance (Singh & Vinnicombe, 2004).

Research on gender diversity has been done by different researchers. This has not led to any one answer as to the proportion of female directors as a key variable and its relation with firm performance. Some of the researchers found gender diversity on board positively affected firm performance while others found no relation between the two factors.

Mori et al. (2015) find improvement in gender diversity on the board increases the number of customers (Hartarska & Nadolnyak, 2012; Hartarska, Nadolnyak, & Mersland, 2014; Wale, 2015), particularly females, but reduces the loan size (Mori et al., 2015). Mersland and Strøm (2009), and Strøm, D'Espallier, and Mersland (2014) have found that female CEOs have a positive impact, improving the financial performance with higher ROA of the no-profit firms by reducing the operational cost and information asymmetry. They further state that female directors understand women clients better, thus they set comfortable terms for them. However, they found that female directors have no significant impact on the outreach on the number of credit clients' increment because of loan size and borrowers are independent. Adams and Ferreira (2009) further supported this finding, that female directors on the board is positively related with financial performance as measured on Tobin's Q and ROA in a firm that has a weak governance structure. In contrast, Strøm et al. (2014) found that female leaders have fewer board meetings, fewer internal audits and higher CEO duality, resulting in weak governance, in their research for 329 Microfinance Institutions (MFIs) in 73 countries covering the years 1998–2008.

Khan and Vieito (2013), in their research on US firms during 1992-2004, found firms with female CEOs are associated with an increase in performance compared to firms managed by male CEOs (Lückerath-Rovers, 2013). They further say that female directors are more risk averse (Marinova, Plantenga, & Remery, 2010), than male CEOs. Lückerath-Rovers (2013) found female directors on a board relate to better financial performance on the ROE measurement in 116 Dutch companies listed on the Amsterdam Euronext stock exchange in 2007.

Marinova et al. (2010) found in their research observed in 2007 for 186 listed firms, 102 Dutch and 84 Danish, that the number of female directors on the board had no effect on firm performance by using Tobin's Q as a performance measurement, where 40% of companies in the sample had one or more female directors. Lam, McGuinness, and Vieito (2013) also find there is a limited relationship between the proportion of female directors and firm performance in their research for 10,000 Chinese firms between 2000 and 2008. Liu, Wei, and Xie (2014) find that women on boards have a positive impact on the firms' financial performance measured on the ROA. Smith et al. (2006) conducted research in 2,500 firms in Denmark from 1993 to 2001 and found that firm performance is significantly positively related to financial performance on the gross profit measurement rather than net income after tax. Thus, no significant relation occurs with firm performance and the accounting-based measurement. They further explained that the significant positive performance relationship occurred more when female directors had university degrees compared with females who did not, and the relationship was also positive when staff members chose the board. Dezsö and Ross (2012) researched 15 years of data in US firms to find that the presence of female directors increases the firm performance but only to the extent that a firm is focused on innovation as part of its strategy. Bassem (2009) noted that MFI performance improves with a higher proportion of female directors.

The academic research findings are contradictory, making it difficult to generalise for the theme of gender diversity and firm performance (Adams & Ferreira, 2009; Dezsö & Ross, 2012; Wellalage & Locke, 2013). It seems there is no academic research yet on female directors on board as a variable in relation to MFIs' outreach and financial performance in Nepal. Thus, this research will consider this female

director on board variable to test whether it has any impact on the MFIs' outreach and financial performance in Nepal.

### 3.4.4 CEO/chairman duality

Duality is defined as a person holding two positions, that of CEO and chair of the board. For more than a decade (1999-2003), hundreds of the firms converted their leadership structure from duality to non-duality CEO leadership and some of them turn their leadership structure from non-duality to duality structure as well (Chen, Lin, & Yi, 2008). They explain they split the positions because it became too easy for the one person to abuse their power at the shareholders and companies' expense. However, different scholars give varied results on CEO duality and firm performance.

The findings of different researchers also do not support that separation of CEO and chairman positions will give better governance (Mersland & Strøm, 2009). The separation of position can create communication problems and the effectiveness of the firm is reduced (Dalton, Daily, Ellstrand, & Johnson, 1998). Fama and Jensen (1983) suggested that firm performance increased with the separation of CEO and chairman titles as duality restricts the principle of separation on decision-making and decision control, and obstructs the board's ability to perform its monitoring function. Jensen (1993) also supported the idea that the effectiveness of the firm increases with the separation of positions. He further said the function of the chairman is to run board meetings and oversee the process of hiring, firing, evaluating, and compensating the CEO, which is possible only when the positions are separated. Dahya, Lonie, and Power (1996) also support the separation of the CEO and chairman positions in their findings in the UK and find that duality decreases a firm's accounting performance (Pi & Timme, 1993). Dahya and Travlos (2000) support the positive correlation between CEO duality and firm performance. Dahya, Garcia, and Van Bommel (2009) found there is no correlation with CEO duality and firm performance in UK companies. Chen et al. (2008) support this; that there is no change in firms' performance (Daily & Dalton, 1997) with change in leadership, whether duality to non-duality or non-duality to duality. Iyengar and Zampelli (2009) argue that there is no evidential relationship between CEO duality and financial performance of the firm measured on Tobins' Q and ROA.

However, there is another opinion that states duality does improve firm performance as CEO duality enhances leadership strength, makes for efficient decision-making by management (Donaldson & Davis, 1994), and finds no competition between CEO and chairman. Duality saves the cost of non-duality and a degree of balance of power is also maintained (Faleye, 2007). Mersland and Strøm (2009) find that duality has a positive impact on outreach by increasing the number of credit clients but they also find duality decreases the individual average loan size, and with a female CEO the MFIs financial performance increases on ROA (Ness et al., 2010) only with higher operational costs, that is, the write-off ratio increases. Duality of CEO is negatively related with the outreach and profitability of MFIs (Kyereboah-Coleman & Osei, 2008).

The inconclusive findings prompt the consideration that the separation of CEO and chair does not work for all neither does duality, meaning "one hat does not fit all" (Faleye, 2007). The literature also suggests that the separation works well with some and duality works well with others. It is not a universal standard (Faleye, 2007). Aguilera, Filatotchev, Gospel, and Jackson (2008) give another view of duality and firm financial performance, that it is related to a firm's environment. Baliga, Moyer, and Rao (1996) suggest that there is little change in a firm's operating performance with the change in leadership structure and duality has a weak evidential impact on a firm's long-term performance. Thus, companies must consider their situation and environment before deciding to choose duality or separate CEO and chair. Academics and researchers have so far given inconclusive results on the matter. Therefore, it is important to consider CEO duality as a variable for this research.

### 3.4.5 Minority directors on the board

It has become an essential element of good governance to consider the cultural and societal factors that may impact business performance. Social differences should be taken into consideration ensuring fairness and equity. In a multiracial society, it is important to balance the impact of changes to values within the nation on the whole while the ethnic groups in that society maintain their positions. Nepal is multiracial. Most small societies in Nepal have their own distinctive identity and values. Directors from minority groups as a variable are included in this study to measure their relationship with firm performance.

Che-Ahmad and Houghton (2001) explain how cultural differences, ethnicity and demography have influential effects on business practices, organisations, accounting disclosure practices and audit. The competitive advantage, strategic formation analysis and quality of decision-making improves with ethnic diversity on the board as it allows the use of more diversified resources (Crano & Chen, 1998). Greater board independence is achieved when minority directors are represented on the board. They exercise more debate and question the cultural impact more keenly than when there is no ethnic diversity on the board (Carter, Simkins, & Simpson, 2003). Ethnic minority directors are likely to have different functions than other directors on the board (Peterson & Philpot, 2007). For example, a director on a board drawn from an ethnic community, Dalit caste as a minority, may be better informed to guide policy development and implementation to such groups. Many professionals may be aware of issues that are important to lower caste folk and remote tribal groups.

There are mixed findings concerning the impact of minority directors on firm financial performance. Haniffa and Cooke (2002) say ethnicity and cultural differences (Yatim, Kent, & Clarkson, 2006) play fundamental roles in business practices. Yatim et al. (2006) find a significant relationship for minority directors with firm performance decline in Malaysian companies.

Carter et al. (2003) find that the percentage of ethnic monitory directors has a significant positive relationship with firm performance measured on Tobin's Q in Fortune 1000 firms. Further, Marimuthu and Kolandaisamy (2009) find increased minority representation on the board is correlated with increases in firms' financial performance measured by ROA and ROE for Malaysian firms. Miller and Triana (2009), using a sample of Fortune 500 firms, show a positive relationship between board racial diversity and both firm reputation and innovation. They suggest both partially mediate the relationship between board racial diversity and firm performance.

Navajas, Schreiner, Meyer, Gonzalez-Vega, and Rodriguez-Meza (2000) find racial diversity increases a firm's value measured on productivity, return on equity, and market performance and enhances the firm's business strategies to obtain competitive advantage. However, Roberson and Park (2006) find the presence of

minority directors in the board will negatively impact on firm performance when the board size grows to a point at the proportional level, after which further incremental addition of directors in the director proportion will uplift the firms' performance.

Carter, D'Souza, Simkins, and Simpson (2010) find ethnic diversity has no significant impact on the financial performance of firms in the USA. Wang and Clift (2009) find racial diversity does not significantly influence the financial performance of firms measured on ROA and ROE in a data set of the top 500 Australian companies.

Brammer, Millington, and Pavelin (2007) find ethnic directors' presence on the board has limited impact on firm performance in UK companies and they further argue that ethnic diversity is more influenced by the firm's external business environment.

## 3.5 Control variables

### 3.5.1 Firm size

Firm size reflects the amount of output a firm can produce and is typically measured as total assets of the firm, reflecting that larger firms are able to utilise more resources for their services (Chakrabarty & Bass, 2014). Firm size commonly reflects the amount of output a firm can produce (Chakrabarty & Bass, 2014). Firm size is often used as a control variable (Chakrabarty & Bass, 2014; Hartarska, 2005; Marimuthu & Kolandaisamy, 2009). Scholars (Chakrabarty & Bass, 2014; Hartarska, 2005; Mersland & Strøm, 2009; Strøm et al., 2014) argue that larger financial institutions may target the wealthier clients and focus less on female borrowers. Nevertheless, they may still have a larger number of customers when compared to smaller firms and they will also tend to be of higher value.

Size is considered a measure of risk (Tchakoute Tchuigoua, 2015). It does not help MFIs to raise funds (Hartarska & Nadolnyak, 2007). Large MFIs can be more leveraged because large firms are less likely to be in bankruptcy (Hartarska & Nadolnyak, 2007). Kyereboah-Coleman and Osei (2008) argue that larger MFIs are able to diversify their services and products (Chakrabarty & Bass, 2014) to cope with risk and enhance productivity (Bassem, 2009).

Aboagye and Otieku (2010), and Kyereboah-Coleman and Osei (2008) find, for Ghana, that firm size is negatively related with outreach and positively related with profitability of MFIs. In contrast, Bassem (2009) suggests that firm size has significant positive impacts on MFIs performance and increases outreach. Mersland and Strøm (2009) observe that firm size is positively related with the number of clients it serves and negatively with the depth of loan, which is not what would be expected following Nurmakhanova et al. (2015). Hartarska (2005) finds no significant relationship with firm size and outreach of MFIs. Gropp and Heider (2010) find a negative relation between size and deposits in a sample of European banks.

It is argued that when firms get bigger they are less concerned with the gender of clients and are diverted from their social mission to serve more individual clients with higher loan portfolios (Bogan, 2012; Hartarska & Nadolnyak, 2007; Mersland & Strøm, 2009; Nurmakhanova et al., 2015).

It is assumed that firm size is positively correlated with profitability (Karim, Sami, Ali, & Ben-Khedhiri, 2010; Kosmidou, 2008). Kyereboah-Coleman and Osei (2008) find firm size positively related with profitability, ROA, because larger firms are able to improve their productivity by diversifying their products and services to reduce the risk. Therefore, firm operational self-sufficiency, OSS, increases with firm size (Bogan, 2012; Hartarska & Nadolnyak, 2007). A bigger firm may enjoy a stronger reputation and therefore is more attractive to donors (Tchakoute Tchuigoua, 2015).

Researchers (Bogan, 2012; Chakrabarty & Bass, 2014; D'Espallier, Guérin, & Mersland, 2009; Hartarska, 2005; Hartarska & Nadolnyak, 2007; Mersland & Strøm, 2009; Strøm et al., 2014; Tchakoute Tchuigoua, 2015) use firm size, total assets, as an independent variable in their study. This study uses assets, that is, MFI size, as a control governance variable.

### 3.5.2 Maturity

The maturity of the firm is measured by age; the number of years it has served the financial market (Hartarska, 2005; Marimuthu & Kolandaisamy, 2009; Mersland & Strøm, 2010; Microfinance Information Exchange, 2007). Maturity in this study is considered as the difference between the year a firm started its microfinance

operations and the year of data submitted by the institution (Microfinance Information Exchange, 2007). Maturity of the firm may be able to say which factor works or not during the years of operation to achieve profitability (Strøm et al., 2014) and so increases the importance of maturity as a control variable. Maturity of the firm is one factor that creates a reputation in the market and faith among borrowers that the institution will be in the market for a long time, believing this has a greater impact on the repayment increment and long-term social value and results in greater outreach (Navajas et al., 2000). Caudill et al. (2009) explain the maturity of the firm gives an opportunity for managers to learn more, gain information and experience in particular institutions and economic environments. Thus, older MFIs may have effective producers to lower the costs for a given amount of lending output (Caudill et al., 2009).

Nurmakhanova et al. (2015) find MFIs' performance reduces as they mature, serving fewer clients, fewer female borrowers and serving richer clients with larger loans. Hartarska and Nadolnyak (2007); Mersland and Strøm (2009, 2010) find a positive relationship between the age of MFIs and the number of active borrower.

Nurmakhanova et al. (2015) find that financial sustainability is positively related to maturity of the firm. They also suggest that efficiency in controlling costs gets better with age, resulting in increasing profitability and ROA (Caudill et al., 2009; Kyereboah-Coleman & Osei, 2008). MFI age is positively related to profitability, ROA and self-sufficiently, OSS (Bassem, 2009). The firm self-sufficiency, OSS, increases with firm size (Hartarska & Nadolnyak, 2007).

The age of the firm is commonly used as a control variable by researchers (D'Espallier et al., 2009; Hartarska, 2005; Kyereboah-Coleman & Osei, 2008; Marimuthu & Kolandaisamy, 2009; Mersland & Strøm, 2009; Nurmakhanova et al., 2015; Strøm et al., 2014) in their analyses. This study uses the age, that is, maturity, as a control governance variable.

### 3.5.3 Employees

Total full-time equivalent employees are deemed to be a key resource for MFIs' impact potential to provide financial services to the poor according to Haq, Skully, and Pathan (2010). Some research uses number of employees in MFIs as an input to measure MFI outreach (Alemayehu & Lemma, 2014; D'Espallier et al., 2009;

Gutiérrez-Nieto, Serrano-Cinca, & Mar Molinero, 2007; Haq et al., 2010). It is necessary to have adequate employees to handle the loans' portfolio for outreach increment purposes. Similarly, a proper number of employees helps institutions to monitor and understand clients' conditions and assist them with credit services to accomplish both their and the MFIs' social mission and increase their saving accounts (Alemayehu & Lemma, 2014).

Haq et al. (2010) define employees as a scarce resource to provide the financial services to the poor. The total number of employees who are involved in providing the financial services to society is defined as the personnel of the firm (Microfinance Information Exchange, 2007). Further, Alemayehu and Lemma (2014) find employees play the important role of serving clients before a loan and supervising them afterwards, which reduces the default rate and increases profitability. In Latin America, MFI loan portfolios increase when employee numbers are greater (Gutiérrez-Nieto et al., 2007). This study takes employees that is, personnel, as a control governance factor for MFIs in Nepal.

### 3.5.4 Staff productivity

This is taken as the number of customers that each staff member deals with, that is, the number of borrowers, or number of depositors, per staff member (Microfinance Information Exchange, 2007). It is measured by the number of total clients divided by the number of employees (D'Espallier et al., 2009). There is a good relationship between MFIs' efficiency and productivity (Baumann, 2005). The higher the number of borrowers is an indication of higher staff productivity because it maximizes the MFI's services with minimal resources. of staff and funds particularly (Lafourcade, Isern, Mwangi, & Brown, 2005). MFIs' efficiency levels become higher with higher productivity per employee (Microfinance Information Exchange, 2007). Thus, MFIs should improve their productivity and efficiency to reduce operating costs (Fernando, 2006). MFI productivity is measured on the number of borrowers and savers per staff member (Haq et al., 2010). Increasing client numbers per employee increases employee workload, which will eventually impact the staff's capacity to accomplish and comply with the outreach mission (Alemayehu & Lemma, 2014). This study takes staff productivity, that is, DPSM, as a control governance factor for MFIs in Nepal.

## 3.6 Research questions

The research addresses two specific questions and each of these involves a number of subsidiary issues. There are two main questions relating to outreach and governance and financial performance and governance.

- Does the corporate governance structure affect MFIs' outreach in Nepal?
- Does the corporate governance structure affect MFIs' financial performance in Nepal?
- Can Nepalese MFIs have different board structures that will lead to improved outreach while maintaining financial performance?

## 3.7 Hypothesis

Several hypotheses are commonly used in considering the relationship between governance and MFIs' performance.

### 3.7.1 Hypothesis development

The scholars are inconclusive on the corporate governance correlation with MFI performance. Some of the researchers find a positive link between governance and MFIs' performance while others find a negative link. However, some of them, as evidenced in the literature, do not find any impact or a weak impact on MFI outreach and financial performance. The different findings may be due to the processes or methodology that the scholars have used. The governance impact factors may also differ with different countries in cultural, economic and legal regulatory contexts (Malik, Wan, Ahmad, Naseem, & Rehman, 2014). There is no literature that supports the governance factors and MFIs' performance in a Nepal context.

Most research on governance, outreach and financial performance has been done either in developed economies or in different regions. Governance research and development practice codes have occurred in developed economies and passed on to the less-developed economies (Malik et al., 2014). However, the same set of practice codes may not work in developing countries because of the different financial and legal environments. There has been less work done in under-developed countries on the set of governance codes of practice and very little research done in the developing region of South Asia.

This study focuses on the governance factors' correlational impact on MFI outreach and financial performance in Nepal. This study will help to understand the

governance practices and their influence on the Nepalese MFIs' performance that may help administrators for institutional set up.

The literature suggests different governance factors to consider that encourage good governance practices to improve MFI performance. This study considers board size, board composition, board diversity, gender diversity, CEO/chairman duality as governance characteristics to measure MFI's performance in Nepal. The governance correlational impact on Nepalese MFIs' outreach and financial performance will be examined.

This section provides theoretical and empirical links between research questions and develops the research hypotheses.

#### 3.7.1.1 Board size

The relationship between board size and firm performance is still a central concern for researchers. Academicians and researchers suggest different board sizes that differently affect MFI performance. Some suggest that a larger board improves firm performance while others suggest a smaller board has the same effect. Scholars are inconclusive on what is the optimal board size to improve firm performance. It is difficult to settle on the optimal board size because the firms differ by region, size and industry. Adams and Mehran (2003) explain that financial intermediaries usually have larger boards than non-financial firms and their empirical findings show larger board size increases firm performance. Larger boards with a range of expertise (Kyereboah-Coleman & Osei, 2008) and better association with the external environment helps firms to make better decisions (Bassem, 2009), and may have greater monitoring and information sharing that increases firm performance. However, it is also harder for a CEO to control a larger board (Bassem, 2009). Larger boards may suffer from less monitoring effectiveness (Hartarska, 2005) and be less efficient (Hartarska & Nadolnyak, 2012). There is an increasing and then decreasing relationship between board size and efficiency (Hartarska & Nadolnyak, 2012).

Hartarska (2005) finds evidence of a negative correlation with board size in Eastern European MFI performance. Mersland and Strøm (2009) explain a negative impact of board size across multiple financial parameters, ROA, OSS and depth of loan, but positive with the breadth of outreach on overall MFIs world data. However,

Bassem (2009) finds board size associates positively with financial performance for Mediterranean MFIs. Family firms' financial performance is significantly positively related with the board size (Hewa-Wellalage, 2012). The larger board may enjoy lower costs because of the voluntary services provided by the members (Hartarska, 2005; Thrikawala, 2016). Kyereboah-Coleman and Osei (2008) find the larger board increases MFI profitability but reduces outreach. Larger boards have a negative impact on small- and mid-size Finnish firms' profitability (Eisenberg et al., 1998). Some researchers raised the concern that larger boards may suffer from coordination problems that reduce firm performance (Bassem, 2009). There are benefits to having larger boards but they exhaust themselves at about 10 members at which point possible free-riding may occur (Hartarska & Nadolnyak, 2012). Since free-riding is more likely in larger boards (Pathan et al., 2007), it reduces the firm's value measured on ROA and a larger board is less effective in US corporations as well as in small firms (Eisenberg et al., 1998; Yermack, 1996). Larger boards reduce Indian MFI performance measured on profitability, ROE and operating self-sufficiency, OSS (Durgavanshi, 2014).

Vishwakarma (2015) finds board size does not significantly impact MFI performance in India. She further suggests that larger boards are better for MFI performance. Bhagat and Black (1999) find no relationship between board size and financial performance. Aboagye and Otieku (2010) find no governance association with the MFIs' financial performance in rural and community banks in Ghana. Mersland and Strøm (2009) find no significant correlation with the board size and MFIs' performance. Mak and Kusnadi (2005) find an inverse relationship between board size and firm value in Malaysia and Singapore. Pathan et al. (2007) find a negative relation for board size and commercial banks in Thailand. Firm performance gets lower when boards get larger measured on OSS and ROA (Hartarska, 2005).

Some researchers suggest having a smaller board to increase firm performance. They find smaller boards increase firm profitability measured on ROE and ROA (Pathan et al., 2007). Jensen (1993) suggests having eight directors on board for a better performance in US SMEs. Smaller boards are effective in monitoring bank managers (Pathan et al., 2007). Hartarska and Nadolnyak (2012) suggest an efficient board size is 10 to 12 in serving their clients, and directors are better able

to satisfy their outreach mission in Community Development Loan Funds (CDLFs) in the US. Mak and Kusnadi (2005) suggest five board members are ideal for creating maximum value. The research findings are still inconclusive on what board size increases firm performance. However, optimal board size depends on a board's organisational responsibilities, strategic direction and its funding needs (Thrikawala, 2016).

These mixed research results indicate that there is inconsistency in the relationship between board size and firm performance. This suggests one size does not fit all for governance and firm value creation.

As discussed above, prior research has investigated several issues about board size. These can be formalized as hypotheses and tested in turn.

> $H_{Np1}$: Board Size has a significant impact on MFI outreach and financial performance in Nepal.

#### 3.7.1.2 Board composition: Non-executive directors

Board composition as a governance factor and its effect on firm performance is one of the most researched areas. Executive and non-executive directors on a board work for the shareholders' interest. Non-executive directors play a role in monitoring operations and the company's performance (Fuzi, Halim, & Julizaerma, 2016). Shareholders trust the non-executive directors to act on their behalf. Outside directors are widely considered to be central elements of good corporate governance (Black & Kim, 2012). The collapse of many big companies such as Enron and WorldCom emphasizes the need for non-executive directors on boards. The 1992 Cadbury Report and the Tyson Report in 2003 pronounce the effectiveness of boards and the important role of non-executive directors. Regulators of developed and developing countries endorsed the guideline to have a minimum level of outside directors on boards, presuming that more outside directors will lead to better board decisions and, as a consequence, better corporate performance (Dahya & McConnell, 2007).

Board independence is significantly positively related to firm performance (Agarwal & Sinha, 2010; Dahya et al., 2008), especially in countries with lower levels of investor protection (Dahya et al., 2008). Muravyev, Talavera, and Weir (2014) suggest a positive relationship between the presence of non-executive

directors and accounting performance of the companies. They further assert that non-executive directors contribute to both the monitoring and advisory functions of corporate boards while they are executives in other firms. Black and Kim (2012), Dahya and McConnell (2007), and Black and Khanna (2007) explain that increasing board independence significantly improved firm performance on country-specific research in Korea, the UK, and India. Liu, Miletkov, Wei, and Yang (2015) find that independent directors have an overall positive effect on firm operating performance in government-controlled firms and in firms with lower information acquisition costs in China.

Muller-Kahle, Wang, and Wu (2014) find that independent directors are positively related with firm performance in the UK but there is no significant relation in US firms. Hermalin and Weisbach (2003) explain that board composition does not impact firm performance in US firms. A moderate number of inside directors, (that is three to five on an average-sized board with eleven board members) may improve the firm value (Bhagat & Black, 1999). The first and most widely recognized Cadbury Committee (1992) recommends that UK listed firms should have at least three outside directors. However, Fuzi et al. (2016) suggest companies with a majority of independent directors may not necessarily enhance firm performance. The optimal number of independent directors could also depend on firm characteristics (Black & Kim, 2012). Higgs (2003) reports that 95% of non-executive director appointments are made by personal contact and 4% with a formal interview. It is a biased recruitment process, but it fulfils regulation requirements. As a result, boards get fewer experts in the field than ideally they should have (Jensen, 1993). Non-executive directors' board monitoring can be irrelevant, costly and a threat to board unity (Young, 2000). Therefore, monitoring effectiveness is reduced. The existence of independent directors on board should be monitored in order to bring positive shareholder value.

Agrawal and Knoeber (1996); Yermack (1996) find a significant negative relationship between outside members on the board and firm performance. There is no significant relationship with non-executive directors and firms' performance on accounting measures used in Indian listed firms (Ghosh, 2006). Garg (2007) finds board independence in India is no guarantee for improved firm performance because of the poor monitoring role of independent directors. Chatterjee (2011)

finds an insignificant effect of independent directors across all four categories of firms; stand-alone private Indian firms, group affiliated firms, public sector undertakings, and foreign subsidiaries in India. Non-executive directors do not improve MFI performance in India (Thrikawala, 2016). These research findings suggest having further detailed studies in this area in India.

There is still little research available on MFIs. Hartarska (2005) finds more independent directors provide a better ROA, and lower financial performance and better outreach for MFIs in Eastern Europe and Central Asia. Mori et al. (2015) find that independent directors are positively related with higher outreach in MFIs in East Africa. Aboagye and Otieku (2010) found that board independence has a positive impact on profitability and outreach for MFIs in Ghana (Bassem, 2009; Kyereboah-Coleman & Osei, 2008). Thrikawala (2016) finds non-executive directors are statistically significantly negatively associated with breadth of outreach and not statistically significant with financial performance in MFIs in Sri Lanka and India. Hewa-Wellalage (2012) finds non-executive directors in Sri Lanka are significantly negatively associated with MFIs' financial performance, measured on profitability ROA, ROE and Tobin's Q.

The evidential findings are not conclusive, with a mixed association between proportions of independent directors and firm performance. The existence of independent directors on a board should be monitored in order to bring positive shareholder value. However, more non-executive directors do not necessarily improve firm performance. Thus, there is a need to find the right combination of non-executive directors and executive directors on the board to enhance firm performance. In line with prior studies' findings relating to MFIs, the proposed hypothesis connecting to non-executive directors and firm performance is:

> $H_{Np2:}$ The board composition has a significant impact on MFIs' outreach and financial performance in Nepal.

The study includes a variable non-executive director as number of independent directors on board of directors.

#### 3.7.1.3 Female directors on board

Board gender diversity is a growing concern for researchers and scholars at present. Gender diversity on boards may come with two viewpoints: firstly, women are as

competent as men and deserve the opportunity to be on boards as they increase human capital with external networks, information, and other characteristics; and secondly, gender diversity of directors results in better governance that results in better firm performance (Carter et al., 2010). Qualified women directors have unique characteristics that create additional value. Companies may provide benefits by recruiting female directors from linking with their stakeholders (Lückerath-Rovers, 2013). Female representation in top management brings informational and social diversity benefits to the top management team (Dezsö & Ross, 2012). Gender diversity is considered a good governance practice (Smith et al., 2006) that increases board independence and reduces misalignment of manager and shareholder interests which results in better firm performances (Carter et al., 2003). Diversified boards are able to make better decisions through discussion, information exchange, ideas, new insights and perspectives more than homogenous boards or management groups (Smith et al., 2006).

The number of females on the board and in higher management enhances firm performance (Jurkus, Park, & Woodard, 2011; Smith et al., 2006). More females on the board dedicate their efforts to monitor managers (Adams & Ferreira, 2009) enriching the managers' behaviours throughout the firm, and motivate women in middle management (Dezsö & Ross, 2012) that results in firm better performance. In China, Liu et al. (2014) find three or more women on boards have a stronger impact on firm performance compared to those with two or fewer women. Lückerath-Rovers (2013) explains that firms with women directors perform better than those without women. MFIs serve mostly women as primary clients and they are mostly run by women. It is believed that female leaders significantly increase the number of female clients in MFIs (Strøm et al., 2014). More women in management and on the board improves governance and financial performance of firms (Strøm et al., 2014). The match up with the target clients and leaders may increase firm performance (Thrikawala, 2016).

The empirical studies find positive and negative relationships between board diversity and firm performance or a non-significant relationship. Hartarska et al. (2014) suggest that gender diversity at the top levels of MFI management is likely to have both social and financial benefits. In US firms, Carter et al. (2003) find a positive relationship between board gender diversity and financial performance. In

Danish firms, Smith et al. (2006) find women in top management and on boards improve firm performance. In China, Liu et al. (2014) find a positive significant impact of board gender diversity in firms mainly controlled by legal person owners and insignificant in firms mainly controlled by state owners. In US firms, Adams and Ferreira (2009) find a negative relationship between the proportion of women on the board and financial performance. In Sri Lanka's publicly listed firms, Wellalage and Locke (2013) find a significant negative relationship between the proportion of women on boards and firm value. Farrell and Hersch (2005) find that board gender diversity does not result in any value creation or deduction. Carter et al. (2010) find no significant relationship between gender diversity of the board and financial performance for a sample of major US corporations.

The ambiguous result of gender diversity and firm performance supports formulation of this hypothesis:

> $H_{Np3}$: Gender diversity has impact on MFI outreach and financial performance in Nepal.

The study includes the proportion of women directors on board of directors. The presence of women as a variable is used as percentage of female directors among the total number of directors.

#### 3.7.1.4 CEO/Chairman duality

CEO duality exists when the same person is chairman of the board and chief executive officer of the company (Paul et al., 2011). The board is expected to monitor the operations of the chief executive officer and his or her management team (Paul et al., 2011). Scholars and researchers raise questions on the relationship with CEO duality role and firms. Some argue in support of the duality: others in separating the CEO and chairperson role. The proportion of the firm that adopted separating CEO and Chairperson role stood at 55% in 1999 and approximately 70% in 2003 (Chen et al., 2008). The CEO dual role figure fell to 54% in 2010 in US firms (Yang & Zhao, 2014). The CEO is most often also the chairperson of the board in the US, but the CEO role is separated in UK and Europe. The CEO abuses its power at the shareholders and company's expense. In recent years, corporations have been facing strong pressure from regulatory bodies and shareholders to separate CEO and chairman roles in organisations. CEO duality may provide clarity

regarding the leadership and direction of the firm for better decisions (Dalton et al., 1998).

The shifts in leadership structure affect the cost–benefit assessment in governance mechanisms. CEO duality may provide unified command and reduce the information transfer and processing cost of firm-specific information (Dey, Engel, & Liu, 2011). The primary roles of the board are to effectively monitor the decisions and actions of management. CEO duality benefits the firm in saving information costs and making speedy decisions (Yang & Zhao, 2014). CEOs are characteristically opportunistic and receive intrinsic satisfaction from achievement, recognition, respect and reputation. This will motivate CEOs to enhance firm value by using the unity of command to manage the firm's resources (Duru, Iyengar, & Zampelli, 2016). Duality may control the board freedom of making decisions and perform the governance role independently (Millstein & Katsh, 2003). Dey et al. (2011) assert that CEO duality may hinder the governance effectiveness of the firm.

The existing literature, however, has drawn quite diverse findings on CEO dual roles and firm performance. CEO duality has a negative impacts on firm performance (Dalton et al., 1998; Duru et al., 2016; Fama & Jensen, 1983; Hartarska & Mersland, 2012; Hewa-Wellalage, 2012; Jensen, 1993; Kyereboah-Coleman & Osei, 2008; Pi & Timme, 1993). It supports the separation (Dahya et al., 1996) of the CEO and chairperson roles because duality restricts the principal of separation on decision-making and decision control, and duality obstructs the board’s ability to perform its monitoring function. However, findings of different researchers (Dey et al., 2011; Donaldson & Davis, 1994; Faleye, 2007; Mersland & Strøm, 2009) do not support that separation of CEO and chairman position will give better governance. Separation of position would also create communication problems and the effectiveness of the firm would be reduced (Dalton et al., 1998). Dahya and Travlos (2000), Donaldson and Davis (1994), Mersland and Strøm (2009), and Ramdani and Witteloostuijn (2010) support the positive correlation between the CEO duality and firm performance. Baliga et al. (1996), Dahya et al. (2009), Iyengar and Zampelli (2009), and Thrikawala (2016) found there is no correlation or change in firm performance by the CEO duality role. Mersland and Strøm (2009) suggest having further research on whether the CEO duality or separation improves the MFIs’ performance. Chen et al. (2008) supports that there

is no change in firms' performance (Daily & Dalton, 1997) with change in leadership whether from duality to non-duality or non-duality to duality.

The empirical literature investigating CEOs' duality impact on firm performance gives mixed empirical evidence. Based on the above-mentioned empirical studies on duality, this study proposes the following hypothesis:

> $H_{Np4}$: Chairman and CEO duality has a significant impact on MFIs outreach and financial performance in Nepal.

The study includes a variable CEO duality as a dummy indicated with 1 or else 0.

#### 3.7.1.5 Minority directors on board

Ethnic diversity on the board and firm financial performance relationship has important implications for both public policy and the governance of firms (Carter et al., 2010). Senior management ethnic diversity helps an organization to align business strategies with current and future demographic and market trends to achieve organizational growth and profitability (McCuiston, Wooldridge, & Pierce, 2004). Ethnic diversity in leadership improves the firm's accounting and market-based financial performance and generates shareholder value (Hewa-Wellalage, 2012). Social barriers among directors on a board may reduce with higher proportional representation of minority directors leading to a greater access to resource achievement through their comprehensive network (Roberson & Park, 2006). An ethnically diversified board may enjoy a broader range of perspectives, greater knowledge sharing, and skills that enhance decision-making capabilities, creativity and innovation (Crano & Chen, 1998; Miller & Triana, 2009). Minority representation on a board has a positive impact on the firm performance (Carter et al., 2003; Miller & Triana, 2009; Richard, 2000). In Malaysian listed firms, Marimuthu and Kolandaisamy (2009) find a significant positive relationship between ethnic diversity and firm financial performance using return on assets as a performance measure variable. Hewa-Wellalage (2012) find ethnic minority board directors have positive significant effects on financial performance. However, moderate levels of leader racial diversity may limit the potential performance effects of such diversity (Roberson & Park, 2006). On the other hand, ethnic diversity can decrease firm performance (Roberson & Park, 2006; Yatim et al., 2006). Carter et al. (2010), and Wang and Clift (2009) find ethnic diversity has no

significant impact on the firm performance. Brammer et al. (2007) find the ethnic directors' presence in the board has a limited impact on a firm's performance in the UK.

The previous literature explains the mixed relationship between ethnic diversity on boardroom and firm performance. Most early studies are not robust in addressing the endogeneity of ethnic diversity. The actual relationship between ethnic diversity and firm performance is still uncertain. Therefore, the following hypothesis is postulated regarding the minority board directors on a board:

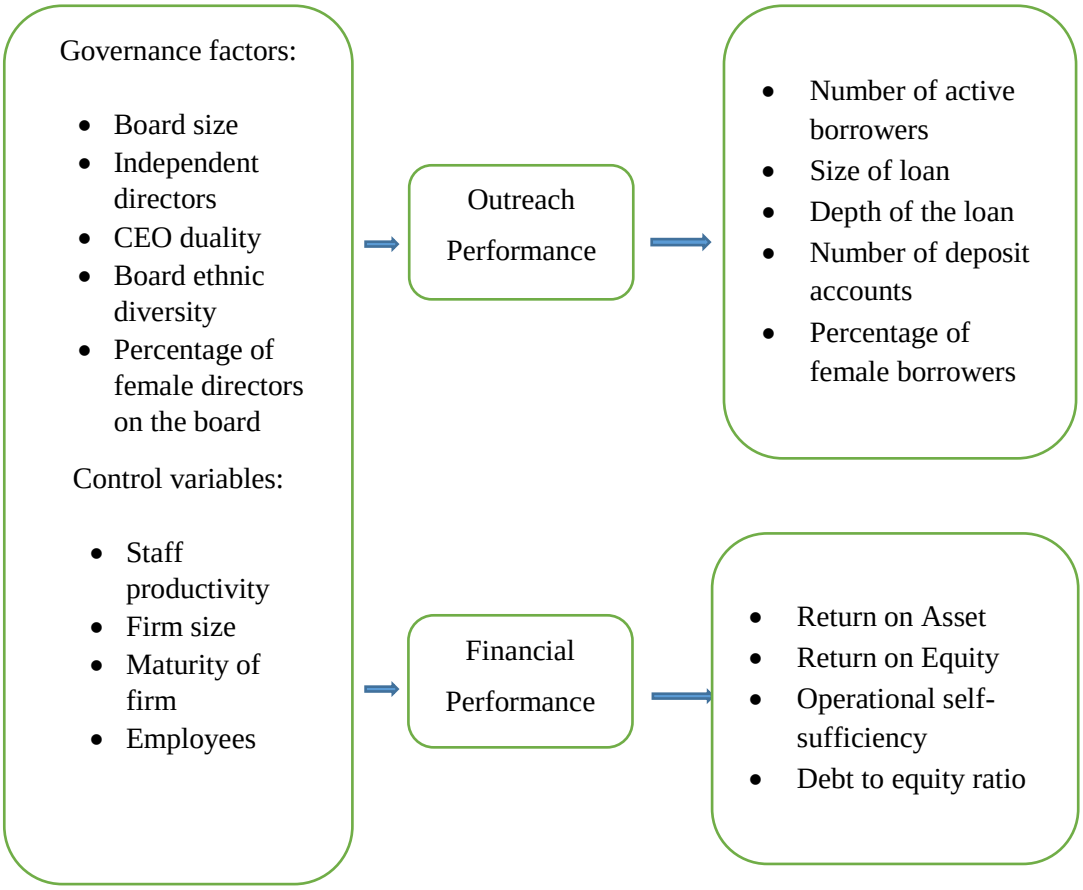
> $H_{Np5}$: Ethnicity diversity has impact on the MFIs outreach and financial performance in Nepal.

The study includes a variable of MFIs' having different ethnic directors as a percentage of total number of directors.

## 3.8 Estimation technique

The first component of the mixed method analysis is a quantitative and empirical analysis of the governance and outreach and financial performance of MFIs in Nepal. The study uses the outreach and financial performance metrics for MFIs. The approach is schematically presented in Table 10.

**Table 10: The explanatory sequential of measuring MFIs' outreach and financial performance**




The outreach performance of MFIs is measured on two aspects: the number of active borrowers, and depth of the loan. The number of active borrowers (NAB), is a logarithm of active borrowers the MFI served, and depth of the loan (DEPTH) is the average loan size on the GNI per capita in Nepal.

For robustness analysis, alternative outreach indicators will be used: Loan size, average loan balance per borrowers ALBPB that is loan portfolio/ credit clients,

number of deposit accounts is counted as total number of deposit accounts, and percentage of female borrowers is number of female borrowers in total borrowers.

Outreach performance= $\alpha + \beta$ CG + Control Variables

NAB= f (CG, Control Variables, errors)

Loan Size = f (CG, Control Variables, errors)

Loan size/GNI= f (CG, Control Variables, errors)

NOD= f (CG, Control Variables, errors)

PFB= f (CG, Control Variables, errors)

The financial performance of MFIs is assessed in terms of their profitability and efficiency. ROA is a commonly used metric for profitability and is calculated as profit before taxes/total assets. Profitability also depends on operational efficiency, which may be measured as ROE, an indicator ratio of how operating efficiency is translated into benefits to the owner, and calculated as earnings after taxes /owners fund.

For robustness analysis, there will be some more alternative financial ratios that will also be used: operational self-sufficiency (OSS) that is revenue from operations / (financial expense + loan loss expense + operating expense), and Debt to Equity Ratio (DER) that is measured on Debt / Equity.

Financial Performance = $\alpha + \beta$ CG + Control Variables

ROA= f (CG, Control Variables, errors)

ROE= f (CG, Control Variables, errors)

OSS= f (CG, Control Variables, errors)

DER= f (CG, Control Variables, errors)

The $\beta$ parameters are the estimated coefficients for the constant and each of the explanatory variables included in the model.

### 3.8.1 Glossary of variables

The following Table 11 list the synchronized variables used in this study.

**Table 11: Glossary of variables**

| Variable | Description |
|---|---|
| NAB | Number Of Active Borrowers |
| ALBPB | Average Loan Balance Per Borrower |
| ALBPB/GNI | Average Loan Balance Per Borrower / GNI Per Capita |
| NOD | Number Of Depositors |
| PFB | Percentage Of Female Borrowers |
| OSS | Operational Self-Sufficiency |
| ROA | Return On Asset |
| ROE | Return On Equity |
| DER | Debt To Equity Ratio |
| Bod | Board Of Directors |
| IND BOD | Independent Director |
| PFONBOD | Percentage Of Female On Board Of Directors |
| DUALITY | Duality |
| CASTE DIV | Caste Diversification |
| ASSETS | Assets |
| AGE | Age Of The MFI |
| PERSONNEL | Personnel |

Source: Mixmarket.com

## 3.9 MFIs' performance

There are many aspects incorporated in the performance of MFIs. Various stakeholders are likely to have their own specific range of interests. Governments and policy makers may be interested in the contribution to sustainable economic development made by MFIs collectively. Donors may focus on outreach, the alleviation of poverty amongst the most poor. Regulators may consider operational efficiency, including solvency, loan collection and margins as important matters. The return on assets, net profit margin, and value at risk will be central concerns of

investors. Borrowers will be concerned with ease of access, speed of transactions, clear and simple contract arrangements, and friendly support. There is likely to be tension between the various stakeholders' foci and trade-offs will be made by MFIs and there will not be one optimum position.

The literature on corporate governance relates to law, economics, sociology and many more disciplines. Not surprisingly, several theories are found within the literature and these are noted in the section above. From a finance perspective, agency theory provides the link between the principals, (that is the stakeholders) and the management of the MFI. Corporate governance in this context relates to the structure and policy framework that mediates between stakeholders and management, viz. the Board of Directors.

Various metrics are appropriate for differing elements of MFI performance. For the purpose of this study, the performance measures and preferred metrics relating to the two performance measures of outreach and financial performance are drawn from the literature.

There are huge portions of population who are failing to benefit from commercial and other financial intermediaries in Nepal because financial intermediaries consider the collateral based loan system. People living on or below the poverty line have few or no assets to put into financial institutions. MFIs are the alternative way of the providing credit to people living in poverty and vulnerable economic situations (Shu & Oney, 2014).

Hofer (1983) defines the organizational performance measurement as a firm's outcomes on allocated resources, management decisions, and execution of decisions in order to achieve the objectives. The deliberate observation on the achievement made in respect to mission is a process of performance measurement. It is a vital part of measuring the organization performance because it helps organization management to look on the mission and objective achievement as being aligned. Locke and Latham (1979) argue that firms' performance measurement provides information to the managers and employees about how the agreed targets have been reached. Furthermore, it intensifies the use of organisational resources and allows adjustment of organization activities.

Stakeholders look forward to measuring MFI success on financial and outreach performance (Hermes & Lensink, 2011). It is a board responsibility to ensure sound financial performance to concerned parties. MFIs with sound financial performance could gain the attention and faith of service users which is necessary for MFIs' further business purposes and their objective achievement (Agarwal & Sinha, 2010). MFIs are seen as the combat tool for creating changes in social economy and as a result, their performance parameters have also been non-financial. The non-financial performance parameter hinders the measurement of MFIs' financial health situation and their outreach. It became essential for MFIs to balance outreach and financial performance for their survival (Kipesha, 2013). However, donor reluctance to provide a constant supply of money to MFIs as agents for social change, and the recent trend of commercialization, forced MFIs to change from non-profit to for-profit and this attracted academics and scholars' attention to research MFIs to measure their financial performance for service continuation. MFI performance has been measured against outreach and financial performance by different researchers (Bassem, 2009; Ledgerwood, 1998; Mersland & Strøm, 2009; Quayes, 2012).

Various researchers have argued that serving the poorest of the poor with small loans incurs a higher cost per dollar than larger loans (Conning, 1999; Navajas et al., 2000; Schreiner, 2002). The financial performance of MFIs becomes less profitable because of the higher administrative and service costs on the increased depth of outreach (Quayes, 2012). Schreiner (2002) further argues that the greater depth of outreach demands higher services, which results in higher costs and poor financial performance, which is what forced institutions to reduce the number of small loans or depend on donors to finance small loans instead. However, he further said that in most cases the small loans have a structure that reduces the service cost.

Different researchers and practitioners have used different tools to measure MFIs' performance. Some used the socio-economic tool as a poverty reduction measure, considering the improvements in the borrowers' household capacity for example, Hulme and Mosley (1996) used marginal change in yearly income. Consultative Group to Assist the Poor (2002) measures children's education in Uganda, level of immunization, malnutrition in Bangladesh and encouraged most daughters (that is 60%) of MFI clients to go to school compared to non-clients, achieved food deficit

reduction from three months to one month in Vietnam. Thapa, Chalmers, Taylor, and Conroy (1992) use all the improved people's ability to spend on food, improvement in savings, increased employment and income generating activities in developing countries: India, Bangladesh, Philippines and Malaysia, as their socio-economic measurement tool.

Conning (1999), and Quayes and Khalily (2014) use breadth, number of clients MFIs served, depth, and poverty level of clients as a social outreach. Hisako (2009), and Quayes (2012) use the average balance of loan per borrower as the depth of outreach in their studies. It is assumed that the smallest loans reach the poorest clients.

Other researchers such as Hartarska (2005), Lafourcade, Isern, Mwangi, and Brown (2005), and Mersland and Øystein Strøm (2009) use other factors to measure the MFI performance. Hartarska (2005), Lafourcade et al. (2005), and Mersland and Strøm (2009) include the number of customers MFIs serve with their financial services to define outreach. Hartarska (2005), and Mersland and Strøm (2009) use profitability as a measure of financial performance. Some others use quality of loan portfolio, number of products and services offered, and cost to clients (Mersland & Strøm, 2009), and staff productivity (Lapenu & Zeller, 2001).

These definitions show there are no specific tools that researchers are using to measure the MFI performance. Most of the researchers used some of the tools and always recommend another tool to obtain better performance measurement**.**

### 3.9.1 Measuring outreach

That MFIs reach the poorest of the poor has been much discussed recently. Navajas et al. (2000) find in Bolivia that MFIs are reaching to the poor who are above the poverty line or just near the poverty line, but they are not reaching the poorest of the poor who are the most financially vulnerable. MFI's outreach is measured as the social value created in terms of the depth, breadth, loan size and dollar value of deposits (Navajas et al., 2000). Shu and Oney (2014) define enhancing outreach as a social mission of MFIs to alleviate poverty. It is defined as the number of clients that MFIs serve. Outreach at a glance means the number of clients served. It is assumed that the outreach of the MFIs is influenced by these factors: firm size, maturity of the firm, and number of employees. Size of the firms helps institutions

to diversify their products and services to reduce the cost of loans and increase outreach.

Having determined the factors that stimulate outreach, there will be another step to consider; that is, what are the variables to consider when measuring MFI outreach? Some of these are breadth, depth, number of branch offices, average loan size, and number of depositors (Microfinance Information Exchange, 2007). Navajas et al. (2000) explain that there are six aspects to MFI outreach and social value creation: depth, breadth, worth of users, cost to users, length, and scope.

Outreach is to measure the number of clients and loan size (Adhikary & Papachristou, 2014; Caudill et al., 2009; Cull et al., 2007; Hartarska, 2005; Hartarska & Nadolnyak, 2007; Hasan & Hartarska, 2009; Mersland & Strøm, 2009), that is defined on the MFIs individually. The Nepal Government regulation of the categorized system of loan size and number of clients does have impact on the profit of MFIs. Lafourcade et al. (2005) categorize the MFIs clients in two ways: number of borrowers, and number of savers. The growth trends of borrowers and savers would be the measuring tool for MFIs' outreach performance (Lafourcade et al., 2005). Average loan balance and average saving balance are used as an indicator for measuring the performance. The outreach measures are the average outstanding loan and the number of credit clients served and how well they have been served. Measuring the outreach performance is not limited to one or other variable. All variables are criticised by one or other academic or researcher. However, with the limitation of data viability, this study considers these variables as outreach performance measuring proxies: breadth – number of active borrowers, loan size – average loan balance per borrower, depth – average loan balance per borrower/GNI per capita, number of deposit accounts, and percentage of female borrowers.

#### 3.9.1.1 Breadth

Breadth is defined as the number of clients that MFIs reach. The Microfinance Information Exchange (2007) defines breadth as the number of active borrowers with loans outstanding. This is the number of clients who are usually without collateral and who receive the small loans, which are costly for the MFIs. Navajas et al. (2000) explain that breadth is a matter of concern as the dollar amounts are small and number of the borrowers is high (Lafourcade et al., 2005). Researchers

(Bassem, 2009; D'Espallier et al., 2009; Fersi & Boujelbéne, 2016; Hartarska, 2005; Hartarska & Nadolnyak, 2007; Lafourcade et al., 2005; Mersland & Strøm, 2009; Shu & Oney, 2014) use this variable in their studies to measure MFIs' outreach performance. The log transformation is used to reduce the disparity between the minimum and maximum values of number of active borrowers in Nepalese MFIs.

#### 3.9.1.2 Size of loan

Average loan size of the borrowers comes with the total loan amount and the number of the borrowers. The Microfinance Information Exchange (2007) defines the average loan size as adjusted gross loan portfolio divided by adjusted number of active borrowers. Hisako (2009) uses average loan size per borrower to measure depth of outreach, calling it wide outreach. Researchers (D'Espallier et al., 2009; Schreiner, 2002) use this variable. "Loan size is a rough and indirect measure of outreach" (Gutiérrez-Nieto, Serrano-Cinca, & Molinero, 2009, p. 108). Further, a lower than average loan balance indicates the MFI's commitment to poverty reduction and it does explain that the value of money differs in different regions. Thus, depth needs to be considered as the next measurement of outreach with GNI per capita.

#### 3.9.1.3 Depth of loan

Depth of loan will measure the clients' poverty level that the MFIs' are serving. Bassem (2009), Hartarska (2005), and Hartarska and Nadolnyak (2007) measure depth as the average loan outstanding divided by GDP per capita. The Microfinance Information Exchange (2007) defines depth as the average loan balance per borrower divided by GNI per capita. It is calculated in percentages (Microfinance Information Exchange, 2007; Tchakoute Tchuigoua, 2010) and measures the clients' poverty levels (Shu & Oney, 2014). Microfinance Information Exchange (2007) defines the lower band of poorness as when depth is < 20% or average loan size < USD150, and the high end when depth is between 150% and 250%. The higher values show that the MFIs are serving the richer borrowers (Hartarska, 2005), calculated on average loan outstanding divided by GNI per capita in Nepal. It is necessary to measure how well the MFIs reach to the poorest of poor, "the value the society attaches to the net gain from the use of the micro credit by a given borrower" (Navajas et al., 2000; Schreiner, 2002). Lafourcade et al. (2005), and Tchakoute Tchuigoua (2010) define it as the socio-economic level of clients that

MFIs reach. Depth is a measure of MFIs' reach to poor clients as it is said that poor clients are the ones who cannot reach other financial services and are always in a zone of defaulting on loan payments. Quayes (2012) defines depth as more poorer borrower deliberated in the credit disbursement of MFIs. Lower depth value is preferred, whereas higher value explains that fewer poor clients are served by MFIs (Bassem, 2009). Depth is a relevant measure of the MFI's social mission as it considers the GNI per capita of the country (Gutiérrez-Nieto et al., 2009). Researchers (Gutiérrez-Nieto et al., 2009; Luzzi & Weber, 2006; Microfinance Information Exchange, 2007; Quayes, 2012; Tchakoute Tchuigoua, 2010) use this variable to measure outreach performance. Because of the data availability and limitation, this study uses depth as an average loan balance per borrower divided by GNI per capita in Nepal.

#### 3.9.1.4 Number of deposit Accounts

This is defined as the number of savings accounts that MFIs have in one period. MFIs are known as credit providers to the poor and they have started providing deposit services too. This is a social outreach indicator for the financial institution and some have considered it in their research. Recently it has been considered by some researchers and rating organizations (Lafourcade et al., 2005; Microfinance Information Exchange, 2007; Shu & Oney, 2014; Yaron, 1994) have used a deposit account as an outreach indicator. The increased number of depositors is considered as increased breadth of MFIs outreach (Lafourcade et al., 2005). As a result, this study considers number of deposit accounts as the outreach indicator in this study.

#### 3.9.1.5 Percentage of women borrowers

Percentage of women borrowers is defined as a fraction of the number of women in the total number of active borrowers (Bakker et al., 2014; Lafourcade et al., 2005; Microfinance Information Exchange, 2007; Quayes, 2012). MFIs put woman clients as a priority in their mission to alleviate poverty. The majority of micro-credit recipients are women (Quayes, 2012). Women are the most vulnerable group to be considered as target clients by MFIs, and among African MFIs in 2003, 61% of credit clients were women (Lafourcade et al., 2005). Quayes (2012) explains MFIs' outreach would increase with a higher proportion of women borrowers with smaller loan amounts, and he finds women were two-thirds of the borrowers in his study. Cull et al. (2007) argue that one of the main reasons for the success of

microfinance the women clients. MFIs often target women, in some cases exclusively (International Labour Office, 2009).

The Nobel Prize winner and father of micro-credit, Muhammad Yunus, started the Grameen Bank in Bangladesh concentrating on women as credit clients. He saw women as having the key role as players for breaking the poverty cycle, investing in their children's education and higher quality foods (Reed, 2015). Women also had better repayment records (D'Espallier et al., 2009), registering higher repayment rates, which is a substantial business case when considering female clients (International Labour Office, 2009).

MFIs as micro-credit providers help millions of poor people living in poverty with credit around the world, including women. Including women in micro-credit and improving their social status, which contributes to breaking the poverty cycle, and women's empowerment is the agenda (International Labour Office, 2009). The International Labour Office (2009) reports that there are 85% female clients in MFIs outreach. Quayes and Khalily (2014) explain that MFIs provide financial services mostly to women in Bangladesh and in other developing countries. The Microfinance Information Exchange (2014) reports 92% of females are the females make up 92% of borrowers in MFIs in South East Asia. Reed (2015) reports there were 157.7 million female borrowers out of 211.1 million total borrowers in MFIs worldwide in 2013, up from 150.9 million in 2012. Of the 137.5 million poorest clients, Maes and Reed (2012) report 82.3%, or 113.1 million, are women who take their first loan. Further, they report that there was a 1001% growth in outreach to the number of poorest women from December 31, 1999 to December 31, 2010: 10.3 million to 113.1 million. Therefore, MFIs has made a strong contribution to the realisation of the United Nation's Millennium Development Goal of poverty alleviation.

Bakker et al. (2014) , and Luzzi and Weber (2006) suggest to take percentage of female borrowers as an outreach proxy because 'loans to women are highly valued by society.' Occasionally, social outreach is measured by considering women borrowers (Quayes, 2012). Thus, academicians or researchers are showing a lack of concern if they do not consider this variable to measure the outreach to women

(Quayes, 2012). Therefore, targeting women borrowers makes sense from a public policy standpoint (International Labour Office, 2009).

Researchers (Bakker et al., 2014; Cull et al., 2007; D'Espallier et al., 2009; Fersi & Boujelbéne, 2016; Gutiérrez-Nieto et al., 2009; Luzzi & Weber, 2006; Microfinance Information Exchange, 2007; Schreiner, 2002; Shu & Oney, 2014) use this variable to measure the MFIs' outreach performance. Therefore, this study uses percentage of women borrowers to the total number of active borrowers (PFB) to measure the outreach of MFIs.

The other indicator of performance of a micro-finance institution is its financial sustainability. Financial sustainability can be divided in two parts: operational sustainability and financial self-sustainability. This study is considering the operational self-sustainability (OSS) in this study because of data availability.

### 3.9.2 Financial performance

Scholars and researchers attention has been focused onto the MFIs financial performance for their sustainability to continue MFIs services to poor. Most MFIs are non-profit institutions established to provide financial services to the poor who are often excluded from financial services offered by commercial banks. MFIs' objective is to improve the social economy as well as reduce poverty. Financial performance indicates the effectiveness of financial management which goes with the periodic financial analysis (Ledgerwood, 1998). Ledgerwood further explains that the financial performance determines the efficiency, viability and outreach of MFIs' operations for donors, practitioners and consultants. Financial performance is measured by analysing the financial data collected from the MFIs in the form of ratios, that is, a comparison of one piece of financial data with another. Comparison of financial performance for a period of time shows how an MFI financially progresses, which is called trend analysis (Ledgerwood, 1998). Financial ratio analysis in the context of other ratios helps to determine the overall financial performance of an MFI. However, financial analysis provides the information about existing or potential problems that may be occurring in the institution, information that is useful for the board to make changes in policies or operations for today's decisions (Consultative Group to Assist the Poor, 2009) which leads again to enhanced financial performance (Ledgerwood, 1998). Financial analysis is a tool

that helps the decision-making process within a company and enables investors and other stakeholders to get a sense of the company's financial health (Consultative Group to Assist the Poor, 2009).

There are MFIs operating as for-profit and still achieving their outreach objective. In addition to the argument for either for-profit or non-profit, it is a concern of funding agencies and donors to see an MFI's financial performance efficiency. A better financial performance allows MFIs to continue their financial services independently and the credit line to run smoothly. Thus, it has become an essential goal of all MFIs, even the non-profit institutions, to strive for better financial performance (Quayes, 2012). Quayes states that the Indonesian MFIs with better financial performance achieve outreach and continue their services without incurring any subsidies. Policy makers, donors, Consultative Group to Assist the Poor (2009) and investors are stressing MFIs' financial performance and eliminating reliance on donations.

Profitability is the most used measurement of financial performance for commercial banks as well as MFIs. Profitability is good for the MFIs as it helps them to continue their services. However, it negatively impacts the donors who may choose to allocate their money to other institutions (Nanayakkara & Iselin, 2012) because they think some other struggling institutions need financial help. A profitability-based measurement is arguable, particularly for non-profit MFIs. In addition to these all-financial facts of MFIs' financial performances, donors and investors are willing to invest in the profitable institutions for their long-term service continuation regardless of their status of for-profit or non-profit institutions.

Financial performance measures whether MFIs have an operating profit or could reach break-even, having enough operating income to cover operating expenses such as salaries, supplies, loan losses, and other administrative costs. This measure will show whether MFIs can also cover the costs of funds and other forms of subsidies received when they are valued at market prices. A lower default rate is better for financial sustainability.

Profitability and sustainability ratios reflect an MFI's ability to continue operating and grow in the future (Consultative Group to Assist the Poor, 2009). Sustainability of an organisation is a key factor and MFIs' sustainability is measured through

profitability and self-sufficiency (Sa-Dhan: The Association of Community Development Finance Institutions, 2016). MFIs' profitability and self-sufficiency can be determined by using these financial ratios: Operational Self Sufficiency (OSS), Return on Assets (ROA) and Return on Equity (ROE) (Sa-Dhan: The Association of Community Development Finance Institutions, 2016). “Non-commercial MFIs with low debt/equity ratios can often achieve higher ROA than their commercial counterparts, because they have low financial expenses and pay fewer taxes” (Consultative Group to Assist the Poor, 2009, p.403). Different stakeholders will focus on different profitability ratios (Consultative Group to Assist the Poor, 2009). Strøm et al. (2014) measure operational efficiency on ROA and ROE and operational self-sufficiency (OSS) for a firm’s financial performance. Hartarska (2005) explains "sustainability is measured by ROA, and OSS" (p. 1633). Hasan and Hartarska (2009) use ROA to measure the financial sustainability for cross-country MFIs. Nurmakhanova et al. (2015) use OSS to measure MFIs financial performance instead of using ROA and ROE because of the MFIs diversity and their accounting practices. However, an unleveraged firm will have the same value of ROA and ROE.

ROA and ROE are widely used in evaluating firm performance. However, this accounting based measure is criticised as being an historical firm performance. The Consultative Group to Assist the Poor (2009) explains "sustainability can be negatively impacted by the MFI focusing solely on efficiency, portfolio quality, or profitability, but it can also be negatively impacted if any one of these areas is excluded" (p.19). Barres et al. (2005) assert that managers may consider the average debt to equity ratio "over a period of time to get a clearer picture of the risk" (p. 74). A higher DER enhances the rate of return on equity capital during good economic times as well as "increasing the riskiness of the firm’s earnings stream" (Muriu, 2011, p.?). The optimal capital restructure of the balance of debt and equity is done to increase the owners’ wealth. This study measures financial performance of the MFIs on these variables: Return on asset (ROA), Return on equity (ROE), Debt to equity ratio (DER), and Operational self-sufficiency (OSS).

#### 3.9.2.1 Return on asset (ROA)

ROA is an indicator ratio of how profitable a company is relative to its total assets. It is a measuring tool of the firm’s profitability (Marimuthu & Kolandaisamy, 2009;

Mersland & Strøm, 2009) and the operational efficiency (Strøm et al., 2014) in utilizing the assets (Hartarska, 2005) to generate profit regardless of capital structure (Consultative Group to Assist the Poor, 2009). ROA does not differentiate MFIs that are primarily funded through equity (Consultative Group to Assist the Poor, 2009). It is one of the most used (Bassem, 2009) financial performance-measuring (Strøm et al., 2014) tools to compare a company's performance (Gutiérrez-Nieto et al., 2007).

Tchakoute Tchuigoua (2010) note that ROA is the appropriate tool to measure common profitability of different forms of MFIs that differ in operational approach, but all have the same interpretation in all categories of MFIs, and facilitate comparisons.

It is measured by operating income, net income excluding the donation, divided by the total assets.

$$\text{ROA} = \frac{\text{Net Income after Tax and Before Donation}}{\text{Total Assets}}$$

The Consultative Group to Assist the Poor (2009) expects higher value of ROA that indicates an effectiveness of the firm's management in managing their assets to generate profits. However, lower ROA may indicate inefficiency of the management in achieving the firm's profitability (Consultative Group to Assist the Poor, 2009).

ROA is a good measurement to compare commercial and non-commercial MFIs (Consultative Group to Assist the Poor, 2009). Researchers and academicians (Shu & Oney, 2014; Tchakoute Tchuigoua, 2010) use this to measure the MFIs financial performance in Cameroon MFIs. Other researchers and academicians (Barry & Tacneng, 2014; Bassem, 2009; Carter et al., 2010; Carter et al., 2003; Galema, Lensink, & Mersland, 2012; Gutiérrez-Nieto et al., 2009; Hartarska, 2005; Marimuthu & Kolandaisamy, 2009; Mersland & Strøm, 2009; Nurmakhanova et al., 2015; Strøm et al., 2014) use this variable to measure the firms' financial performance. This study considers return on assets, ROA, as a financial performance-measuring tool for MFIs in Nepal.

#### 3.9.2.2 Return on equity (ROE)

Return on equity is an indicator ratio of how that operating efficiency is translated into benefits to the owner. This is the second complementary approach to measure the profitability (Marimuthu & Kolandaisamy, 2009) of return on investment (the first is ROA). ROE is an indicator of how profitable a firm is relative to its total equity. ROE is the indicator of the operating efficiency that contributes to the owners' wealth while ROA indicates the operating efficiency of the company. The ROE is defined as 'Net income for the full fiscal year and considered as being earnings after tax (EAT).' ROE is the most important profitability ratio (Consultative Group to Assist the Poor, 2009) to measure the performance for fund suppliers. ROE is calculated as net income divided by total book value of equity (Marimuthu & Kolandaisamy, 2009; Microfinance Information Exchange, 2007; Sa-Dhan: The Association of Community Development Finance Institutions, 2016)

$$ROE = \frac{\text{Net Income}}{\text{Total Equity}}$$

The positive value of ROE indicates an MFI is profitable and it is also sustainable because it covers all of its costs as well as generates capital growth (Consultative Group to Assist the Poor, 2009).

Donor funds are considered as the equity. Researchers (Shu & Oney, 2014; Tchakoute Tchuigoua, 2010) use this variable to measure the Cameroon MFIs' performance on equity. Other researchers and academicians (Carter et al., 2003; Marimuthu & Kolandaisamy, 2009; Nurmakhanova et al., 2015) use this variable to measure financial performance. This study uses return on equity, ROE, as a profitability-measuring tool for MFIs in Nepal.

#### 3.9.2.3 Debt/ Equity Ratio (DER)

DER is a measure of MFIs' financial leverage and indicates what proportion of equity and debt the company is using to finance its assets. Sa-Dhan: The Association of Community Development Finance Institutions (2016) explains debt-equity ratio as a parameter to measure the extent of leveraging of equity to raise outside debt. This ratio measures the overall leverage of the institution and "how much cushion it has to absorb losses after all liabilities are paid" (Barres et al., 2005, p. 66). DER disciplines the manager (Barres et al., 2005) to increase profitability

(Muriu, 2011) to meet their obligation and increase the owners' wealth. Debt to equity ratio levels differ considerably between MFIs (Mersland & Strøm, 2009). It is assumed MFIs have lower leverage than commercial banks because their ability to obtain commercial debt is limited. This leverage is generally understood as a multiple of their own capital amount (Sa-Dhan: The Association of Community Development Finance Institutions, 2016). Muriu (2011) explains changes in financial leverage affect firm value which makes it important for investors and lenders to check the capital risk that they may have to bear (Barres et al., 2005). Microfinance institutions with higher debt in their capital structure are more profitable (Muriu, 2011).

"MFIs receive subsidies in the form of donations and cash", where donors do not expect any returns (Tchakoute Tchuigoua, 2015, p. 316). Subsidized equity is part of MFIs' equity (Barres et al., 2005; Tchakoute Tchuigoua, 2015). Debt to equity ratio is the proportion of total debt borrowed, including voluntary savings, to the total equity held at a given point of time (Microfinance Information Exchange, 2007; Sa-Dhan: The Association of Community Development Finance Institutions, 2016).

$$\text{Debt to Equity Ratio} = \frac{\text{Total debt}}{\text{Total Equity}}$$

The lower value of the DER shows the lower financial risk with lower cost of debt. Researchers (Agarwal & Sinha, 2010; Muriu, 2011; Sa-Dhan: The Association of Community Development Finance Institutions, 2016; Shu & Oney, 2014) use this variable to measure financial performance. This study uses debt to equity ratio (DER) as a financial proxy to measure Nepalese MFIs' operational performance.

#### 3.9.2.4 Operational self-sufficiency (OSS)

Operational self-sufficiency is an indicator of MFIs' financial self-sufficiency in their operational capability. It shows whether MFIs need outside funding support or whether they can operate on their own financial resources to cover all their costs incurred by doing business (Schäfer & Fukasawa, 2011). It is a more relevant tool to measure MFIs' financial performance because OSS focuses on the MFI's core business revenues and expenses (Schäfer & Fukasawa, 2011). MFI performance in terms of financial sustainability is measured by OSS (Nurmakhanova et al., 2015). Strøm et al. (2014) define OSS as portfolio revenues divided by operational

expenses. “This measure is free from bias resulting from different capital structure, access to subsidized funding and possible differences in default policies in the MFI” (Strøm et al., 2014, p. 63).

Operational self-sufficiency measures how well the MFI can cover its operating costs through operating revenues (Bassem, 2009; Hartarska, 2005; Hartarska & Nadolnyak, 2007). OSS measures the managers’ ability to operate the business and cover operating costs (Hartarska & Nadolnyak, 2007; Nurmakhanova et al., 2015). Mersland, D’Espallier, and Supphellen (2013) define OSS as a measure of “operational income that covers operational, financial and default costs” (p. 155). This is an appropriate financial proxy to measure the MFIs’ operational performance because fund providers want to see MFIs’ self-sustainability rather than their profits (Hartarska & Nadolnyak, 2007).

When OSS is above 100% it indicates the MFI is self-sufficient to operate its business, equal to 100% is a break-even point for an MFI operation and a ratio below 100% indicates that the MFI is incurring losses and relies on continued outside funding to maintain its current level of operation (Schäfer & Fukasawa, 2011).

The Mersland and Strøm (2009), Microfinance Information Exchange (2007), and Tchakoute Tchuigoua (2010) calculate OSS by using Revenue from operations / (Financial expense + net loan loss expense + operating expense) .

$$OSS = \frac{\text{Revenue from operations}}{\text{(Financial expense + net loan loss expense + operating expense)}}$$

OSS is widely used as a financial proxy to measure institutional financial sustainability (Mersland & Strøm, 2009). Researchers (D'Espallier et al., 2009; D’Espallier, Guérin, & Mersland, 2011; Luzzi & Weber, 2006; Nurmakhanova et al., 2015; Schäfer & Fukasawa, 2011; Shu & Oney, 2014; Tchakoute Tchuigoua, 2010) use this variable to measure the operational performance of firms. This study uses operational self-sufficiency (OSS) as financial proxy to measure Nepalese MFIs’ operational performance.

## 3.10 Independent variables

Nepalese MFIs’ outreach and financial performance are measured on the corporate governance factors. Governance factors are taken on the availability of data that are

extracted from the accounting statement of individual firms for each study year. The governance factors have been taken from earlier studies by other researchers in different regions of the world. The governance factors for MFI performance show the positive and negative correlational impact in different studies, which prompted the use of these variables for MFIs in Nepal. Brief descriptions of the independent variables follow.

### 3.10.1 Board size

This study takes board size (BOD) as the number of board members (Kyereboah-Coleman & Osei, 2008) in individual MFIs in each year studied in Nepal. It is a major component of the governance input factor to measure the firms' performance. Academicians and researchers in their studies to measure firms' performance have used board size as a governance characteristic. Corporate boards of directors play a central role in the corporate governance of modern companies (Guest, 2009). Board efficacy can be influenced by board size (Hartarska, 2005). There are different arguments about whether the smaller or larger board size gives better performance. Larger board size may smooth the board functioning but it starts reducing firm performance at the point when larger boards suffer from coordination and communication problems (Jensen, 1993). Bassem (2009), and Kyereboah-Coleman and Osei (2008) suggest that MFIs need large boards for better performance. Malik et al. (2014) find larger boards have a positive relationship with performance under specific cultural aspects. Bermig and Frick (2007), Eisenberg et al. (1998), Yermack (1996), and Eisenberg et al. (1998) suggest smaller boards are more effective at monitoring top managers due to lower coordination costs that generate a superior firm performance. As a result, the optimal board size for better firm performance is so far inconclusive. The different countries' institutional characteristics differ on the institutional background that plays its role on the firms' performance with board size as an input factor (Guest, 2009). Hence, understanding the relationship of board size and firm performance (Guest, 2009) becomes an important factor for this study.

### 3.10.2 Independent directors

Independent directors who are neither employee nor related to the firm are expected to act as better monitors and advisors to the firm (Hartarska, 2005). Independent director positions are part-time and from outside the company (Pass, 2004). Being

outsiders, they are believed to provide better benefits to the firm (Bassem, 2009). Rock et al. (1998) highlight the importance of independent directors on board as they show good governance practice that helps MFIs to improve their monitoring of management. Their presence on boards reduces the conflict of interest and measures the executives' performance objectively (Bassem, 2009). An "Independent board serves as an effective check on management and protects the interest of shareholders" (Kyereboah-Coleman & Osei, 2008, p. 242). The monitoring quality of the board is also measured by the proportional presence of independent directors (Bhagat & Black, 1999). Kyereboah-Coleman and Osei (2008) argue that a firm has a more independent board when it has a larger proportion of outsiders. However, the literature from previous studies does not support the governance input factor that a number of independent directors improves overall firm performance any more than firms without such boards (Bhagat & Black, 1999). Thus, it is taken as a higher attention as governance variable to consider (Kyereboah-Coleman & Osei, 2008). This study takes independent director (INDBOD) as the number of non-executive directors on board in individual firms for each year.

### 3.10.3 Percentage of females on boards

The percentage of females on a board is measured as the number of female directors on the board against the total number of board members. Female involvement in director positions is being discussed more widely. The recent discussion on governance reform explicitly stresses the importance of gender diversity in the boardroom (Adams & Ferreira, 2009). The literature evidence is that the presence of women on boards has shown a slow but steady rise across the world (Wellalage & Locke, 2013). Wilson and Altanlar (2009) find that the presence of at least one female board director reduces company bankruptcy costs in the UK. The presence of women on boards of directors has an important association with firm performance (Carter et al., 2003) with better governance leading to more profitability (Carter et al., 2010). Adams and Ferreira (2009) conclude that the "fraction of women on boards appears to be an important determinant of the turnover performance sensitivity" (p. 301). The improvement in percentage of females on boards or number of female directors improves firm performance (Liu et al., 2014). Female directors on boards are found to be more efficient and to

increase board effectiveness more than independent directors (Adams & Ferreira, 2009). A number of female directors who play active roles contribute to firm performance rather than having one token female on a board (Kanter, 1993). Presence of one or more female directors on the board relates positively to firm profitability (Lückerath-Rovers, 2013). Kramer, Konrad, and Erkut (2006), and Liu et al. (2014) find that three or more women on a board contribute to good governance and they are able to influence the content and process of board discussions more substantially. Further, they state that three or more women create the likelihood that woman's voices and ideas are heard. This supports the saying "one is a token, two is a presence, and three is a voice" (Kristie, 2011). Kristie suggests "three or more women on any board make it a more effective board" (p. 22). "Women bring a collaborative leadership style that benefits boardroom dynamics by increasing the amount of listening, social support, and win-win problem solving" (Kramer et al., 2006, p. 2). Gender diversity may enhance board decision-making by combining alternative and complementary views. Most MFIs with a social mission target female clients, which makes it more appropriate for them to have women on their boards (Agarwal & Sinha, 2010; Strøm et al., 2014). Recently, there have been more studies on the effect of women directors on firm performance. However, the extant literature of studies on firms in the US and some other developed economies provide inconclusive evidence, not concluding the relationship and firm performance is in only one direction. Thus, this study undertakes percentage of female on board (POFOB) as a governance input variable for MFIs in Nepal.

### 3.10.4 CEO duality

CEO duality is recognized as the one person holding the two positions of CEO and board chairperson in a firm. This is measured on dummy variables; 1 for duality held, otherwise 0. It is a long-discussed governance factor by scholars, whether a firm's performance increases with the dual role, or whether the roles should be separated. Mersland and Strøm (2009) assert that duality may enhance decision-making effectiveness. The dual role leads to conflict of interest and firm performance suffers (Kyereboah-Coleman & Osei, 2008). However, Chen et al. (2008) explain "separating the position may increase information sharing costs, positional conflicts and inefficiency, decision making process and execution may

both be less efficient, difficult to blame for bad company performance". Most firms will benefit by separating the two positions as suggested by the activist shareholders and regulators (Faleye, 2007).

Academicians and researchers (Chen et al., 2008; Dahya et al., 2009; Dahya et al., 1996; Dahya & Travlos, 2000; Daily & Dalton, 1997; Faleye, 2007; Kyereboah-Coleman & Osei, 2008; Mersland & Strøm, 2009) have taken duality as a key governance factor for their studies in different regions. The scholars are unable to give one decisive direction for CEO duality and firm performance, which leads this study to take this variable as an input to measure the performance of MFIs in Nepal.

### 3.10.5 Minority directors on the board (CASTEDIV)

Minority directors on the board is the proportion of minority/different caste directors on the board. A higher proportion of minority members indicates higher diversity in the firm, which indicates the firm may have higher performance. It is assumed that leadership diversity is critical to firm financial success (Roberson & Park, 2006). This board diversity may result in better governance that improves the firm's profitability (Carter et al., 2010). Racial diversity in senior management may help firms to align business strategies (Roberson & Park, 2006) with current and future demographic and market trends to achieve organizational growth and profitability (McCuiston et al., 2004). Racially diversified boards can gain a competitive advantage by having social and capital assets that increase the number of ideas, promote creativity, and lead to innovation (Miller & Triana, 2009). Navajas et al. (2000) explain that racial diversity helps firms to shape their strategies for targeting cultural clients by utilizing their racial resources. Minority directors on a board enhance board independence and reduce cultural questions and impact on business (Carter et al., 2003). Brammer et al. (2007) find ethnicity has a minor impact on firm performance. However, racial minorities are traditionally underrepresented on boards (Miller & Triana, 2009). Little attention is paid to the relationship between firm performance and board racial diversity (Roberson & Park, 2006). Several scholars (Brammer et al., 2007; Carter et al., 2010; Carter et al., 2003; Miller & Triana, 2009; Richard, 2000; Roberson & Park, 2006) have used this variable for their studies. Nepalese society has a hierarchal caste system and decisions are made on a cognitive cultural basis. While there are 125 official castes (Central Bureau of Statistics, 2014) in Nepal only a few are to be found on the board

of MFIs. The family title of a board member explains the individual caste. Caste is measured by reference to the individual's title, name and the type of work they undertake. Thus, it can be easily identified who belongs to which caste. The number of board members from different castes are transformed into the percentage for analysis purposes.

In a case of inter-caste marriage, the family title after the marriage is the one that indicates his/her caste affiliation. The two MFIs, BISCOL and UNYC, are an example. There are four members in BISCOL who are from different castes. This has been calculated in total as 33% and the one member in UNYC from a different caste results (14%). This indicates minor directors (CASTEDIV) on boards should be a key input governance factor in relation to MFIs' performance in Nepal.

BISCOL BOD diversity ⟹ 4/12=0.33

| | |
|---|---|
| Mr. Pradip Thapa<br>Chairperson | Mrs. Januka Devi Bhattarai<br>Vice Chairman |
| Mr. Ram Sharan Bhandari<br>Secretary | Mr. Dorendra Raj Sapkota<br>Member |
| Mr. Bhimsen Pd. Sapkota<br>Member | Mr. Achut Pd. Guragain<br>Member |
| Mr. Ramhari Sharma Timalsina, Member | Mr. Shanta Kumar Shrestha<br>Treasurer |
| Mr. Govinda Pd. Adhikari<br>Member | Mrs. Samita Banjara<br>Member |
| Mrs. Chandika Wagle<br>Member | Mr. Surya Narayan Napit<br>Member |

UNYC BOD diversity ⟹ 1/7=0.14

| | |
|---|---|
| Mr. Devman Chaudhary<br>Chairperson | Mrs. Basanti Chaudhary, Member |
| Mr. Ram Kumar Tharu<br>Treasurer | Mr. Radheshyam Tharu,<br>Member |
| Mr. Mahadev Chaudhary<br>General Secretary | Mrs. Radha Chaudhary,<br>Member |
| Mr. Bijendra Dahit<br>Member | |

# Chapter four – Data

## 4.1 Introduction

This chapter explains the collection of data from different resources for the period 2004 to 2012 for MFIs in Nepal. The treatment methods for gap filling in collected data are explained in this section. The governance factors and their collection are described. In terms of the empirical research, an interesting part of the analysis relates to the small sample sizes and issues with data. Mix Market data have been used for analysis purposes, as other sources do not provide the useful and evidential reports for a longer period than 2004 to 2012.

## 4.2 Sources of data

There are various sources of data available in Nepal presenting MFI-related information in different formats and different languages. The lack of contiguous series and disruption to nearly all official statistics as a result of the 2015 earthquake has made this exercise more difficult than it might otherwise have been. Domestic and international labour movements in Nepal are available through Department of Labour (DOL) publications and reports. The ratio of the absent population to total population was obtained from Central Bureau of Statistics (CBS): the population profile and its sub-section reports and publications provided a fact sheet for this study. World Bank (WB), online publications from the Centre for Financial Inclusion (CFI) and The Consultative Group to Assist the Poor (CGAP) provided support for ensuring the robustness of the data included. Secondary data were collected from the self-reporting of individual MFIs' annual financial reports on their websites and from institutions such as Rural Microfinance Development Centre (RMDC) and Nepal Central Bank (Nepal Rastra Bank, NRB) and other online sources in order to ensure that most of the MFIs' reports have been considered. The individual MFI's online websites were used as a source to obtain their annual financial reports: Income Statement, Balance Sheet, Cash Follows and information on governance structure. For analysis purposes in the study, the derivatives, variables: dependent, independent and control data were taken from the self-reported financial data. However, it is not the same case for all the MFIs. MFIs with fewer technological facilities, report to the RMDC and the NRB. Thus, attempts were made to collect the data from both RMDC and NRB.

Table 12 below shows the data sources, institutions and time periods. Initially data were collected from three sources: Nepal Rastra Bank (NRB), Rural Microfinance Development Centre (RMDC) and Mix Market. NRB provides data on MFIs for 2012, 2013 and 2014. RMDC provides data covering member MFIs, NGOs, and cooperatives for 2011, 2012, and 2013. Mix Market covers MFIs, NGO, INGO, and cooperatives from 2000 to 2012. Although there are overlaps in the time periods, there are inconsistencies between the sources, relating to institutions covered and the numbers reported, which means chaining the time periods is not straightforward.

**Table 12: Data sources**

| Sources | Institutions | Time periods |
|---|---|---|
| NRB | MFIs | 2012, 2013, 2014 |
| RMDC | Members only: MFIs, NGO/INGO, COOP | 2011, 2012, 2013 |
| Mix Market | MFIs, NGO/INGO, COOP | 2000-2012 |

RMDC has a time series report on the members of Nepalese MFIs and their performance in general. This provided a financial indicator report on current trends of the individual MFIs and all the members as a whole. It gives an opportunity to collect the data and compare it with other members. It has a yearly analytical report as well as a descriptive report that helped this study to collect the required information within the required timeframe. It gathers the information from all its members and reports it publically. Thus, missing information from MFIs' reports and ratios were gathered from this site. There are some data on relevant variables that were not available on this site which have been checked with the NRB online site and reports on MFIs in Nepal.

The NRB gives an opportunity to see the performance of individual MFIs as well as whole industries in Nepal. It also gives information on the directories and guidelines of all Nepalese MFIs. However, it does not provide all the information on financial ratios and variables, which have been taken from MFIs' individual online sites, RMDC and the Mix Market site.

Data from RMDC and NRB are useful for cross-sectional analysis but do not cover sufficient periods for time-series analysis. The data availability and accessibility the study to use the time-period of nine years in this study. The initial panel dataset was

created from Mix Market for nine years from 2004 to 2012. It was the most current data available on Mix Market, which was taken for analysis purposes. The year 2004 has been taken as a beginning year in the study for analysis due to the information on governance and financial reports available for all the MFIs. The 2012 year was the most recent year's data available on the Mix Market at the time of the data collection for analysis.

The information on corporate governance was collected from the MFIs' annual reports and their websites. The governance variables were taken to suit the analysis and reduce the complexities on the data availability for the continuous years from 2004 to 2012. The governance factor information was obtained manually by calculating the number of directors on the board, number of independent directors on the board, and determining the CEO's duality role for each firm for each year from 2004 to 2012. Percentage of females on board was calculated by counting the number of females on the board divided by the total number of board directors for each year of the data collection period. Other control variables; total assets, firm age, and employees were taken from the Mix Market set of data and checked with the annual report for each firm yearly. Staff productivity was taken as the total number of clients divided by the number of employees for each firm yearly.

The variable caste diversity is recognized by the names of directors. The Hindu hierarchical system puts people in different castes and caste titles to recognize easily who belongs to which caste. The researcher can distinguish whether a board is caste-diversified by members' names and titles. Caste diversity as an independent variable on the board has been taken as the number of board members from different castes and transformed into a percentage for analysis simplicity.

The data set is an unbalanced[6] (Park, 2011) panel and it contains 314 observations of MFIs for years 2004 to 2012 because the shortest time period for a firm is three years and longest is nine years in this panel set. The STATA package was used for data analysis and interpretation purposes.

[6] Unbalanced panel data occurs when each entity in a data set has different numbers of observations for at least one of the time-periods.

## 4.3 Data filling

There are a limited number of years for which data on NGOs and INGOs are available. The data are kept for the analysis and the years where there are no entries are recorded as missing data. The analysis assumed that NGOs and INGOs were operating for specific projects that were completed and there are no missing data associated with these entries in the database.

It is common to have gaps in secondary data, which needs to be considered in initial stages of data analysis for correct interpretation (Pigott, 2001). The default setting of STATA does not take the missing data in statistical analysis, which indicates a need to fill the data gap to take the variable into consideration. There are gaps in the dataset and consideration was given to appropriate ways in which these gaps could be filled without compromising the veracity of the observations.

In the literature, several different ways are suggested to replace missing observations in a data series. While no approach is perfect, four are commonly used: Interpolation, Extrapolation, Average Method (using years before gap year & after gap year), and Growth Rate Method of the mentioning series (Pigott, 2001).

Interpolation is used to fill the gap in a graphical calculation between two given points assuming that the estimated curve passes through all the known points. The four forms of the graphical curve: Linear, Cubic, Cosine and Hermite can be used to find the unknown members along with the known ones (Bourke, 1999). The extrapolation method estimates data to fill the gaps by accelerating the convergence of sequences beyond the known observation. Linear, Polynomial, Conic, and French curves are used to estimate the next observation depending on the nature of data (Ouyed & Dobler). The average method is used to fill the gaps by taking data before and after the gap. To be unbiased, years before and after data have been taken into consideration while using the average method (Raghunathan, 2004). Growth rate method estimates the missing value on the percentage change from one period to another.

Choosing the right methodology is crucial and the right methodology application depends on where the gap is: at the beginning, middle or end of the series. The nature of the data and normal time factors suggested using the average and growth rate methods to fill the gaps in the data in this study. The data has been compared

with the competitive institutions with full sets of data in the industry to check whether the study is filling the gaps correctly. There are a limited number of years for which NGO and INGO data are available. The data are kept for the analysis and the years where there are no entries recorded as missing data. The analysis assumes that NGOs and INGOs were operating for specific projects that were completed and there are no missing data associated with these entries in the database. The gap filling may be not perfect but it gives a better reflection than simply omitting data would do. Multiple imputations have been used to fill the missing values with mean and median where it is appropriate to do so.

Gaps in the data are filled in to increase the number of observations and enhance the robustness of the statistical analysis undertaken. For each institution, the time-series of each variable and the cross-sectional relationship between variables are examined in determining the most appropriate method for estimating each missing item of data. Where no obvious pattern or relationships are apparent, an averaging approach and last value carry forward methods are used to fill the gap in the dataset.

The expectation, when commencing this research was that further years of data would become available. The earthquake of 2015 resulted in a cessation in the publication of data. Unfortunately, post-quake in Nepal, financial statistics and even financial reporting have not been a matter of priority. Consequently, the most current data available on the different sources were used in the study. A continuous search was made to collect the most recent data to increase the credibility of the study.

## 4.4 Sample size and procedure

The central bank of Nepal, Nepal Rastra Bank (NRB), regulates the financial banking systems in Nepal. Every firm has to seek registration from the NRB to run their financial services. Therefore, the regulated organizations, Rural Banks (RB), Non-Government Organizations (NGO), and Cooperatives (COOP), that provide the financial services to the deprived sector have been taken in the sample. The research excludes unregulated organizations, moneylenders and other informal organizations from the sample because they do not provide the financial statement and governance information to the government of Nepal. The study has analysed the governance factors and firms' outreach and financial performance, which

requires having governance information as an input for the output association. This information can be extracted from the regulated firms but not from the unregulated firms.

Mix Market provides the financial and social information on region-based MFIs around the world. It collects data through consultants and regional networks to provide individual MFIs' financial data and reports (Lafourcade et al., 2005). This site has information on MFIs in Nepal. It provides the financial and outreach reports on MFIs in Nepal. Mix Market database has been used as the source of the data for research analysis in this study because this database provides the full set of data with the different variables that are useful for analysis purposes. Other sources have been used to fill the gaps and support the arguments. Researchers (Adhikary & Papachristou, 2014; Cull et al., 2007; Cull, Navajas, Nishida, & Zeiler, 2015; Hartarska & Nadolnyak, 2007; Hasan & Hartarska, 2009; Hisako, 2009; Lafourcade et al., 2005; Quayes, 2012) have used the Mix Market for their study and suggested using this database particularly for MFIs. Caudill et al. (2009), and Hasan and Hartarska (2009) assert that Mix Market collects and provides data for research analysis more in recent years for MFIs than in 1990. Hisako (2009) finds the Mix Market database has high quality financial data. Hartarska and Nadolnyak (2007) regard the Mix Market data as being the best database for MFIs with a 1 to 5-star rating system for the complete set of variables and individual's financial and outreach data which can be retrieved. The Mix Market database contains extensive financial and outreach information for MFIs (Lafourcade et al., 2005; Quayes, 2012), and classifies the information from MFIs self-reported data (Lafourcade et al., 2005; Quayes, 2012).

The sample years are 2004 to 2012 as this was the most recent data available on the Mix Market database. Most firms' financial statements were available on the mix database and other resources from 2004. For the purpose of research data uniformity, 2004 is taken as the beginning year in analysis and 2012 as the last observation, as it was the most recent available. The Mix Market database contains most of the firms that are regulated by NRB in Nepal and they are involved with non-collateral loan services to financially excluded people.

# Chapter five – Methodology

## 5.1 Introduction

This section specifies the research model and data analysis technique used to test the relationship between corporate governance and MFI performance on outreach, number of customers served, and financial factors in this study. This study discusses an empirical approach I have been pursuing concerning microfinance institutions in Nepal. Different methods are used to test the collected data for specification of the suitable regression model for analysis. The panel data tests are done to check the suitability of the panel regression for the panel data for the period 2004 to 2012. The normality test of the data is done to check the suitability of a parametric or nonparametric approach for further analysis. The correlation test is done on governance factors to find the correlation matrix of independent variables. The test for the different subgroups is done to check whether their performance is the same or whether it changes during the period 2004-2012. These tests enable the researcher to decide the correct model for the empirical data analysis and the regression results. A cross-sectional non-parametric regression approach is used on data 2004 and 2012 to identify the correlation of the governance factors and the outreach and financial performance of MFIs in Nepal.

## 5.2 Normality test of data

The first step is to check that the data distribution is symmetric. A normality check of data is necessary before deciding the correct methodological model for further data analysis. The bell-shaped data distribution with left and right shape equal to each other from the centre fold is recognized as symmetric. The skewness test explains the normality of the data. The data is symmetric when skewness is 0. Kurtosis explains the peakedness of data distribution; that data are heavy-tailed or light-tailed distributed. The implication is that a higher value of kurtosis indicates heavy tails, or outliers of data distribution and low kurtosis explains light tails, or lack of outliers. In addition, the graphic presentation of a histogram of data is checked with the help of STATA software. The histogram shows the skewness of data and suggests transforming the data for symmetric distribution. The natural logarithm is used on variables that have large values to transform them to symmetric behaviour. Three variables, viz. asset size, number of active borrowers, and number

of depositors are subject to a log transformation. However, the data distribution after the log transformation is tested on skewness and kurtosis, which indicates that data is not normally distributed. Differences between mean and median combined with an examination of the skewness and kurtosis suggests that most variables are not normally distributed. The skewness and kurtosis tests for normality, STATA reject the null hypothesis of normality of data with the exception of size of assets, age of the institution, number of active borrowers, and number of depositors. Accordingly, a nonparametric approach is adopted for future analyses.

The shape of data distribution can be influenced by the presence of outliers. Outliers are observations that are vastly different from the other observations, by being too small or too large. Outliers are problematic and may give biased outcomes (Cousineau & Chartier, 2010). A small sample size is easily influenced by outliers, more than a larger sample size (Cousineau & Chartier, 2010; Daszykowski, Kaczmarek, Vander Heyden, & Walczak, 2007). This study has a small sample size. Thus, it needs to take precautions for the existence of outliers. The statistical test, Grubb's test, assumes the normality of data distribution. The Grubb's test is used to identify the outliers one at a time by using 1 for outlier or 0 otherwise. The test is repeated and outliers removed until none remains. The winsorization, assigning the value closer to the other sample values (Ghosh & Vogt, 2012), was used to overcome the Grubb's test limitation. Winsorizing protects the data from the harmful effects of outliers (Ghosh & Vogt, 2012).

## 5.3 Descriptive statistics

The data set is downloaded from the Mix Market, which consists of MFIs, cooperatives, NGOs, and INGOs in a sample set for analysis. There are 314 observations. Descriptive statistics for the data are presented in Table 13. Table 13 illustrates the variables, the number of observations, mean, median, standard deviation, minimum, maximum, variance, skewness and kurtosis values of each variable. The variables in the table are divided into two parts; dependent and independent. The dependent variables are divided into two categories: outreach and financial. There are five outreach variables: number of active borrowers (NAB), average loan balance per borrowers (ALBPB), average loan balance per borrower per GNI(ALBPB/GNI), number of depositors (NOD), and percentage of female

borrowers (PFB); and four financial variables: return on asset (ROA), return on equity (ROE), debt to equity ratio (DER), and operational self-sufficiency (OSS).

This study considers the governance factors as board size (BOD), independent directors (INDBOD), CEOs duality role (Duality), percentage of females on board (PFONBOD), caste diversification (CASTEDIV), and staff productivity (DPSM). There are three control variables; firm size (total asset), maturity (age of the firm), number of employees (PERSONNEL), which are considered input factors for the dependent variables. The dependent variables are regressed with the independent variables as input factors.

**Table 13: Descriptive statistics**

| Variable | Obs | Mean | Median | Std. Dev. | Min | Max | Variance | Skewness | Kurtosis |
|---|---|---|---|---|---|---|---|---|---|
| Explanatory Variables | | | | | | | | | |
| BOD | 314 | 7.2675 | 7.0000 | 3.0003 | 2.0000 | 15.0000 | 9.0017 | 0.8340 | 3.6800 |
| INDBOD | 314 | 0.4841 | 0.0000 | 1.0551 | 0.0000 | 5.0000 | 1.1132 | 2.2734 | 7.4577 |
| PFONBOD | 314 | 0.3559 | 0.2500 | 0.3618 | 0.0000 | 1.0000 | 0.1309 | 0.9059 | 2.3387 |
| DUALITY | 314 | 0.9331 | 1.0000 | 0.2502 | 0.0000 | 1.0000 | 0.0626 | -3.4676 | 13.0241 |
| CASTEDIV | 314 | 0.2685 | 0.2667 | 0.2143 | 0.0000 | 1.0000 | 0.0459 | 0.9408 | 4.8863 |
| DPSM | 314 | 246.9506 | 248.5000 | 123.2706 | 8.000 | 906.0000 | 15195.6400 | 1.3518 | 7.8235 |
| CONTROL VARIABLES | | | | | | | | | |
| LNASSETS | 314 | 18.6423 | 18.7842 | 1.7196 | 13.1843 | 21.9938 | 2.9570 | -0.4413 | 2.6350 |
| AGE | 314 | 12.2484 | 13.0000 | 4.6899 | 1.0000 | 23.0000 | 21.9956 | -0.3784 | 2.5238 |
| PERSONNEL | 314 | 90.0825 | 49.0000 | 100.7358 | 2.0000 | 561.0000 | 10147.7000 | 1.5312 | 5.4280 |
| OUTREACH VARIABLES | | | | | | | | | |
| LNNAB | 314 | 8.7500 | 8.9167 | 1.6499 | 4.5326 | 11.6436 | 2.7220 | -0.2856 | 2.1115 |
| ALBPB | 314 | 20910.1500 | 12579.0000 | 27086.6800 | 1116.4380 | 273265.0000 | 734000000.0000 | 4.3913 | 31.6238 |
| ALBPBGNI | 314 | 49.1786 | 29.4648 | 67.6072 | 3.8739 | 683.1623 | 4570.7270 | 4.8565 | 34.7229 |
| LNNOD | 314 | 9.1051 | 9.3078 | 1.6431 | 3.4012 | 12.8683 | 2.6996 | -0.5763 | 3.1480 |
| PFB | 314 | 0.9142 | 1.0000 | 0.2068 | 0.1899 | 1.0000 | 0.0428 | -2.3287 | 6.8981 |

| Financial Variables | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| OSS | 314 | 1.1783 | 1.1677 | 0.4990 | 0.2002 | 7.6754 | 0.2490 | 7.4472 | 95.0629 |
| DER | 314 | 17.7262 | 8.4550 | 51.6105 | -14.6100 | 510.8400 | 2663.6420 | 7.8177 | 70.3230 |
| ROA | 314 | 0.0138 | 0.0167 | 0.0603 | -0.4830 | 0.4093 | 0.0036 | -0.9499 | 30.3281 |
| ROE | 314 | 0.2208 | 0.1705 | 1.2948 | -8.7586 | 12.3500 | 1.6764 | 4.6624 | 61.1997 |

Table 13 shows Nepalese MFIs' average board size of 7.3 (median 7 members) which varies from a minimum of two members to a maximum of 15, supports the findings (Guest, 2009; Kyereboah-Coleman & Osei, 2008; Mersland & Strøm, 2009). Hewa-Wellalage (2012) finds the average board size for Sri Lankan MFIs is 7.61, which is similar to Nepalese MFIs' average board size. Mersland and Strøm (2009) found the board size in their study ranged from seven to nine. Kyereboah-Coleman and Osei (2008) suggest that eight board members is an effective size to consider. Guest (2009) suggests an optimal board size is less than ten, leading firms to have better performance. Galema et al. (2012) find average board size is 7.34 with a median of seven in 280 MFIs from 60 countries gathered during 2000–07. Bassem (2009) finds average board size is 5.82, varying from four to 16. The Council of Microfinance Equity Funds (2012) suggests boards with fewer than five perform poorly and the ideal board size is seven to nine members but effective boards may have "as few as five or as many as 11 or more" (p. 14). Hedrick and Struggles (2014) find the ideal European average board size is 12. The average board remains lowest in Finland at 7.5, with Germany at 17, Portugal at 14.1 and Belgium at 12.5.

The average number of independent directors on boards in Nepalese MFIs is 0.48 which is significantly lower than the average European number of non-executive directors which is 80%; that varies from 59% in Poland and 98% in Norway, while Switzerland, Sweden and France have more than 90% non-executive representation, and Portugal and Poland have around 60% (Hedrick & Struggles, 2014). Bassem (2009) finds proportional independent director mean value is 0.457 and it varies from 0 to 0.213 in Mediterranean countries. The independent directors' number varies from minimum 0 to maximum five in Nepalese MFIs. The higher number of independent directors could be because of the government requirement to have at least one independent director on the board.

The average percentage of females on boards in Nepalese MFIs is 0.36 (median 0.25), which is quite near to Bassem's (2009) finding of the average proportion of women on boards being 0.398 in Mediterranean countries, and higher than the proportion of women on European boards which stands at 17%, and higher than Portugal (8%) and Poland (8%) (Hedrick & Struggles, 2014). The minimum value is 0 and maximum value is 1 that is 100% of percentage of females on boards in

Nepalese MFIs. It is likely that the higher percentage of females on boards in Nepalese MFIs is due to the government regulation to have at least one female director on the board, and some NGOs, INGOs and cooperatives are run by females who target female clients.

Ninety-three percent of Nepalese MFIs have CEO/Chairman duality. Only 7% of Nepalese MFIs separate the roles in their governance operation. This shows the higher presence of CEO/Chair duality in Nepalese MFIs. The descriptive statistics of higher presence of CEO dual role does not support Hedrick and Struggles, (2014) findings of 20% of European firms suggested to have CEO duality role where Netherland stands at 68%, Austria and France at 65% and United Kingdom, Germany, Sweden, Poland at 0% of CEO duality role.

The mean proportion of ethnic representation on the board is 27% (median 27%) in Nepalese MFIs. The minimum ethnic representation in Nepalese MFIs stands at 0% and the maximum is 1, (100%). This shows the presence of ethnicity on the board in Nepalese MFIs. This figure is higher than Carter et al. (2003) who find a mean of 5.9% for Fortune 1000 firms. Miller and Triana (2009) find an average 10% in Fortune 500 firms and average ethnic representation in Nepalese MFIs is smaller than Marimuthu's (2008) finding of an average 53% in Malaysian companies.

Staff productivity mean value is 246.95 (median 248.5). Table 13 shows Nepalese MFIs' staff productivity ranges from a minimum value of 8 and maximum value of 906. Lafourcade et al. (2005) find the average staff productivity in number of savers stands at 213 and borrowers at 143 in African MFIs. Haq et al. (2010) find average staff productivity in number of borrowers per staff at 198 and saver per staff at 266 in 39 MFIs across Africa, Asia and Latin America. D'Espallier et al. (2009) find average staff productivity of 129 in 350 MFIs in 70 countries for 2001 to 2006. Agarwal and Sinha (2010) find average staff productivity in number of borrowers is 259.2273, ranging from 50 to 511, and number of savers is 28.772, ranging from 0 to1293 in 22 five-star rated MFIs in India. He further explains that Indian MFIs are not being able to utilize their employees to full capacity.

Firm size is calculated as the total assets of Nepalese MFIs. Natural log is taken for data smoothness. Average mean value of the firm size, LNASSETS, is 18.64 (median is 18.78) which is near to Bassem's (2009) finding of firm size mean value

of 17.634 in Mediterranean countries. Mersland and Strøm (2009) find mean firm size of 14.88 in a dataset of 278 MFIs from 60 countries for 2000 to 2007. Galema et al. (2012) find board size mean and median are 14.97 in 280 MFIs from 60 countries gathered during 2000–07. Nurmakhanova et al. (2015) find firm size 16.01 in a dataset of 450 MFIs from 71 countries over 2006–2008. Hartarska (2005) finds firm size is 13.97 for MFIs in Central and Eastern Europe and the Newly Independent States. Hartarska and Nadolnyak (2007) find average firm size is 14.97 for 114 MFIs from 62 countries. The Nepalese MFI size varies from 13.18 to 21.99.

Maturity of the firm, age, is taken as the number of the years Nepalese MFIs have operated in the financial market. The average age of the Nepalese MFIs is 12.24 and median stands at 13, which is near to the Kyereboah-Coleman and Osei (2008) finding from Ghanaian MFIs being young with a mean age of 13 years. Galema et al. (2012) finds average age of MFIs is 11.06 in 280 MFIs from 60 countries for 2000–07. Mersland and Strøm (2009) find the average mean age of MFIs is 9.2 for 278 MFIs from 60 countries for 2000 to 2007 which is also supported by Mersland et al. (2013) in a dataset of 405 MFIs operating in 73 countries worldwide for 2001 to 2010. Strøm et al. (2014) find the mean average is 9.36 for 329 MFIs in 73 countries for 1998–2008. Galema et al. (2012) find the average age is 11.06 in the dataset of 280 MFIs from 60 countries gathered during 2000–07. Mersland and Strøm (2010) find the average age of MFIs is 8.912 in 379 rated MFIs in 74 countries for 2001-2006. Hartarska and Nadolnyak (2007) find the average age is 8.08 for 114 MFIs from 62 countries and Hasan and Hartarska (2009) find the same average age of 8 from cross-country data of individual MFIs for 60 countries over the period 1998-2002. The minimum age of the Nepalese MFIs is 1 and the maximum is 23.

Personnel is defined as the number of employees that MFIs have in Nepal. The average number of employees stands at 90 (median 49) in Nepalese MFIs. D'Espallier et al. (2009) find the average number of employees in MFIs stands at 89, ranging from 2 to 1893 employees in 350 MFIs in 70 countries for 2001 to 2006. The employees in Nepalese MFIs vary from minimum 2 to maximum at 561.

The natural log has been applied to active borrowers variable to reduce the dispersion. The number of active borrowers, LNNAB, in Nepalese MFIs' mean

value stands at 8.75 and median at 8.92. Bassem (2009) finds the average NAB is 8.238 in Mediterranean countries. The number of active borrowers varies from 4.53 to 11.64 in Nepalese MFIs. The standard deviation is 1.65.

Loan size is defined as the average loan balance per borrower. The mean value of the Nepalese MFIs' ALBPB stands at NRs 20910.15 and the median is at NRs 12579. Its standard deviation is 27086.68. The minimum value is at NRs 1116.44 and maximum value is at NRs 273265, which shows there is a huge dispersion in loan size among Nepalese MFIs.

Depth of the loan is measured as the average loan balance per borrower per GNI per capita in Nepal. The average depth in Nepalese MFIs stands at 49.18% and the median is 29.47%. The standard deviation is 67.6%. The depth of Nepalese MFIs varies from a minimum value 3.87% to a maximum of 683.1%, which shows the MFIs' loan deviation is high. The higher depth value serves fewer poor clients (Microfinance Information Exchange, 2007). The Nepalese MFIs average is higher than the Microfinance Information Exchange (2007) that measures the depth of loan of the poor clients when it is 20% and less. This shows that Nepalese MFIs serve more mid- and higher-range clients. Bassem (2009); Hartarska (2005) explain lower average depth values mean MFIs serves poorer people, which is preferred from a poverty alleviation perspective.

Number of depositors is counted as the number of deposit accounts that MFIs hold in Nepal. A natural logarithm is taken to smooth the data and reduce the spreading. The average number of deposit accounts in Nepalese MFIs stands at 9.1 and the median is at 9.3. The minimum deposit account is at 3.04 and maximum is at 12.86.

Percentage of female borrowers mean value stands at 91.42% in Nepalese MFIs which is similar to the Microfinance Information Exchange (2014) report of an average 92% female borrowers in South East Asia. Mersland et al. (2013) find the mean value of percentage of female borrowers is 0.73 and median 0.74 in 405 MFIs operating in 73 countries for 2001-2010. D'Espallier et al. (2009) find the percentage of borrowers mean is 73% in 350 MFIs in 70 countries for 2001 to 2006. The median value is 1, that is 100%. The minimum value of the percentage of female borrowers is 19% and maximum is 100%. The standard deviation is 21%. This shows that Nepalese MFIs are focused more on female borrowers and serve

only female clients. However, there are some MFIs that also target male clients in Nepal.

Operating self-sufficiency (OSS) average value is 1.18 and the median is 1.17. This is similar to Mersland et al. (2013) who find the OSS average is 1.14 and median 1.11 in 405 MFIs operating in 73 countries for 2001-2010. Hartarska and Nadolnyak (2007) find the OSS mean value at 1.0773 in 114 MFIs from 62 countries. Tchakoute Tchuigoua (2010) finds the average value of OSS is 1.145 in 202 MFIs for 2001-2006. Mersland and Strøm (2009) find the OSS mean is 1.119 in 278 MFIs from 60 countries between 1998 and 2007. D'Espallier et al. (2009) find the OSS mean value at 1.12 in 350 MFIs in 70 countries for 2001 to 2006. Agarwal and Sinha (2010) find mean and median values of OSS are 1.264 and 1.121 respectively, ranging from 0.5946 to 3.3565 in 22 five-star rated MFIs in India. Strøm et al. (2014) find the OSS mean 1.56 in 329 Microfinance Institutions (MFIs) in 73 countries covering the years 1998–2008. Bassem (2009) finds the OSS mean value is 85.41% in Mediterranean countries. The mean and median values are higher than 1 which indicates that MFIs are operating effectively in Nepal. The OSS minimum value is 0.2 and maximum value is 7.67.

The average value of debt to equity (DER) ratio is 17.73 and the median is 8.45 in Nepalese MFIs. This shows that Nepalese MFIs are depending 17.73 times more on external sources than their internal input to operate. Shu and Oney (2014) find the average DER is 5.58375 and the median is 6.86 on panel data for the six major MFIs in Cameroon from 2007 to 2009. Agarwal and Sinha (2010) find the mean value of DER is 11.5386 and median is 8.52, ranging from 2.11 to 37.2 in 22 five-star rated MFIs in India. DER standard deviation is 51.6 for MFIs in Nepal. The debt to equity ratio of Nepalese MFIs ranges from -14.61 to 510.84. The negative value of DER appears because some of the MFIs started their operation with the help of donations.

Return on asset (ROA) mean value is 1.38% and median is 1.67%. This value is a little higher than Tchakoute Tchuigoua (2010) found in his study. Agarwal and Sinha (2010) find the ROA's mean and median values are 0.0304 and 0.01365 respectively, ranging from -0.1288 to 0.3086 in 22 five-star rated MFIs in India. Bassem (2009) finds ROA mean value of 5.935%, ranging from –7. 58% to 33% in

Mediterranean countries. The standard deviation is 6.03%. The average positive return is indicating that MFIs are utilizing their assets effectively, which improves operating profitability in Nepal. It shows that the shareholder's return has improved in the period 2004-2012. ROA minimum value is -48.3 and maximum value is 40.93% in Nepalese MFIs. The negative value of the ROA occurs because of the non-profit MFIs working in Nepal. The lower ROA in Nepalese MFIs indicates that the MFIs are asset-intensive and some of them may require more money to be invested into the business to continue generating earnings.

The return on equity (ROE) mean value is 22.08% and median is 17.05% of MFIs in Nepal. This positive mean value indicates MFIs create value for their shareholders and operate efficiently for the owners' benefits. Agarwal and Sinha (2010) find the mean and median ROE values are 0.374195 and 0.1602, ranging from -0.3965 to 2.1238 in his study of 22 five-star rated MFIs in India. The ROE value varies from -875.86% to 1235% in Nepalese MFIs. The high negative value appears because some MFIs run entirely on owners' equity for some years and they require investment in assets to provide further services.

## 5.4 Correlation of independent variables

The pairwise correlation matrix of the independent variables is presented in Table 14. Spearman's rank correlation coefficients, appropriate for the nonparametric variables, are presented in Table 14. While similar to Pearson's coefficients, it is necessary to stipulate the significance level for the correlations, which are based on the ranking of the variables. The significance level for showing the coefficient is 0.1 and the star is at 0.05. The correlations of the variables are in a range of -1 to +1. When the correlation coefficient between two variables is greater than 0.8 it is suggested this will result in multicollinearity problems when both are used in a regression (Gujarati, 2011). Percentage of female borrowers is correlated with firm size, assets at -0.5366* and personnel at -0.5424*. Personnel is correlated at 0.9087* with firm size. Most of the explanatory variables are less than 0.5, which is considered a low correlation between the explanatory variables, thus, giving less cause for concern about the multicollinearity problem.

**Table 14: Spearman rank correlation for independent variables**

| | BOD | INDBOD | PFONBOD | DUALITY | CASTEDIV | DPSM | LNASSETS | AGE | PERSONNEL |
|---|---|---|---|---|---|---|---|---|---|
| BOD | 1 | | | | | | | | |
| INDBOD | 0.0757 | 1 | | | | | | | |
| PFONBOD | -0.1554* | -0.1223* | 1 | | | | | | |
| DUALITY | -0.0770 | -0.2126* | 0.1295* | 1 | | | | | |
| CASTEDIV | 0.0415 | 0.2846* | 0.077 | 0.0587 | 1 | | | | |
| DPSM | 0.2318* | 0.1254* | 0.0572 | -0.1528* | 0.0089 | 1 | | | |
| LNASSETS | 0.2340* | 0.1611* | -0.5366* | -0.2152* | 0.0638 | 0.3077* | 1 | | |
| AGE | 0.2339* | 0.1200* | -0.0093 | 0.0375 | 0.0017 | 0.2023* | 0.2950* | 1 | |
| PERSONNEL | 0.2005* | 0.2617* | -0.5424* | -0.2051* | 0.0952 | 0.1919* | 0.9087* | 0.2170* | 1 |

## 5.5 Model specification

Correct specification of the model, including all relevant variables, and excluding irrelevant variables, is very important to ensure unbiased estimators. The starting point for the estimation process commences with an ordinary least square (OLS) regression model. The diagnostics point of OLS to the need to introduce other forms of linear models is tested. Careful scrutiny of the data, ensuring it meets the necessary conditions for OLS, is undertaken as the outputs from each model are used.

The initial panel dataset is created from the Mix Market for 9 years from 2004 to 2012. The study sample takes panel data and a cross-sectional approach for analysis and comparison purposes.

The homogeneity nature of panel data needs to be tested. Panel data is tested for the robustness of panel regression and whether a cross-sectional approach is appropriate for analysis in this study. Panel regression in corporate governance research is now common. However, the likelihood of governance variables changing each year may be low. If this is the case, then panel regression results will be biased. The panel data are tested for poolability to determine suitability for panel regression analysis and following Baltagi, Javier and Li, (1996), a Roy-Zellner test is applied.

The null hypothesis of the poolability test is: H0: $\beta ik = \beta k$
The null hypothesis of poolability assumes slope coefficients are homogeneous.
The Roy-Zellner statistic across firms is 197.43 with *p-value* 0.000 and across time is 81.71 with *p-value* 0.000. The results are significant in both instances, indicating that the null hypothesis of poolability is not supported. A panel method of regression is not appropriate and a cross-sectional regression method is an appropriate method.

To test the correlation between the five dependent variables a Friedman test is appropriate for a small sample size of more than three dependents groups. The results, presented in Table 15 indicate Friedman's chi-square has a value of 1.00E+03 and p-value of 0.000 on outreach performance and is statistically significant. Friedman's chi-square has a value of 1.20E+03 and p-value of 0.000 on

financial performance and it is statistically significant. The Kendal value, presented as part of the Friedman test for outreach is 0.8201 and financial 0.9146, indicating a greater degree of unanimity among the various responses of outreach and financial raters[7]. Hence, there is evidence that distribution of dependent financial and outreach variables are significantly different from each other.

**Table 15: Friedman test**

| FINANCIAL | |
|---|---|
| Friedman = | 1.20E+03 |
| Kendall = | 0.9146 |
| p-value = | 0.0000 |

| OUTREACH | |
|---|---|
| Friedman = | 1.00E+03 |
| Kendall = | 0.8201 |
| p-value = | 0.0000 |

A non-parametric regression approach appears appropriate for the data. The significance of the Friedman test and skewness of the variables as described in descriptive statistics favours the use of quantile regression, which is more robust, and gives a more comprehensive picture than OLS of the effect of the predictors on the response variable. Quantile regression will give experimental exploration of the relationship between a set of predictor variables and specific quantiles of the dependent variable, which specifies changes in the quantiles of the response. Quantile regression outcome changes with coefficients of dependent variables in the particular quantiles with a unit change in predictor variables. This flexibility is limited in the OLS with the change in the size of the dependent variables' coefficient with a unit change in the predictors. Quantile regression is appropriate, as the variables are continuous.

## 5.6 MANOVA and Kruskal-Wallis test

It is possible that not all MFIs have similar levels of performance. Rural banks, NGOs and cooperatives may place emphasis on different forms of performance. To consider the possibility that outreach and financial performance differ between rural banks, NGOs and cooperatives groups, a hypothesis is tested assuming that their performance is the same.

Ho: $RBO_o = NGOS_o = COOPS_o$.

[7] Comparing ratings of the same objects that were done by raters from two different groups/classes

There are five proxies for outreach and four proxies for financial performance used, so the null hypothesis is tested on each of these.

The MANOVA test is used to check whether there is a difference between the mean of three subgroups: Rural Banks (RB), Non-Government Organizations (NGO), and Cooperatives (COOP) for five outreach variables: NAB, ALBPB, ALBPB/GNI, NOD and PFB and four financial: OSS, ROA, ROE, and DER. The test results indicate that three subgroups differ as presented in Table 16.

**Table 16: MANOVA**

| W = Wilks' lambda L = Lawley-Hotelling trace P = Pillai's trace R = Roy's largest root | | | | | | | |
|---|---|---|---|---|---|---|---|
| Source | Statistic | | F(df1, | df2) | F | Prob>F | |
| group | W | 0.3892 | 18 | 606 | 20.3 | 0.0000 | e |
| | P | 0.6702 | 18 | 608 | 17.02 | 0.0000 | a |
| | L | 1.4165 | 18 | 604 | 23.76 | 0.0000 | a |
| | R | 1.2989 | 9 | 304 | 43.87 | 0.0000 | u |
| Number of obs = 314 e = exact, a = approximate, u = upper bound on F | | | | | | | |
| Residual | 311 | Total | 313 | | | | |

A robustness test using Kruskal-Wallis procedure is used. The significance result of the MANOVA test indicates the need to have a further mean ranking equality test of the subgroups: Rural Bank, NGO, Cooperative, over the outreach and financial performance proxies. The Kruskal-Wallis, a rank-based nonparametric test, is conducted which allows the comparison of nine proxies of MFIs' outreach and financial performance independent groups. It hypothesizes that the population mean ranks of the subgroups: Rural Bank, NGO, COOP, are the same on the dependent variables of outreach and financial proxies. The test results shown in the following Table 17 indicate that the mean rankings of all subgroups are statistically significantly different from each other for the outreach and financial performance variables.

**Table 17: Kruskal-Wallis test results**

| Kruskal-Wallis test results | | | | |
|---|---|---|---|---|
| | chi-squared | chi-squared with ties | P Value | Findings |
| NAB | 104.997 | 104.997 | 0.0001 | Statistically significantly different |
| ALBPB | 133.346 | 133.347 | 0.0001 | Statistically significantly different |
| ALBPB/GNI | 156.894 | 156.895 | 0.0001 | Statistically significantly different |
| NOD | 87.361 | 87.361 | 0.0001 | Statistically significantly different |
| PFB | 37.220 | 70.124 | 0.0001 | Statistically significantly different |
| OSS | 28.284 | 28.284 | 0.0001 | Statistically significantly different |
| DER | 58.516 | 58.516 | 0.0001 | Statistically significantly different |
| ROA | 24.103 | 24.103 | 0.0001 | Statistically significantly different |
| ROE | 14.013 | 14.013 | 0.0009 | Statistically significantly different |

## 5.7 Regression method

A quantile regression is the appropriate method given the Friedman test, skewness of the variables, and noting data are continuous and not ordinal. This provides an experimental exploration of the relationship between the set of predictor variables and specific quantiles of the dependent variable, specifying changes in the quantiles of the response. A quantile regression estimates the changes in the size of dependent variable coefficient in the particular quantiles with unit changes in predictor variables.

The relationship of corporate governance, outreach and financial performance is investigated on the different levels of the quantiles. The different levels of quantile explain the distribution of the dependent variables on the governance factors. The sign of the coefficient explains the magnitude of corporate governance with the variables at the different levels of outreach performance.

To achieve the best results for regression, it is essential to get the right quantile. Various combinations of quantiles, in this instance four quantiles, are tried sequentially looking to the results for improvement. The data on 15, 50, 75 and 85th quantiles have significance for 2012 data and independently were found best for the 2004 data. The quantiles for both years, 2004 and 2012, are approximately the same. Two cross sectional estimations are made for 2004 and 2012. The estimated

coefficients and sign of coefficients of the dependent variables are different at different quantiles of years 2004 and 2012. However, there are similarities when $50^{th}$ quantile is taken as a median on (+/-) relationships with the variables. Some coefficients on particular dependent variables get weaker and others get stronger. Dependent variables are in complete opposite relation with individual independent variables when years 2004 to 2012 are compared.

The outreach performance proxies are number of borrowers, loan size, depth of loan, number of depositors, percentage of female borrowers; and financial performance proxies are return on assets, return on equity, operating self-sufficiency, and debt to equity ratio, all have been explained above. The quantile regression coefficients, reported in Tables 19 to 24, and 25 to 29, show the effect of governance on the outreach and financial performance of MFIs differs at different levels of quantiles. The most significant quantiles differ for 2004 and 2012. The cross-sectional regressions for performance show different relationships with governance through the quantiles. Each-year quantiles from 2004 to 2012 are taken into consideration to identify the relationship of governance and MFIs' outreach and financial performance.

## 5.8 Difference in difference

There are changes between the 2004 and 2012 variables, including time difference, but there may be other factors that contribute to the changes, such as regulatory changes. Requirements concerning duality did not change. So, this can be used as a treatment variable for Difference in Difference (DID) regression presented as Table 18. This shows there are both time and variable differences in some quantiles.

The failure of the poolability test on the panel data suggests using DID for cross-sectional causal inferences for years 2004 and 2012. Difference in difference analysis provides insights into how relationships between variables changed between the periods.

DID is appropriate for evaluating performance proxies cross-sectional interpretation (Villa, 2013), and it allows an opportunity for contributing interpretations when combining with quantile regression (Meyer, Viscusi, & Durbin, 1995). DID is used to review differences across time, comparing the difference that

occurs in the nine years. A time dummy is created to observe the effectiveness of time periods on governance over the period.

**Table 18: DID Quantile regression results for diff LNNAB, (Duality)**

| Outcome var. | LNNAB | | | |
|---|---|---|---|---|
| | q15 | q50 | q75 | q85 |
| Baseline | | | | |
| Control | 8.464 | 9.11 | 9.11 | 9.11 |
| Treated | 6.163 | 7.639 | 9.214 | 10.178 |
| Diff (T-C) | -2.301 | -1.471 | 0.104 | 1.068 |
| S.Err. | 1.376 | 1.472 | 0.718 | 0.81 |
| significance | 0.100* | 0.321 | 0.885 | 0.192 |
| Follow-up | | | | |
| Control | 8.807 | 10.706 | 11.644 | 11.644 |
| Treated | 6.594 | 9.282 | 10.489 | 10.773 |
| Diff (T-C) | -2.213 | -1.424 | -1.154 | -0.871 |
| S.Err. | 1.283 | 1.382 | 0.666 | 0.755 |
| significance | 0.090* | 0.307 | 0.088* | 0.253 |
| Diff-in-Diff | 0.088 | 0.046 | -1.259 | -1.939 |
| S.Err. | 1.882 | 2.019 | 0.98 | 1.107 |
| significance | 0.963 | 0.982 | 0.204 | 0.085* |

The dual role of CEO shows a significant impact in decreasing the number of active borrowers in the upper quantile with a coefficient of -1.939. The duality has a significant difference at 10% in the lower quantile q=15 for baseline and follow-up years, 2004, 2012 consecutively, but it does not show the significance in DID at the same year 2004 and 2012. A potential explanation is that duality creates an unfavourable impression of the institution. This may relate to its viability in maintaining services and clients' concerns about getting caught up in a fraud trap. As international markets move away from duality, the concern is noted at the higher quartile and distrust is maintained at the lower quartile.

# Chapter six – Analysis

## 6.1 Outreach performance

The quantile regression results of year 2012 for five outreach proxies; number of active borrowers, size of loan, depth of loan, number of depositors, percentage of female borrowers are shown in Tables 19, 20, 21, 22 and 23.

### 6.1.1 Outreach regression result for 2012

The quantile results indicate that the effect of governance factors are statistically significant in lower quantiles q > = 15 and in upper quantiles 75 <= q.

#### 6.1.1.1 Number of active borrowers (NAB)

The number of active borrowers' coefficient and its relationship with governance independent variables differs at different levels of quantiles as reflected in Table 19.

**Table 19: 2012 Quantile regression results for number of active borrowers**

| NAB | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -0.174*** | 0.0282 | 0.0458 | -0.0935** |
| | (0.0468) | (0.0759) | (0.0332) | (0.0343) |
| INDBOD | -0.341*** | 0.0281 | 0.0497 | 0.0449 |
| | (0.0895) | (0.145) | (0.0636) | (0.0656) |
| PFONBOD | 0.0161 | -1.194 | -1.133** | -0.755* |
| | (0.581) | (0.943) | (0.413) | (0.426) |
| DUALITY | -0.345 | 0.0106 | 0.138 | 0.321 |
| | (0.429) | (0.696) | (0.305) | (0.314) |
| CASTEDIV | 0.324 | 0.497 | 0.508 | -0.845* |
| | (0.591) | (0.958) | (0.419) | (0.433) |
| DPSM | 0.00218* | 0.000932 | 0.000808 | 0.00169** |
| | (0.00109) | (0.00177) | (0.000773) | (0.000798) |
| LNASSETS | 1.234*** | 0.762** | 0.829*** | 0.695*** |
| | (0.199) | (0.323) | (0.141) | (0.146) |
| AGE | 0.0292 | 0.0366 | 0.0365** | 0.0311* |
| | (0.0241) | (0.0391) | (0.0171) | (0.0177) |
| PERSONNEL | 0.00238 | 0.000771 | 0.000115 | 0.00142 |
| | (0.00161) | (0.00262) | (0.00115) | (0.00118) |
| Constant | -15.53*** | -6.375 | -7.751*** | -4.058 |
| | (3.730) | (6.051) | (2.648) | (2.732) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size is significantly negatively correlated at lower and upper quantiles at q=15 and 85. The strongest explanatory power at q=15 indicates that MFIs with larger boards will have lower outreach in Nepal.

The variable independent directors on the board has significant negative correlation at the lower quantile at q=15. It indicates that MFIs perform poorly in their social mission to serve the number of credit clients in Nepal when independent directors' involvement increases.

The percentage of females on the board is strongly negatively correlated at the upper quantile q=75 and 85. This indicates that highly gender-diversified boards reduce Nepalese MFIs' enrichment of the number of credit clients. It is likely that the female on board is used as a token as well, as they are less involved in MFIs' policy formulation and operational activities.

Caste diversity is significantly negative in the upper quantile q=85. This indicates that when boards have high caste diversity the number of credit clients MFIs served is reduced. It is likely that more directors on board from different castes increases the caste polarity that reduces the effectiveness of operational activities and policy formation.

Staff productivity is positively significantly correlated at q=15 and 85. The lower explanatory power of staff productivity indicates that Nepalese MFIs with higher staff productivity may lead to a greater number of credit clients in their service. It is likely that staff productivity increases because of the group lending process.

Assets of the firm are positive in all quantiles q=15, 50, 75, and 85. It is strongest at q=15 and its explanatory power gets weaker as it goes into upper quantiles. The strongest positive significance at the lower quantile indicates that smaller MFIs will have greater social outreach, that is, a higher number of active borrowers in Nepal.

Age of the firm is significantly positive in upper quantiles at q=75 and 85 but with weaker explanatory power. It indicates that the number of credit clients increases with the maturity of firm.

#### 6.1.1.2 Size of the Loan (ALBPB)

Size of loan is explained as the average loan portfolio outstanding per client. Table 20 shows the quantile regression results for size of loan, ALBPB.

**Table 20: 2012 Quantile regressions for size of loan**

| ALBPB | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -66.51 | 1,605 | 4,502** | 9,124*** |
| | (237.3) | (1,945) | (2,074) | (2,115) |
| INDBOD | -1,467*** | -791.3 | -2,212 | -6,452 |
| | (454.2) | (3,723) | (3,970) | (4,049) |
| PFONBOD | 2,633 | 17,058 | 60,479** | 44,307 |
| | (2,948) | (24,157) | (25,759) | (26,272) |
| DUALITY | -8,650*** | -1,480 | 9,333 | -5,258 |
| | (2,178) | (17,847) | (19,031) | (19,410) |
| CASTEDIV | 17,458*** | 6,000 | -27,760 | -40,477 |
| | (2,996) | (24,556) | (26,185) | (26,706) |
| DPSM | 16.39*** | 12.82 | -14.05 | -30.63 |
| | (5.527) | (45.29) | (48.30) | (49.26) |
| LNASSETS | 1,560 | 3,619 | 13,783 | -7,674 |
| | (1,010) | (8,281) | (8,830) | (9,006) |
| AGE | -647.9*** | -1,085 | -1,183 | 498.7 |
| | (122.3) | (1,002) | (1,069) | (1,090) |
| PERSONNEL | -14.85* | -35.59 | -102.3 | 70.13 |
| | (8.188) | (67.11) | (71.56) | (72.98) |
| Constant | -8,147 | -52,090 | -250,932 | 129,133 |
| | (18,924) | (155,083) | (165,370) | (168,663) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size is positively significantly correlated at upper quantiles q=75 and 85. The strongest coefficient at q=85 suggests that a larger board size increases the loan size.

Independent directors are significantly negatively related at lower quantile q=15. This may explain why MFIs with fewer independent directors are focused on the social mission by serving credit clients with smaller loans.

Percentage of females on the board is significantly positively correlated at the upper quantile q=75; however, insignificantly positive at quantiles q=15, 50, 85.

The significance in the higher quantiles may mean that the loan portfolio gets bigger when gender diversity increases on the board in Nepalese MFIs.

Caste diversification is significantly positively related at lower quantile q=15. It indicates that the loan size gets bigger with higher caste diversification in Nepalese MFIs. It is likely that the moneylender presence and openness to the relationship-based loan may give borrowers easy access to moneylenders. However, the presence of minorities on the board may influence larger loan amounts, which may attract credit clients to knock on MFIs' doors.

Staff productivity is positively significantly related at q=15. It indicates that the loan size increases with staff productivity. It is likely that staff want to deal with fewer clients in rural regions but with bigger loans.

Age is significantly negative in the lower quantile q=15. It indicates that loan size gets smaller as firms gets older.

Personnel has significantly negative impacts at the lower quantile q=15. This indicates that the loan size gets smaller when MFIs increase the number of employees. It is likely that more employees in MFIs increases their capacity for handling the small number of loans on the economic scale. However, MFIs with a lower number of employees tend to increase the loan size to minimize the operational cost.

#### 6.1.1.3 Depth of loan (ALBPB/GNI)

It is a measure of the target customers' poverty level. Quantile regression results for depth of loan are shown Table 21.

**Table 21: 2012 Quantile regressions for depth of loan**

| ALBPBGNI | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.722 | 1.976 | 5.010 | 5.953 |
| | (0.537) | (2.508) | (5.918) | (5.509) |
| INDBOD | -1.664 | -1.651 | 3.439 | 2.245 |
| | (1.027) | (4.802) | (11.33) | (10.55) |
| PFONBOD | -0.931 | 43.06 | 89.68 | 106.4 |
| | (6.665) | (31.16) | (73.52) | (68.44) |
| DUALITY | -0.251 | 6.813 | 29.29 | 37.32 |
| | (4.924) | (23.02) | (54.32) | (50.56) |
| CASTEDIV | 18.92*** | -5.086 | -27.41 | -42.42 |
| | (6.775) | (31.68) | (74.74) | (69.57) |
| DPSM | 0.0511*** | 0.0194 | -0.00496 | -0.0859 |
| | (0.0125) | (0.0584) | (0.138) | (0.128) |
| LNASSETS | 1.617 | 4.749 | 23.29 | 31.85 |
| | (2.285) | (10.68) | (25.20) | (23.46) |
| AGE | -0.153 | -1.891 | -0.462 | 0.568 |
| | (0.276) | (1.293) | (3.050) | (2.839) |
| PERSONNEL | 0.00847 | -0.0457 | -0.167 | -0.214 |
| | (0.0185) | (0.0866) | (0.204) | (0.190) |
| Constant | -32.87 | -59.18 | -451.5 | -612.2 |
| | (42.79) | (200.1) | (472.0) | (439.4) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Caste diversity is positively significantly correlated at the lower quantile q=15 which indicates that Nepalese MFIs target the richer clients when caste diversity increases on a board.

Staff productivity is significantly positively related at the lower quantile q=15 with weaker explanatory power. It indicates that the depth of loan increases with staff productivity. With higher staff productivity, the more likely the MFI is to slip from its social mission to serve richer clients.

#### 6.1.1.4 Number of depositors (NOD)

This is counted as the number of deposit accounts the MFIs hold in service. The quantile regression results for number of depositors are shown Table 22.

**Table 22: 2012 Quantile regressions for number of depositors**

| NOD | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -0.102*** | -0.0136 | -0.0290 | -0.0710** |
| | (0.0216) | (0.0588) | (0.0310) | (0.0303) |
| INDBOD | -0.160*** | 0.00788 | 0.0213 | -0.0161 |
| | (0.0414) | (0.113) | (0.0593) | (0.0581) |
| PFONBOD | -0.245 | -0.941 | -0.791** | -0.383 |
| | (0.269) | (0.731) | (0.385) | (0.377) |
| DUALITY | 0.152 | 0.139 | 0.269 | 0.315 |
| | (0.199) | (0.540) | (0.284) | (0.279) |
| CASTEDIV | 0.232 | 0.541 | -0.255 | -0.671* |
| | (0.273) | (0.743) | (0.391) | (0.383) |
| DPSM | 0.00392*** | 0.00272* | 0.00166** | 0.00137* |
| | (0.000504) | (0.00137) | (0.000721) | (0.000707) |
| LNASSETS | 0.942*** | 0.602** | 0.631*** | 0.558*** |
| | (0.0922) | (0.251) | (0.132) | (0.129) |
| AGE | -0.00800 | 0.0453 | 0.0405** | 0.00930 |
| | (0.0112) | (0.0303) | (0.0160) | (0.0156) |
| PERSONNEL | 0.00160** | 0.00169 | 0.00146 | 0.00137 |
| | (0.000747) | (0.00203) | (0.00107) | (0.00105) |
| Constant | -9.651*** | -3.426 | -3.253 | -0.706 |
| | (1.726) | (4.693) | (2.470) | (2.420) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size has a negative significant correlation at lower and upper quantiles q=15, and 85. The strongest coefficient at q=15 suggests that the impact of not having depositors is greater with smaller boards, which lowers when board size increases in Nepalese MFIs.

Independent directors are significantly negatively related in the lower quantile at q=15. This indicates that the involvement of independent directors reduces the number of deposit accounts. It is likely that the depositors' faith in the institution reduces with the higher number of independent directors.

Percentage of females on the board is significantly negatively related at q=75 but insignificantly negatively related at all other quantiles q=15, 50, and 85. This indicates that gender diversity adversely affects belief in the institutions' credibility, and therefore affects the number of depositors.

Caste diversity is negatively related in the upper quantile at q=85. This explains that the number of deposit accounts decreases with more caste-diversified institutions.

Staff productivity is significantly positive at all quantiles q=15, 50, 75, and 85. The explanatory power is weaker in all quantiles but strongest at q=15. This indicates that MFIs with high staff productivity may have more deposit accounts. MFIs with greater staff productivity are able to serve more clients.

Firm size, total assets, is positive at all quantiles q=15, 50, 75, and 85. The strongest significant positive relationship is at lower quantile q=15, which explains why smaller MFIs may have more depositors.

Age of the firm is significantly positively related in the upper quantile at q=75 and insignificantly positive in upper quantiles q=50 and 85. This indicates that the maturity of the firm attracts more depositors. It is likely that longer serving firms earn better service credibility, which leads to clients placing faith in the MFI and to deposit their savings there.

Personnel is significantly positive in the lower quantile at q=15 but insignificantly positive in all other quantiles q=50, 75 and 85. However, the explanatory power is weak at all quantiles. This shows that MFIs with higher numbers of employees can expect to have higher numbers of depositors. MFIs with more employees are able to reach to the rural and more difficult geographical regions to serve poor clients. Clients feel more comfortable to deposit in institutions rather than keeping their money at home or staying with moneylenders.

#### 6.1.1.5 Percentage of female borrowers (PFB)

This is counted as the percentage of female borrowers that MFIs have in their credit clients. The quantile regression results for percentage of female borrowers are shown in Table 23.

The regression worked well till the q=15, 50 but started misbehaving from q=60. It gives too small coefficients in upper quantiles. It could be because 83% of MFIs are serving only female clients and approximately 17% are serving both male and female borrowers.

**Table 23: 2012 Quantile regressions for percentage of female borrowers**

| PFB | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -5.554*** | -0.0221 | -0** | 0*** |
| | (1.282) | (1.068) | (0) | (0) |
| INDBOD | 3.348 | 0.0148 | -0 | -0* |
| | (2.454) | (2.044) | (0) | (0) |
| PFONBOD | 3.593 | 0.00704 | -0 | 0*** |
| | (15.92) | (13.26) | (0) | (0) |
| DUALITY | 18.05 | -0.0676 | 0 | -0 |
| | (11.76) | (9.798) | (0) | (0) |
| CASTEDIV | 14.38 | -0.0611 | -0** | -0 |
| | (16.19) | (13.48) | (0) | (0) |
| DPSM | 0.0411 | -7.83e-05 | -0** | 0 |
| | (0.0299) | (0.0249) | (0) | (0) |
| LNASSETS | 5.689 | 0.00332 | 0 | -0*** |
| | (5.458) | (4.546) | (0) | (0) |
| AGE | -1.914*** | -0.00176 | 0** | 0*** |
| | (0.661) | (0.550) | (0) | (0) |
| PERSONNEL | 0.00412 | 0.000166 | 0 | 0*** |
| | (0.0442) | (0.0368) | (0) | (0) |
| Constant | 1.216 | 100.2 | 100*** | 100*** |
| | (102.2) | (85.14) | (0) | (0) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size has a significant negative relationship in lower and upper quantiles at q=15 and 75 and is significantly positive at q=85. This shows that the impact of having a lower percentage of female clients and smaller board size is greater than for larger boards.

Maturity of the firm is significantly negatively related with percentage of female borrowers in the lower quantile q=15. This indicates that new firms are more focused on female credit clients than more mature firms are. It is likely that mature firms consider the mixed male and female clientele in their long period of services.

### 6.1.2 Outreach regression result for 2004

Table 24 shows the quantile regression results of year 2004 for five outreach proxies; number of active borrowers, size of loan, depth of loan, number of depositors, percentage of female borrowers.

**Table 24: 2004 quantile regression results for the five outreach dependent variables; NAB, ALBPB, ALBPB/GNI, NOD, and PFB**

#### 6.1.2.1 Number of active borrowers (NAB)

| NAB | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.0222 | -0.0118 | 0.0426 | 0.00506 |
| | (0.0435) | (0.0594) | (0.0355) | (0.0206) |
| INDBOD | 0.506*** | 0.184 | 0.121 | 0.124 |
| | (0.158) | (0.215) | (0.129) | (0.0746) |
| PFONBOD | -0.296 | -0.0996 | -0.146 | -0.0332 |
| | (0.422) | (0.576) | (0.344) | (0.199) |
| DUALITY | 1.214** | 0.310 | -0.0871 | -0.252 |
| | (0.516) | (0.705) | (0.421) | (0.244) |
| CASTEDIV | 0.757 | -0.523 | 0.945* | 1.485*** |
| | (0.565) | (0.773) | (0.461) | (0.267) |
| DPSM | -0.00186 | 0.000370 | 0.00251 | 0.00367*** |
| | (0.00215) | (0.00294) | (0.00175) | (0.00102) |
| LNASSETS | 0.488*** | 0.492*** | 0.399*** | 0.391*** |
| | (0.106) | (0.144) | (0.0861) | (0.0499) |
| AGE | -0.152*** | -0.0256 | -0.0325 | -0.0257 |
| | (0.0347) | (0.0474) | (0.0283) | (0.0164) |
| PERSONNEL | 0.00957*** | 0.00628* | 0.00687*** | 0.00710*** |
| | (0.00225) | (0.00308) | (0.00184) | (0.00106) |
| Constant | -1.829 | -0.911 | 0.416 | 0.636 |
| | (1.690) | (2.308) | (1.378) | (0.799) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Independent director is significantly positively correlated at q=15.

Duality is strongly significantly positively correlated at lower quantile q=15.

Caste diversity is positively significantly correlated in upper quantiles q=75 and 85.

Staff productivity is significantly positively weakly correlated in upper quantile q=85.

Firm size, total asset, is significantly positively correlated in all quantiles q-15, 50, 75 and 85. It is likely that the MFIs with a larger firm size leads to achievement of higher outreach in 2004.

The maturity, age, is significantly negatively correlated at lower quantile q=15. It is likely that the MFIs were in young age to build their reputation that attracts clients to receiving their services.

Personnel is positively correlated in all quantiles q=15, 50, 75 and 85. This is indicative that the MFIs leads to have higher number of active borrowers when they increase the number of employees.

#### 6.1.2.2 Size of the loan (ALBPB)

| ALBPB | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -197.4*** | -52.57 | 422.9 | -633.8 |
| | (63.85) | (622.1) | (1,880) | (1,893) |
| INDBOD | -778.8*** | -1,515 | -3,838 | -16,396** |
| | (231.5) | (2,256) | (6,816) | (6,864) |
| PFONBOD | -2,348*** | 9,104 | 13,394 | -8,844 |
| | (619.1) | (6,032) | (18,228) | (18,356) |
| DUALITY | 3,863*** | 7,303 | -6,125 | -20,469 |
| | (757.9) | (7,385) | (22,315) | (22,472) |
| CASTEDIV | -3,580*** | -6,609 | -9,958 | -6,544 |
| | (830.2) | (8,089) | (24,443) | (24,614) |
| DPSM | -2.505 | 12.40 | 35.76 | 21.29 |
| | (3.158) | (30.77) | (92.98) | (93.64) |
| LNASSETS | 2,107*** | 2,480 | 3,464 | 12,767** |
| | (155.0) | (1,510) | (4,563) | (4,595) |
| AGE | -105.9* | 338.0 | 1,047 | 4,015** |
| | (50.98) | (496.8) | (1,501) | (1,512) |
| PERSONNEL | -23.41*** | -30.33 | -64.86 | -302.8*** |
| | (3.306) | (32.21) | (97.34) | (98.03) |
| Constant | -30,039*** | -44,191* | -54,338 | -175,132** |
| | (2,480) | (24,169) | (73,033) | (73,545) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size is significantly negatively correlated with size of the loan in lower quantile q=15.

The independent director is significantly negatively correlated at quantiles q=15 and 85.

Percentage of female on board is significantly negatively correlated at lower quantile q=15.

Duality is significantly positively correlated at lower quantile q=15.

Caste diversity is significantly negatively correlated at lower quantile q=15.

Firm size is significantly positively correlated at quantiles q=15 and 85.

Maturity is significantly positively correlated at upper quantile q=85 and significantly negatively correlated at lower quantile q=15. It is likely that the MFIs that are matured increase the size of loan in comparison to the young MFIs in 2004.

Personnel is significantly negatively correlated at lower and upper quantiles q= 15 and 85. It is likely that the MFIs provide a smaller size of loan when they increase the number of employees in MFIs.

#### 6.1.2.3 Depth of the loan (ALBPB/GNI)

| ALBPB/GNI | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -0.486 | -0.170 | 1.562 | -2.352 |
| | (0.312) | (2.381) | (7.229) | (7.023) |
| INDBOD | -3.089** | -3.089 | -15.50 | -61.04** |
| | (1.131) | (8.633) | (26.21) | (25.46) |
| PFONBOD | -9.189*** | 29.37 | 50.70 | -31.63 |
| | (3.025) | (23.09) | (70.09) | (68.10) |
| DUALITY | 14.32*** | 23.54 | -24.84 | -77.15 |
| | (3.703) | (28.26) | (85.81) | (83.37) |
| CASTEDIV | -13.31*** | -17.57 | -37.53 | -25.18 |
| | (4.056) | (30.96) | (93.99) | (91.31) |
| DPSM | 0.00182 | 0.0372 | 0.152 | 0.0972 |
| | (0.0154) | (0.118) | (0.358) | (0.347) |
| LNASSETS | 7.491*** | 7.445 | 13.42 | 47.02** |
| | (0.757) | (5.779) | (17.54) | (17.04) |
| AGE | -0.327 | 0.543 | 4.115 | 15.00** |
| | (0.249) | (1.901) | (5.773) | (5.608) |
| PERSONNEL | -0.0792*** | -0.0598 | -0.251 | -1.119*** |
| | (0.0162) | (0.123) | (0.374) | (0.364) |
| Constant | -110.7*** | -131.0 | -212.8 | -647.1** |
| | (12.12) | (92.50) | (280.8) | (272.8) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Independent directors are significantly negatively correlated with the depth of the loan at quantiles q=15 and 85.

Percentage of female on board is significantly negatively correlated at q=15.

Duality is significantly positively correlated at lower quantile q=15.

Caste diversity is significantly negatively correlated at lower quantile q=15.

Firm size is significantly positively correlated at quantiles q=15 and 85. Maturity of the firm is significantly positively correlated at quantile q=85.

Personnel is significantly negatively correlated at quantiles q=15 and 85.

#### 6.1.2.4 Number of depositors (NOD)

| NOD | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.0193 | 0.0150 | 0.0651* | 0.0423*** |
| | (0.0288) | (0.0537) | (0.0346) | (0.0112) |
| INDBOD | -0.0130 | 0.180 | 0.0147 | 0.105** |
| | (0.104) | (0.195) | (0.125) | (0.0407) |
| PFONBOD | -0.807*** | -0.296 | -0.0187 | 0.423*** |
| | (0.279) | (0.521) | (0.335) | (0.109) |
| DUALITY | -0.545 | 0.225 | -0.698 | -0.599*** |
| | (0.341) | (0.638) | (0.410) | (0.133) |
| CASTEDIV | 0.127 | 0.744 | 1.004** | 1.082*** |
| | (0.374) | (0.698) | (0.449) | (0.146) |
| DPSM | 0.0150*** | 0.00881*** | 0.00692*** | 0.00573*** |
| | (0.00142) | (0.00266) | (0.00171) | (0.000555) |
| LNASSETS | 0.167** | 0.269* | 0.325*** | 0.338*** |
| | (0.0698) | (0.130) | (0.0839) | (0.0273) |
| AGE | 0.0222 | 0.00552 | -0.0268 | -0.0314*** |
| | (0.0230) | (0.0429) | (0.0276) | (0.00897) |
| PERSONNEL | 0.00922*** | 0.00850*** | 0.00670*** | 0.00681*** |
| | (0.00149) | (0.00278) | (0.00179) | (0.000581) |
| Constant | 2.373** | 1.004 | 1.536 | 1.494*** |
| | (1.117) | (2.086) | (1.343) | (0.436) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size is significantly positively correlated at quantiles q=75 and 85 with number of depositors.

Independent director is significantly positively correlated at quantile q=85.

Percentage of female on board is significantly negative correlated at q=15 and significantly positively correlated at q=85.

Duality is significantly negatively correlated at quantile q=85.

Caste diversity is positively correlated at q=75 and 85.

Staff productivity is significantly positively correlated in all quantiles q=15, 50, 75 and 85.

Firm size is significantly positively correlated at all quantiles q=15, 50, 75 and 85.

Maturity of the MFIs is significantly negatively correlated at quantile q=85.

Personnel is significantly positively correlated at all quantiles q=15, 50, 75 and 85.

#### 6.1.2.5 Percentage of female borrowers (PFB)

| PFB | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -3.995*** | -0 | 0*** | -0 |
| | (0.406) | (1.463) | (0) | (0) |
| INDBOD | 10.53*** | 0 | 0*** | -0 |
| | (1.473) | (5.304) | (0) | (0) |
| PFONBOD | 36.38*** | 0 | 0*** | 0 |
| | (3.939) | (14.18) | (0) | (0) |
| DUALITY | 25.72*** | -0 | 0*** | 0 |
| | (4.822) | (17.36) | (0) | (0) |
| CASTEDIV | -0.227 | -0 | 0*** | -0 |
| | (5.282) | (19.02) | (0) | (0) |
| DPSM | -0.0128 | -0 | 0** | -0 |
| | (0.0201) | (0.0724) | (0) | (0) |
| LNASSETS | 7.773*** | 0 | 0*** | -0 |
| | (0.986) | (3.550) | (0) | (0) |
| AGE | -1.830*** | 0 | 0 | -0 |
| | (0.324) | (1.168) | (0) | (0) |
| PERSONNEL | 0.0739*** | -0 | -0*** | -0 |
| | (0.0210) | (0.0757) | (0) | (0) |
| Constant | -59.16*** | 100* | 100*** | 100 |
| | (15.78) | (56.83) | (0) | (0) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size is significantly negatively correlated at lower quantile q=15.

Independent director is significantly positively correlated at lower quantile q=15.

Percentage of female directors is significantly positive correlated at lower quantile q=15.

Duality is significantly positively correlated at q=15.

Firm size is significantly positively correlated at q= 15.

Maturity of the MFIs is significantly negatively correlated at q=-15.

Personnel is significantly positively correlated at q=15.

## 6.2 Financial performance

The significance of the governance factor differs in different quantiles. The quantile regression results indicate that the effect of governance factors are statistically significant in lower quantiles q > = 15 and in upper quantiles 75 <= q.

The quantile regression results of year 2012 for four financial proxies; return on asset, return on equity, debt to equity ratio, and operational self-sufficiency, are shown in Tables 25, 26, 27 and 28.

### 6.2.1 Financial regression result for 2012

The governance factors and their relationship with financial proxies: ROA, ROE, DER, and OSS are explained on the coefficient Tables 25, 26, 27 and 28.

#### 6.2.1.1 Return on Asset (ROA)

Quantile regression results of ROA with independent governance variables are explained in Table 25.

**Table 25: Quantiles regression results for ROA, 2012**

| ROA | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.00388 | 0.00142 | 0.000757 | 0.00186* |
| | (0.00681) | (0.00222) | (0.00167) | (0.00102) |
| INDBOD | 0.00318 | -0.00412 | -0.000957 | -0.00542** |
| | (0.0130) | (0.00425) | (0.00320) | (0.00196) |
| PFONBOD | 0.0261 | 0.0201 | 0.0341 | 0.00934 |
| | (0.0846) | (0.0276) | (0.0208) | (0.0127) |
| DUALITY | -0.00680 | -0.0100 | -0.0122 | -0.0123 |
| | (0.0625) | (0.0204) | (0.0154) | (0.00940) |
| CASTEDIV | -0.0326 | 0.0340 | 0.00912 | 0.00386 |
| | (0.0860) | (0.0280) | (0.0211) | (0.0129) |
| DPSM | -2.41e-05 | 4.47e-05 | 5.91e-05 | 2.06e-05 |
| | (0.000159) | (5.17e-05) | (3.90e-05) | (2.38e-05) |
| LNASSETS | 0.00839 | 0.00659 | 0.00302 | -0.00530 |
| | (0.0290) | (0.00945) | (0.00713) | (0.00436) |
| AGE | -0.000333 | 0.000562 | -0.00103 | -0.00265*** |
| | (0.00351) | (0.00114) | (0.000863) | (0.000528) |
| PERSONNEL | -1.32e-05 | -3.21e-05 | -3.58e-05 | 3.17e-05 |
| | (0.000235) | (7.66e-05) | (5.78e-05) | (3.53e-05) |
| Constant | -0.173 | -0.140 | -0.0295 | 0.175** |
| | (0.543) | (0.177) | (0.134) | (0.0817) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size shows the significant positive correlation in upper quantiles at q=85. This explains that larger boards may have higher return on assets. It is likely that larger boards are more efficient at utilizing assets.

Independent directors are significantly negatively correlated in the upper quantile at q=85. This indicates that increasing the number of independent directors adversely affects return on assets. It is likely that independent directors adversely impact the utilization of assets.

Maturity of the firm is significantly negatively related in upper quantile q=85. It indicates that ROA reduces as firms mature in Nepalese MFIs.

#### 6.2.1.2 Return on Equity (ROE)

Quantile regression results of ROE with independent governance variables are explained in Table 26.

**Table 26: Quantiles regression results for ROE, 2012**

| ROE | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.0232** | 0.00558 | -0.00320 | -0.00352 |
| | (0.00961) | (0.0192) | (0.0171) | (0.00771) |
| INDBOD | -0.00736 | -0.0282 | -0.0129 | -0.0130 |
| | (0.0184) | (0.0367) | (0.0328) | (0.0148) |
| PFONBOD | -0.139 | 0.0900 | -0.109 | -0.0754 |
| | (0.119) | (0.238) | (0.213) | (0.0958) |
| DUALITY | -0.385*** | -0.225 | -0.629*** | -0.640*** |
| | (0.0882) | (0.176) | (0.157) | (0.0708) |
| CASTEDIV | 0.129 | 0.113 | -0.0915 | -0.0760 |
| | (0.121) | (0.242) | (0.216) | (0.0974) |
| DPSM | -0.000170 | 5.92e-05 | -0.000431 | -0.000423** |
| | (0.000224) | (0.000447) | (0.000399) | (0.000180) |
| LNASSETS | -0.0155 | 0.0104 | 0.0763 | 0.0880** |
| | (0.0409) | (0.0817) | (0.0730) | (0.0328) |
| AGE | 0.00576 | 0.00639 | -0.0284*** | -0.0289*** |
| | (0.00495) | (0.00988) | (0.00883) | (0.00397) |
| PERSONNEL | 0.000137 | 0.000144 | -0.000748 | -0.000796*** |
| | (0.000332) | (0.000662) | (0.000592) | (0.000266) |
| Constant | 0.460 | -0.0471 | 0.226 | 0.00964 |
| | (0.766) | (1.529) | (1.367) | (0.615) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is positively significantly related with ROE at lower quantile q=15. This explains that Nepalese MFIs' profitability increases as the numbers of board size

increase. A smaller board may incur smaller returns on their equity. However, the explanatory power is weaker.

Duality is significantly negatively correlated in lower and upper quantiles at q=15, 75 and 85. This indicates that duality has a negative impact on Nepalese MFIs.

Staff productivity is significantly negatively correlated in upper quantile at q=85. This explains that the profitability of the firm decreases when staff productivity increases. However, the staff productivity has too small explanatory power, which may have a negligible impact on profitability of MFIs. Therefore, a small amount of MFIs profitability is lessened when staff productivity is higher in Nepal.

Firm size is significantly positively correlated in the upper quantile at q= 85. This indicates that MFIs with higher assets may enjoy greater profitability. It is likely that they are able to diversify their products in order to reduce their costs in serving their clients.

The maturity of the firm is significantly negative in upper quantiles at q=75 and 85. It is strongest at q=85. This explains that profitability gets lower when firms mature. It is likely that the skilled and experienced employees move away as MFIs gain maturity.

The number of employees is significantly negatively correlated in the upper quantile at q=85. This explains that firms' profitability reduces as employee numbers increase. It is likely that the local employees are not as skilful at loan disbursement. It is likely that MFIs face a higher employee turnover.

#### 6.2.1.3 Debt to Equity Ratio (DER)

Quantile regression results of DER with independent governance variables are explained in Table 27.

**Table 27: Quantiles regression results for DER, 2012**

| DER | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -0.0825 | -0.268 | -0.309 | -0.572** |
| | (0.165) | (0.318) | (0.308) | (0.217) |
| INDBOD | 0.542* | -0.0316 | -0.961 | -1.275*** |
| | (0.316) | (0.608) | (0.590) | (0.416) |
| PFONBOD | -0.315 | -6.341 | -1.035 | -3.969 |
| | (2.052) | (3.947) | (3.830) | (2.700) |
| DUALITY | -3.515** | -4.322 | -4.405 | -4.995** |
| | (1.516) | (2.916) | (2.830) | (1.995) |
| CASTEDIV | 0.779 | -1.575 | 3.059 | 4.664 |
| | (2.086) | (4.012) | (3.893) | (2.745) |
| DPSM | 0.0109*** | -0.000603 | -0.00831 | -0.0112** |
| | (0.00385) | (0.00740) | (0.00718) | (0.00506) |
| LNASSETS | -0.187 | -0.720 | 1.389 | 1.192 |
| | (0.703) | (1.353) | (1.313) | (0.926) |
| AGE | 0.139 | 0.138 | 0.328** | 0.161 |
| | (0.0851) | (0.164) | (0.159) | (0.112) |
| PERSONNEL | 0.0123** | 0.00792 | -0.00407 | -0.00473 |
| | (0.00570) | (0.0110) | (0.0106) | (0.00750) |
| Constant | 4.998 | 27.30 | -12.17 | -0.452 |
| | (13.17) | (25.34) | (24.59) | (17.34) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is significantly negatively related at upper quantile q=85. This indicates that the larger board will have less debt to equity ratios.

Independent directors are significantly positively correlated in lower and upper quantiles at q=15 and 85. This is significantly positive at q=15 and significantly negative at q=85: strongest at q=85. This explains that firms with fewer independent directors' have higher debt to equity ratios. Higher involvement of an independent director reduces the debt to equity ratio in Nepalese MFIs.

Duality is significantly negative in lower and upper quantiles at q=15 and 85. This indicates that duality adversely affects the debt to equity ratio.

Staff productivity is significantly positively correlated in the lower quantile at q=15 and is significantly negatively correlated in upper quantile at q=85. This explains that MFIs with higher staff productivity will have lower debt to equity ratios whereas MFIs with lower staff productivity will have higher debt to equity ratio in Nepal.

Maturity is significantly positively correlated in upper quantiles at q=75. This explains that mature firms have higher debt to equity ratios.

The number of employees is significantly positively related in the lower quantile at q=15. This indicates that the debt to equity ratio increases with the number of employees in Nepalese MFIs.

#### 6.2.1.4 Operating self-sufficiency (OSS)

Quantile regression results of OSS with independent governance variables are explained in Table 28.

**Table 28: Quantiles regression results for OSS, 2012**

| OSS | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.0553*** | 0.00208 | -0.0225 | 0.00424 |
| | (0.0145) | (0.0226) | (0.0200) | (0.0173) |
| INDBOD | -0.0606** | -0.0176 | -0.0488 | -0.0697** |
| | (0.0278) | (0.0432) | (0.0383) | (0.0331) |
| PFONBOD | 0.384** | 0.153 | -0.0633 | 0.229 |
| | (0.180) | (0.280) | (0.249) | (0.215) |
| DUALITY | -0.261* | -0.175 | -0.262 | -0.358** |
| | (0.133) | (0.207) | (0.184) | (0.159) |
| CASTEDIV | -0.421** | 0.140 | 0.282 | -0.0689 |
| | (0.183) | (0.285) | (0.253) | (0.218) |
| DPSM | -5.55e-05 | 0.000444 | 0.00122** | 0.00120*** |
| | (0.000338) | (0.000526) | (0.000466) | (0.000403) |
| LNASSETS | 0.150** | 0.0584 | 0.0578 | -0.0685 |
| | (0.0618) | (0.0961) | (0.0853) | (0.0737) |
| AGE | -0.0329*** | -0.000785 | -0.00456 | -0.0137 |
| | (0.00748) | (0.0116) | (0.0103) | (0.00891) |
| PERSONNEL | -0.000514 | -0.000171 | -0.000469 | 0.000424 |
| | (0.000501) | (0.000779) | (0.000691) | (0.000597) |
| Constant | -1.626 | -0.0335 | 0.266 | 2.830* |
| | (1.158) | (1.800) | (1.597) | (1.380) |
| Observations | 37 | 37 | 37 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is significantly positively correlated in the lower quantile at q=15. This explains that firms' operational self-sufficiency increases with the board size increases. However, it may explain that smaller boards are efficient at business operation in Nepalese MFIs.

Independent directors are significantly negatively correlated in lower and upper quantiles at q=15 and 85. This is strongest at q=85. This indicates that when there

is a greater number of independent directors in Nepalese MFIs, operating self-sufficiency is reduced.

Percentage of female directors is significantly positive, correlated in lower quantiles at q=15. This indicates that operational self-sufficiency improves as the percentage of females on the board increases.

Duality is significantly negatively correlated in lower and upper quantiles at q=15 and 85. It is strongest at q=85. This indicates that duality reduces the operational self-sufficiency of MFIs in Nepal.

Caste diversity is significantly negatively correlated in lower quantiles at q=15. This indicates that caste diversity adversely impacts operational self-sufficiency in MFIs in Nepal.

Staff productivity is significantly positively correlated at upper quantiles q=75 and 85. It is strongest at q=75. This indicates that the improvement in staff productivity increases the operational self-sufficiency of MFIs in Nepal.

Firm size is significantly positively related at lower quantile q=15. This indicates that operational self-sufficiency improves as firm size increases. The lower quantile significance explains that MFIs with smaller firm size are having better operational self-sufficiency in Nepal.

Maturity is significantly negatively correlated at lower quantile at q=15. This explains that the operational self-sufficiency is lower in new firms. This suggests that Nepalese MFIs depend more on donations to run their operations regardless of their age.

### 6.2.2 Financial regression result for 2004

Table 29 shows the quantile regression results with independent governance variable of year 2004 for four financial proxies; return on asset, return on equity, debt to equity ratio, and operational self-sufficiency.

**Table 29: 2004 quantiles regression results for four financial proxies; ROA, ROE, DER, and OSS**

#### 6.2.2.1 Return on assets (ROA)

| ROA | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | -1.47e-05 | 0.00261 | 0.00637 | 0.0231*** |
| | (0.00196) | (0.00207) | (0.00582) | (0.00626) |
| INDBOD | 0.00532 | -0.0117 | -0.00481 | -0.0168 |
| | (0.00710) | (0.00750) | (0.0211) | (0.0227) |
| PFONBOD | 0.0311 | 0.0149 | -0.00471 | -0.0843 |
| | (0.0190) | (0.0201) | (0.0565) | (0.0607) |
| DUALITY | 0.0229 | -0.0424* | -0.0341 | 0.0129 |
| | (0.0232) | (0.0246) | (0.0691) | (0.0743) |
| CASTEDIV | 0.0440* | 0.0556* | 0.0851 | 0.0845 |
| | (0.0255) | (0.0269) | (0.0757) | (0.0814) |
| DPSM | -2.90e-05 | 3.47e-05 | 9.87e-05 | 0.000209 |
| | (9.69e-05) | (0.000102) | (0.000288) | (0.000310) |
| LNASSETS | 0.00745 | -0.00140 | -0.0122 | -0.0425** |
| | (0.00475) | (0.00502) | (0.0141) | (0.0152) |
| AGE | -0.000717 | -0.000869 | -0.00165 | -0.00409 |
| | (0.00156) | (0.00165) | (0.00465) | (0.00500) |
| PERSONNEL | -5.57e-05 | 9.20e-06 | 0.000110 | 0.000175 |
| | (0.000101) | (0.000107) | (0.000302) | (0.000324) |
| Constant | -0.160** | 0.0471 | 0.214 | 0.671** |
| | (0.0761) | (0.0804) | (0.226) | (0.243) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is weakly positively correlated at q=85.

Duality is weakly significantly correlated at q=50.

Caste diversity is significantly positively correlated at lower quantiles q=15 and 50.

Firm size is significantly negatively correlated at q=85.

#### 6.2.2.2 Return on equity (ROE)

| ROE | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.166*** | 0.0569 | 0.196 | 0.772* |
| | (0.0539) | (0.0378) | (0.357) | (0.420) |
| INDBOD | 0.163 | -0.0381 | -0.0806 | -0.257 |
| | (0.196) | (0.137) | (1.293) | (1.523) |
| PFONBOD | 1.545*** | 0.150 | -0.181 | -2.369 |
| | (0.523) | (0.367) | (3.459) | (4.073) |
| DUALITY | 0.387 | -0.108 | 0.232 | 1.453 |
| | (0.640) | (0.449) | (4.234) | (4.986) |
| CASTEDIV | 1.966** | 0.277 | 0.390 | 0.480 |
| | (0.701) | (0.492) | (4.638) | (5.461) |
| DPSM | -0.00193 | 0.000388 | -0.000532 | 0.00203 |
| | (0.00267) | (0.00187) | (0.0176) | (0.0208) |
| LNASSETS | 0.336** | -0.00814 | -0.174 | -1.075 |
| | (0.131) | (0.0918) | (0.866) | (1.019) |
| AGE | -0.108** | -0.0201 | -0.0741 | -0.272 |
| | (0.0431) | (0.0302) | (0.285) | (0.335) |
| PERSONNEL | 0.00181 | 0.000249 | 0.00146 | 0.00558 |
| | (0.00279) | (0.00196) | (0.0185) | (0.0218) |
| Constant | -8.145*** | 0.0138 | 2.581 | 16.77 |
| | (2.095) | (1.469) | (13.86) | (16.32) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is significantly positively correlated at quantiles q=15 and 85.

Percentage of female on board is significantly positively correlated at q=15.

Caste diversity is significantly positively correlated at q=15.

Firm size is significantly positively correlated at q=15.

Maturity of the MFIs is significantly negatively correlated at q=15.

#### 6.2.2.3 Debt to equity ratio (DER)

| DER | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| | | | | |
| BOD | 1.593 | 0.726 | -2.851 | -1.071 |
| | (48.89) | (1.577) | (14.18) | (15.59) |
| INDBOD | 3.431 | 2.399 | 10.44 | 8.489 |
| | (177.2) | (5.719) | (51.41) | (56.54) |
| PFONBOD | 11.04 | 2.911 | -33.07 | -3.203 |
| | (474.0) | (15.29) | (137.5) | (151.2) |
| DUALITY | 0.136 | 0.0321 | 41.25 | 94.13 |
| | (580.3) | (18.72) | (168.3) | (185.1) |
| CASTEDIV | -25.45 | -1.107 | -42.88 | -67.71 |
| | (635.6) | (20.51) | (184.4) | (202.7) |
| DPSM | 0.0343 | -0.00265 | 0.00272 | 0.223 |
| | (2.418) | (0.0780) | (0.701) | (0.771) |
| LNASSETS | -1.733 | 1.131 | -3.665 | 29.53 |
| | (118.6) | (3.828) | (34.41) | (37.85) |
| AGE | 0.407 | -0.212 | 0.811 | 12.30 |
| | (39.04) | (1.259) | (11.32) | (12.45) |
| PERSONNEL | 0.0473 | 0.00338 | -0.0786 | -0.856 |
| | (2.531) | (0.0817) | (0.734) | (0.807) |
| Constant | 8.887 | -16.88 | 92.89 | -571.5 |
| | (1,899) | (61.27) | (550.9) | (605.8) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

There is no statistical significant relationship of independent variables with the debt to equity ratio in 2004.

### 6.2.2.4 Operational self-sufficiency (OSS)

| OSS | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| VARIABLES | q_15 | q_50 | q_75 | q_85 |
| BOD | 0.000141 | -0.00210 | 0.00873 | 0.0243 |
| | (0.0127) | (0.0244) | (0.0216) | (0.0143) |
| INDBOD | -0.0806* | -0.0140 | 0.0497 | 0.0205 |
| | (0.0461) | (0.0884) | (0.0783) | (0.0518) |
| PFONBOD | 0.266** | 0.269 | 0.264 | 0.357** |
| | (0.123) | (0.236) | (0.209) | (0.139) |
| DUALITY | -0.522*** | -0.00397 | -0.153 | -0.315* |
| | (0.151) | (0.289) | (0.256) | (0.170) |
| CASTEDIV | 0.193 | 0.220 | 0.570* | 0.850*** |
| | (0.165) | (0.317) | (0.281) | (0.186) |
| DPSM | 0.00229*** | -4.09e-05 | -0.000335 | 0.00126* |
| | (0.000628) | (0.00121) | (0.00107) | (0.000707) |
| LNASSETS | 0.0572* | 0.112* | 0.0998* | 0.0488 |
| | (0.0308) | (0.0591) | (0.0524) | (0.0347) |
| AGE | 0.0344*** | 0.00638 | -0.00140 | -0.00295 |
| | (0.0101) | (0.0195) | (0.0172) | (0.0114) |
| PERSONNEL | 0.000275 | -0.000968 | -0.000594 | 0.000157 |
| | (0.000658) | (0.00126) | (0.00112) | (0.000740) |
| Constant | -0.435 | -1.045 | -0.653 | 0.00665 |
| | (0.493) | (0.947) | (0.839) | (0.555) |
| Observations | 30 | 30 | 30 | 30 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Independent director is significantly negatively correlated at q=15.

Percentage of female on board is significantly positively correlated at quantiles q=15 and 85.

Duality is significantly negatively correlated at q=15 and 85.

Caste diversity is significantly positively correlated at q=85.

Staff productivity is significantly positively correlated at q=15 and 85.

Firm size is significantly positively correlated at q=15, 50 and 85.

Maturity is significantly positively correlated at q=15.

# Chapter seven – Findings

## 7.1 Comparison of regression results 2004 and 2012

A comparison of the quantile regression for 2004 and 2012 is presented in Tables 30, 31, 32, 33 and 34; where variables differ between two years in terms of their statistical significance these are explained. The quantile regression results indicate that the effects of outreach and financial variables and governance differ across the quantiles.

### 7.1.1 Compiled outreach regression results for 2012 and 2004

Compiled outreach regression results for 2012 and 2004 are shown in Tables 30, 31, 32, 33 and 34.

#### 7.1.1.1 Number of active borrowers

This indicates the change of number of active borrowers in MFIs during 2004 and 2012 as shown in Table 30 below.

**Table 30: Compiled NAB for 2012&2004**

The quantiles regression results on governance and number of active customers differ at various quantiles.

| Number of active Borrowers | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | q_15 | (2) | q_50 | (3) | q_75 | (4) | q_85 |
| VARIABLES | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| BOD | 0.0222 | -0.174*** | -0.0118 | 0.0282 | 0.0426 | 0.0458 | 0.00506 | -0.0935** |
| | (0.0435) | (0.0468) | (0.0594) | (0.0759) | (0.0355) | (0.0332) | (0.0206) | (0.0343) |
| INDBOD | 0.506*** | -0.341*** | 0.184 | 0.0281 | 0.121 | 0.0497 | 0.124 | 0.0449 |
| | (0.158) | (0.0895) | (0.215) | (0.145) | (0.129) | (0.0636) | (0.0746) | (0.0656) |
| PFONBOD | -0.296 | 0.0161 | -0.0996 | -1.194 | -0.146 | -1.133** | -0.0332 | -0.755* |
| | (0.422) | (0.581) | (0.576) | (0.943) | (0.344) | (0.413) | (0.199) | (0.426) |
| DUALITY | 1.214** | -0.345 | 0.310 | 0.0106 | -0.0871 | 0.138 | -0.252 | 0.321 |
| | (0.516) | (0.429) | (0.705) | (0.696) | (0.421) | (0.305) | (0.244) | (0.314) |
| CASTEDIV | 0.757 | 0.324 | -0.523 | 0.497 | 0.945* | 0.508 | 1.485*** | -0.845* |
| | (0.565) | (0.591) | (0.773) | (0.958) | (0.461) | (0.419) | (0.267) | (0.433) |
| DPSM | -0.00186 | 0.00218* | 0.000370 | 0.000932 | 0.00251 | 0.000808 | 0.00367*** | 0.00169** |
| | (0.00215) | (0.00109) | (0.00294) | (0.00177) | (0.00175) | (0.000773) | (0.00102) | (0.000798) |
| LNASSETS | 0.488*** | 1.234*** | 0.492*** | 0.762** | 0.399*** | 0.829*** | 0.391*** | 0.695*** |
| | (0.106) | (0.199) | (0.144) | (0.323) | (0.0861) | (0.141) | (0.0499) | (0.146) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AGE | -0.152*** | 0.0292 | -0.0256 | 0.0366 | -0.0325 | 0.0365** | -0.0257 | 0.0311* |
| | (0.0347) | (0.0241) | (0.0474) | (0.0391) | (0.0283) | (0.0171) | (0.0164) | (0.0177) |
| PERSONNEL | 0.00957*** | 0.00238 | 0.00628* | 0.000771 | 0.00687*** | 0.000115 | 0.00710*** | 0.00142 |
| | (0.00225) | (0.00161) | (0.00308) | (0.00262) | (0.00184) | (0.00115) | (0.00106) | (0.00118) |
| Constant | -1.829 | -15.53*** | -0.911 | -6.375 | 0.416 | -7.751*** | 0.636 | -4.058 |
| | (1.690) | (3.730) | (2.308) | (6.051) | (1.378) | (2.648) | (0.799) | (2.732) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Board size is negatively and significantly correlated in lower quantile q=15 with (-0.174***, 2012) and upper quantile q=85 with (-0.0935**, 2012) in 2012 but there was no significance in 2004. This explains that the impact of board size on the number of active borrowers has been significant through the years. The change in board size has significant impact on the reduction of active borrower clients in 2012 but not in 2004.

Independent directors are significantly positively related in 2004 with (0.506***, 2004) at q=15 but significantly negatively related in 2012 with (-0.341***, 2012) in the lower quantile at q=15. This shows that independent directors impact adversely on organizational outreach performance in 2012 compared with a positive outreach performance in 2004. Numerically, it explains that the outreach of MFIs will reduce by 34.1% by having one additional independent director on the board in 2012 compared with 50.6% outreach achievement in 2004 in Nepalese MFIs.

Percentage of females on the board is significantly negatively related in upper quantiles at q=75 with (-1.133**, 2012) and at q=85 with (-0.755*, 2012) in 2012 and insignificantly negative in 2004 at all quantiles q=15, 50, 75 and 85. It is likely that females have less or negligible involvement in strategic formulation and implications for institutional social mission in Nepal.

Duality of CEO is significantly positively related at q=15 in 2004 with (1.214**, 2004) coefficient but with no significance in 2012. Duality may have increased the outreach of a firm by 121.4% in 2004 but it does not have any significance in 2012.

Caste diversity is negatively significantly related at q=85 in 2012 with coefficient (-0.845*, 2012) and positively significantly related in 2004 with coefficient (1.485***, 2004) at q=85. The caste diversity results show the impact on serving borrowers reduces 84.5% when a board involves one minority in 2012, whereas it improves 148.5% in 2004 when change happens. This shows that caste is becoming less of a concern in recent times.

Staff productivity has a significantly positive relationship at q=85 in 2012 with (0.00169**, 2012) and (0.00367***, 2004) in 2004at q=85. This explains that staff productivity is less results-oriented in 2012 than in 2004. It indicates that when staff productivity improves by one, it may lead to serving approximately 20% fewer MFI clients in 2012.

The control variable firm size shows a significant positive relationship at all quantiles q=15, 50, 75, and 85 in 2012 and 2004. The strongest impact is at q=15 with coefficients (1.234***, 2012) and (0.488***, 2004). This explains that the firm with fewer assets may have improved outreach by 123.4% in 2012 compared with 48.8% in 2004 when their assets improved by one unit.

Another control variable, age, has shown a significant positive impact on the number of borrowers to serve at q= 75, and 85 and is insignificantly positive in all quantiles in 2012, significantly negatively related at q= 15, and insignificantly negative at all quantiles in 2004. This shows that as a firm matures year by year, the number of borrowers it serves increases, by 3.65% in 2012. The maturity of the new firm increases by one, reducing the outreach coverage by 15.2% in 2004. This gives an impression that maturity of the firm is a factor considered by borrowers when choosing institutions for credit. It is likely that firms that started in 2004 or before have matured by 2012, thus improving the MFIs' credibility.

Employees play a significant positive relationship at all quantiles q=15, 25, 50, 75 and 85 in 2004 but insignificant in all quantiles in 2012. The weaker explanatory power in 2004 explains that number of employees was less of a concern in 2004 when choosing an MFI for credit.

#### 7.1.1.2 Size of loan

This explains the change that may have occurred with the governance factors during 2004 and 2012. The median regression does not show any significant relation during 2004 and 2012. The different quantiles show the different significance relationship in 2004 and 2012 as shown in Table 31 below.

**Table 31: Compiled ALBPB for 2012 & 2004**

| ALBPB | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| BOD | -197.4*** | -66.51 | -52.57 | 1,605 | 422.9 | 4,502** | -633.8 | 9,124*** |
| | (63.85) | (237.3) | (622.1) | (1,945) | (1,880) | (2,074) | (1,893) | (2,115) |
| INDBOD | -778.8*** | -1,467*** | -1,515 | -791.3 | -3,838 | -2,212 | -16,396** | -6,452 |
| | (231.5) | (454.2) | (2,256) | (3,723) | (6,816) | (3,970) | (6,864) | (4,049) |
| PFONBOD | -2,348*** | 2,633 | 9,104 | 17,058 | 13,394 | 60,479** | -8,844 | 44,307 |
| | (619.1) | (2,948) | (6,032) | (24,157) | (18,228) | (25,759) | (18,356) | (26,272) |
| DUALITY | 3,863*** | -8,650*** | 7,303 | -1,480 | -6,125 | 9,333 | -20,469 | -5,258 |
| | (757.9) | (2,178) | (7,385) | (17,847) | (22,315) | (19,031) | (22,472) | (19,410) |
| CASTEDIV | -3,580*** | 17,458*** | -6,609 | 6,000 | -9,958 | -27,760 | -6,544 | -40,477 |
| | (830.2) | (2,996) | (8,089) | (24,556) | (24,443) | (26,185) | (24,614) | (26,706) |
| DPSM | -2.505 | 16.39*** | 12.40 | 12.82 | 35.76 | -14.05 | 21.29 | -30.63 |
| | (3.158) | (5.527) | (30.77) | (45.29) | (92.98) | (48.30) | (93.64) | (49.26) |
| LNASSETS | 2,107*** | 1,560 | 2,480 | 3,619 | 3,464 | 13,783 | 12,767** | -7,674 |
| | (155.0) | (1,010) | (1,510) | (8,281) | (4,563) | (8,830) | (4,595) | (9,006) |
| AGE | -105.9* | -647.9*** | 338.0 | -1,085 | 1,047 | -1,183 | 4,015** | 498.7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (50.98) | (122.3) | (496.8) | (1,002) | (1,501) | (1,069) | (1,512) | (1,090) |
| PERSONNEL | -23.41*** | -14.85* | -30.33 | -35.59 | -64.86 | -102.3 | -302.8*** | 70.13 |
| | (3.306) | (8.188) | (32.21) | (67.11) | (97.34) | (71.56) | (98.03) | (72.98) |
| Constant | -30,039*** | -8,147 | -44,191* | -52,090 | -54,338 | -250,932 | -175,132** | 129,133 |
| | (2,480) | (18,924) | (24,169) | (155,083) | (73,033) | (165,370) | (73,545) | (168,663) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

The significant negative relation at the lower quantile q=15 with (-197.4***, 2004) in 2004 explains that MFIs with smaller boards target smaller loans. However, the positive significant correlation at upper quantile q=75 with (4,502**, 2012) and q=85 with (9,124***, 2012) explains that MFIs with larger boards are more likely to divert from their social mission and target individual, rather than collective, loans.

Independent directors on board correlates significantly negative at lower quantile q=15 in 2004 and 2012 with the coefficients (-778.8***, 2004) and (-1,467***, 2012). Statistically, this explains that the loan size reduces by almost half when MFIs add one additional independent director in 2012 compared to 2004. It is likely that independent directors from different castes encourage MFIs to become focused on their social mission by issuing smaller loans.

The positive significant relation of the percentage of female directors in the upper quantile at q=75 in 2012 with the coefficient (60,479**, 2012) explains that the loan size increases with more female involvement on the board.

Duality has a significant positive correlation in 2004 with coefficient (3,863***, 2004) but a significant negative correlation in 2012 with coefficient (-8,650***, 2012) at quantile q=15. It shows that the MFIs with CEO duality are more focused on their social mission in 2012 compared with 2004 through issuing smaller loans.

Caste diversity is positively significantly correlated in 2012 with the coefficient (17,458***, 2012) and negatively significantly related in 2004 with the coefficient (-3,580***, 2004). That shows that MFIs with more cast diversity are likely to issue larger loans. It is likely that the increased presence of moneylenders forces MFIs to issue larger loans when their boards are more caste diversified.

The positive significant correlation of staff productivity in 2012 with coefficient (16.39***, 2012) explains that MFIs may increase loan size by 16.39% when it increases employees by one unit.

Firm size does not have any significant relationship in 2012 but is positively significantly correlated in 2004 at q=15 and 85. This shows that firm size has a significant impact in 2004 for fulfilling the social mission but it becomes autonomous in 2012.

Maturity of the firm has significant negative correlation at lower quantile q=15 in 2004 and 2012 with the coefficients (-105.9*, 2004) and (-647.9***, 2012). This shows that the younger MFIs in 2012 are more focused on social mission than MFIs in 2004. The loan size becomes lower by approximately 500% when firm maturity increases by one year in 2012 compared with 2004.

Number of employees is negatively significantly correlated at lower quantile q=15 in 2012 and 2004 with the coefficients (-23.41***, 2004) and (-14.85*, 2012). This explains that loan size gets bigger by 9% in 2012 compared with 2004 when MFIs increase input by one employee. It is likely that the capacity of employees has improved to handle loans in 2012 compared with 2004.

#### 7.1.1.3 Depth of loan

Depth of loan explains whether MFIs are targeting poor clients as part of their social mission or whether they have been diverted. The changes in MFIs' client consideration and governance factors during 2004 and 2012 are explained in Table 32 below.

**Table 32: Compiled ALBPB/GNI for 2012 & 2004**

| ALBPBGNI | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| BOD | -0.486 | 0.722 | -0.170 | 1.976 | 1.562 | 5.010 | -2.352 | 5.953 |
| | (0.312) | (0.537) | (2.381) | (2.508) | (7.229) | (5.918) | (7.023) | (5.509) |
| INDBOD | -3.089** | -1.664 | -3.089 | -1.651 | -15.50 | 3.439 | -61.04** | 2.245 |
| | (1.131) | (1.027) | (8.633) | (4.802) | (26.21) | (11.33) | (25.46) | (10.55) |
| PFONBOD | -9.189*** | -0.931 | 29.37 | 43.06 | 50.70 | 89.68 | -31.63 | 106.4 |
| | (3.025) | (6.665) | (23.09) | (31.16) | (70.09) | (73.52) | (68.10) | (68.44) |
| DUALITY | 14.32*** | -0.251 | 23.54 | 6.813 | -24.84 | 29.29 | -77.15 | 37.32 |
| | (3.703) | (4.924) | (28.26) | (23.02) | (85.81) | (54.32) | (83.37) | (50.56) |
| CASTEDIV | -13.31*** | 18.92*** | -17.57 | -5.086 | -37.53 | -27.41 | -25.18 | -42.42 |
| | (4.056) | (6.775) | (30.96) | (31.68) | (93.99) | (74.74) | (91.31) | (69.57) |
| DPSM | 0.00182 | 0.0511*** | 0.0372 | 0.0194 | 0.152 | -0.00496 | 0.0972 | -0.0859 |
| | (0.0154) | (0.0125) | (0.118) | (0.0584) | (0.358) | (0.138) | (0.347) | (0.128) |
| LNASSETS | 7.491*** | 1.617 | 7.445 | 4.749 | 13.42 | 23.29 | 47.02** | 31.85 |
| | (0.757) | (2.285) | (5.779) | (10.68) | (17.54) | (25.20) | (17.04) | (23.46) |
| AGE | -0.327 | -0.153 | 0.543 | -1.891 | 4.115 | -0.462 | 15.00** | 0.568 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.249) | (0.276) | (1.901) | (1.293) | (5.773) | (3.050) | (5.608) | (2.839) |
| PERSONNEL | -0.0792*** | 0.00847 | -0.0598 | -0.0457 | -0.251 | -0.167 | -1.119*** | -0.214 |
| | (0.0162) | (0.0185) | (0.123) | (0.0866) | (0.374) | (0.204) | (0.364) | (0.190) |
| Constant | -110.7*** | -32.87 | -131.0 | -59.18 | -212.8 | -451.5 | -647.1** | -612.2 |
| | (12.12) | (42.79) | (92.50) | (200.1) | (280.8) | (472.0) | (272.8) | (439.4) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Independent director is significantly negatively related at quantile q=15 with (-3.089**, 2004) in 2004 but it loses significance in 2012.

Percentage of females on the board is significantly negatively related at quantile q=15 with (-9.189***, 2004) in 2004 but there is no significant relationship in 2012.

Duality is positively significantly related at quantile q=15 with (14.32***, 2004) in 2004 but shows no significance in 2012.

Caste diversification correlation has changed from significant negative relation in 2004 to positive significance in 2012 with coefficients (-13.31***, 2004) and (18.92***, 2012). This explains that caste diversity increases the loan depth by 32.13% when MFIs improve caste diversification by one unit on their boards in 2012 compared to 2004. It is likely that the higher presence of moneylenders in some regions impels MFIs to increase their depth of loan when the board caste diversity increases.

Staff productivity is positively significantly related in 2012 at quantile q=15 with (0.0511***, 2012) and insignificantly positive in 2004 at q=15. This explains that staff productivity improves the depth of loan in 2012. It is likely that staff are more capable to deal with group loans at higher amounts.

Firm size is positively significantly related at quantile q=15 with (7.491***, 2004) and q=85 with (47.02**, 2004) in 2004 but insignificantly positive in all quantiles in 2012. This explains that firm size significantly improves the depth of loan in 2004. That is, the bigger the firm, the higher the depth of loan, with social mission missing out.

#### 7.1.1.4 Number of depositors

This is the indicator of number of depositors compared during 2004 and 2012 in Table 33 below.

**Table 33: Compiled NOD for 2012 & 2004**

| NOD | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| BOD | 0.0193 | -0.102*** | 0.0150 | -0.0136 | 0.0651* | -0.0290 | 0.0423*** | -0.0710** |
| | (0.0288) | (0.0216) | (0.0537) | (0.0588) | (0.0346) | (0.0310) | (0.0112) | (0.0303) |
| INDBOD | -0.0130 | -0.160*** | 0.180 | 0.00788 | 0.0147 | 0.0213 | 0.105** | -0.0161 |
| | (0.104) | (0.0414) | (0.195) | (0.113) | (0.125) | (0.0593) | (0.0407) | (0.0581) |
| PFONBOD | -0.807*** | -0.245 | -0.296 | -0.941 | -0.0187 | -0.791** | 0.423*** | -0.383 |
| | (0.279) | (0.269) | (0.521) | (0.731) | (0.335) | (0.385) | (0.109) | (0.377) |
| DUALITY | -0.545 | 0.152 | 0.225 | 0.139 | -0.698 | 0.269 | -0.599*** | 0.315 |
| | (0.341) | (0.199) | (0.638) | (0.540) | (0.410) | (0.284) | (0.133) | (0.279) |
| CASTEDIV | 0.127 | 0.232 | 0.744 | 0.541 | 1.004** | -0.255 | 1.082*** | -0.671* |
| | (0.374) | (0.273) | (0.698) | (0.743) | (0.449) | (0.391) | (0.146) | (0.383) |
| DPSM | 0.0150*** | 0.00392*** | 0.00881*** | 0.00272* | 0.00692*** | 0.00166** | 0.00573*** | 0.00137* |
| | (0.00142) | (0.000504) | (0.00266) | (0.00137) | (0.00171) | (0.000721) | (0.000555) | (0.000707) |
| LNASSETS | 0.167** | 0.942*** | 0.269* | 0.602** | 0.325*** | 0.631*** | 0.338*** | 0.558*** |
| | (0.0698) | (0.0922) | (0.130) | (0.251) | (0.0839) | (0.132) | (0.0273) | (0.129) |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AGE | 0.0222 | -0.00800 | 0.00552 | 0.0453 | -0.0268 | 0.0405** | -0.0314*** | 0.00930 |
| | (0.0230) | (0.0112) | (0.0429) | (0.0303) | (0.0276) | (0.0160) | (0.00897) | (0.0156) |
| PERSONNEL | 0.00922*** | 0.00160** | 0.00850*** | 0.00169 | 0.00670*** | 0.00146 | 0.00681*** | 0.00137 |
| | (0.00149) | (0.000747) | (0.00278) | (0.00203) | (0.00179) | (0.00107) | (0.000581) | (0.00105) |
| Constant | 2.373** | -9.651*** | 1.004 | -3.426 | 1.536 | -3.253 | 1.494*** | -0.706 |
| | (1.117) | (1.726) | (2.086) | (4.693) | (1.343) | (2.470) | (0.436) | (2.420) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

The sign of a significant relation of board size changes from positive to negative in 2012 from 2004 at upper quantile q=85 with the coefficients (0.0423***, 2004) and (-0.0710**, 2012). This shows that depositors reduced by 7.1% in 2012 when board size increases by one. It is likely that larger boards create mistrust and potential borrowers question the credibility of institutions in the market.

Caste diversity is significantly negatively related in 2012 but was significantly positive in 2004 at upper quantile q=85 with the coefficients (1.082***, 2004) and (-0.671*, 2012). This shows that the number of deposit accounts reduces by 67.1% when a firm includes one more minority director on the board in 2012. It is likely that highly diversified boards create uncertainty around a firm's credibility.

Staff productivity is significantly positive in all quantiles in 2004 and 2012 but strongest at q=15. Number of depositors is less sensitive and reduces by 1.1% when staff productivity is increased by one in 2012 compared to 2004 with coefficients (0.0150***, 2004) and (0.00392***, 2012). It is likely that potential clients and borrowers are more informed and they have more deposit options among BFIs to choose.

Significant positive correlation of firm size in all quantiles in years 2012 and 2004 shows that the number of deposit accounts increases with firm growth. However, number of depositors is influenced by approximately 80% improvement with smaller firm size in 2012 compared to 2004 at quantile q=15 with coefficients (0.167**, 2004) and (0.942***, 2012). The changes in number of depositors reduces to 20% as the firm size increases in 2012 compared to 2004 at q=85 with coefficients (0.338***, 2004) and (0.558***, 2012). It is likely that smaller firms need more deposits than bigger firms to be able to improve their social mission, and bigger firms are more stable and less affected with firm size than smaller firms.

Number of employees is significantly positively correlated in the lower quantile at q=15 with the coefficients (0.00922***, 2004) and (0.00160**, 2012). This explains that deposit accounts were more sensitive in 2004 compared to 2012. It is likely that an increase in the number of employees in institutions enables them to reach remote areas prudently.

#### 7.1.1.5 Percentage of female borrowers

The indicator of female borrowers compared during 2004 and 2012 is shown in Table 34 below.

**Table 34: Compiled PFB for 2012 & 2004**

| PFB | (1) | |
|---|---|---|
| VARIABLES | q_15 | |
| | 2004 | 2012 |
| BOD | -3.995*** | -5.554*** |
| | (0.406) | (1.282) |
| INDBOD | 10.53*** | |
| | (1.473) | |
| PFONBOD | 36.38*** | |
| | (3.939) | |
| DUALITY | 25.72*** | |
| | (4.822) | |
| CASTEDIV | -0.227 | |
| | (5.282) | |
| DPSM | -0.0128 | |
| | (0.0201) | |
| LNASSETS | 7.773*** | |
| | (0.986) | |
| AGE | -1.830*** | -1.914*** |
| | (0.324) | (0.661) |
| PERSONNEL | 0.0739*** | |
| | (0.0210) | |
| Constant | -59.16*** | |
| | (15.78) | |
| Observations | 30 | 37 |

Standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

The significant negative correlation of board size at lower quantile q=15 in 2012 and 2004 with coefficients (-3.995***, 2004) and (-5.554***, 2012) explains that the number of female borrowers reduces by 1.56% in 2012 compared to 2004. It is likely that larger boards consider the both genders, male and female, as credit clients rather than considering female clients only.

The maturity of the firm is significantly negatively correlated at quantile q=15 in 2012 and 2004 with the coefficients (-1.830***, 2004) and (-1.914***, 2012). It explains that the percentage of female borrowers reduces by 8.3% in 2012 compared to 2004. It is likely that mature firms consider both male and female clients over the longer period of service.

### 7.1.2 Compiled financial regression results for 2012 and 2004

Compiled financial regression results for 2012 and 2004 are shown Tables 35, 36, 37 and 38.

#### 7.1.2.1 Return on assets

This indicates the change in return on asset in MFIs during 2004 and 2012 as shown in Table 35 below.

**Table 35: Compiled ROA for 2012 & 2004**

| ROA | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| BOD | -1.47e-05 | 0.00388 | 0.00261 | 0.00142 | 0.00637 | 0.000757 | 0.0231*** | 0.00186* |
| | (0.00196) | (0.00681) | (0.00207) | (0.00222) | (0.00582) | (0.00167) | (0.00626) | (0.00102) |
| INDBOD | 0.00532 | 0.00318 | -0.0117 | -0.00412 | -0.00481 | -0.000957 | -0.0168 | -0.00542** |
| | (0.00710) | (0.0130) | (0.00750) | (0.00425) | (0.0211) | (0.00320) | (0.0227) | (0.00196) |
| PFONBOD | 0.0311 | 0.0261 | 0.0149 | 0.0201 | -0.00471 | 0.0341 | -0.0843 | 0.00934 |
| | (0.0190) | (0.0846) | (0.0201) | (0.0276) | (0.0565) | (0.0208) | (0.0607) | (0.0127) |
| DUALITY | 0.0229 | -0.00680 | -0.0424* | -0.0100 | -0.0341 | -0.0122 | 0.0129 | -0.0123 |
| | (0.0232) | (0.0625) | (0.0246) | (0.0204) | (0.0691) | (0.0154) | (0.0743) | (0.00940) |
| CASTEDIV | 0.0440* | -0.0326 | 0.0556* | 0.0340 | 0.0851 | 0.00912 | 0.0845 | 0.00386 |
| | (0.0255) | (0.0860) | (0.0269) | (0.0280) | (0.0757) | (0.0211) | (0.0814) | (0.0129) |
| DPSM | -2.90e-05 | -2.41e-05 | 3.47e-05 | 4.47e-05 | 9.87e-05 | 5.91e-05 | 0.000209 | 2.06e-05 |
| | (9.69e-05) | (0.000159) | (0.000102) | (5.17e-05) | (0.000288) | (3.90e-05) | (0.000310) | (2.38e-05) |
| LNASSETS | 0.00745 | 0.00839 | -0.00140 | 0.00659 | -0.0122 | 0.00302 | -0.0425** | -0.00530 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.00475) | (0.0290) | (0.00502) | (0.00945) | (0.0141) | (0.00713) | (0.0152) | (0.00436) |
| AGE | -0.000717 | -0.000333 | -0.000869 | 0.000562 | -0.00165 | -0.00103 | -0.00409 | -0.00265*** |
| | (0.00156) | (0.00351) | (0.00165) | (0.00114) | (0.00465) | (0.000863) | (0.00500) | (0.000528) |
| PERSONNEL | -5.57e-05 | -1.32e-05 | 9.20e-06 | -3.21e-05 | 0.000110 | -3.58e-05 | 0.000175 | 3.17e-05 |
| | (0.000101) | (0.000235) | (0.000107) | (7.66e-05) | (0.000302) | (5.78e-05) | (0.000324) | (3.53e-05) |
| Constant | -0.160** | -0.173 | 0.0471 | -0.140 | 0.214 | -0.0295 | 0.671** | 0.175** |
| | (0.0761) | (0.543) | (0.0804) | (0.177) | (0.226) | (0.134) | (0.243) | (0.0817) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is significantly positively related in upper quantiles at q=85 in 2004 and 2012 with coefficients (0.0231***, 2004) and (0.00186*, 2012). This explains that a firm with a larger board may enjoy higher return on assets in Nepalese MFIs. However, the impact of increasing the number of board directors by one in 2012 produces lesser ROA than in 2004. This means adding one more director to the board in MFIs resulted in increasing ROA by 2.31% in 2004 but 0.186% in 2012.

Independent directors are significantly negatively correlated in upper quantile at q=85 with (-0.00542**, 2012) for 2012 but insignificantly negatively correlated in 2004. This explains that the MFI will have a lesser return on assets when a firm increases the independent directors on its board in Nepal. It is likely that the independent directors are less skilled or know less about the firm's management style to utilize the assets to generate profit.

Duality has a significant negative correlation in lower quantile at q=50 with (-0.0424*, 2004) in 2004 and has an insignificant negative correlation in all quantiles for 2012. This explains that duality reduces the asset utilization of a firm to generate profitability in MFIs in Nepal.

Caste diversity is significantly positively related at lower quantiles at q=15 (0.0440*, 2004) and q=50 with (0.0556*, 2004) but insignificantly positive at other quantiles q=75 and 85 in 2004, and it is insignificantly positive at quantiles q=50, 75 and 85 in 2012. This indicates that minor directors' presence increases asset utilization to generate revenue for MFIs in Nepal.

Firm size is significantly negatively related in upper quantiles at q= 85 with (-0.0425**, 2004) in 2004 but insignificantly negative at q= 85 in 2012. This shows that larger MFIs are generating less ROA in Nepal. It is likely that operational efficiency reduces when firm size improves in Nepalese MFIs.

Maturity of the firm is significantly negatively correlated at q=85 with (-0.00265***, 2012) in 2012 but insignificantly negatively related at other quantiles q=15, 50, 75 in 2004 and 2012. This indicates that the maturity of the MFIs adversely affects ROA. MFIs may be facing employee turnover after accumulating years of work experience, and their departure affects operational efficiency.

### 7.1.2.2 Return on equity

This indicates the change in return on equity in MFIs during 2004 and 2012 as shown in Table 36 below.

**Table 36: Compiled ROE for 2012 & 2004**

| ROE | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| BOD | 0.166*** | 0.0232** | 0.0569 | 0.00558 | 0.196 | -0.00320 | 0.772* | -0.00352 |
| | (0.0539) | (0.00961) | (0.0378) | (0.0192) | (0.357) | (0.0171) | (0.420) | (0.00771) |
| INDBOD | 0.163 | -0.00736 | -0.0381 | -0.0282 | -0.0806 | -0.0129 | -0.257 | -0.0130 |
| | (0.196) | (0.0184) | (0.137) | (0.0367) | (1.293) | (0.0328) | (1.523) | (0.0148) |
| PFONBOD | 1.545*** | -0.139 | 0.150 | 0.0900 | -0.181 | -0.109 | -2.369 | -0.0754 |
| | (0.523) | (0.119) | (0.367) | (0.238) | (3.459) | (0.213) | (4.073) | (0.0958) |
| DUALITY | 0.387 | -0.385*** | -0.108 | -0.225 | 0.232 | -0.629*** | 1.453 | -0.640*** |
| | (0.640) | (0.0882) | (0.449) | (0.176) | (4.234) | (0.157) | (4.986) | (0.0708) |
| CASTEDIV | 1.966** | 0.129 | 0.277 | 0.113 | 0.390 | -0.0915 | 0.480 | -0.0760 |
| | (0.701) | (0.121) | (0.492) | (0.242) | (4.638) | (0.216) | (5.461) | (0.0974) |
| DPSM | -0.00193 | -0.000170 | 0.000388 | 5.92e-05 | -0.000532 | -0.000431 | 0.00203 | -0.000423** |
| | (0.00267) | (0.000224) | (0.00187) | (0.000447) | (0.0176) | (0.000399) | (0.0208) | (0.000180) |
| LNASSETS | 0.336** | -0.0155 | -0.00814 | 0.0104 | -0.174 | 0.0763 | -1.075 | 0.0880** |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.131) | (0.0409) | (0.0918) | (0.0817) | (0.866) | (0.0730) | (1.019) | (0.0328) |
| AGE | -0.108** | 0.00576 | -0.0201 | 0.00639 | -0.0741 | -0.0284*** | -0.272 | -0.0289*** |
| | (0.0431) | (0.00495) | (0.0302) | (0.00988) | (0.285) | (0.00883) | (0.335) | (0.00397) |
| PERSONNEL | 0.00181 | 0.000137 | 0.000249 | 0.000144 | 0.00146 | -0.000748 | 0.00558 | -0.000796*** |
| | (0.00279) | (0.000332) | (0.00196) | (0.000662) | (0.0185) | (0.000592) | (0.0218) | (0.000266) |
| Constant | -8.145*** | 0.460 | 0.0138 | -0.0471 | 2.581 | 0.226 | 16.77 | 0.00964 |
| | (2.095) | (0.766) | (1.469) | (1.529) | (13.86) | (1.367) | (16.32) | (0.615) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is positively significantly correlated with ROE in lower quantile at q=15 in 2004 and 2012. This explains that MFIs' profitability gets better with larger boards in MFIs in Nepal. The explanatory coefficients are (0.166***, 2004) and (0.0232**, 2012). The board size explanatory power in 2012 is weaker than in 2004. Numerically, this explains that ROE improves by 16.6% in 2004 and 2.32% in 2012 when board size increases by one. Thus, larger boards are less efficient in producing MFI profitability in Nepal. It is likely that boards may have reached optimal size during a decade of operation.

Percentage of females on board is significantly positively correlated in lower quantile at q=15 in 2004 but shows no significant relation in 2012. The explanatory coefficient (1.545***, 2004) shows return on equity improved by 154.5% when MFIs took one female director on board in 2004. However, this loses significance during the decade of operation for 2012. It is likely that women on boards are used as a token in Nepalese MFIs.

CEO duality has no significant impact in 2004 but it has a significant relation in 2012 at quantiles q=15, 75 and 85. This explains that firms with CEO/chairman duality will have less return on equity than non-dual boards. It is likely that with the dual role the CEO exercises his power to take personal advantage from organizational costs, which increases the operating costs, resulting in less profit.

Caste diversity is positively significantly correlated in lower quantile at q=15 but insignificantly positively related in all other quantiles q=50, 75, and 85 in 2004. This shows that caste diversity may have a positive impact on firm’s profitability in 2004. It has an insignificant positive relation in lower quantiles at q=15 and 50 and negative in upper quantiles q=75 and 85, which shows that the firm with less caste diversity may have improved profitability. Minors’ presence on the board increases conflicts, distortion and increases communication costs which reduce firm profitability. It is likely that the significant impact of minority directors on boards has been lost because of the Maoist insurgency and Nepal’s militant unification and Communist Party of Nepal (UML), which may have affected the social revolution to reduce the differences in caste hierarchy.

Firm size is significantly positively correlated at lower quantile at q=15 with (0.336**, 2004) and insignificantly negative at all other quantiles at q=50, 75 and 85

in 2004. Nevertheless, it is insignificantly negatively related at q=15, positively at q=50 and 75 and significantly positively correlated at q=85 with (0.0880**, 2012) in 2012. This indicates that smaller firms are efficient to increase profitability in 2004 but bigger firms are efficient to increase profitability on their equity in 2012. It is likely that bigger firms are able to utilize economic scale to minimize the cost to improve profitability.

Maturity is significantly negatively correlated at lower quantile at q=15 with (-0.108**, 2004) and insignificantly negatively correlated in 2004, and is significantly negatively correlated in upper quantiles at q=75 with (-0.0284***, 2012) and q=85 with (-0.0289***, 2012) in 2012. This shows that ROE reduces as MFIs mature in Nepal. This indicates that Nepalese firms are unable to generate enough revenue to meet their costs, regardless of age. External funding was needed for mature firms in 2012 as well as younger firms in 2004. It is likely that mature firms have more frequent employee turnover, and the Maoist insurgency blocked access to target customers during this decade (data period), which affected revenue reduction with fixed costs to absorb.

### 7.1.2.3 Debt to equity ratio

This indicates the change in debt to equity ratio in MFIs during 2004 and 2012 as shown in Table 37 below.

**Table 37: Compiled DER for 2012 & 2004**

| DER | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| BOD | 1.593 | -0.0825 | 0.726 | -0.268 | -2.851 | -0.309 | -1.071 | -0.572** |
| | (48.89) | (0.165) | (1.577) | (0.318) | (14.18) | (0.308) | (15.59) | (0.217) |
| INDBOD | 3.431 | 0.542* | 2.399 | -0.0316 | 10.44 | -0.961 | 8.489 | -1.275*** |
| | (177.2) | (0.316) | (5.719) | (0.608) | (51.41) | (0.590) | (56.54) | (0.416) |
| PFONBOD | 11.04 | -0.315 | 2.911 | -6.341 | -33.07 | -1.035 | -3.203 | -3.969 |
| | (474.0) | (2.052) | (15.29) | (3.947) | (137.5) | (3.830) | (151.2) | (2.700) |
| DUALITY | 0.136 | -3.515** | 0.0321 | -4.322 | 41.25 | -4.405 | 94.13 | -4.995** |
| | (580.3) | (1.516) | (18.72) | (2.916) | (168.3) | (2.830) | (185.1) | (1.995) |
| CASTEDIV | -25.45 | 0.779 | -1.107 | -1.575 | -42.88 | 3.059 | -67.71 | 4.664 |
| | (635.6) | (2.086) | (20.51) | (4.012) | (184.4) | (3.893) | (202.7) | (2.745) |
| DPSM | 0.0343 | 0.0109*** | -0.00265 | -0.000603 | 0.00272 | -0.00831 | 0.223 | -0.0112** |
| | (2.418) | (0.00385) | (0.0780) | (0.00740) | (0.701) | (0.00718) | (0.771) | (0.00506) |
| LNASSETS | -1.733 | -0.187 | 1.131 | -0.720 | -3.665 | 1.389 | 29.53 | 1.192 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (118.6) | (0.703) | (3.828) | (1.353) | (34.41) | (1.313) | (37.85) | (0.926) |
| AGE | 0.407 | 0.139 | -0.212 | 0.138 | 0.811 | 0.328** | 12.30 | 0.161 |
| | (39.04) | (0.0851) | (1.259) | (0.164) | (11.32) | (0.159) | (12.45) | (0.112) |
| PERSONNEL | 0.0473 | 0.0123** | 0.00338 | 0.00792 | -0.0786 | -0.00407 | -0.856 | -0.00473 |
| | (2.531) | (0.00570) | (0.0817) | (0.0110) | (0.734) | (0.0106) | (0.807) | (0.00750) |
| Constant | 8.887 | 4.998 | -16.88 | 27.30 | 92.89 | -12.17 | -571.5 | -0.452 |
| | (1,899) | (13.17) | (61.27) | (25.34) | (550.9) | (24.59) | (605.8) | (17.34) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is significantly negatively related at q=85 with (0.572**, 2012) in 2012 and insignificantly related at q=85 in 2004. This shows that larger boards may have less debt to equity ratio in MFIs in Nepal.

Independent directors are significantly negatively related at upper quantile q= 85 with (-1.275***, 2012) and positively related at q=15 with (0.542*, 2012) in 2012. This explains that firms with more independent directors have less DER. It is likely that independent directors' involvement increases the donor's believes on the firm. Therefore, the flow of equity increases.

Duality is significantly negatively related at lower and upper quantiles at q=15 with (-3.515**, 2012) and q=85 with (-4.995**, 2012) in 2012. This shows that the dual role reduces the DER, that is, firms rely more on equity.

Staff productivity is significantly positively correlated at q=15 with (0.0109***, 2012) and significantly negatively at q=85 with (-0.0112**, 2012) in 2012. This shows that firms with higher staff productivity have lower DER and rely more on self-equity than the debt from less staff productivity. It is likely that higher staff productivity may increase retained earnings because of their increased productivity that spreads out the operational cost of the MFIs at lower in Nepal.

### 7.1.2.4 Operating self-sufficiency

This indicates the change in operating self-sufficiency in MFIs during 2004 and 2012 as shown in Table 38 below.

**Table 38: Compiled OSS for 2012 & 2004**

| OSS | (1) | (1) | (2) | (2) | (3) | (3) | (4) | (4) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | q_15 | q_15 | q_50 | q_50 | q_75 | q_75 | q_85 | q_85 |
| | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 | 2004 | 2012 |
| BOD | 0.000141 | 0.0553*** | -0.00210 | 0.00208 | 0.00873 | -0.0225 | 0.0243 | 0.00424 |
| | (0.0127) | (0.0145) | (0.0244) | (0.0226) | (0.0216) | (0.0200) | (0.0143) | (0.0173) |
| INDBOD | -0.0806* | -0.0606** | -0.0140 | -0.0176 | 0.0497 | -0.0488 | 0.0205 | -0.0697** |
| | (0.0461) | (0.0278) | (0.0884) | (0.0432) | (0.0783) | (0.0383) | (0.0518) | (0.0331) |
| PFONBOD | 0.266** | 0.384** | 0.269 | 0.153 | 0.264 | -0.0633 | 0.357** | 0.229 |
| | (0.123) | (0.180) | (0.236) | (0.280) | (0.209) | (0.249) | (0.139) | (0.215) |
| DUALITY | -0.522*** | -0.261* | -0.00397 | -0.175 | -0.153 | -0.262 | -0.315* | -0.358** |
| | (0.151) | (0.133) | (0.289) | (0.207) | (0.256) | (0.184) | (0.170) | (0.159) |
| CASTEDIV | 0.193 | -0.421** | 0.220 | 0.140 | 0.570* | 0.282 | 0.850*** | -0.0689 |
| | (0.165) | (0.183) | (0.317) | (0.285) | (0.281) | (0.253) | (0.186) | (0.218) |
| DPSM | 0.00229*** | -5.55e-05 | -4.09e-05 | 0.000444 | -0.000335 | 0.00122** | 0.00126* | 0.00120*** |
| | (0.000628) | (0.000338) | (0.00121) | (0.000526) | (0.00107) | (0.000466) | (0.000707) | (0.000403) |
| LNASSETS | 0.0572* | 0.150** | 0.112* | 0.0584 | 0.0998* | 0.0578 | 0.0488 | -0.0685 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (0.0308) | (0.0618) | (0.0591) | (0.0961) | (0.0524) | (0.0853) | (0.0347) | (0.0737) |
| AGE | 0.0344*** | -0.0329*** | 0.00638 | -0.000785 | -0.00140 | -0.00456 | -0.00295 | -0.0137 |
| | (0.0101) | (0.00748) | (0.0195) | (0.0116) | (0.0172) | (0.0103) | (0.0114) | (0.00891) |
| PERSONNEL | 0.000275 | -0.000514 | -0.000968 | -0.000171 | -0.000594 | -0.000469 | 0.000157 | 0.000424 |
| | (0.000658) | (0.000501) | (0.00126) | (0.000779) | (0.00112) | (0.000691) | (0.000740) | (0.000597) |
| Constant | -0.435 | -1.626 | -1.045 | -0.0335 | -0.653 | 0.266 | 0.00665 | 2.830* |
| | (0.493) | (1.158) | (0.947) | (1.800) | (0.839) | (1.597) | (0.555) | (1.380) |
| Observations | 30 | 37 | 30 | 37 | 30 | 37 | 30 | 37 |

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Board size is significantly positively correlated at q=15 with (0.0553***, 2012) in 2012 but insignificantly positive at q=15 in 2004. This indicates that the larger board improves the operational self-sufficiency of MFIs in Nepal. It is likely that larger boards are able to compile the skill and experience to increase the operational capacity to generate enough revenue to meet costs.

Independent directors are significantly negatively correlated in the lower quantile at q=15 in 2004 and 2012 with the coefficients (-0.0806*, 2004) and (-0.0606**, 2012). This indicates that the OSS reduces when the number of independent director increases on the board. The impact of one more independent director on OSS has slowed down by 2% in 2012 compared with 2004. It is likely that over the decade, independent directors may have improved their skills and started to understand the management processes of MFIs but they still need to further improve their skills and knowledge of management processes to enhance the OSS of MFIs in Nepal.

Percentage of females on board is significantly positively correlated in lower quantile at q=15 in 2004 and 2012 with (0.266**, 2004) and (0.384**, 2012). This shows that the presence of females on boards improves the OSS of MFIs in Nepal. Increasing the number of females on the board by one, saw OSS improve by 11.8% in 2012, compared to 2004. It is likely that females on boards may have learned the skills to improve operational capacity to generate enough revue to match the cost in Nepalese MFIs.

Duality is significantly negatively related in lower and upper quantiles at q=15 with (-0.522***, 2004) and (-0.261*, 2012) and q=85 with (-0.315*, 2004) and (-0.358**, 2012) in 2004 and 2012. This indicates that the MFIs with CEO dual roles are less efficient at managing their costs and depend on external funding. It is likely that CEOs are misusing their CEO dual role for their personal gain, rather than firm profits.

Caste diversity is significantly positive in upper quantiles q=75 with (0.570*, 2004) and q=85 with (0.850***, 2004) in 2004, but significantly negatively related at q=15 with (-0.421**, 2012) and insignificantly negatively related at q=85 in 2012. This explains that improvement in caste diversity in MFIs may improve OSS in 2004. However, lower caste-diversified MFIs may have higher OSS in 2012. It is likely

that minority directors increase political lobbying and communication distortion, resulting in operational inefficiency of MFIs in Nepal.

Staff productivity is positively significantly correlated in upper quantile at q=85 with (0.00126*, 2004) and (0.00120***, 2012) in 2004 and 2012. This explains that MFIs OSS increases when staff productivity increases. It is likely that MFIs are increasing their operational efficiency by increasing the number of customers per employee, which reduces costs and improves profit.

Firm size is significantly positively correlated in the lower quantile at q=15 with (0.0572*, 2004) and (0.150**, 2012) in 2004 and 2012. This indicates that smaller MFIs are more self-sufficient in Nepal. When firm size is increased by unit, MFIs' OSS improves by 9.5% in 2012 compared to 2004.

Maturity of the firm is significantly positively related at q=15 with (0.0344***, 2004) in 2004, but significantly negatively related at q=15 with (-0.0329***, 2012) in 2012. This shows mature firms are having less OSS in 2012 and maturity improves OSS in 2004. It is likely that the Maoist insurgency and political instability created an unfavourable environment, which affected the operational capacity of MFIs in Nepal.

## 7.2 Governance combination

MFIs' outreach and financial performance are discussed with independent governance factors in this section. The outreach and financial results differ in 2004 and 2012. The most likely reasons for regression results differences for 2004 and 2012 are change in corporate governance structure; regulatory changes; and macro-economic.

*Change in corporate governance structure*: There are changes in corporate governance structure in MFIs during the decade, relating to the number of females on the board, involvement of independent directors on the board, changes in number of employees, variations in firm size, and MFIs' age.

*Regulatory changes*: The Bank and Financial Institutions Act 2006 (BAFIA) is the beginning of formal guidelines for the MFIs to follow.

*Macro-economic:* Fluctuations in economic growth of the country may have had an impact on MFIs services. Changes occurred between the first and last year of the

sample period but the variability in variables was insufficient to accept the use of time-series data. If an instrumental variable approach had been possible then a fixed effect method may have been used. However, efforts to find suitable instruments were not successful and the time period is not long enough to use a GMM approach.

The rigorous results obtained are compared with findings of the other researchers and scholars.

The study result on larger board gives better financial performance but lower outreaching and smaller board gives poorer financial performance but higher outreaching; suggesting that the choice of having a larger or smaller board depends on the MFIs' individual goal to be accomplished. MFIs may adjust their board size, larger or smaller, according to what they want to achieve. Thus, the study aligns with the NRB directive for MFIs' outreach or financial sustaining goal achievement on different years basis.

The study result shows the independent directors negatively affect the all proxies of the study to measure MFIs outreaching and financial performance in Nepal. This suggests that copying the bundle of governance practice from other country is not working for MFIs in Nepal. The mandatory regulation to have an independent director on board is being manipulated as a 'tokenism' on MFIs governing board in Nepal. The independent directors are independent in name only. There is no clear guidance on what independent means, other than not executive directors, aligning with the regulatory requirement. Accordingly, there is potential for appointing "friends". The lack of diversity brought to boards by the inclusion of independent directors supports such a contention. If independent directors bring nothing new to the board, then they are purely a cost and the increased size is detrimental to efficiency rather than building resources available to the firm as suggested by Resource Dependency Theory applied to governance. In that model, the board serves as a resource provider to enhance firm performance and maintain social resources via external connections. There is no evidence to suggest the qualifications, diversity, or age of independent directors add to what the board has without them. The following tables indicate the family ties. There is no other information provided about the member. The same titles of the MFIs' board members may point to nepotism practices. More supervision on appointing

independent directors who are more familiar with particular MFI and their administrative system is needed. Fewer or no independent directors on the board is suggested for MFIs in Nepal.

| Nirdhan Uthan Bank Ltd. | |
|---|---|
| Mr. Ganesh Bahadur Thapa<br>Chairperson | Mr. Top Bahadur Rayamajhi<br>Director, Representing, General public |
| Mr. Rajesh Gautam<br>Director, representing Everest Bank Ltd. | Mr. Achyut Raj Joshi<br>Director, Representing, General Public |
| Mr. Rajendra Bahadur Malla<br>Director, Representing Nabil Bank. | Mr. Ram Bhakta Thapa<br>Independent Director |

| Jansachetan Saving and Credit Cooperative Society Limited | | |
|---|---|---|
| Bhim Prasad Dahal<br>Chairperson | Hemanta Chaulagain<br>Vice Chairperson | Minprasad Dahal<br>Secretary |
| Narayan Prasad Dahal<br>Joint Secretary | Kamal Bahadur Dahal<br>Treasurer | Roachkumari Chaulagain<br>Member |
| Sharad Sapkota<br>Member | Bharat KC<br>Member | Swasthani Kuwar<br>Member |
| Chakra Bahadur Ghatani<br>Member | Phulkaji Lama<br>Independent Member | Shiva Ram Dhakal<br>Independent Member |
| Tanka Bahdur Sunuwar<br>Member | Sumita Shiwakoti<br>Member | Asmita Dahal<br>Independent Member |

| Jevan Bikas Samaj | |
|---|---|
| Yogendra Mandal<br>Chairperson | Ramesh Ray<br>Vice Chairperson |
| Prem K. Mandal<br>Secretary | Bisholal Mandal<br>Vice Secretary |
| Sanjay K. Mandal<br>Treasurer | Jagdish Rishidev<br>Member |
| Anita Gachhadar<br>Member | Ribol Devi Mandal<br>Member |
| Bisnadev Mandal<br>Independent Member | |

The study results on the higher percentage of females on board shows less outreaching with higher loan size, which does not align with MFIs' social mission of reaching to a higher number of needy poor. However, MFIs with a higher percentage of females on the governing body may enjoy higher operational self-sufficiency in Nepal. The mandatory requirement of having female on the board has increased token use of a female on the board. MFIs now comply with the regulatory requirement (Banking and Financial Institution Act 2006) to have a least one woman as a board member. There is no requirement that directors should not be relatives of other directors, so it is possible many directors are spouses or another form of close relative of another director. The potential for token female directors is high and in many respects is little different to the issue of independent directors. The addition of women to the Board to satisfy a regulatory requirementis likely to have the same impact as other acts of tokenism to appear to support diversity. Tokenism theory, stemming from the pioneering work of Kanter (1977)[8] suggests that individuals whose social category is underrepresented in particular contexts will face negative experiences such as increased visibility and social isolation and this in turn does not contribute positively to performance in the organisation. Some MFIs have more than one female director. There are 75% boards having more than one female, 22% of boards have a majority of females on their board and 85% of board members have the same caste as other directors. The same family title or same cast title suggests a family member or relative appointment onto boards as the present practice.

The close monitoring by NRB of the females on board's education and qualification related to the banking and business and more control on the practice of keeping close relatives on a board could reduce tokenism. The education and work specialization may increase the female performance on a board. The provision of training for females on boards may enhance their skill, which result helps MFIs to become aligned with their mission and improve MFIs' performances.

[8] Kanter, R. M. (1977). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, 82(5).965-99. Doi: 10.1086/226425

The study shows the CEO dual role impacts negatively on the MFIs outreach and financial performance. This indeed suggests separating the CEO and director role in MFIs board of governance may improve the MFIs performance. The present code of conduct allows MFIs boards to choose the CEO duality or separate the roles. The NRB needs to make it mandatory for the governance board of MFIs to follow up the separation role of CEO and director. The excessive power of the CEO in a dual role in a geographically difficult country may have given an opportunity to manipulate the power for their own benefit. Therefore, separation of CEO dual role may reduce the fraud and also may increase the MFIs' performance in Nepal.

Caste diversification in the governing board shows a decrease in operational self-sustainability as well as reducing the outreaching. The reduction in the number of creditors and inflow of the money as well as increases the amount of loan, and diverts the MFIs from their social mission. The NRB mandatory act of having minorities on the board is not efficient and effective enough for the MFIs in Nepal to achieve their mission. This study suggests having a modification of minorities on board mandatory regulation as per the “comply and explain” practice on individual MFIs.

The study result of firm size shows that the MFIs with higher total asset increase the outreach as well as being more profitable and operationally self-sufficient. This suggests that the NRB should increase the MFIs total assets by increasing mandatory requirement of BFIs more than 5% of investment in the rural development and increase the NRB and related wholesale institutions' role to promote MFIs for donors to raise the supply of funds.

### 7.2.1 Governance factors and MFIs outreach performance

Different governance factors impact differently at five outreach measures for Nepalese MFIs: number of active borrowers, average loan size, depth of loan on GNI, number of depositors, and percentage of female borrowers, and four financial proxies: return on equity, return on asset, operating self-sufficiency, and debt to equity.

Board size is significantly negatively correlated with the number of active borrowers, number of depositors and percentage of female borrowers, and is significantly positively correlated with average loan size. It shows no significant

relation with the depth of loan. This is likely to mean that MFIs with bigger boards have less outreach support (Gohar & Batool, 2015; Kyereboah-Coleman & Osei, 2008) findings with larger loans (Mori et al., 2015) in serving the number of clients. These findings do not support the findings of Bassem (2009), Hartarska (2005), Hartarska and Nadolnyak (2012), Kyereboah-Coleman and Osei (2008), and Mersland and Strøm (2009) of higher outreach with a larger board.

The statistical evidence for independent directors on a board has a significant negative relation with the number of active borrowers, loan size and number of depositors. This shows that the presence of independent directors on boards significantly decreases the number of clients to serve, which does not support the findings of Aboagye and Otieku (2010), Bassem (2009), Kyereboah-Coleman and Osei (2008(, and Pathan et al. (2007) of increased outreach with the presence of independent directors on a board. However, it did not show significant relationships with other outreach variables: depth of loan, and percentage of female borrowers. It is likely that independent directors do not know the internal mechanism of the institutions they serve and their ability to understand the firm's procedure affects capacity to utilize resources. Independent directors' contribution in policy forming is minimal for targeting clients for social mission fulfilment.

Percentage of females on a board has a negative relationship with number of active borrowers and number of depositors and a positive relationship with size of loan. Female directors are less focussed on the social mission and poorer clients which clarifies that MFIs with higher gender diversity may have lower social mission because they serve fewer clients with bigger loans which contradicts findings by Adams and Ferreira (2009), Bassem (2009, Hartarska (2005), Hartarska et al. (2014), Mori et al. (2015), Strøm et al. (2014), and Wale (2015) of more clients with lower loans. It is likely that women on boards may have less impact on decision making and policy forming in Nepalese MFIs because of male domination and gendered stereotyping in Nepalese society. However, the study findings partially support the findings of Smith et al. (2006), that having educated and experienced females on the board may have a greater impact on firm performance in increasing the number of credit clients.

Duality of the CEO has a significant negative impact on the size of loan but does not show a significant relationship with any other outreach dependent variables. That duality reduces the loan size supports (Mersland & Strøm, 2009). This may explain why the *Wai* (greeting people by saying *Namaste*) culture in Nepal has greater impact on issuing loans when the CEO has a dual role to play. However, this *Wai* phonemical impact has reduced over a decade because of the political changes.

Caste diversity has a significant negative relationship to the number of active borrowers, number of depositors and a positive relationship with loan size and depth of loan. This is evidence that Nepalese MFIs do not benefit when their boards are highly caste-diversified and not fulfilling their social mission and so deposits are reduced. It is likely that traditional religious beliefs in hierarchical society have lessened because of the Maoist rebel fighters' recruitment in its insurgency period, which later became a political party and ran the government three times during a decade. The long Maoist arms rebellion and rebel involvement with political parties has reduced the caste difference at lower levels. This may have helped institutions to cross barriers that previously prevented them from serving poorer clients. The strong presence of moneylenders in the region may have considerable impact on the depth of loans. Moneylender presence and openness to relationship-based loans may give borrowers easy access to moneylenders. However, a higher presence of independent directors on a board influences bigger loans that may attract credit clients to knock on MFIs' doors.

Staff productivity has shown a significant positive relation with all four outreach variables: number of active borrowers, size of loan, depth of loan, and number of depositors. Its statistical relationship shows that the number of borrowers increases with small loans to poor clients and increases the number of depositors and staff productivity to accompany the social mission, which supports Lafourcade et al. (2005). More employees in an MFI may increase outreach to remote rural areas and encourage people to become involved with banking services.

Firm size has a significant positive relationship with the number of active borrowers and number of depositors. MFIs' ability to serve more clients increases when firm size increases, supporting Bassem (2009), Gohar and Batool (2015), Mersland and

Strøm (2009), and Nurmakhanova et al. (2015) but not supporting Aboagye and Otieku, (2010) and Kyereboah-Coleman and Osei (2008). The statistical significant relationship with the number of active borrowers and firm size provides evidence that MFIs in Nepal may have approached poor clients and increased the number of depositors by utilizing their assets. The end of the Maoist insurgency may have encouraged MFIs to re-establish their branch offices across the nation, which creates an opportunity to get close to customers.

The maturity of the firm has a significant role to play in serving the social mission of outreach. It is positively related with the number of active borrowers and number of depositors. It is negatively related with size of loan and female borrowers. Nepalese MFIs are serving more clients when they mature which supports Bassem (2009), Hartarska and Nadolnyak (2007), and Mersland and Strøm (2009, 2010) but does not support Kyereboah-Coleman and Osei (2008), and Mori et al. (2015). Loan size gets smaller with maturity, which supports the findings of Mersland and Strøm (2010). This is evidence that the older institutes are more focused on their social mission in the Nepalese context but MFIs are becoming flexible in gender-based service. It is likely that the older firms are more capable of handling a greater number of credit clients than newer MFIs. As a result, they may go to rural and remote regions to increase their social mission. It is likely that firms with longer-serving firms gain higher service credibility, which leads to gaining clients' faith to deposit their savings.

Employees play an important role in MFIs' outreach. With more employees, MFIs can reach rural and difficult geographical regions for their social mission. The negative significant relationship with size of loan and positive significance with number of depositors provides evidence that the loan size gets lower and deposits get bigger with higher numbers of employees. Clients feel more comfortable depositing with institutions rather than keeping their money at home or placing it with moneylenders. The significant negative relationship of employees with average loan size shows that the Nepalese MFIs fulfil their social mission with smaller loans when they have higher numbers of employees.

### 7.2.2 Governance factors and MFIs' financial performance

Nepalese MFIs' financial performance is measured on four financial proxies: return on equity, return on assets, operating self-sufficiency, and debt to equity on governance factors. Different governance factors affect the financial performance proxies differently for MFIs in Nepal.

Board size is significantly positively related with financial proxies: ROA, ROE, OSS and negatively related with DER. This shows that larger boards are able to integrate the information sharing that comes from their experiences and knowledge for better decision-making. Larger boards are capable of effective monitoring and efficient operations to control the operating costs; they generate enough profit and increase retained earnings to finance their costs, and they are less dependent on debt. Furthermore, Nepalese MFIs with improved profitability and larger boards may indicate that MFIs finance their investment through internal funding rather than external (debt) "when MFIs cannot easily access external funding sources" (Tchakoute Tchuigoua, 2015, p. ?). This suggests that larger boards have a positive effect on the profitability and sustainability of Nepalese MFIs, which supports the findings of Bassem (2009), Hartarska (2005), and Kyereboah-Coleman and Osei (2008) on OSS and ROA but does not support Eisenberg et al. (1998), Galema et al. (2012), Gohar and Batool (2015), Guest (2009), and Vishwakarma (2015) on profitability and Hartarska (2005) on sustainability. The finding that smaller boards in Nepalese MFIs increase leverage is in line with Ness et al. (2010).

Independent directors on a board is significantly negatively correlated with financial proxies ROA, OSS and DER, but insignificantly negatively related to ROE. The insignificant negative relation explains no impact of independent director on the MFIs operating performance supporting Bermig and Frick's (2007) finding on ROE. The positive significance at lower quantile q=15 on DER shows that MFIs may convince the external funder to support them by increasing independent directors on board. However, the negative correlation explains that more independent directors on the board may lower Nepalese MFIs' profitability and sustainability, not support the findings of Bassem (2009), and Kyereboah-Coleman and Osei (2008) on ROA, OSS and Pathan et al. (2007), Paul et al. (2011), Rashid (2011), and Vishwakarma (2015) on ROA, ROE but increases leverage. However, the finding is in line with Thrikawala (2016) on OSS for MFIs in Sri Lanka. Thus,

it can be explained in a Nepalese context that independent directors are not monitoring well, or they have poor qualifications and less expertise knowledge, which does not help Nepalese MFIs to benefit. Further, independent directors' appointments in MFIs in Nepal may depend on their relationship with inside directors, which supports Higgs's (2003) findings that most non-executive directors are recruited on personal contacts rather than through formal interviews. Thus, the idea is not supported, that having independent directors gives superior benefits to the firm by avoiding conflict of interest and evaluating executive leaders more objectively (Bassem, 2009; Hartarska, 2005). Jensen (1993) mentions that many independent directors on boards reduces CEO influence. Independent directors have less knowledge about the operation and management policies; they take more time to understand the workings of the firm, and are more of a token appointment. Therefore, MFIs would benefit by having fewer or no independent directors on their boards in Nepal.

Percentage of females on board is significantly positively correlated with OSS but insignificantly positively related with ROA, and insignificantly negatively related with ROE and DER. This indicates that females do not have an important role to play in operational activity to improve MFI profitability and external fund inflow. However, an increase in female presence on boards in Nepal shows MFIs' self-sufficiency is enhanced, not supporting Thrikawala (2016), and Wellalage and Locke (2013) for MFIs and publically listed companies in Sri Lanka. It is probable that the female directors are likely to be involved in indoor work and monitoring activities in MFIs in Nepal.

The duality role of CEO is significantly negatively correlated with ROE, DER, OSS and insignificantly negatively related with ROA. It supports Gohar and Batool (2015) on OSS and ROA measurement. It indicates that the CEO in a dual role has poor control of the operational activities to generate enough profit to be self-sufficient. It is likely that the dual role gives the CEO more power to take personal benefits e.g., greatly increasing his/her salary, or buying better offices and equipment, which increases the operational costs and reduces the MFIs' profitability. This makes the institution less self-sufficient and more reliant on donation funding to cover operational costs, which stimulates the equity on debt. Thus, CEO and chairperson wearing one hat is not a good governance phenomenon,

indicating the duality role does not work for MFIs in Nepal. It supports Faleye (2007), Gohar and Batool (2015), and Vishwakarma (2015) findings that "one hat does not fit all" and the finding suggests that the separation works well with some and duality works well with others. It is not a universal standard (Faleye, 2007).

Caste diversity shows a negative significant relation with OSS only and no significant relation with other financial dependent variables: ROA, ROE, and DER. This shows that MFIs are more self-sufficient with less caste-diversified boards in Nepal. Different caste representation on a board may create information asymmetry and distortion in communication processes, which results in poor decision-making. More minority directors on a board may easily expose the board to a political situation that makes the board politically volatile.

Staff productivity shows a positive significant relation with OSS and a negative significant relation with ROE. It indicates that MFIs are more self-sufficient with improvements in staff productivity. Higher staff productivity reduces operating expenses and therefore improves profitability. However, returns to the owner on their equity may suffer with staff productivity improvements because of less technology being used in their operations. Advances in technology may have forced owners to invest more in computers and related technology for better operations and could be one of many reasons for having a negative relation with ROE and staff productivity. Staff may need more technical training to use the modern technology, which increases the cost on equity.

Firm size and total assets are significantly positively correlated with OSS and ROE. This indicates that larger MFIs are more self-sufficient and provide higher returns to owners in Nepal. This is likely to be because MFIs with larger assets may have better reputations, and are able to manage their risks to improve the operating profitability in line with Hewa-Wellalage (2012) on ROE in MFIs in Sri Lanka and Bassem (2009), Gohar and Batool (2015), Mersland and Strøm (2009), and Nurmakhanova et al. (2015) on OSS. The finding supports Bogan (2012), Gohar and Batool (2015), Hartarska and Nadolnyak (2007), and Tchakoute Tchuigoua (2015) that better financial performance can be achieved with bigger firm size. Larger firms are able to attract qualified personnel, diversify their products and design their optimal capital structure to increase owners' return in Nepal.

The maturity of the firm, age, is significantly negatively correlated with ROA, ROE and OSS but is positively significantly correlated with DER. This explains that mature firms are less profitable and they are not self-sufficient, in line with Mersland and Strøm (2009) on OSS and the findings support Kyereboah-Coleman and Osei (2008) on ROA. The finding supports Abate, Borzaga, and Getnet (2013) but does not support Bassem (2009), and Nurmakhanova et al. (2015) on ROA and OSS. However, mature firms are able to receive more debt than smaller firms. It is likely that MFIs serving longer in the financial market may have created better reputations to earn support from external fund suppliers. There is a possibility that during the data period, with the Maoist insurgency and political instability, the worsening economy may have made managers less efficient in utilizing their assets to create profit and value to owners and had to depend on external funding.

Personnel, that is, number of employees, is statistically significantly negatively related with ROE, and positively significantly related with DER. It is insignificantly negatively related with OSS. This explains that profitability and OSS are reduced when MFIs have more staff, but more staff can attract external funding.

# Chapter eight – Conclusion

## 8.1 Conclusion

The empirical analysis results demonstrate that different governance factors impact differently on five outreach measures for Nepalese MFIs: number of active borrowers, average loan size, depth of loan on GNI, number of depositors, and percentage of female borrowers; and four financial measures: return on asset, return on equity, debt to equity ratio and operational self- sufficiency.

There are a few governance variables that influence both MFI outreach and financial performance. The regression results show positive and negative correlations between outreach, financial proxies and governance factors. The positive and negative coefficients align with findings in prior research, albeit in other settings.

The key findings are discussed in the following sections.

Board size is negatively correlated with the number of active borrowers, number of depositors and percentage of female borrowers and positively correlated with average loan size. MFIs with larger boards have less outreach offering larger loans to credit clients. Nepalese MFIs' financial performance, measured by ROA, ROE and operational self-sufficiency, improve with a larger board, and a smaller board size increases leverage.

Independent directors have a significant negative relationship with the number of active borrowers, loan size, number of depositors, return on asset, operational self-sufficiency and debt to equity ratio. The presence of independent directors on a board significantly decreases the number of clients. This leads to an inference that more independent directors on boards may lower Nepalese MFIs' profitability and sustainability. It also suggests MFIs will benefit by having fewer or no independent directors on their boards in Nepal.

Percentage of females on a board has a significant negative relationship with the number of active borrowers and number of depositors and a positive relationship with the size of loan. MFIs with higher gender diversity may achieve lower social mission by serving fewer clients with bigger loans. It may be that institutions need to provide skill-based training and increase female involvement in the decision-

making process to improve their leadership skills. In a stereotypical, male-dominated society such as Nepal, females are expected to focus on domestic chores and that creates obstacles for women to become involved in the outside world of business. Thus, MFIs should give responsibility to women and monitor them to enhance their capability. The percentage of females on boards is significantly positively correlated with operational self-sufficiency, suggesting MFIs' self-sufficiency is enhanced with increased female presence on boards in Nepal.

CEO duality is significantly negatively correlated with loan size, return on equity, operational self-sufficiency, and debt to equity ratio, suggesting one hat is not a good governance phenomenon for MFIs in Nepal. This may be explained by the *Wai* culture in Nepal having greater impact on issuing loans when the CEO is also board chairman.

Nepalese MFIs do not benefit when a board is highly caste diversified, as they fail to fulfil their social mission and attract fewer deposits. Instead, boards target their rich clients with larger loans, diverting institutions from their social mission. A negative statistically significant correlation between caste diversity on boards and operational self-sufficiency suggests it is not favourable for Nepalese MFIs' financial performance.

With improved staff productivity, the number of borrowers increases with small loans to poor clients and increases the number of depositors to accomplish MFIs' social mission. MFIs' ability to serve more clients increases when the firm's staff productivity increases. Increased staff productivity reduces the operational expenses and increases operational self-sufficiency and institutional profitability.

MFIs with a greater number of personnel increase their outreach through smaller size loans, greater proportion of depositors, which contribute to lower profitability counterbalanced by increases in external funding. MFIs with more staff are found to have a greater presence in remote rural regions, having poor infrastructure.

The statistically significant positive correlations between firm size, total assets, number of active borrowers, return on equity and operational self-sufficiency provide support for the view that MFIs, by approaching poor prospective clients, can progress their social missions. Larger sized MFIs are more self-sufficient, achieving higher returns to the owners.

As they mature, Nepalese MFIs serve more clients and their loans are more likely to be smaller. This is evidence that mature MFIs are more focused on their social mission and are flexible about choosing male and female clients.

The MFIs serve their social mission with smaller loans when they have higher numbers of employees.

The absence of a well-developed formal financial institution sector beyond urban areas means that monopoly power is invested in moneylenders on whom the rural people depend for their cash needs. MFIs can do more to promote the goal of a widespread formal financial sector as an integral component of the local socio-economic situation. They can promote income-generating activities and self-employment activities.

Cumbersome processes for completing loan applications are a step too far for financially illiterate poor. The supporting documents, recommendations and need for guarantors heightens this disparity of access to services for rural and urban clients. Getting credit services from BFIs is formal and requires substantial paperwork, which also includes a collateral valuation that is expensive for both parties. This makes people unwilling to go to MFIs. The discouragement of a longer timeline for loan issuance, higher paperwork requirements and collateral demanded makes people more inclined to take up informal borrowing (World Bank, 2006).

With an MFI's help, rural poor can change their lives by investing in income-generating businesses. They may start with buying a female goat, and reproduction will help them to generate more cash. Poultry farming, ducks, chickens or geese, provide a source of protein to families and produce extra for sale. The manure from the poultry farm can be used as compost, and may also be sold for cash.

Development of investment lending in rural communities will stimulate a trickle-down effect through paid day-labour if this requirement is incorporated in credit arrangements. Aghion and Bolton (1997) find that the trickle-down mechanism can lead to a unique steady-state redistribution improving the production efficiency of the economy. Applying this trickle down mechanism in Nepal can lead to the success of economic growth and practice of lending and broadened saving. In Nepal, those who have more wealth and are more capable of managing resources will be creating jobs through their investment and producing more business. This

encourages people to work more to earn more. This process leads to local economic growth and wealth creation that benefits everyone, not just those who invest. These all have a positive impact on the demand and supply sides of an economy.

MFIs measure the field staff's performance using percentage of repayment of the loan and default. This encourages the field staff to favour giving loans to people that they believe can repay the loan and have no default risk. This excludes the ultra-poor and unskilled rural people from benefitting from MFI services. MFIs' policies allow the rural people themselves to form groups and members are responsible for the loan repayments, which again creates the likelihood of excluding ultra-poor. Poverty levels of the group members define the confidence to repay loans. Thus, in a situation of group members and field staff, combined with confidence of one's loan repayment on time, the poorest people will most likely be excluded.

The poorest rural people own no land, have no regular income sources, collateral or financial literacy. The tyranny of remoteness is an obstacle too large to address through an immediate policy change. Small incremental steps are more likely to be successful.

Nepal, through recognizing short-term migratory labour as an economic and social cohesion issue, can promote the alternative model of an enhanced quality of life for rural poor through the provision of connecting sources of cash, viz. microfinance. This requires no additional organization or large-scale bureaucratic injection of resources. Rather, it requires MFIs to say collectively that they will move to address the problem of rural poor in selected regions. There will be establishment costs as there are no offices or personnel in the remote regions.

MFIs, in the modern sense, emerged with a mission of providing low interest loans to the poorest of the poor. They were, and are, a key component of financial inclusion. However, when financial performance becomes the key consideration above outreach, then managing risk gains greater sway. There tends to be a safety-first goal in lending and this almost inevitably results in an urban drift. In addition, if MFI staff receive bonuses for achieving lending targets, then this sends a clear signal, encouraging staff to maximize safe lending rather than promoting outreach to the poor.

There is a lack of goal congruence for the Nepalese Government, Central Bank, and MFI boards and management. Regulation and directives generate adverse selection outcomes and the way forward requires an incentivizing of MFI activities in rural communities, which is largely fiscally neutral and has minimal monitoring costs. Rapid changes in information technology and uses of smartphones encourages MFIs to broaden their pioneering services. MFIs can link with more rural poor, encouraging more economically active communities by utilising technology-based solutions, such as mobile phone and internet banking, payment cards, and electronic money. The use of new technology may reduce operating costs and increase their outreach to the difficult geographical regions. However, the rollout of mobile and wireless into remote regions is not rapid. A trickle-down effect could be helpful and may start to build some confidence among Nepal's poor population that MFIs can be trusted and they can be working partners, because they encourage increased employment through the MFIs' financial services activities and income generation opportunities.

The village committee team, which is the hallmark of rural lending by sub-Saharan African MFIs, has potential at village level in Nepal. Where there is an informal financial sector operating, e.g., a moneylender, then it may be possible to license them to be an MFI representative. It would be a first step toward more financial formality and, more importantly, open a low-cost funding channel to the village poor. Structuring the remuneration to achieve goal congruence between loan shark and MFI may prove interesting but it is unlikely to be insurmountable. For the moneylender, a move to cooperation rather than regulatory interference is preferable.

An adaption of the adage "money makes the world go round" for rural Nepal could be "a lack of money makes the people go around".

## 8.2 Implications of the study

The study findings have practical implications for MFIs in Nepal. NRB is authorized to do the licensing, regulating and supervising of the BFIs under the act of NRB 2002. The Bank and Financial Institutions Act 2006 (BAFIA) empowers NRB which broadly guides and issues necessary directives for Nepalese financial system. This study shows the mandatory governance mechanism has a negative

impact on the MFIs outreach and financial performances in Nepal. Changes to the regulatory framework are likely to improve MFI performance. The governance structure needs to be tailored in a way to enhance the MFIs' capacity to utilize their resources at maximum to promote their performance. Some mandatory part of governance is used as a token to fit with the NRB regulation whereas it should be complying with the institutions' nature and their performance improvement. The NRB code of conduct for MFIs should allow the MFIs to construct the board combination that fits with the firm at regional level to increase the MFIs outreach as well as financially sustain themselves.

The governance practice is still immature and new to the MFIs in Nepal. Regulatory practice needs more awareness, support, and encouragement. MFIs need to adopt policies to increase their performance. This may be enhanced by collaborative arrangements with the NRB and wholesale institutions to inform MFIs about the benefits of having a good governance system, and provide training for it. The good governance practice and capacity building of MFIs in Nepal may increase donors and investors faith in the viability of MFIs and their services. The funders, donors and investors, supervise the good governance practices in MFIs when injecting funds. MFIs by the nature of their business need the funding for the continuation of their service. The appropriate funding is a hurdle for MFIs. MFIs have more limited access to fund suppliers and investors than other institutions such as commercial banks. The governance of MFIs influences funders and financial investors.

NRB is taking steps towards regulating providential requirement with minimum deposit amount of 4% of core capital and 8% of capital fund for MFIs. Additionally, a 4% statutory liquidity ratio that includes government securities, cash reserve ratio, deposit kept at a class 'A' bank and other banks is to be deposited in NRB or class 'A' bank in current/call accounts when MFIs accept deposits from the public. The licencing regulation for MFIs' paid up capital requirements varies from NRs 10million for 1-3 districts level, NRs 2million for 4-10 districts level, NRs 6million for regional level and NRs 100million for country level services.

A MFI has to start its service within the six months of licensing. To extend service into an additional districts the MFI has to increase paid up capital by NRs 2.5 million for each additional district (Nepal Rastra Bank, 2016a). MFIs seeking a

license for extending service to an additional district, regional or national level may only do so after three years of successful service in the previously licensed region. NRB requires notification within seven days of a board decision to increase branches in a licensed region. MFIs need to keep records of clients electronically as well as paper based for five years after closing the account. The NRB requires a minimum of 51% of investment from the MFIs' promoters. MFIs need to declare their interest rates publically and notify the NRB within seven days of every quarterly financial statement. These are good practices to regulate the MFIs in Nepal to minimize the corruption and fraud and promote public trust in the institutions.

NRB and other promoting institutions' role becomes essential in creating confidence in the system. The transparency, fairness and proper treatment of the institutions may encourage MFIs to believe in the regulatory person and be accountable for their responsibility taken to provide the services. The volatile and unstable political situation creates an unfavourable situation and loopholes in rules may give chances of having poor governance system. The educational programme for the board of directors in incorporating international best practices such as transparency, disclosure, conflict of interest and compliance, among others may enhance the good governance practices. The awareness of good governance practices and their benefits to the intuitional mission should be promoted by NRB and other promoting institutes.

The NRB regulates Class 'A', 'B', and 'C' to follow no more than 25% of shareholding by a single family/single person/ single firm/single institution/single group's company but excludes the Class 'D' bank from this regulation. There is need of rethink of MFIs' regulators and practitioner on the increasing trend of banking sectors involvement in for-profit private MFIs, need for use of new technology and hiring highly qualified professionals for institution as well as industry development. The formulation of new regulation and supervision of MFIs may need to have the balance of financial sustainability and outreach.

MFIs have not yet reached all districts in Nepal. Their outreaching hands in rural areas are still minimal because of geographical, transportation and other difficulties in Nepal. It is an expensive and lengthy process for MFIs to establish in rural areas.

The possibility of joining hands with formal and informal institutions in rural areas to increase the financial inclusiveness should be considered in further research.

## 8.3 Academic contribution of thesis

There are studies done on MFIs all over the world. Even though there are studies on corporate governance and MFI outreach and their financial performance available, the research is still inefficient and in its infancy. This study, by its significant results, contributes to the understanding of corporate governance and its relationship with the MFIs' outreach and financial performance to the literature. The findings of this study suggest that not all mechanisms that have worked in other regions will work in Nepal. Thus, Nepalese MFIs need to show caution when implementing internal governance mechanisms if they are to improve their financial and outreach performance.

Firstly, this study on corporate governance and MFI outreach and financial performance is the first for Nepal. The wider range of governance variables and measuring dependent variables of outreach and financial performance in Nepalese MFIs will enhance the understanding of the how different corporate governance variables influence the MFIs' outreach and financial performances. As the first study of MFIs in Nepal, this work breaks new ground and has noted how difficult this type of research is in LIC.

Secondly, it creates a well-tested and robust data set. The study of 10 years' panel data provides a clear understanding of the impact of governance practice on MFI outreach and financial performance in Nepal.

Third, through the careful diagnostic testing suggests an appropriate robust model of analysis. This study uses quantile regression for a cross-sectional check of MFI performance. The degree of governance relationships is explained on the sign of the coefficients to measure the outreach and financial performance. There is little research that uses quantile regression on not-for-profit firms; some have used it for for-profit firms. This is another contribution of the methodology used in measuring MFI performance to academic literature.

Fourth, it provides clear guidance as to how key governance variables affect financial and outreach performance. The performance assessment of Nepalese

MFIs may assist external fund suppliers, donors, creditors and investors to categorize MFIs on their social mission achievement and financial performance.

Fifth, it indicates how greater understanding of key variables can form the regulatory framework. This study may help the central bank of Nepal (NRB) with policy forming and their necessary modification in 'Directives of Nepalese MFIs' to improve MFI performance for social mission accomplishment with improved governance practices.

Sixth, it extends the thinking to how this new knowledge may be extended to further research. Scholars and researchers have done the research on the governance factors and MFI outreach and financial performance in different regions other than South Asia. The research on the right mechanism of governance that will have greater impact on MFI performance is still to be uncovered in South Asia. However, that is changing with scholars now taking increased interest in MFI performance and corporate governance in South Asia. This study contributes to the literature for governance mechanisms that have greater impact on MFI outreach and financial performance in Nepal.

## 8.4 Limitations of the study and further research

The main limitation for the study stems from the availability of data. A longer time period may have proved advantageous but data are not available. As there is inadequate time series variability in the data to allow for panel regression analysis, the length of the period may not have been a significant problem. Sourcing data is difficult with some institutions because they report neither on their websites nor in other mediums such as hardcopy annual reports.

The board of directors' information is only available for some institutions for recent years. The study needs board information for 10 or more years for analysis. Most institutions have no online domain. Observable board of directors' information was taken for the study. The board of directors' information is collected from the accounting statements due to the lack of corporate governance data.

The Mix Market, NRB, and RMDC are good sources of data. They have provided most of the institutional financial, outreach, and financial market data. The Mix Market provides the set of accounting information for MFIs in Nepal. However, it is still difficult to get recent information on all MFIs. There are variables that

needed to be dropped because of insufficient data. The study has taken all the regulated MFIs into consideration and their accounting data has been checked by an external auditor as per the local government regulations. This study may have not considered all approaches to strategic decisions and decision-making processes.

This study recommends a number of topics for future research that can be beneficial for LIC. More comprehensive data availability on boards of directors may enhance the ability of researchers and findings of the study, which has been left for further study. The most recent data after the study period, 2012, on MFIs may confirm analysis results and support the generalization of this study. Some other future research can be done to generalize the governance and MFIs' performance.

Firstly, the analysis model and findings of this study give a generalization to test the model and applicability in other LICs, for example; Bangladesh, Niger, or Malawi. This will further extend the research for LIC. The analysis model of this study could work for which country and what are other factors that can be used as a standard form.

Secondly, the research on the institutional reforms may highlight the benefits of doing it. The findings of this study suggest reformation in the regulation and governance structure for the institutional betterment. It will be helpful for other LIC to take this as a case to analyse in their perspectives. There are MFIs that work in rural areas with the weak infrastructure that leads on the high operating cost. The remoteness of place and smaller number of operational volume leads to the less outreach to the poor. MFIs are more focused on their principle based approach to accomplish their social mission. A set of rules to follow to regulate the MFIs devised by regulators who believe that institutions performance may improve would be beneficial. However, a set of rules which may or may not work needs to be tested and it is seen to be in conflict with the institutional principle-based approach. It can be argued whether more formal regulation for MFIs' gives better results than a principle-based approach. Thus, the future research may consider this: "Is a formal regulatory framework with rules likely to be better than principle-based approach?"

Thirdly, it obvious to see the corruption, favours and unfair treatment in the LIC. The regulators are biased on applying the rules to regulate the firms. Rules are often

not enforced with corruption present in LIC. The donor and investor are concerned over MFIs' better performance for their continuation support. The donor and investor perspectives are different from those of the government of LIC. The tussle of their different perspectives creates the uncertainty of MFIs services. The government role in creating a favourable investment environment is essential so that it may increase the donors and investors' willingness to support the MFIs' social mission. It is better suggested to have the future research on "In what ways can donors, investors collaborate and support government to improve performance?"

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