

**School of Management**

**The Role of Stakeholder Oriented Corporate Governance on Double  
Bottom Line Performance in Microfinance Institutions**

**Shahadat Hossain**

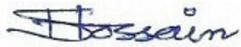
**This thesis is presented for the Degree of  
Doctor of Philosophy  
of  
Curtin University**

**November 2018**

# Declaration

To the best of my knowledge and belief, this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.



.....

**Shahadat Hossain**

28 November 2018

## **Abstract**

The objective of this thesis is to provide a deeper insight into the governance of microfinance institutions (MFIs). Microfinance is a widely accepted financial mechanism used to provide poor people in developing countries with access to finance. The operational mechanisms, organizational structure, and ownership of MFIs differ from that of their conventional corporate counterparts. Moreover, the majority of MFIs are not shareholder owned. MFIs employ a dual mission of economic sustainability and social outreach, which provides them with broader stakeholder involvement. The microfinance industry has experienced rapid growth in the last three decades. In these circumstances, while they continue to serve poor people, MFIs are struggling to become financially self-sufficient. Hence, with the rapid growth of the market, an overarching research question arises: what drives the economic and social performance of MFIs? Corporate governance is a critical mechanism which may influence the economic sustainability and social outreach of MFIs. However, the literature argues that ‘traditional’ corporate governance mechanisms may not be adequate for the oversight and control of MFIs. Although some studies have examined corporate governance issues inherent within microfinance based on agency theory, those studies do not sufficiently explain MFI double bottom line performance. The double bottom line performance indicates both the economic sustainability and social performance of the MFIs.

Primarily relying on stakeholder theory as the guiding framework, this thesis also employs resource dependency theory as a complementary framework to more deeply explore the impact of critical governance issues on MFI double bottom line performance. Based on a stakeholder orientation, the thesis uses the presence of founding directors, independent directors and employees on the board as internal governance mechanisms, and competition within the market as the external governance mechanism. Further, in adopting a resource dependence view, the thesis investigates whether the human and social capital attributes of directors have any influence on MFI performance. Besides, the thesis investigates whether competition within the market, as an external governance mechanism, has any influence on MFI performance. In order to conduct this research, the thesis uses two datasets to test a series of hypotheses which are developed in four separate studies. In order to study the board governance issues (in Chapter Three to Five), the thesis uses microfinance data from Bangladesh, who are the pioneers of the microfinance movement and one of the largest microfinance markets in the world. Further, to examine competition as the predictor of MFI double bottom line performance, a cross-country dataset of MFIs operating across 59 countries is used.

The findings of the thesis support some of the hypotheses the researcher developed in

the research. For instance, the results show that the presence of founding members on the board and their family ties have a positive influence on MFI financial performance, but a negative influence on social performance. However, when those founding directors bring microfinance-specific experience to the board, this has a positive influence on MFI social performance. Further to this, board independence influences MFI financial and social performance; however, the study suggests that the extent and the direction of that influence are contingent on what human and social capital attributes the independent directors bring to the board. In opposition to a large portion of the existing literature, the presence of employee directors on the board is found to have a positive effect on MFI financial and social performance. Further, the microfinance experience of employee directors has a positive influence on MFI performance. Although the employee directors' general education has a positive impact on MFI social performance, the results are inconclusive as to whether this has an influence on MFI financial performance. Therefore, the findings suggest that employee directors are not always associated with MFI financial and social performance and that their influence on MFI performance is contingent on what human and social capital attributes they bring to the board. Lastly, regarding the presence of competition within the market, the findings show that competition has an adverse effect on MFI economic sustainability and social performance. The findings also suggest that competition forces MFIs to search for alternative market segments, for example, providing services to female clients. The implications of the findings are discussed, and suggestions for future research are made.

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# Dedication

To my parents *Sayed Ahmad* and (Late) *Safura Khanam*,

And

My soul mate *Ummay Joynab*

And

My son *Sayed Mahdi Shahadat*

# Publications from this Research

## Doctoral Colloquium

1. Hossain, S. (2016). “Role of stakeholder oriented corporate governance on the double bottom line performance of microfinance institutions”. CBS Higher Degree by Research Colloquium 2016 (31 August- 1 September), Curtin Business School, Curtin University.
2. Hossain, S., Galbreath, J. & Hasan, M. M. (2017). Microfinance Competition and Double Bottom Line Performance. CBS Higher Degree by Research Colloquium 2017 (26-27 September), Curtin Business School, Curtin University.

## Referred Conference Articles

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2. Hossain, S., Galbreath, J. and Hsasn, M. (2016). “Market Power and Microfinance Double Bottom Line Performance”, 14th Asian Business Research Conference 2016 (December 30-31, Dhaka, Bangladesh). (**Awarded as the Best Paper**).

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## List of Abbreviations

ASA	Association for Social Advancement
BDT	Bangladeshi Taka (currency)
BOP	Bottom of the Pyramid
BRAC	Bangladesh Rehabilitation Assistance Committee (former name) Bangladesh Rural Advancement Committee (later, known as) Building Resources Across Communities (present theme)
CEO	Chief Executive Officer
COOPs	Cooperatives
CSFI	Centre for the Study of Financial Inclusion
IPO	Initial Public Offering
MFI	Microfinance Institution
MIV	Microfinance Investment Vehicle
MIX	Microfinance Information Exchange
MRA	Microcredit Regulatory Authority
NBFI	Non-bank Financial Institution
NGO	Non-government Organization
NPO	Non-profit Organizations
PCA	Principal Component Analysis
PKSF	Palli Karma Sahayak Foundation
RDS	Rural Development Scheme
ROSCA	Rotated Savings and Credit Association
SEWA	Self Employed Women's Association
SHF	Shareholder Fund
SHG	Self-help Group
TMSS	Thengamara Mohila Sabuj Sangha
USD	United States Dollar

# Chapter 1 Introduction

## 1.1 Background and Motivation

MFIs provide financial services to poor and low-income earning people who lack access to formal financial services (Cull, Demirgüç-Kunt, & Morduch, 2011a; Hartarska, Nadolnyak, & Mersland, 2014; Mersland, 2011). MFIs operate in an informal economic environment, particularly in underdeveloped and emerging economies. In recent years, the landscape of this industry has experienced a paradigm shift (Mersland & Strøm, 2008; Varottil, 2014). The global scenario of microfinance shows unprecedented growth in the number of market players, asset size, and client outreach (Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2018). MFIs have a wide variety of origins,<sup>1</sup> and a variety of organizations now offer microfinance products<sup>2</sup> (Mersland, 2009). Given these vast differences, the ownership, legal status, and operational mechanisms of MFIs are not the same as that of their commercial counterparts, such as banks. Most MFIs are not shareholder owned. For instance, only commercial MFIs, which are funded by shareholders, have shareholder-orientated ownership; however, non-profit MFIs are not generally shareholder owned. They have a broader stakeholder involvement. Additionally, unlike the commercial finance providers, MFIs have a dual mission: the sustainability of the firm and their social mission to serve the poorer populations (Cull et al., 2011a; Morduch, 1999). Besides, the priority of the two bottom-line objectives is not the same for all MFIs. As offering financial services to the poor with a small average credit and savings size per client requires higher operating costs, MFIs have to consider economic sustainability in achieving their dual mission (Morduch, 1999; Schreiner, 2002). Most of the MFIs are struggling to simultaneously become financially self-sufficient and achieve the social objective of serving poor people (Lapie & Mersland, 2011). Hence, with the rapid growth of the microfinance market, an important research

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<sup>1</sup> For instance, some are rooted from the century old Rotated Savings and Credit Union (ROSCA) (Bouman, 1995), some from the NGOs such as BRAC and ASA in Bangladesh, Bancosol in Bolivia, and K\_Rep in Kenya (Lapie & Mersland, 2011). Some are established as specialized banks such as Grameen Bank. Furthermore, some other MFIs are emerged from the public banks as the specialized bank to serve the poor and unbanked people (Lapie & Mersland, 2011) like Bank Rakayet in Indonesia. Also, with the growth of the market and observing the success of the MFIs as the financial institutions offering a handsome profit to the commercial investors, many commercial investors entered the market taking the opportunity to serve the underserved market segment.

<sup>2</sup> Some MFIs are member based cooperatives (known as COOPs), some are non-government organizations (NGOs) while a few are shareholder based firms (also known as SHFs). Moreover, the SHFs have organizational variation such as, bank MFIs and non-bank financial institutions (NBFIs). Furthermore, the MFIs have variations in terms of legal status such as regulated or unregulated, and in terms of profit motives such as non-profit organizations and profit oriented commercial MFIs.

question arises: what drives the performance of microfinance institutions?

Good corporate governance is considered as an effective mechanism to ensure the survival of a firm and to improve firm performance (Thomsen, 2008). However, the literature (e.g., Hartarska, 2005; Mersland & Strøm, 2009) suggests that the best corporate governance mechanism for commercial corporations in mature markets has little applicability to MFIs in assuring its double bottom line objective; MFIs require context-specific governance mechanisms. Therefore, corporate governance is now a vital issue in microfinance.

There are several reasons for the inclusion of corporate governance at the forefront of the policy debate to build a sustainable microfinance industry (Cull et al., 2011a; Labie & Mersland, 2011). Among these reasons, the most important are: firstly, the microfinance industry has experienced unprecedented growth in the last few decades, although the modern version of the microfinance movement started in the 1970s (Beisland, Mersland, & Randøy, 2014). Secondly, unlike the single objective of economic outcome, MFIs have multiple objectives that demand special attention and different governance practices. Thirdly, with the growth of the market and client outreach, the industry has also experienced institutional and legal changes.<sup>3</sup> The objectives of the firm also differ among the different types of MFIs. Fourthly, the operating mechanisms are becoming more complex from group-based lending to several other mechanisms;<sup>4</sup> and the length of products and services has increased from a single product of microcredit to “microfinance plus”<sup>5</sup> (Mersland & Lensink, 2009) and several other non-microfinance services. Fifthly, the assets and liabilities structures have also changed significantly. In particular, in the case of liabilities management, initial donor support is declining. MFIs are now increasingly dependent on commercial funding (D’Espallier, Goedecke, Hudon, & Mersland, 2017). Many commercial investors have entered the capital market, taking advantage of social investment opportunities while earning a profit. Hence, these fund providers become important stakeholders of the firm. Sixthly, the microfinance industry is now receiving increasing public attention (Beisland, Mersland, & Strøm, 2015). The attitude towards microfinance by the public is also changing due to a few incidences in some developing counties.<sup>6</sup> With an increase in market complexity, the

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<sup>3</sup> Such as from ROSCA to the shareholder-funded organizations. ROSCA is completely unregulated local organization. Shareholder funded organizations are formed following the respective laws of the country where the firms operate and are regulated by the laws of the country.

<sup>4</sup> A few example of the other mechanisms include village banking, individual credit, progressive lending, and dynamic incentives etc.

<sup>5</sup> When credit is provided together with several other added services such as, financial education, entrepreneurial training, or value chain facilities for the products of the entrepreneurs, the program is referred as “microfinance plus” (Mersland & Lensink, 2009).

<sup>6</sup> One of the examples are rise and fall of Corposol (known as Finansol) in Colombia due to the *laissez faire* of management, stakeholders’ overconfidence on them, and free riding on monitoring of

preliminary neglect of the industry is now replaced by new policies and the regulatory and supervisory framework for the development of this industry. Finally, attention from the international arena is increasing (Hudon, Labie, & Reichert, 2018; Sriram, 2010). In particular, the United Nation's declaration of 2005 as the "Year of Microfinance" and subsequently, the award of "Nobel Peace Prize 2006" to Mohammad Yunus and his organization "Grameen Bank" highlighted microfinance as the actor to fight against poverty (Beisland et al., 2015), taking a capitalist concept of financing.

Nevertheless, microfinance has received increasing media attention. Critical voices have raised concerns about the objective of microfinance, particularly concerning the impact of microfinance on the poor and the long-term survival of MFIs (Sriram, 2010). Notably, the issue of corporate governance is at the forefront of these critical views, particularly following the crises in India, Bolivia and other developing countries where microfinance has experienced tremendous growth. A recent series of microfinance banana skin surveys<sup>7</sup> (CSFI, 2008, 2009, 2011, 2012, 2014, 2016) report that microfinance investors, decision makers, and regulatory authorities rate microfinance governance as the most significant risk factor in this industry. Several recent policy papers also suggest the importance of microfinance governance to the double bottom line performance of MFIs (Labie, 2001; Labie & Mersland, 2011; Varottil, 2014). Hence, effective corporate governance is considered critical for the sustainability of the microfinance industry.

The foundation and dominant framework for the study of corporate governance is agency theory (Fama, 1980; Fama & Jensen, 1983b; Shleifer & Vishny, 1997). A fundamental assumption of agency theory is the corporate objective of shareholders' wealth maximization, as shareholders are the owners of the firm (Fama & Jensen, 1983a; Jensen & Meckling, 1976). Therefore, agency costs can arise from the separation of ownership and management when managers (agents) act on personal interests instead of on behalf of the corporate owners (principals) (Fama & Jensen, 1983b; Kosnik, 1987). The primary focus of agency theory is the

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management (Austin, Gutierrez, Labie, & Ogliastri, 1998). The other example is SKS entering into capital market for commercialization during the microfinance bubble, unethical practice of CEO, and aggressive lending and collection practice are blamed to many suicide of over indebted clients in the Indian Andhra Pradesh Province, and microfinance market went into turmoil in 2010. Similar other incidences and crisis also happened in Bolivia, Mexico, Pakistan, Morocco, Kosovo, and Bosnia and Herzegovina. For details, see Hossain (2013b), Taylor (2011), Burki (2009), Rhyne (2001), Vogelgesang (2003).

<sup>7</sup> The Centre for the Study of Financial Innovation (CSFI) is a non-profit think tank that conducts surveys on the key financial issues. Microfinance Banana Skin Survey is one of them that covers the issues related with microfinance market around the world. The respondents in these surveys include microfinance institutions (service providers), investors, observers (such as consultants, academics and industry experts), support service providers, rating agencies, and the regulators. For more details, see the website: [www.csfi.org](http://www.csfi.org)

reduction of agency costs due to managerial misbehaviour. Hence, the board of directors is tasked with monitoring management on behalf of the shareholders to reduce agency costs.

Under the theoretical lens of agency theory, studies of corporate governance generally take the position that board governance is critical. Hence, researchers have examined the relationship between firm performance and governance variables, such as board independence and the presence (or absence) of a CEO, who also serves as the chairperson. Other variables include director share ownership, financial incentives (to align management with shareholders' interests), board size, and gender-diverse directors. However, after decades of research examining commercial firms, the results are mixed and inconsistent (Finegold, Benson, & Hecht, 2007).

Similarly, researchers have turned their attention to the governance of MFIs. Most studies in microfinance also rely on agency theory as the basis of their theoretical development and empirical testing. Though a considerable amount of corporate governance literature is published based on agency theory (e.g., Daily, Dalton, & Cannella Jr, 2003; Shleifer & Vishny, 1997), using the same corporate governance variables noted above, the results are also mixed and inconsistent (e.g., Hartarska, 2005; Mersland & Strøm, 2009). Recent theoretical literature argues that this theory is inadequate in the study of the complexities of microfinance governance (Arun & Murinde, 2010; Mersland, 2011; Mersland & Strøm, 2009). These ideas have caused some scholars to suggest that alternative pathways be explored on the relationship between corporate governance and MFI performance (Labie & Mersland, 2011; Mori & Mersland, 2014; Varottil, 2014).

MFIs, unlike commercial corporations, do not focus on a single objective; they have a double bottom line objective (Cull, Demirgüç-Kunt, & Morduch, 2009; Morduch, 1999; Salim, 2013). Compared to commercial corporations, the ownership, legal status, operational mechanism and funding structure of MFIs are different. Hence, the literature (e.g., Hartarska, 2005; Labie & Mersland, 2011; Mersland, 2011) suggests that understanding microfinance governance requires additional frameworks beyond agency theory. For example, some literature (e.g., Labie & Mersland, 2011; Mori & Mersland, 2014) suggests that the stakeholder-based theory is more aligned to the complex phenomenon of MFIs. The fundamental tenet of the stakeholder theory is that firm performance and survival depends on the firm's interrelationships and interdependencies with its stakeholders (Freeman, 1984). Further, different stakeholders have different interests and needs. Some stakeholders are interested in financial returns (e.g., shareholders) while other stakeholders, such as employees or communities, are interested in social improvements (Clarkson, 1995). Hence, the firm, as conceptualized in stakeholder theory, generally needs to deliver in both financial and social performance, in order to secure on-going capital (e.g., financial and human) from its stakeholders in order to survive as an on-going entity (Clarkson, 1995; Freeman, 1984).

Firms generally have two types of stakeholders: primary and secondary. The few primary stakeholders are founders, shareholders, employees, and clients with whom the firm has a high level of interdependency (Clarkson, 1995). MFIs tend to interact with primary stakeholders. The literature identifies that some primary stakeholders sit on the MFI board and contribute to strategic decision-making, or serve as external stakeholders (Hossain, 2013a; Mori & Mersland, 2014; Varottil, 2014). These primary internal and external stakeholders include founders, owners, creditors, donors, employees, unaffiliated external directors and government representatives (Mori & Mersland, 2014; Varottil, 2014). Based on the stakeholder orientation, the relationship between microfinance governance and double bottom line performance is expressed in two dimensions: internal governance, such as board size, board independence, different stakeholder presence on board, and external governance such as regulation and competition (Hossain, 2013a; Varottil, 2014).

Beyond the traditional concept of corporate governance, defined as a set of the mechanisms by which organizations are directed and controlled to ensure a corporation's single objective of economic performance (OECD, 1999), corporate governance in microfinance must aim to achieve the long-term objective of financial sustainability and social outreach. Therefore, "one size governance does not fit all" (Labie, 2001; Labie & Mersland, 2011). Literature on corporate governance in the microfinance industry primarily focuses on a few guidelines and consultancy reports on how to regulate the industry, compose the board, and develop activity guidelines for non-profit organizations (NGOs) and cooperatives (COOPs) (e.g., Campion & Frankiewicz, 1999; Jansson, Rosales, & Westley, 2004; Rock, Otero, & Saltzman, 1998). These reports and guidelines are generally developed based on the governance practices in commercial corporations operating in mature markets in western countries. Such translation of western governance practices may have a limited application to MFIs. Further, the empirical literature shows little support for such governance practices (Labie & Mersland, 2011).

Among the corporate governance mechanisms, the board is at the "heart" of internal governance (Donaldson, 2003; Lawal, 2012). The board is tasked with overseeing management and reducing agency costs while providing strategic advice and access to resources (Agrawal & Knoeber, 1996; Baysinger & Hoskisson, 1990; Bhagat & Black, 2002). However, the board is also expected to uphold the needs and interests of the stakeholders in order to align the firm with its many resource providers (Galbreath, 2011). The literature suggests that board effectiveness is crucial for firm performance (Brickley, Coles, & Terry, 1994; Johnson, Daily, & Ellstrand, 1996; Rosenstein & Wyatt, 1990). Stakeholder theory posits that stakeholders invest capital (financial, human, and social) and that if this support is withdrawn in part or whole, a firm may suffer detrimental consequences (Clarkson, 1995; Freeman, 1984). Therefore, having stakeholders on the board shows a commitment to the firm's various stakeholders in a visible way (Freeman,

1984). Also, it enables the MFIs to tend to the interests of multiple stakeholder groups (Hillman, Keim, & Luce, 2001). Hence, in order to ensure the interests and needs of stakeholders are met to sustain their ongoing capital investment, stakeholder representation on the board could be an important aspect of MFI governance.

Empirical literature related to governance and firm performance in microfinance includes: insiders on the board (Hartarska & Mersland, 2012), creditor or donor representation (Hartarska, 2005; Hartarska & Mersland, 2012), client representation (Hartarska, 2005), and international director representation on the board (Mori, Golesorkhi, Randøy, & Hermes, 2015), board gender diversity (Adusei & Obeng, 2018; Hartarska, 2005) as well as female leadership (Hartarska et al., 2014; Strøm, D'espallier, & Mersland, 2014), CEO power (Hartarska & Mersland, 2012; Mersland & Strøm, 2009), and the commonly measured board size (Hartarska, 2005). However, based on the key (primary) stakeholder representation, the critical board governance issues yet to be investigated extensively in microfinance study include founder presence on the board, unaffiliated external directors, and employee presence on the board. Although Hartarska (2005) and Mersland and Strøm (2009) investigate board independence under the lens of agency theory, their findings in most cases are insignificant. Hence, further research is needed with a recent dataset, covering a specific economic context. This thesis fills the gap by investigating board independence, founder presence, and employee presence on the board as the predictors of microfinance double bottom line performance.

A growing body of literature argues that founders are essential for firm performance (Chen, Gray, & Nowland, 2012; Li & Srinivasan, 2011). Founders are the initial architects of the firm (Nelson, 2003) and they are board members from the inception of the firm. They create the organization with a specific mission (Block & Rosenberg, 2002), and imprint their beliefs and values in formulating firm policies and strategies to accomplish that mission (Baron, Hannan, & Burton, 1999; Fama & Jensen, 1983b; Gimeno, Folta, Cooper, & Woo, 1997). In addition to capital, they invest their time, effort and identities for the proper function and growth of the firm (He, 2008), which aligns their interests with the interests of the firm. Hence, they are central to the governance of the board and firm performance. Furthermore, their pecuniary and non-pecuniary interests in the firm (Demsetz & Lehn, 1985; James, 1999) prompt them to protect the resources of the firm from the misbehaviour of managers (Fama & Jensen, 1983b).

In the case of microfinance, exception for commercial MFIs, ordinary shareholder presence in most MFIs is absent. Hence, the top management in MFIs can use the resources of the firm for personal benefits. Also, the literature (Nelson, 2003; Wasserman, 2003) suggests that due to their long-term involvement in the firm, founding board members play a dominant role in strategic decision making. Moreover, they have firm-specific attributes (He, 2008) and distinctive social capital due to their long-term relationships with the fund providers and customers (Ben-

Ner & Van Hooymissen, 1994). These relationships may influence firm performance and growth (Baum & Bird, 2010; Meyskens, Robb-Post, Stamp, Carsrud, & Reynolds, 2010). Hence, founder presence on the board is crucial for MFIs.

Although an increasing body of mainstream corporate governance literature investigates founder presence on the board and firm performance, there is little consensus on this issue. Some studies report a positive impact (Chen et al., 2012; Li & Srinivasan, 2011; Villalonga & Amit, 2006), or a negative impact (Anderson, Mansi, & Reeb, 2003; Anderson & Reeb, 2003), while others report an inconclusive impact (Begley, 1995; Daily & Dalton, 1992; Nelson, 2003) of founder presence on firm performance. However, little is known in the microfinance context. The first essay (Chapter Three) of this thesis fills this gap. Besides, one reason for lack of definitive findings in mainstream governance literature may be due to the absence of research on founder specific attributes, such as their family ties or previous background, knowledge, skills, and expertise (Anderson & Reeb, 2003; Mishra, Randøy, & Jenssen, 2001). In the case of microfinance, these issues have not yet been investigated. Therefore, to fill such a gap in the literature, the first essay further explores the influence of the family ties and previous microfinance experience of the founding directors on MFI performance.

Based on the stakeholder orientation, another central board governance issue is board independence.<sup>8</sup> Board independence is considered vital to monitor and control management activities (Baysinger & Butler, 1985; Weisbach, 1988), and is crucial for the effective functioning of the board (Mizuchi, 1983; Zahra & Pearce, 1989). Independent member presence on the board can ensure the representation of a broader range of stakeholder interests (Byrd & Hickman, 1992; Galbreath, 2012; Johnson, Hoskisson, & Hitt, 1993). This representation is because independent directors are essential to legitimize the firm to its stakeholders (Hillman et al., 2001), and to connect external resources to the firm (Baysinger & Hoskisson, 1990).

The existing literature suggests the inclusion of independent directors on the board for an effective corporate governance practice (Baysinger & Butler, 1985; Weisbach, 1988). However, the evidence of the impact of independent directors on firm performance is inconclusive in mainstream governance literature. Some studies suggest a positive relationship (Jackling & Johl, 2009; Perry & Shivdasani, 2005; Rosenstein & Wyatt, 1990), while the others report a negative or insignificant relationship (Bhagat & Black, 2002; Dulewicz & Herbert, 2004; Erickson, Park, Reising, & Shin, 2005; Weir & David, 2001) between board independence and firm performance. Even studies examining MFIs report inconclusive or insignificant findings between board independence and firm performance (e.g., Hartarska, 2005). These inconclusive findings suggest

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<sup>8</sup> Board independence refers to directors on board who are independent of management, and who are not employees of the firm they oversee, and who do not have a financial interest in the firm.

that there may be a gap in the understanding of what independent directors are expected to contribute and what they actually contribute to the firm. To fill this gap, the second study (Chapter Four) explores the association between independent directors on the board and MFI double bottom line performance.

Furthermore, one of the reasons for inconclusive or insignificant findings may be a lack of research on the human capital of the board, or the background, knowledge, skills, and expertise of independent board members. Independent members create human capital through collectively bringing their knowledge, skills, and expertise to the firm (Hitt, Bierman, Shimizu, & Kochhar, 2001; Johnson, Schnatterly, & Hill, 2013; Kor & Sundaramurthy, 2009). The literature assumes that independent directors are typically knowledgeable and competent (Kor & Sundaramurthy, 2009). They contribute their skills, experience, knowledge, and information to the board, and provide access to resources for the firm (Hillman & Dalziel, 2003; Johnson et al., 2013; Westphal & Milton, 2000). Hence, they can enhance firm performance (Crook, Todd, Combs, Woehr, & Ketchen, 2011; Hillman, 2005; Huo, Ye, Zhao, & Shou, 2016). Galbreath (2012), for example, argues that independent directors are more likely to influence financial and social performance when they have certain forms of human capital. As this has not yet been tested in current MFI research, the second study also explores this issue.

Alternatively, independent directors build board social capital by creating social ties through their relationships, affiliations, social standing, and social and community involvement (Burt, 2009; Davis & Mizruchi, 1999; Johnson et al., 2013). Such social capital provides benefits to the firm in strategy formulation (Baysinger & Butler, 1985; Kesner, 1988), providing access to information and critical resources outside the firm through their relationships with a variety of stakeholders (Kor & Sundaramurthy, 2009; Oh, Labianca, & Myung-Ho, 2006; Westphal, 1999). They also enhance the legitimacy of the firm to its' critical stakeholders. For MFIs, one of the ways this is achieved is through the appointment of an individual on the board who not only has a social experience but also has a good social network and social standing. Such social capital may help MFIs in the pursuit of their social outreach and financial sustainability. However, this issue has not yet been tested in the context of microfinance. Chapter four also aims to fill this gap by further exploring whether the social experience, community, and political affiliations and advanced education of independent board members, as important human and social capital, have any influence on the financial and social performance of MFIs.

Another critical internal governance issue in microfinance is employee representation on the board. Nowadays, employees are considered to play a vital role in the governance mechanism. Due to the distinctive features of MFIs from their commercial counterparts, MFIs are dependent on their employees as employees have close interactions with clients (Canales & Greenberg, 2015). Further, credit officers are the cornerstone of MFIs due to their direct involvement with

credit disbursement and collection procedures (Agier, 2012; Battilana & Dorado, 2010). MFIs are dependent on their employees due to their relationship based lending technology (Agier, 2012; Agier & Szafarz, 2013b). Further, employees are better informed about the firms' internal issues and problems (Fauver & Fuerst, 2006; Harris & Helfat, 1997). Hence, employee representation on the board may offer a more robust input of information than that of a CEO (Mori & Mersland, 2014). Likewise, due to their extended stay in the firm, employees establish close connections with stakeholders (such as fund providers). Furthermore, the possibility of management opportunism on the board can be reduced when employee representatives are present on the board. Therefore, employee presence on board could not only help the board to achieve its' financial outcomes but also achieve its' social outreach.

The empirical evidence in mainstream governance literature suggests that employee presence on the board is essential for the effectiveness of corporate governance (Balsmeier, Bermig, & Dilger, 2013; Fauver & Fuerst, 2006; Lin, Schmid, & Xuan, 2018). However, some researchers have also expressed a negative view of employee representation on the board (Daily & Dalton, 1994; Dalton, Daily, Ellstrand, & Johnson, 1998; Lorsch & MacIver, 1989; Roe, 2003). In the case of microfinance, although Hartarska (2005) and Hartarska and Mersland (2012) have investigated this issue, their results are mixed or inconclusive - at least with respect to MFI financial performance. Such inconclusive findings suggest that there is a gap in understanding what employee directors are expected to contribute to the firm and what they actually contribute. To fill this gap, the third study (Chapter Five) explores the relationship between employee presence on the board and MFI double bottom line performance.

Additionally, the study explores whether the general and specific human capital attributes of employee directors have any influence on MFI performance. As a general human capital attribute, the study uses the advanced education of employee directors. Equally, as a specific human capital attribute, the study uses previous microfinance experience of employee directors as the predictor of MFI double bottom line performance. The study proposes that the human capital associated with employees on the board could better explain the contribution of employee directors to the board, for a better financial and social performance of the firm.

In order to study the above-stated internal governance issues, the first three essays use data from MFIs operating in Bangladesh under the umbrella of Microfinance Regulatory Authority (MRA)<sup>9</sup>. Use of this data provides a context-specific and country-specific study of internal governance issues. Due to the possible differences in the governance practices among different contexts and environments (e.g., Choi, Park, & Yoo, 2007; Heyden, Oehmichen,

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<sup>9</sup> The study also includes the Grameen Bank (GB) in the dataset although GB works as a specialized microfinance bank under the central bank regulation.

Nichting, & Volberda, 2015), the present thesis uses Bangladesh microfinance as the context of the study. The microfinance market in Bangladesh is an unexplored emerging financial market from where the microfinance movement began. To the knowledge of the researcher, this thesis is perhaps the first to use data from Bangladesh in investigating microfinance governance. Although existing microfinance governance literature has investigated some issues, the countries examined were different. For instance, Hartarska (2005) uses data from Central and Eastern Europe, Hartarska and Mersland (2012), Mersland and Strøm (2009), and Mori and Mersland (2014) use small cross-country data or African data. Further, some data is biased toward rated MFIs only (Hartarska & Mersland, 2012; Mori & Mersland, 2014). Compared to the African or Central and East European markets, Bangladesh is considered the breeding ground of the modern version of the microfinance movement and is the most mature and one of the largest microfinance markets in the world (Ahmed, 2009). The latest Microfinance Summit Campaign reports that Bangladesh alone accounts for nearly 20 percent of the 3,718 reported MFIs in operation globally.<sup>10</sup> Additionally, microfinance governance in the context of Bangladesh is yet to be explored. Hence, the first three studies in the present thesis use the largest (around 734 MFIs), and most recent data set (from 2007 to 2015) of MFIs operating in Bangladesh.

Nevertheless, the study of internal governance issues only is not sufficient to explain MFI double bottom line performance. Stakeholder orientation also has an association with external governance. Among the external governance dimensions, competition and regulation are essential. Some studies (e.g., Cull et al., 2011a; Hartarska, 2005; Hartarska & Nadolnyak, 2007) have already investigated the influence of regulation on MFI double bottom line performance. On the other hand, due to the massive influx of funds to the market (Assefa, Hermes, & Meesters, 2013), the microfinance sector has experienced a substantial change in terms of market participants, competition and client outreach (D'Espallier et al., 2017; Dowla & Alamgir, 2003). Although the microfinance market was initially a monopoly, competition in the market has intensified in recent years with the entrance of many new players (D'Espallier et al., 2017; Vanroose & D'espallier, 2013). In a few countries, MFIs are struggling to retain market share. With this in mind, many MFIs follow aggressive lending techniques, which results in the over-indebtedness of their borrowers (Guha & Chowdhury, 2013; Sriram, 2010; Vogelgesang, 2003). As a result, the reaction from the borrowers has increased in some countries.<sup>11</sup> It places additional pressure on MFI sustainability and outreach.

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<sup>10</sup> Source: [www.stateofthecampaign.org](http://www.stateofthecampaign.org)

<sup>11</sup> For instance, the “no-pago” movement in Nicaragua (De Quidt, Fetzer, & Ghatak, 2012), and over-indebtedness and farmer suicide in the Andra Pradesh of India (Guha & Chowdhury, 2013; Hossain, 2013b; Mader, 2013).

Neo-classical competition literature suggests that competition has a positive impact on firm performance (Aghion & Howitt, 1992; Hart, 1983; Machlup, 1967; Nickell, 1996; Schmidt & Tyrell, 1997). Some studies argue that when the market is not competitive, managers are more likely to find an opportunity to enjoy monopoly rent through managerial slack and minimum effort. The literature advocates that competition is a source of discipline for managers to reduce managerial slack and to minimize the costs of operations (Hart, 1983; Winter, 1971). Therefore, the literature suggests that competition can act as a substitute for internal governance mechanisms (Hart, 1983; Schmidt & Tyrell, 1997; Winter, 1971).

Despite the surge in microfinance competition, research on the effect of competition on MFI economic sustainability and social performance is insignificant. The available literature reports either mixed or inconclusive findings. For instance, Besley and Ghatak (2005) posit that competition may help in increasing the overall efficiency of MFIs. In studying two Bolivian MFIs, Casa Los Andes, and Bancosol, Navajas, Conning, and Gonzalez-Vega (2003) suggest that competition leads to innovation in microfinance programs that expand outreach. Likewise, Cull, Demirgüç-Kunt, and Morduch (2011b) find that competition in the microfinance sector and potential competition from the formal financial sector encourages MFIs into deeper outreach toward poorer borrowers and more outreach to women.

On the other hand, some studies suggest that competition drives MFIs into mission drift (Assefa et al., 2013; McIntosh, Janvry, & Sadoulet, 2005; McIntosh & Wydick, 2005). Hence, there is no clear picture of the impact of competition on MFI double bottom line performance. Furthermore, although the literature (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005) measures the impact of competition from the demand side, such as on the borrowers, the impact on the supply side remains ignored. Even though Assefa et al. (2013) have examined the impact of competition on the supply side (on MFI portfolio yield), they were not able to provide a clear understanding of its' impact on MFI economic sustainability. Furthermore, that study uses the Lerner index as the measure of competition. Due to the limitation of the Lerner index in adequately measuring competition of non-profit MFIs, they investigated the impact of competition on commercial MFIs only, not all MFIs. Cull et al. (2011b), also have not addressed competition from the microfinance sector. Therefore, the impact of competition in the microfinance sector on MFI double bottom line performance in next contexts and with new data sets need to be investigated. Also, a more appropriate and recent measure of competition suitable for the microfinance industry must be used.

Therefore, the fourth essay (Chapter Six) empirically investigates the impact of competition on MFI performance using archival data from the MIX Market for 1,118 MFIs operating in 59 countries across a period of 10 years (2005 to 2014). For this, the study first develops the Boone indicator (Boone, 2008), a recent and improved proxy used to measure the

degree of competition, and uses it for the first time in the microfinance market to predict MFI performance.

## **1.2 Objective of the Thesis**

This thesis provides an insight into the corporate governance of microfinance institutions (MFIs) based on stakeholder orientation in MFI governance mechanisms. Due to differences in firm objectives, operational mechanisms, organizational setup, and ownership structures of MFIs from their commercial counterparts, MFIs follow a unique corporate governance mechanism. Furthermore, as MFIs serve poor people who lack access to formal credit from banks, they tend to struggle for financial sustainability, as providing financial services to underprivileged people in developing countries is inherently risky and involves higher operating costs. Hence, with the rapid growth of the microfinance market, the way in which MFIs can ensure the sustainability of their firm, as well as ensuring they reach poor people, is now an important policy item for the microfinance industry. Corporate governance is a critical mechanism which may influence the economic sustainability and social outreach of MFIs. However, unlike their conventional commercial counterparts, MFIs cannot follow the traditional governance mechanism. The literature argues that the traditional corporate governance mechanism is not fit for all firms (Lalie & Mersland, 2011). Therefore, microfinance practitioners and academics suggest that microfinance governance should be stakeholder-based. Although a few studies have investigated the corporate governance issues in microfinance, the studies have not examined microfinance performance based on the stakeholder-orientated governance framework.

Against this backdrop, using the agency theory, resource dependence theory, and stakeholder theory as the guiding framework, the primary objective of this thesis is to empirically investigate the influence of stakeholder-based governance mechanisms on the economic sustainability and social performance of MFIs. For this, the thesis uses the presence of founders, independent directors, and employees on the board as the internal governance mechanisms, and investigates whether they have any influence on MFI double bottom line performance. Furthermore, the thesis investigates whether the human and social capital attributes of directors have any influence on MFI performance. The present study uses the context of Bangladesh, the pioneer in the microfinance movement, and one of the largest and the most mature microfinance markets in the world (Ahmed, 2009; Mia, Lee, Chandran, Rasiah, & Rahman, 2017). In addition, this thesis aims to investigate whether competition in the market, as an external governance mechanism, has any influence on MFI financial and social performance. For this, the study uses a cross-country dataset of MFIs.

### 1.3 Definition of Key Terms

**Stakeholders:** The groups or individuals who are affected by, or can influence the achievement of an organization's objective, and without whose support the organization would cease to exist (Freeman, 1984).

**Double Bottom Line Performance:** The double bottom line performance of the MFIs denotes their economic sustainability and social performance.

**Economic Sustainability:** Indicates whether the MFI can survive in the long run financially while they continue their social mission. It is measured by operational self-sufficiency (OSS) (Strøm et al., 2014), financial self-sufficiency (FSS) (Mersland & Strøm, 2009), Return on Assets (ROA) (Mersland & Strøm, 2009), and Return on Equity (Strøm et al., 2014).

**Social Performance:** Social performance indicates the ability of the MFIs to serve economically active poor people, who are generally excluded from being served by mainstream financial institutions. It is measured by the depth of outreach and the breadth of outreach.

**The depth of Outreach:** A social performance indicator of MFIs, estimated by the average loan size per client (Cull, Demirgüç-Kunt, & Morduch, 2007; Strøm et al., 2014). The smaller the loan sizes per client, the deeper the outreach to poor people (Cull et al., 2007; Schreiner, 2002).

**The breadth of Outreach:** A social performance indicator of the MFIs, measured by the log of the total number of active borrowers (Strøm et al., 2014; Vanroose & D'espallier, 2013). The larger the number, the more borrowers an MFI serves.

**Human capital:** Human capital is a set of knowledge and skills an individual director bring to corporate decision-making process (Johnson et al., 2013; Kor & Sundaramurthy, 2009). Human capital is developed through investment in education and training (Boeker & Goodstein, 1993; Volonté & Gantenbein, 2016).

**Social capital:** Social capital refers to an individual's ability to access information and resource networks through internal and external connections (Javakhadze, Ferris, & French, 2016; Kor & Sundaramurthy, 2009). Social capital can be measured by the directors' social ties with other firms, personal relationships, social standing and affiliation with other organizations (Johnson et al., 2013).

### 1.4 Structure of Thesis and Summary of Findings

The thesis is structured based on four essays. All four essays are distinctive but cover interrelated aspects of stakeholder-oriented corporate governance and microfinance double bottom line performance. Further, before examining the relationship between different corporate governance issues and firm performance, the researcher describes the context of the study to

understand why stakeholder-based corporate governance is important for the microfinance industry. As a whole, the thesis consists of seven chapters, including this chapter, and a concluding chapter. The structure of the thesis is described below.

**Chapter Two** outlines the microfinance market, which is the context of the study. For a deeper understanding of why the microfinance industry is distinguishable from other industries, the chapter briefly outlines the concept of microfinance, organizational variations of MFIs, and the distinguishing features of the microfinance market. Furthermore, the chapter outlines the state of the microfinance market in Bangladesh and around the world. Lastly, the chapter contends why corporate governance in microfinance has received considerable attention.

**Chapter Three** presents the first essay of the thesis. That study investigates whether the presence of founder directors on the board has any influence on MFI double bottom line performance. The study further investigates whether the family ties and prior experience in microfinance of founding members influence the achievement of MFI double bottom line objectives. In addition to the agency based view, the study uses a resource-based view of corporate governance, stating that previous microfinance experience of the founding directors has a positive outcome for the firm. The study further uses a stakeholder view to show that the founders are the firm's most important primary stakeholders. Further, taking a stakeholder view of social outreach as another aspect of bottom-line performance, the study demonstrates that borrowers (and savers) are the important stakeholders of the firm to whom the MFI provides financial services. The study hypothesizes that the presence of founding members on the board, as well as their family ties, has a positive impact on MFI financial performance but a negative impact on social performance. Further, the study hypothesizes that their experience in microfinance, as an aspect of human capital, has a positive influence on MFI financial performance. The study uses a panel dataset of 679 Bangladeshi MFIs (2007-2015) to tests the hypothesis.

Consistent with the literature, the study concludes that the presence of founders on the board has a positive impact on MFI financial performance. Additionally, the study reports a positive association between founder directors' family ties and MFI financial performance. However, with respect to social performance, the influence is negative for both the founder directors and their family ties. Besides, as expected, the study finds that the microfinance experience of founding members has a positive impact on MFI social performance. Therefore, the study suggests that the firm must consider what attributes the founders bring to the board. A summary of the main findings is outlined in Table 1.1.

**Table 1.1 Summary of the Findings**

Chapter	Hypotheses	Findings	
		Financial	Social
Three	a) The presence of founding members on the board has a positive association with MFI financial performance but a negative association with social performance.	Supported	Supported
	b) The family ties of founder directors family tie has a positive influence on MFI financial performance but adversely affect both the breadth and depth of outreach.	Supported	Supported
	c) Founder directors with experience in microfinance has a positive impact on MFI financial performance, and the breadth and depth of outreach.	Insignificant	Supported
Four	a) Board independence has a positive association with MFI financial and social performance.	Supported	Supported
	b) Human and social capital created through independent directors' experience in social organizations has a positive association effect on MFI financial and outreach performance	Moderately supported	Supported
	c) Independent directors' community connections has a negative influence on MFI financial sustainability but a positive effect on social outreach.	Supported	Supported
	d) Independent directors' advanced education has a positive influence on MFI financial and social performance.	Moderately Supported	Supported
Five	a) Employee representation on the board has a positive association with MFI financial and social performance.	Supported	Supported
	b) Experienced employee presence on the board has a positive association with MFI financial and social performance.	Supported	Supported
	b) Employee directors' advanced education has a positive influence on MFI financial and social performance.	Inconsistent	Supported
Six	a) Increase in competition adversely affects MFI financial performance and the breadth and depth of outreach but positively influences female outreach.	Supported	Supported

**Chapter Four** primarily explores the association between the presence of independent directors on the board and MFI double bottom line performance. Similar to the founder director study, this study takes a resource-based view and a stakeholder view to further explore whether social experience, community affiliations, and advanced education, as the human and social capital attributes, have any influence on MFI financial and social performance. This study also uses data from Bangladesh to explore the predicted relationships.

The findings of the study suggest that board independence has a positive association with MFI financial and social performance. The study also finds that the social experience and advanced education of independent directors have a positive association with MFI social outreach. Further, consistent with the hypothesis, the study finds that the community affiliations of independent directors have a positive association with MFI social performance, but a negative association with financial performance. Therefore, similar to the first study, the second study suggests that it is important to consider what attributes the independent directors bring to the board.

**Chapter Five** investigates whether the presence of employees on the board is critical for MFI double bottom line performance. Additionally, to fill a research gap, the study explores whether the general and specific human capital attributes of employee directors have any influence on MFI performance. As a general human capital attribute, this (third) study uses advanced education as a general human capital attribute, and microfinance experience as a specific human capital attribute. Similar to the above studies, the study also uses a stakeholder view, considering that employees are the important stakeholders of the firm, and employees can better serve the interests of the clients, another stakeholder group, to whom the social performance of the firm is dedicated. The study uses the same panel data from 734 MFIs from Bangladesh.

Contrary to the existing literature (Hartarska, 2005; Hartarska & Mersland, 2012), the findings of this study suggest that employee presence on the board has a positive association with MFI financial and social performance. However, the study suggests that it is important to consider what human capital attributes employee directors bring to the board before their inclusion. Further analysis suggests that employee directors' experience in microfinance has a positive association with MFI financial and social performance, but their advanced education has a negative association with MFI financial performance, although the relationship is positive with social performance.

**Chapter Six** examines whether market competition, as an external governance mechanism, forces MFIs to achieve their economic and social objectives. The researcher first develops the Boone indicator (Boone, 2008), the more recent and appropriate measure of

competition in the microfinance market, and uses it as the predictor of MFI economic and social performance. Consistent with the literature, the study hypothesizes that competition has a negative association with MFI economic sustainability and social outreach. The idea behind this prediction is that an increase in competition causes MFIs to soften their operating mechanisms and lending methodology; and increases the demand for funds. It adversely affects MFI performance. This study tests the hypothesis using a cross-country dataset of 1,118 MFIs operating in 59 countries.

Consistent with the literature, the study finds that competition deteriorates a firm's economic performance. The panel data analysis also demonstrates that competition negatively influences the breadth of outreach, and in some instances, the depth of outreach.<sup>12</sup> Furthermore, the study suggests that competition pushes MFIs to search for alternative market segments, such as females.

Finally, **Chapter Seven** provides a summary of the significant findings from the four empirical studies. The chapter also outlines the main implications and contributions of the study. Furthermore, the chapter discusses the limitations of the thesis and provides suggestions for future research.

## **1.5 Contribution to the Literature**

This thesis investigates the impact of stakeholder-oriented governance practices on microfinance double bottom line performance. Based on a stakeholder orientation, the critical internal governance issues this thesis considered are the inclusion of founder directors, independent directors, and employee directors on the board. Furthermore, in studying the influence of these directors on MFI performance, the thesis considers their human and social capital attributes. In addition to internal governance issues, the thesis investigates the impact of competition, as a critical external governance issue, on MFI performance. Besides, the thesis uses selected financial performance variables as a measure of economic sustainability. Also, as the measure of social performance, the thesis uses both the breadth and depth of outreach. A summary of the implications and contributions of the thesis are described below.

A central implication of this study is the questioning and refining of the general assumption of the corporate governance mechanism in a new setting. In the first three essays (Chapter Three to Chapter Five), the thesis responds to calls for context and industry-specific studies of corporate governance issues of internal governance (Heyden et al., 2015; Jackson & Deeg, 2008). Although an increasing body of literature investigates the impact of board

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<sup>12</sup> The breadth of outreach shows how many clients the MFI serves and the depth of outreach shows whether the MFI serves the poorer clients at the bottom of the pyramid.

governance issues on firm performance, these studies are insignificant in the case of microfinance. Though a few studies have investigated the issue of board independence and employee inclusion on the board, the results are insignificant or inconclusive. Compared to commercial corporations and banks, the market for microfinance, its operating environment, and its clients are distinguishable. Therefore, the traditional governance mechanism cannot correctly explain the performance of MFIs.

Furthermore, the thesis also responds to the calls for a country-specific governance study (Buck & Shahrim, 2005; Jackson & Deeg, 2008). Among the countries where MFIs operate, there is a variation in the operating environment and cultural and economic conditions. This variation results in differences in governance practices and hence firm performance. Some studies examine the Central and East European markets (Hartarska, 2005), or a small sample of cross-country data (Hartarska & Mersland, 2012; Mori & Mersland, 2014). Neither of those studies, however, cover a country-specific dataset. Even though the microfinance market in Bangladesh is more mature (Mia et al., 2017), such issues are yet to be explored in this market. Therefore, this is perhaps one of the first studies to investigate board governance issues using data from Bangladesh.

Another methodological implication of this thesis is the use of a hand-collected unique dataset from Bangladesh; perhaps the largest microfinance data specific to a country. Unlike commercial corporations and banks, MFIs do not publish governance-related data to the public. Hence, it is difficult to explore the above stated internal governance issues, mainly director related human and social capital attributes, in microfinance. This study fills such gap by using founder-director, employee director, and independent director related human and social capital data which was hand collected by the researcher consulting the official archival records of the Bangladesh Microcredit Regulatory Authority (MRA).

In addition to empirical implication, this thesis has several theoretical implications for corporate governance literature. This thesis suggests that studying corporate governance based on agency theory is not sufficient to explain the relationship between microfinance governance and performance of the firm. Unlike their commercial counterparts, MFI governance is not based on a single objective of financial performance. This thesis extends the widely used agency based governance mechanism to a more stakeholder-based mechanism, using outreach performance as another bottom line objective in addition to the financial objective, considering clients as the critical stakeholders. Furthermore, this thesis contends that in the area of microfinance governance the presence of founder and employee directors or board independence is not sufficient to explain MFI double bottom line performance. It is important to consider what human and social capital attribute the directors bring to the board. Therefore, this thesis extends the literature on board governance by examining the issues from an

extended theoretical perspective, integrating agency, stakeholder, and resource dependence theories. In addition to these general contributions, other chapter-specific contributions are detailed below.

**Chapter Three** of this thesis contributes to the corporate governance literature related to founder director in several ways. First, the study uses founder directors on the board as the predictor of both financial and social performance. Although a growing body of mainstream corporate governance literature investigates this issue, this study appears to be the first that investigates the issue in the context of microfinance, a distinct financial market with both a social and financial mission. Second, this study investigates the impact of the family ties and microfinance-specific experience of founding directors as the predictors of MFI financial and social performance, which are yet to be explored. Finally, this study complements the debate on the theories of the firm having both financial and social objectives, suggesting that founders are the key stakeholder group that can influence MFI performance. The study suggests that founder directors and their family connections are critical to the economic sustainability of social enterprises. However, their involvement and family connection are not beneficial for MFI social performance. The study also concludes that the adverse effect of founder directors on social performance is overcome when the founders bring microfinance experience to the board.

**Chapter Four** contributes to board independence corporate governance literature in several ways. First, this study extends the study of Hartarska (2005). Although Hartarska (2005) suggests that board independence has a positive association with ROA and the depth of outreach, she does not find any influence of board independence on the breadth of outreach and the other measures of financial performance. On the other hand, this study concludes that board independence influences not only the depth of outreach but also the breadth of outreach. Besides, this study uses the social experience of independent directors as the human and social capital attribute, their community connection as the social capital attribute, and advanced education as a general human capital attribute, as the predictors of MFI performance. The evidence in this study shows that when independent directors bring their community and political connections to the board, this may have a negative impact on financial performance, but a positive impact on social performance. On the other hand, when independent directors with social experience and advanced education join the board, this may have a positive influence on both social and financial performance. Therefore, the study suggests that it is critical to consider the independent director's attributes before including them on the board.

**Chapter Five** of this thesis contributes to the corporate governance literature related to employee directors in several ways. For instance, contrary to the negative view of the presence of employee board members on outreach performance (Hartarska, 2005; Hartarska

& Mersland, 2012), the findings of this chapter state that employee directors are essential for the MFI outreach mission. Equally, opposed to the negative influence reported in previous literature (Hartarska, 2005; Hartarska & Mersland, 2012; Mori & Mersland, 2014), this study concludes that employee presence on the board has a positive impact on financial performance. Therefore, this context and country-specific study contradict the existing microfinance literature, suggesting that employees are the critical stakeholders of the firm, whose inclusion on the board may play a positive role in MFI performance. Furthermore, this study considers the human capital attributes of employee directors as a determinant of MFI performance. By taking a resource-based view, this study suggests that not all employee presence on the board is beneficial. Hence, it is important to consider what resources the employees can bring to the board. For instance, employee directors having microfinance experience are essential for the board as they can bring critical firm-specific skills. However, their advanced general education is not supportive of the financial outcomes of the firm.

**Chapter Six** of this thesis contributes to competition literature in several ways. First, the study goes beyond the demand side (client side) on the supply side in investigating the impact of competition. Although the existing literature (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005) investigates the impact of competition at the client level, this study explores the issue on the institutional side on the firm economic sustainability and social outreach. Second, extending Assefa et al. (2013), which first investigated the association between competition and portfolio performance, this study uses ROA, OSS, and FSS as the outcome of the competition. Further, this study uses the Z-score to evaluate the solvency of MFIs, a commonly used measure of bank solvency. Third, this study uses the Boone Indicator as the measure of competition. Although Assefa et al. (2013) use the Lerner index, that index can be misleading for NGO MFIs because it is based on the price-cost margin, which is suitable for commercial firms only, not for non-profit MFIs. In order to overcome such an inadequacy, the study uses the Boone indicator. Further, following Tabak, Fazio, and Cajueiro (2012), the study improves the measure of the first Boone indicator by using the market share and marginal costs in its estimation to account for MFI specific characteristics. Use of this indicator allows the researcher to cover all MFIs in the sample, whereas Assefa et al. (2013) study was restricted to commercial MFIs only. Therefore, the study contributes to competition and firm performance literature by developing the Boone indicator using the largest and the latest dataset from the global microfinance information platform and using it to predict MFI performance.

## Chapter 2                      Context of the Study: Microfinance in Bangladesh and around the World

*“Poverty is caused by a failure at the conceptual level, rather than any lack of capability on the part of people. ... [Poor people are like bonsai trees. When you plant the best seed of the tallest tree in a flower-pot, you get a replica of the tallest tree, only inches tall. There is nothing wrong with the seed you planted, only the soil-base that is too inadequate. Poor people are bonsai people. There is nothing wrong in their seeds.] Society never gave them the base to grow on. All it needs to get the poor people out of poverty for us to create an enabling environment for them. Once the poor can unleash their energy and creativity, poverty will disappear very quickly. .... microcredit helps to unleash that potential.” Yunus (2006) in the Nobel Lecture*

### 2.1 Introduction

The latest Global Findex database reports that more than 1.7 billion adult people globally do not have access to financial services (Demirgüç-Kunt et al., 2018). The report also states that almost all of these people are from developing countries.<sup>13</sup> Poor people are excluded from formal financial services primarily due to moral hazard and adverse selection (Stiglitz & Weiss, 1981) caused by information asymmetry (Karlan & Zinman, 2009; Stiglitz & Weiss, 1981). For financial service providers, the operating costs of offering such services to poor people in underdeveloped areas is high due to the small size of the credit and savings per client, and the scattered population in remote rural areas. According to Collins, Morduch, Rutherford, and Ruthven (2009), financial service providers have to deal with a “triple whammy” of low, irregular and uncertain income and lack access to financial tools to deal with such problems. To overcome this, and to find ways to generate income, the people at the bottom of the pyramid in developing countries are sometimes dependent on local moneylenders, or neighbours and relatives (Dowla & Alamgir, 2003; Hassan, 2002). However, funds credited by neighbours and relatives are difficult to obtain and may result in a mutual misunderstanding. Also, credit from moneylenders requires a usurious interest rate, which may exacerbate the poor persons’ financial situation, rather than improving their income. Although commercial banks and other formal financial institutions can provide credit to poor people, they are reluctant to provide it because they do not have adequate collateral (Hollis & Sweetman, 1998), and providing financial services to the population at the bottom of the pyramid<sup>14</sup> requires higher operating costs per amount of credit or savings. Government intervention to assist poor people out of poverty through aid and traditional subsidized schemes

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<sup>13</sup> These people are also referred as “unbanked” in the rest of the thesis.

<sup>14</sup> Prahalad (2009) termed the poor and low-income people as the people at the bottom of the pyramid.

have also failed due to many problems, such as misspecification of the target beneficiaries, bureaucratic sprawl, and corruption (Dowla & Alamgir, 2003; Morduch, 1999). Instead, it creates dependency and disincentives among poor people. Hence, poor people remain excluded from mainstream development as they cannot unleash their potential to change their socio-economic life by engaging in entrepreneurial activities through access to credit.

Against this backdrop, microfinance is a useful financial mechanism to enable poor people to escape the curse of poverty by giving them access to financial services through an institutional mechanism. The ideological movement of microfinance programs was born through the concept of the savings bank in the late eighteenth century and the second half of the nineteenth century in Europe (Hollis & Sweetman, 1998; Mersland, 2011). However, the modern version of the microfinance revolution started after the microcredit experiment by the famous Nobel laureate economist Muhammad Yunus in 1976 from a small village, “Jobra” in Bangladesh (Yunus & Jolis, 2003). The motivation behind microfinance lies in the Nobel speech by Muhammad Yunus (quoted at the beginning of this chapter). The central premise of the microfinance revolution is that poor people have the potential to change their life if they are given an opportunity to unleash their potential (Yunus, 2006).<sup>15</sup> They are economically active and have the capacity and creativity to succeed when they are given proper financial support and an enabling environment. The main issue is the mismatch between the financial products offered by formal financial institutions and the demands that poor clients need to fulfill. According to Robinson (2001, p. 6) “those who hold the power, do not understand the demand; those who understand the demand, do not hold the power”. The simple mechanism developed by the microfinance program is to fulfill the demand of poor people. The motivation behind providing financial services through microfinance is simple. MFIs provide credit to the poor, and at the same time, they make a reasonable profit to be sustainable (Hassan, 2002). Although MFIs charge higher interest rates than the commercial banks, the rate is lower than that of local moneylenders. The logic of providing credit at a higher interest rate is that the operating cost is higher due to the small amount of credit provided to the poor and the collection of credit from the doorstep of the borrowers in remote areas. Free markets help the borrowers to undertake cost-effective use of credit through which they can break the cycle of poverty. Unlike government credit programs and commercial bank credit, microcredit providers offer small loans to the poor for a short period, with frequent and small repayments. The poor people, who do not have adequate collateral to provide, obtain such credit to support their income generating activities or to overcome their unforeseen economic contingencies. MFIs are now operating in distant corners of the world, with a view to eradicating poverty, and to

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<sup>15</sup> "Muhammad Yunus - Nobel Lecture". Nobelprize.org. Nobel Media AB 2014. Web. 21 Jun 2017. <[http://www.nobelprize.org/nobel\\_prizes/peace/laureates/2006/yunus-lecture-en.html](http://www.nobelprize.org/nobel_prizes/peace/laureates/2006/yunus-lecture-en.html)>

transform economic and social structures by providing financial services to low-income households (Morduch, 1999). According to Armendáriz and Morduch (2010, p. 3), “microfinance presents a series of exciting possibilities for extending markets, reducing poverty, and fostering social change.” Those institutions working with poor people with small credit and savings have united under the banner of “microfinance” and share a common commitment to serve clients who have been excluded from formal financial institutions. Though the microfinance movement started its journey in the 1970s, the movement has experienced unprecedented evolution and growth in the last three decades, and has continued its growth to continue “fighting against poverty”.

### **2.1.1 Evolution: From Microcredit to Microfinance and Beyond**

The initial premise of providing financial services to the poor and unbanked people is that the poor people who cannot provide basic physical collateral to obtain a loan from the bank can obtain small-scale credit. Local organizations, which can acquire information about the characteristics of poor borrowers at a lower cost than formal financial institutions (Hollis & Sweetman, 1998), can provide small credit to poor borrowers. Such credit harnesses the income generation of economically active poor people who use the credit in micro-entrepreneurial or self-employment activities. However, credit only mechanisms are not adequate for poor people. According to Vogel (1984), saving is the forgotten half of rural and urban finance in developing countries, as the economically active poor people also want to save a portion of their income for the economic purpose (Adams, 1978). Hence, there has been a paradigm shift from the narrower term “microcredit” to the broader term “microfinance” in the last three decades. The broader term, “microfinance” refers to not only small credit (Armendariz & Labie, 2011), but covers both credit and savings for the poor and unbanked people, and often covers micro-insurance and remittance services. Therefore, microfinance refers to the supply of financial services to micro-enterprises and poor and low-income earners (Ledgerwood & White, 2006; Mersland & Lensink, 2009; Robinson, 2001; Schreiner, 2002). Further, the supply of financial services covers not only small-scale credit but also savings and other financial services. Recently, the program has extended beyond “microfinance” to “microfinance plus” (Mersland & Lensink, 2009) by embedding microfinance with other services, such as providing financial literacy training, health care services, and marketing the entrepreneurs’ products through value chain system, among others.

However, not all small-scale financial services are considered microfinance, and not only MFIs offer microfinance services. Some commercial banks and insurance companies are now downscaling to reach the lower income segment of the population; some consumer-durable companies are also targeting low-income clients with consumer credit (Armendariz & Labie, 2011). Hence, not all programs are microfinance; whether it is or not depends on the model, the target group, and the services they offer (Armendariz & Labie, 2011). For instance, Karlan and

Zinman (2009) studied the impact of consumer credit on employed individuals in South Africa. Though the institutions provide small-scale credit, the target group are not the poor and low-income earners or the micro-entrepreneurs. Hence, such institutions do not belong to the microfinance industry. Similarly, government subsidies or aid provided to the poor are not microfinance. Hence, each financial program needs to be examined carefully before it is labelled as a microfinance program. The benchmark to evaluate microfinance programs is by examining the target group, such as outreach, the impact of the intervention, and the financial self-sufficiency of the provider.

### **2.1.2 Organizational Variations of MFIs and Their Profit Motives**

Those financial services aimed at assisting poor populations have many dimensions based on profit motives and organizational ownership. Unlike formal financial institutions, such as commercial banks, the composition of MFIs is complex. MFIs render their financial services under the umbrella of a variety of institutional designs, such as non-government organizations (NGOs), credit unions and cooperatives (COOPs), non-bank financial institutions (NBFIs), and rural or specialized banks (Jansson et al., 2004; Mersland, 2009). Based on the control of the organizations and their ownership structures, MFIs are categorized into three types: member based cooperatives (known as COOPs), non-government organizations (NGOs) and shareholder based firms (also known as SHFs). Moreover, publicly held shareholder MFIs are categorized as bank MFIs and non-bank financial institutions (NBFIs) with a specialization on microfinance operations. However, some MFIs have transformed into regulated firms. Table 2.1 outlines the characteristics of different types of microfinance players.

#### ***COOPs***

COOPs are the member or customer-owned organizations in which all the control mechanisms lie at the hands of the members (Mersland, 2009). Management involvement in COOPs is very scarce. Instead, the members have the ultimate control of the organizations. Hence, the traditional corporate governance mechanism is not used in this type of organization. Credit unions, self-help groups (SHGs) and savings and credit cooperatives all fall within this category. The organizational structure of COOPs is simple, and they generally operate on a small scale. This type of microfinance organization is beyond the scope of formal microfinance or banking regulation. As these organizations focus on the members only, their outreach is very low. Further, their portfolio size and assets size are also small. However, they strongly support the dual mission as their target is to serve their members only, and they distribute profits to their members only. Nevertheless, they are not dependent on donor funds or private equity capital. Due to their simple structure and minimal stakeholder orientation, their governance mechanism is very minimal.

## *NGOs*

MFIs working as NGOs (non-government organizations) are mainly non-profit organizations, which do not have any private or public ownership. The most common providers of microfinance services to the rural and poor people are NGO type MFIs (Christen, Lyman, & Rosenberg, 2003). This type of organizations has to obtain government registration to work as NGOs, not as banks. Hence, NGOs are beyond the scope of banking regulation. However, in some countries, such as Bangladesh, these types of NGO-MFIs may have to follow some government rules (set by the Microcredit Regulatory Authority) when accepting deposits and providing loans to their clients. They are generally not-for-profit organizations, and they do not have equity investors. Hence, their profits or residual claims are not distributed to shareholders. These organizations follow the welfare approach and have a strict adherence to the dual objectives (Zeller & Meyer, 2007). As they are not private shareholder-owned, these MFIs are dependent on donor agencies or social investors for funds. The asset size and the outreach size also vary among them, based on their scale of operations and the range of financial and non-financial services they offer. As social organizations, these MFIs not only offer credit and savings, they also offer other non-financial products like health and education to the poor people in developing countries. Managers in this type of organization enjoy an unlimited managerial discretion, have a higher level of freedom, and play a significant role in decision making. Due to the connection with a range of fund providers and client base for the different services they offer, stakeholder orientation is also more significant in NGO MFIs (Speckbacher, 2008). As the governance mechanism is not tied to the ownership, and as the stakeholder base is large, governance in NGO MFIs has to consider a higher level of stakeholder orientation. Hence governance is more complicated in this type of MFIs. Further, as NGO MFIs are not profit based, they are governed by their missions and by laws, not by the owners (Mersland, 2009). Due to their emphasis on the dual mission, their governance structure aligns with both their financial and social objectives.

## *SHFs*

The equity investors are the owners of shareholder-funded MFIs. The banking authorities or microfinance authorities regulate these types of MFIs. Shareholders of this type of organization have the power to control the organization, decide on the distribution of residual income, and are free to sell their privileges (Mersland, 2009). Shareholder funded MFIs have permission to accept deposits and attract private equity funds. This type of organization is more commercial and focuses more heavily on financial sustainability. Although the investors in the commercial corporations have a single objective (to maximize financial returns on their investments) the owners and other investors of SHFs are heterogeneous; some are profit-seeking investors, and some are social investors with a holistic motivation for social welfare (Mersland, 2009; Reille & Ivatury, 2004). However, SHFs are less dependent on donor agencies. Further, their governance

mechanism focuses on shareholders, and these firms benefit from superior corporate governance mechanisms.

**Table 2.1 Organizational Variations of MFIs and their Characteristics**

	COOP	NGO/NPO	SHF	
			NBFI	Bank
Ownerships	Members only	Not privately owned	Privately/Publicly owned	Publicly (a few privately) owned
Issue private equity capital	No	No	Yes	Yes
Profit Distribution to owners	Among the members	Non-distribution constraint	Yes	Yes
Governance tied to ownership	To members	Not tied	Tied	Tied
Management control	No/Minimum	High	Less	Less
Regulated by banking/microfinance authorities	Outside the scope	Not regulated	Partly regulated	Fully regulated
Dual objectives	Strong	Strong	Prefer financial objective	Prefer financial objective
Approach	Welfare	Welfare	Sustainability	Sustainability
The range of financial services	Very few	Few plus non-financial services	Moderate range of financial services	Larger range of financial services
External dependency (donor)	Not	High	Less	Less
Mobilize savings	Yes	Few, if regulation allows	High	High
Asset size, loan portfolio, and outreach	Very small	Small to larger	Larger	Larger
	←————— Managerial discretion —————→		Most	Least
	←————— Stakeholder Orientation —————→		Low	High and Complex
	←————— Governance Mechanism —————→		Minimum	Superior/Complex

**Source:** Galema, Lensink, and Mersland (2012); Hollis and Sweetman (1998); Mersland (2009).

Due to shareholder involvement on the board, the possibility of managerial discretion is lower in SHFs. As they offer profit distribution, they also attract private investment. Hence, their asset base and portfolio size are more significant, and they are able to attract a larger number of customers with a wider range of financial products. Generally, specialized banks in microfinance markets and non-bank financial institutions fall under this category. However, MFIs working as banks are more commercial than NBFIs as they are fully regulated and supervised under banking laws. However, NBFIs are less regulated than bank MFIs.

## **2.2 Special Features of Microfinance Institutions and Their Environment**

The different institutional formations outlined in the above table reveal that the objectives, level of operations, operational mechanisms, institutional design, and the operating environment of MFIs differ from commercial financial institutions. Further, some of the features are common to all MFIs while other characteristics vary among them based on their level and complexity of operations. The key features of MFIs and their environments are crucial to understanding their governance and performance.

### ***Dual Mission***

The main objective of MFIs is the shared commitment to serve poor people who are excluded from the formal banking sector (Morduch, 1999). As part of their social objective, MFIs fulfill the short-term needs of the poor and unbanked people by providing financial services. However, serving poor clients with credit is risky for MFIs because poor people generally do not have adequate collateral to provide. Hence, there is a higher risk of losing the credit offered to them.

Furthermore, the operating costs to offer such credit and savings to poor clients is higher compared to the costs of the banking services provided to wealthier clients (Canales & Greenberg, 2015). Hence, MFIs must emphasize their economic sustainability in providing financial services to poor people. Therefore, MFIs focus on two conflicting bottom line objectives: providing financial services to the poor with the aim of fighting against poverty, and the economic sustainability of the MFI (Salim, 2013). However, not all MFIs focus on both objectives equally. The MFIs that follow a welfare approach emphasize social objectives, while the MFIs that adopt a profit motive emphasize economic sustainability (Schreiner, 2002). Non-profit MFIs typically focus on the social mission whereas commercial MFIs, such as SHFs, focus more on the financial mission. However, focusing on one mission only is not the ultimate solution for microfinance players as their objectives are to provide small credit and savings to poor people. The literature (Morduch, 2000) suggests that the MFIs that emphasize both missions need to ensure a long-term “win-win” situation in fulfilling both their economic sustainability and social outreach. Both internal and external governance mechanisms of MFIs are based on the priority of the MFIs to their double bottom line objectives. The role of governance mechanisms varies among MFIs as a result of such objectives.

### ***The Range of Activities the MFIs Perform***

Though the primary function of MFIs is to provide credit to economically active poor people, many MFIs now accept deposits from poor clients. Additionally, some MFIs provide other financial and non-financial services such as micro insurance, remittances, and even financial literacy training. As part of their double bottom line objective, they provide financial and non-

financial services to unbanked and poor people. Compared to commercial banks, the range of activities of MFIs is diverse. Generally, commercial MFIs have contracted activities focused on savings, credit, and in some instances, micro-insurance and remittance (Armendáriz & Morduch, 2010; Dowla & Alamgir, 2003). However, the number of services varies among MFIs based on their ownership structure, regulatory requirements and the countries in which they operate. Some MFIs provide social services such as literacy programs, health care, or business development activities (Maes & Foose, 2006). Business development activities may include skill training, technical assistance, and marketing their clients' products. NGO MFIs integrate a range of similar activities with their microcredit programs or provide these services separately to their clients as part of their social mission. As NGO MFIs have a wide range of networks, they use these networks in providing social services. Cooperatives, on the other hand, do not focus on social activities. Preferably, they provide microfinance services only, such as savings and credit, and their outreach is minimal as they provide these services to their members only.

### ***Client Characteristics***

Compared to formal banking clients, microfinance clients are relatively poor and low-income earning individuals that have been excluded from the formal banking channel. MFIs work mostly in the informal sector, such as with street vendors or agro-farmers, who are dependent on household income generating activities (Agbola, Acupan, & Mahmood, 2017). These clients have little capacity to provide physical collateral or hypothecation to access formal credit. Hence, low-income people are unbanked; MFIs target these people as their clients (Alam, 2012; Duvendack & Palmer-Jones, 2017). Additionally, the majority of their clients are women, as poor women in developing countries have generally never been included in the formal credit arrangements provided by the banking system due to their inability to provide collateral (Aggarwal, Goodell, & Selleck, 2015; Agier & Szafarz, 2013a). MFIs provide credit facilities to these people to support their entrepreneurial activities (Armendariz & Labie, 2011).

### ***Microfinance Products***

As the scope of operations varies among MFIs due to their legal and organizational difference, the range of microfinance products also varies among MFIs (Dowla & Alamgir, 2003; Mersland, 2009). For instance, microfinance banks and NBFIs, as well as a few commercial banks that have microfinance operations, offer savings and time deposits. Although credit unions and cooperatives provide both the savings and credit facilities, their scope of providing such facilities is limited to their members only (Mersland, 2009). On the other hand, NGO MFIs cannot generally accept savings or time deposits from their clients, although a few of them have an opportunity to collect voluntary savings. However, the level of these activities depends on the country and the regulatory environment in which they operate. For instance, in Bangladesh, NGO-

MFIs can collect voluntary savings; while in India, voluntary savings are restricted for NGO-MFIs.

The size of the credit provided to clients is small and is for the short term only, usually for a few months to a couple of years (Armendáriz & Morduch, 2010; Morduch, 1999). Repayment is in a small amount with a high frequency of installments, usually weekly or monthly (Armendáriz & Morduch, 2010). Borrowers generally use the loans in the informal sector, for example, to finance their entrepreneurial activities or for agricultural use or for household income generating activities. MFIs usually provide loans at the market level interest rate, which is usually higher than the commercial banks' lending rate (Dowla & Alamgir, 2003). As the operating cost per dollar of the loan is very high compared to the commercial banks, the interest rate is higher for MFIs.

When providing credit, MFIs follow a non-formal and straightforward procedure. While commercial banks require formal documentation to be provided before granting a loan, MFIs do not usually follow a formal loan application process and do not require a formal client screening mechanism (Canales & Greenberg, 2015). Instead, MFI field level staff evaluate clients' character and cash flow from operation during an onsite visit (Galema et al., 2012). Loan officer also completes the documentation of the loan application for the borrowers, as they typically have inadequate financial literacy. Hence, lending to MFI clients follows a simple application process, and the decision to grant credit depends on the credit officers' assessment of the clients' ability to pay during the onsite visit (Canales & Greenberg, 2015). The field level and front office staff are principally engaged in this procedure.

### ***Liability Structure and Lending Technology***

Compared to commercial fund providers, MFIs provide non-collateralized loans to their clients (Giné, Goldberg, & Yang, 2012). Although a few programs require physical collateral, most MFIs use non-tangible collateral as a substitute (Morduch, 1999). MFIs follow innovative lending technology to safeguard its loan portfolio. They apply basic models to structure their liabilities, each possessing a different potential impact on the MFI's risk structure in collecting repayments and targeting clients (Karlan & Goldberg, 2011).

### ***Joint liability Credit/ Solidarity Group***

The classic "Grameen Bank Model" is an innovative substitute for collateral lending whereby group members guarantee the other members' repayments. Under this approach, the borrower's neighbours are the co-signers of the loans and are jointly liable for the repayments (Morduch, 1999). The primary safeguard in this approach is peer selection and peer monitoring (Morduch, 1999). The group members, acting as their neighbours, have the incentive to exclude risky borrowers from the group and select less risky borrowers. If any group member fails to

repay the loan, the other members have to bear the liability; otherwise, they will be excluded from future credit (Karlan & Goldberg, 2011). Hence, group solidarity, peer selection, peer monitoring, and shared liability create social capital, and in turn, mitigate the problem of information asymmetry, and solve the physical collateral requirement of MFIs (Besley & Coate, 1995; Stiglitz & Weiss, 1981).

### ***Village Banking***

A flexible version of group solidarity concept is village banking, which consists of a larger group of 15-30 members. Members of this group are responsible for managing the loan as well as making and collecting loans (Karlan & Goldberg, 2011). A self-help group (SHG) is created in this concept. In Latin America, some MFIs follow this concept whereby members of the group do not bear joint liability. However, shame and social stigma work as an enforcing mechanism to safeguard against potential default. In this way, the MFIs can reach to a larger number of clients, as the members do not need to provide a guarantee for each other.

### ***Individual Lending***

In individual lending, MFIs provide credit to individuals instead of groups, similar to commercial bank credit (Karlan & Goldberg, 2011). As this methodology is risky, the MFIs tend to provide credit to those who are less risky. As a substitute for collateral, the MFIs require any household item which has low market value but the high personal value to the borrower (Karlan & Goldberg, 2011). Similar to group banking, MFIs also consider the credit history of the individual in providing credit (Armendáriz & Morduch, 2010).

### ***Dynamic Incentives***

In addition to peer selection and peer monitoring, the dynamic incentive is another mechanism used to secure timely repayments (Besley & Coate, 1995). Under this mechanism, the MFI lends a small amount at the beginning of the loan and increases the loan size following satisfactory repayment of the previous loan. Repeated interactions, and the threat to cut off any future lending if the existing loans are not paid, improve efficiency in collecting repayments and reducing information asymmetry in both group lending and individual lending (Besley & Coate, 1995; Morduch, 1999). Moreover, it provides the benefit of obtaining a stream of increasingly larger loans in the future, termed “progressive lending” (Besley & Coate, 1995; Hulme & Mosley, 1996).

### ***Regular Repayment Schedules***

The other feature of microfinance credit contracts is the regular repayment of the principal and interest in small, equal installments. The repayment schedule is designed around frequent repayments that enable credit officers and group members to detect repayment issues early and

helps the MFI to screen out undisciplined borrowers (Morduch, 1999). Besides, some MFIs use alternative options for collateral substitutes to meet contingencies. For example, Grameen Bank members must contribute 0.5 percent of every unit of credit to an “emergency fund”, which acts as insurance to death, disability, and default (Morduch, 1999). Moreover, some MFIs have introduced voluntary savings and forced savings of a small amount with regular installments, which also work as collateral.

### ***Environmental Characteristics***

In addition to the above-stated institution-specific and product-specific characteristics, some market specific macro characteristics also make a difference in the operation of MFIs. Stakeholder involvement, governance structure, and firm performance have a substantial alignment with these environments. The main macro-environmental features include the rapid growth of the industry, and a significant change in the regulatory environment the market faces. However, this environment varies among countries and MFIs.

### ***Regulatory Environment***

Regulatory status also varies among different types of MFIs and among the countries where MFIs operate. For instance, ROSCAs are entirely unregulated, while COOPs in some countries follow the cooperative law (Mersland, 2009). Likewise, non-profit and NGO MFIs are not regulated in the same way as commercial banks or SHFs. Therefore, they cannot accumulate capital from the market; they primarily depend on donors. Due to a lack of regulation and weak management oversight, the possibility of risky investments and management opportunism is high in these MFIs (Fisman & Hubbard, 2005; Galema et al., 2012). As these MFIs are a small part of the financial market, regulators tend to ignore their possible threat to the financial system (Galema et al., 2012). However, the regulatory status of these MFIs varies among countries. For instance, NGO MFIs in Bangladesh are regulated by the MRA, while in India, this type of MFIs is unregulated. However, the microfinance crisis in Andhra Pradesh in 2010 caused the Indian government to place some restrictions on NGO MFIs. The cost of regulation is high for these small MFIs (Mersland, 2009). As NGO MFIs and COOPs are not highly regulated and are not supervised by the central bank, they cannot accept public deposits. However, some commercial MFIs and microfinance banks accept public deposits. Due to this, SHFs are more highly regulated, and in some countries, they are regulated prudentially. Due to regulatory constraints and supervision by the central bank, the CEO enjoys less power and incentive in the SHFs, NBFIs and microfinance banks.

### 2.3 Microfinance in Bangladesh

Bangladesh is the most densely populated and least developed country in the world. The country has 151.7 million people with a density of 1,027 people per square kilometer (MOF, 2017).<sup>16</sup> Among the population, 24.3 percent live below the upper poverty line, 26.4 percent live in rural areas, and 18.9 percent live in urban slums (MOF, 2017). Rooted in 1976 by the Nobel Laureate Professor Muhammad Yunus in a small village known as “Jobra”, near the University of Chittagong, the modern version of microfinance movement started in this country. After the liberation war between former West Pakistan (now Pakistan) and East Pakistan (now Bangladesh) in 1971, the country was established as a sovereign state. The nine-month-long war and flooding in the two subsequent years resulted in widespread famine, killing tens of thousands of people between 1973 and 1974 (Sen, 1981). The economy of the country was stagnant, and natural disaster and political instability were exacerbating the situation. Although different aid programs were in operation to help poor people, the programs were inadequate to overcome the harsh situation. Formal financial institutions, such as commercial banks, were limited to wealthy clients and were particularly concentrated in urban areas. Poor people were largely excluded from banking facilities (Mia et al., 2017). The local informal money lenders were taking advantage of the situation, providing loan facilities to the poor and charging usurious interest.

In order to overcome this, a series of experiments were carried out by Muhammad Yunus. The main problem Yunus identified is that poor people have limited access to credit to support their income-generating activities, due to their inability to provide formal collateral to the bank (Yunus, 2013). It means they have limited money to invest in their small business. If they obtain credit, they can run their usual income generating activities such as handicrafts and rice husking (Armendáriz & Morduch, 2010). Yunus began the experiment by lending poor people a small amount of money to run their income-generating activities. He realized that when they are provided small credit with affordable terms and conditions, they use the money profitably, and are reliable in repaying the credit on time, even though they have not provided any collateral (Mia et al., 2017; Yunus & Jolis, 2003). In light of this outcome, Muhammad Yunus convinced the central bank (Bangladesh Bank) to establish a small branch in “Jobra”. Soon after, another experiment began in Tangail, a North-Central district of Bangladesh. After watching the success of the project, in 1983, the government established the “Grameen Bank,” a specialized bank to serve the poor and the unbanked people in rural areas of Bangladesh (Yunus, 2013).

Learning from the Grameen Bank’s classic “joint liability” based “group lending”

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<sup>16</sup> Source: Bangladesh Economic Review 2017. Available at:  
<http://www.mof.gov.bd/site/page/44e399b3-d378-41aa-86ff-8c4277eb0990/BangladeshEconomicReview>

program,<sup>17</sup> the microfinance movement experienced a gradual revolution with different microfinance techniques, organizational variations, different ownership characteristics, and legal formation emerging. With the initial help of development organizations, many NGOs came forward to provide microcredit to the poor and unbanked people in the country.

After the formal recognition as a financial institution to serve the poor and unbanked people, the microfinance movement passed its first stage, establishing to the development partners, governments, policy-making bodies, and the other stakeholders that microfinance is a viable alternative financial mechanism to the formal commercial bank to serve poor people. The growth of microfinance gained momentum after the 1980s (Mia et al., 2017) and many MFIs emerged in different regions of the country. During this period, the core principles of the program were modified to meet the market demand and to provide a better service to the poor (Dowla & Alamgir, 2003; Mia et al., 2017). With its natural evolution, the program also began targeting different client segments, with different microfinance products being tailored to the clients' needs (Cull et al., 2009; D'Espallier et al., 2017).

The initial funding opportunities from the aid and development organizations began drying up. MFIs were striving to be sustainable through self-funding. However, with the establishment of PKSF,<sup>18</sup> an apex body to support MFIs with funding opportunities, microfinance in Bangladesh gained momentum. Nevertheless, the growth of the microfinance program was well documented as an innovative and effective alternative to serve poor people (Cull et al., 2009; Ledgerwood & White, 2006). The failure of several state-run and donor driven finance programs (Stiglitz, 2003), and the inability of the rural bank to reach the poor people fuelled the acceptance of microfinance as a useful development tool to finance against poverty (Conroy & MacGuire, 2000; Khandker, 2005). Furthermore, the scaling up of the program saw a dynamic workforce of MFIs emerge with strong staff commitment, training, leadership development, and a strong commitment to adhere to organizational policies and culture, to eliminate malpractice in providing financial services to the poor (Mia et al., 2017). All these further promoted the program to policymakers, academics, and the development partners.

In the third decade (the 2000s), the program received global recognition through the declaration of 2005 as the “Year of Microcredit” by the United Nations. A few large players in

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<sup>17</sup> The typical group was formed with five members, and a branch consists of seven to eight groups (Morduch, 1999). Primarily, one of the member is given credit while they save a tiny amount regularly. Upon a satisfactory performance, the other members are given credit by the bank where each member gives “joint liability” to repay the credit.

<sup>18</sup> Stands for “Palli Karma Sahayak Foundation” meaning ‘rural workforce help foundation’. A state sponsored funding body to provide funding help and technical support to the partner microfinance institutions.

Bangladesh started spreading their branches into a few developing countries in Asia, Africa, Latin America, and the Caribbean. Further, some commercial banks began operations at the bottom of the pyramid, with financial products tailored to the poor. The notable specialized banks are RDS (Rural Development Scheme) of Islami Bank Bangladesh Limited, Bangladesh Krishi Bank and Rajshahi Krishi Unnyan Bank (Mia et al., 2017). Additionally, a few commercial banks now offer microfinance services to the poor, such as the BASIC Bank, Trust Bank, Ansar VDP Bank, and National Bank (Mia & Chandran, 2016). Further, state-owned commercial banks, such as Sonali Bank, Janata Bank, Agrani Bank, and Rupali Bank, also provide microcredit programs to the poor (MOF, 2017). In the Bangladesh market, including all commercialized and specialized banks, a total of 15 banks now provide credit to poor people. The microcredit sector in Bangladesh also has a few subsidized government programs. Many new entrants in the microfinance market, from both the government and non-government sector, have created fierce competition in the microfinance sector. Following further recognition through the declaration of “Grameen Bank” and Muhammad Yunus as the joint winner of the “Nobel Peace Prize 2006”, the microfinance industry entered another era. Microfinance programs are now spread to more than 100 countries around the world.

The rapid expansion of the microfinance market draws attention to different stakeholders, such as government, development partners, and policymakers. The operating mechanism of microfinance activities, organizational structure, funding alternatives, and legal formation are now multifaceted. The government realizes that it is better to put all the MFIs under the umbrella of regulation by imposing license requirements. With this in mind, the government of Bangladesh established the Microcredit Regulatory Authority (MRA)<sup>19</sup> in 2006 under the MRA Act 2006. Except for Grameen Bank,<sup>20</sup> all MFIs are regulated by the MRA. Under the MRA, the government makes it mandatory to obtain a license to operate as an MFI.

Table 2.2 shows the state of microfinance institutions, their clientele, and the extent of credit and savings provided by MFIs under the regulation of the MRA. Table 2.3 also shows the percentage of the top 10 microfinance players in Bangladesh (including Grameen Bank) with respect to client coverage, credit, and savings balances. At the inception of the MRA in 2006, around 4,000 MFIs applied for a license. Among them, around 1,000 were very small, having less than 1,000 clients. These MFIs were not given licenses from the MRA. Initially, a total of 641 MFIs obtained a preliminary license to run microfinance activities. After the scrutiny of all applicants, 293 MFIs were given a permanent license to carry out microfinance business. Since

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<sup>19</sup> MRA works as a central body to monitor and supervise the NGO MFIs. The MRA Act is effective since August 27, 2006.

<sup>20</sup> Grameen Bank is already under the special regulation, Grameen Bank Act 1983, under the supervision of Bangladesh Bank (the central bank of Bangladesh).

then, the number of MFIs obtaining a permanent license continues to increase. As at October 2018, 703 MFIs had obtained a permanent license, and 114 MFIs have a temporary license to provide microfinance facilities in Bangladesh. Also, license for 108 was cancelled as of that date due to the non-compliance with the MRA regulatory requirements. Including Grameen Bank, MFIs currently employ 132,000 permanent employees. In the last decade, client outreach has also increased significantly in NGO MFIs, increasing from 20.83 million to 27.79 million. Grameen Bank has experienced similar trends in client outreach. Table 2.2 shows that, including Grameen Bank and all other microfinance providers, microfinance reached 36.4 million people in Bangladesh in 2016.

Similarly, the number of active borrowers has also increased. For instance, the total number of NGO-MFI borrowers has increased from 17.01 million (in 2007) to 23.28 million (in 2016). Including Grameen Bank borrowers, that number has now reached 30.24 million. In total, all microfinance providers in Bangladesh have served 31.89 million borrowers as of June 2016. Furthermore, during this period, the total amount of loans outstanding has also surged substantially, from BDT 122.21 billion to BDT 568.76 billion. Including the other microfinance programs, the total amount of loans outstanding is currently BDT 574.29 billion. The amount of client savings has shown a similar trend during this period. However, it is worthy to note that MFIs only collect savings from their members; unlike commercial banks, they cannot accept deposits from the public. The latest state of the microfinance market (as of June 2016) is described below.

MFIs with more than 500,000 borrowers are considered very large. Table 2.3 depicts the market share of the top 10 MFIs. Among them, Grameen Bank enjoys the largest market share, which accounts for 24.20 percent of clients and 21.51 percent of borrowers. Among the NGO MFIs, the big four players include ASA, BRAC, BURO Bangladesh, and TMSS. They account for 20.41, 15.05, 3.74 and 2.36 percent of the total market share respectively. These four MFIs account for 63 percent of the total credits in the market. The table also shows that the big 10 microfinance players account for 71.26 percent of microfinance clients in 2016. In the case of borrower outreach, the share of the market is 67.42 percent. Among the NGO-MFIs, the top nine NGO-MFIs share 61.64 percent of the total clients and 62.89 percent of the total borrowers. Further, these dominant NGO MFIs cover 70.81 percent of the loan portfolio. When Grameen Bank is included, they account for 75.69 percent of the microfinance loan portfolio. Likewise, the top NGOs cover 71.18 percent of the total savings of NGO-MFIs. Compared to all the microfinance providers, the top 10 MFIs cover 82 percent of the market savings. Except for the big players, most MFIs are small. There are 497 small MFIs with less than 10,000 borrowers and 23 large MFIs, which account for 18.9 of the total credit. The number of medium size MFIs is 138, with a 15.3 percent share of credit in the market. Although the number of MFIs and client

outreach has increased from previous years, the market share of credit remains almost the same over the same period.

### ***Licensing Requirements and Governance***

To obtain a license from the MRA, MFIs must fulfill the specific criteria set by the MRA.<sup>21</sup> First, they must take registration from either of the following authorities: a) Societies Registration Act XXI, 1860; b) Trust Act II, 1882; c) Voluntary Social Welfare Agencies (Registration and Control) Ordinance XLVI, 1961; and d) Companies Act XVII, 1994. The government of Bangladesh considers providing a loan as microcredit if the credit size per borrower is BTD 50,000 or less. If the loan size is more than this amount, the MFIs treat it as a microenterprise loan.

The MRA also sets the guidelines for corporate governance of MFIs under its regulation. Every MFI must form board as the governing body that consists of five to 10 members. The general members or shareholders (also called the general body) directly elect the board members. The board members must be a member of the general body. The board members cannot stay on the board for more than three consecutive terms. The board is primarily tasked to develop the rules of operation of the MFI and various firm policies. The MRA requires that the rules of the firm should be within the MRA regulations. The board should meet at least every three months (MRA, 2006).<sup>22</sup> Further, the MRA Act 2006 requires that the board appoint one CEO who is not a blood relative to the board chair. The board should fix the CEO's salary and other benefits. The CEO is to perform the duties and other responsibilities as set by the board. The CEO also acts as the secretary to the board.

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<sup>21</sup> Legal requirements to be an NGO MFI. Source:  
[http://mra.gov.bd/index.php?option=com\\_content&view=article&id=41&Itemid=79](http://mra.gov.bd/index.php?option=com_content&view=article&id=41&Itemid=79)

<sup>22</sup> Microcredit Regulatory Act 2006. Retrieved from:  
[http://mra.gov.bd/images/mra\\_files/mra\\_act\\_2006\\_english.pdf](http://mra.gov.bd/images/mra_files/mra_act_2006_english.pdf)

**Table 2.2 State of the NGO MFIs in Bangladesh**

<b>Particulars</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
No. of MFIs licensed	425 <sup>a</sup>	293	419	516	576	590	649	742 <sup>b</sup>	753 <sup>b</sup>	758 <sup>b</sup>
No. of branches (NGO-MFIs)	11,461	15,077	16,851	17,252	18,066	17,977	14,674	14,730	15,609	16,284
Employees Total	129,610	123,136	130,458	131,852	133,956	130,915	132,585	131,435	132,432	
NGO-MFIs	104,327	98,896	107,175	109,597	111,828	108,654	110,734	109,628	110,781	127,820
Grameen Bank	25,283	24,240	23283	22255	22128	22261	21851	21,807	21651	
Clients Total (million)	28.24	31.12	32.82	33.62	34.45	33.01	33.14	33.75	34.81	34.75
NGO-MFIs	20.83	23.45	24.85	25.28	26.08	24.64	24.6	25.11	26	27.79
Grameen Bank	7.41	7.67	7.97	8.34	8.37	8.37	8.54	8.64	8.81	6.96
Borrowers Total (million)	23.38	24.97	27.14	27.82	28.65	26.02	26.01	26.17	27.21	30.24
NGO-MFIs	17.01	17.79	18.89	19.21	20.65	19.31	19.27	19.42	20.35	23.28
Grameen Bank	6.37	7.18	8.25	8.61	8	6.71	6.74	6.75	6.86	6.96
Loan outstanding (BDT billion)	122.21	179.09	197.85	211.37	249.09	291.64	341.39	369.69	448.83	568.76
NGO-MFIs	85.87	134.68	143.13	145.02	173.8	211.32	257.01	282.2	352.41	459.37
Grameen Bank	36.34	44.41	54.72	66.35	75.29	80.32	84.38	87.49	96.42	109.39
Savings (BDT billion)	57.3	82.31	95.44	107.71	129.86	154.45	186.17	212.78	254.2	355.05
NGO-MFIs	27.76	47.39	50.61	51.36	63.3	75.25	93.99	106.99	135.41	171.19
Grameen Bank	29.54	34.92	44.83	56.35	66.56	79.2	92.18	105.79	118.79	183.86

**Note:** <sup>a</sup> Includes all the MFIs which applied for a license to the MRA. All the licensed MFIs are reported since 2008.

<sup>b</sup> License canceled for 45 MFIs in 2014, 56 MFIs in 2015, and 78 MFIs in 2016.

**Source:** MIS Department, Microcredit Regulatory Authority (MRA) of Bangladesh; Grameen Bank Annual Reports; Bangladesh Economic Review 2017 (MOF, 2017).

**Table 2.3 Top Ten Bangladeshi MFIs (Including Grameen Bank) as of 30 June 2016**

	Total			Loan			Savings			Total		
	Clients	NGO-MFIs	All MFIs	outstanding	NGO-MFIs	All MFIs	(BDT billion)	NGO-MFIs	All MFIs	NGO-MFIs	All MFIs	
	(million)	(%)	(%) <sup>a</sup>	Borrowers	(%)	(%) <sup>a</sup>		(%)	(%) <sup>a</sup>	(%)	(%) <sup>a</sup>	
Grameen Bank	8.81		24.20	6.86		21.51	109.39		19.05	183.86		49.36
BRAC	5.48	19.72	15.05	5.17	22.21	16.21	127.83	27.83	22.26	43.36	25.33	11.64
ASA	7.43	26.74	20.41	6.21	26.68	19.47	120.28	26.18	20.94	50.68	29.60	13.60
BURO Bangladesh	1.36	4.89	3.74	0.92	3.95	2.88	24.43	5.32	4.25	7.69	4.49	2.06
TMSS	0.86	3.09	2.36	0.74	3.18	2.32	14.82	3.23	2.58	4.99	2.91	1.34
SSS	0.55	1.98	1.51	0.43	1.85	1.35	10.62	2.31	1.85	4.61	2.69	1.24
Jagoroni Chakra Foundation	0.47	1.69	1.29	0.4	1.72	1.25	9.14	1.99	1.59	3.57	2.09	0.96
Uddipon	0.46	1.66	1.26	0.33	1.42	1.03	7.35	1.60	1.28	2.82	1.65	0.76
Padakhep	0.32	1.15	0.88	0.28	1.20	0.88	6.2	1.35	1.08	2.45	1.43	0.66
Sajeda Foundation	0.2	0.72	0.55	0.16	0.69	0.50	4.61	1.00	0.80	1.68	0.98	0.45
Total percentage of all NGO-MFIs		61.64			62.89			70.81			71.18	
Total Percentage of all MFIs <sup>a</sup>	36.40		71.26	31.89		67.42	574.29		75.69	372.52		82.07

**Note:** <sup>a</sup> Based on the sum of all the microcredit programs (including Grameen Bank, state-owned, specialized and commercial banks, and government-run microcredit programs).

**Source:** MRA Annual Report, 2016 (MRA, 2016); Bangladesh Economic Review, 2017 (MOF, 2017).

## 2.4 Microfinance Around the World

The institutional appreciation of microfinance with the establishment of the Grameen Bank did not end in Bangladesh; the program gained global recognition and spread to many countries. Even advanced economies, such as the USA, France, and Spain, established the “Grameen Bank” based microfinance program, tailored to their socio-economic context.

The first notable expansion of the program in developing countries is group-based credit provided to poor women in India by SEWA and the ACCION International microcredit program in Brazil during the 1970s. However, before the “Jobra” experiment, the program was also implemented in another format. In 1720, Jonathan Swift first started lending a small amount to poor craftsmen in Dublin, and in 1864, Raiffeisen first created a cooperative credit group in Germany (Hollis & Sweetman, 1998). Other examples include the Irish Reproductive Loan Fund in the 19<sup>th</sup> century and Samuel Wilson’s charity loan to the young traders and manufacturers in 1766 (Hollis & Sweetman, 1998). However, microcredit around the world started expanding in the 1990s. Particularly inspired by the Grameen Bank model, and by the success stories of many NGO-MFIs in Bangladesh, the microcredit program was replicated in other developing countries. Although the origin of microfinance was the group based lending program, the program followed many different trajectories. For instance, the program moved from a “credit only” program to microfinance and henceforth, the “microfinance plus” program. An individual lending program, village-based lending program, micro-enterprise lending program, and others were also added. As a pro-poor banking system, both COOPs and NGO financial institutions have dominated historically (Hollis & Sweetman, 1998; Mersland, 2009). NGO MFIs are still the dominant microfinance players, serving poor people in many developing countries around the world.

Over the last three decades, microfinance has experienced unprecedented growth in different countries. The global microfinance barometer predicts that there will be 10 thousand MFIs over the coming decades. In the last four decades, microfinance clients, loan portfolios, and the amount of savings has also significantly increased. The Global Findex Report 2018 (Demirgüç-Kunt et al., 2018) shows that the number of adults who do not have an account with a financial institution has substantially decreased from 2.5 billion to 1.7 billion between 2011 and 2017. Even the MIX Market, the largest MFI self-reporting platform and the largest source of global MFI data, shows that all the indicators of microfinance players have substantially increased. Table 2.4 shows the leading indicators of financial inclusion, based on the sample of MIX Market data extracted from microfinance barometers over the last few

years.<sup>23</sup> The number of borrower outreach clearly shows an increase in the last three years, even though the microfinance market in some countries has matured.

Furthermore, the size of the loan portfolio has also increased. Borrower outreach and the size of the loan portfolio also varies among regions. For instance, Latin America and the Caribbean countries have the highest market outreach and portfolio size. Figure 2.1 suggests that the expansion of the market varies among the regions. The figure clearly shows that among the 1,380 MFIs reported to the MIX Market in 2013-2015, Latin America and the Caribbean region account for most of the MFIs (30 percent of all MFIs reporting to the MIX Market) with the second largest market in the African region (25 percent), followed by the South Asian region (16 percent). The smallest market is located in the Middle East and North African regions (3 percent).

Table 2.4 also shows that the majority of microfinance clients live in rural areas, where commercial banks show less interest due to the higher operating costs. Rural outreach is highest in the South Asian market, with the second highest in East Asia and the Pacific markets. However, MFIs in the LAC region tend to serve urban borrowers more when compared to the other regions. As the urban population is concentrated geographically, MFIs can serve more borrowers and can increase their portfolio size to benefit from the economies of scale. Contrary to this, the rural population in the African and the MENA regions are more dispersed. Hence, MFIs operating in those regions cannot reach more rural borrowers. In addition, the majority (84 percent in 2016) of microfinance borrowers are female (Microfinance Barometer, 2017).<sup>24</sup> Development activists consider that women in developing countries have less access to financial service; MFIs aim to target such an underserved population.

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<sup>23</sup> Although all the MFIs do not report to the MIX Market, the larger and leading MFIs in different countries generally tend to report to the MIX Market platform. Therefore, the number of MFIs reporting to the MIX shows a decline in 2014.

<sup>24</sup> [http://www.convergences.org/wp-content/uploads/2017/09/BMF\\_2017\\_EN\\_FINAL-2.pdf](http://www.convergences.org/wp-content/uploads/2017/09/BMF_2017_EN_FINAL-2.pdf)

**Table 2.4 The Global Index of MFIs Reported to the MIX Market**

	Total MFIs Reported to			Number of active borrowers			Loan Portfolio (billion			Percentage of rural		
	MIX			(million)			USD)			population		
	2012	2014	2016	2012	2014	2016	2012	2014	2016	2012	2014	2016
Global	1252	1045	1112	91.4	111.7	132	81.4	87.1	102	57.3	60	
Regional Breakdown:												
South Asia	166	165	222	47.50	64.10	78.30	8.90	12.80	23.50	80.00	58.40	68.80
East Asia and the Pacific	157	138	143	12.80	15.10	17.80	21.20	12.90	16.50	71.00	80.20	43.20
Latin America and the Caribbean	374	349	355	19.20	21.60	23.20	33.40	40.60	42.50	37.00	29.90	39.80
Africa	313	219	211	7.30	5.30	7.20	4.90	8.20	8.70	54.00	59.20	70.80
Middle East and North Africa	39	31	30	1.80	2.10	2.40	1.60	1.20	1.40	45.00	43.00	40.00
East and Central Europe	206	143	151	2.70	3.50	3.10	11.40	11.50	9.30	64.00	57.80	67.20
Top 100 MFIs				70.60	67.70	61.44	87.00	76.90	75.60			

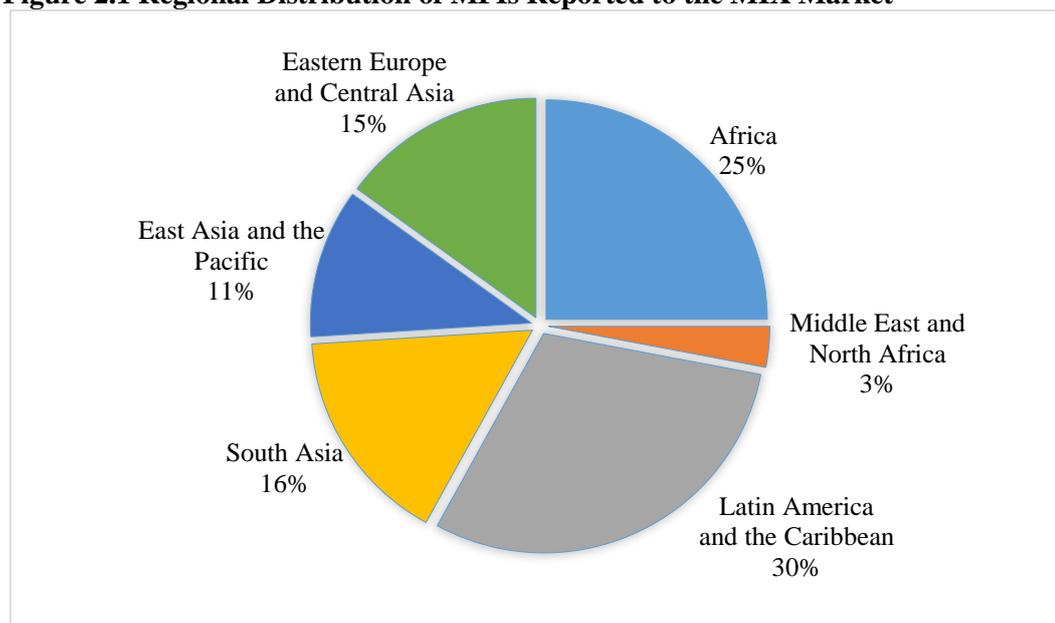
**Source:** Microfinance Barometer Reports (2014<sup>25</sup>, 2016<sup>26</sup>, and 2017<sup>27</sup>).

<sup>25</sup> [http://www.convergences.org/assets/uploads/BMF-2014-EN\\_web.pdf](http://www.convergences.org/assets/uploads/BMF-2014-EN_web.pdf)

<sup>26</sup> <http://www.convergences.org/wp-content/uploads/2016/09/BMF-EN-FINAL-2016-Version-web.pdf>

<sup>27</sup> [http://www.convergences.org/wp-content/uploads/2017/09/BMF\\_2017\\_EN\\_FINAL-2.pdf](http://www.convergences.org/wp-content/uploads/2017/09/BMF_2017_EN_FINAL-2.pdf)

**Figure 2.1 Regional Distribution of MFIs Reported to the MIX Market**



**Source:** MIX Market<sup>28</sup>. Reporting Period: (2013- 2015)

**Table 2.5 Top Ten Market Players in the World According to the MIX Market Data**

	No. of Borrowers (million)		Gross Loan Portfolio (billion USD)		No. of Depositors (million)		Deposit (billion USD)	
	2016	2014	2016	2014	2016	2014	2016	2014
India	47	39.5	7.3	14.7	0.17	1.92	3.89	0.06
Vietnam	7.6	7.7	6.9	7.4	0.51	8.63	3.38	0.80
Bangladesh	25.2	21.8	4.6	6.9	21.98	18.62	4.73	3.56
Peru	4.6	4.1	10.1	10.8	5.74	4.37	8.61	8.04
Mexico	7	6	4.7	4.4	1.84	1.07	2.29	2.54
Cambodia	2.3	2.1	3.9	6.4	3.28		4.84	
Colombia	2.8	2.8	6.5	6	7.27	6.81	4.60	4.80
Bolivia	1.3	1.3	5.4	7.4	3.93	3.39	6.56	4.52
Brazil	3.2	2.9	2.8	1.9				
Ecuador	1.3	1.6	4.7	5.1	3.09	3.65	4.22	3.84

**Source:** Microfinance Barometer 2017;<sup>29</sup> MIX Market Global Outreach and Financial Performance Benchmark Report 2014<sup>30</sup> and 2016.<sup>31</sup>

Tables 2.4 also shows that not all MFIs are of the same size. The top 100 MFIs cover

<sup>28</sup> The figure is based on the 1380 MFIs reported to the MIX Market, operating in the regions for 2013 to 2015. The MIX Market source is: <http://www.themix.org/mixmarket>

<sup>29</sup> [http://www.convergences.org/wp-content/uploads/2017/09/BMF\\_2017\\_EN\\_FINAL-2.pdf](http://www.convergences.org/wp-content/uploads/2017/09/BMF_2017_EN_FINAL-2.pdf)

<sup>30</sup> [https://www.themix.org/sites/default/files/publications/mix\\_global\\_regional\\_benchmark\\_report\\_2014\\_0.pdf](https://www.themix.org/sites/default/files/publications/mix_global_regional_benchmark_report_2014_0.pdf)

<sup>31</sup> [https://www.themix.org/sites/default/files/publications/mix\\_global\\_benchmark\\_report\\_fy2016.pdf](https://www.themix.org/sites/default/files/publications/mix_global_benchmark_report_fy2016.pdf)

the largest market share of borrower outreach and loan portfolio. However, their share of the market is gradually decreasing, as more MFIs enter the market, and as other medium and small-scale MFIs expand their asset base. The table clearly shows that client outreach among the top 100 players has dropped from 70.60 percent to 61.44 percent. The size of the gross loan portfolio has also decreased from 87 percent to 75.60 percent. Further, the markets differ in size among the region. Table 2.5 shows the top 10 countries with respect to outreach and loan portfolio. Among them, the top three are located in South Asia. Except for Ecuador, the top 10 countries also show a substantial increase in the number of borrowers and the size of the gross loan portfolio. Overall, the tables show that the microfinance market is growing worldwide, with the aim to serve the more unbanked population and to drive economic development.

## **2.5 The Importance of Corporate Governance Practice for MFIs**

The global microfinance market has shown tremendous growth in the last few decades. Such growth is reflected in the number of players, the number of clients and the size of the loan portfolio. Although the above MIX Market based global data does provide the whole picture of the microfinance market worldwide, practitioners anticipate that the size of the outreach will increase several hundred million people within this period. At the beginning of the microfinance movement in the 1970s, the movement was visionary; the vision of the founders was to change the economic livelihood of poor people by alleviating their financial hardship (Dowla & Alamgir, 2003; Yunus & Jolis, 2003). The idea of the program was to satisfy the needs of poor people who lack access to traditional commercial banking systems in a low-cost manner (Yunus, 2013). However, as the program became more successful, the organizers began to realize that it is important to consider financial sustainability of the program to cover the cost of operations and expand the business in a profitable manner (Hassan, 2002).

With the growth of the market, market players began to realize that they need to institutionalize their success. Such institutionalization creates challenges that are common to all business corporations, such as transparency, control, power balance, organizational complexity, management of funds, and the legitimacy of the firm (Hassan, 2002). Such challenges require regulation of MFIs. In order to regulate the microfinance industry, two approaches exist - self-regulation through the implementation and practice of corporate governance and external regulation by a supervisory agency. With an increase in operational and organizational complexity, microfinance in many countries is regulated in different ways ranging from low levels of regulation to prudential regulation. One such example is licensing requirements. Further, prudential regulation such as “tiered banking” allows MFIs to work as specialized institutions with the characteristics of traditional banks, like accepting deposits

from the public. The use of a credit rating also allows MFIs to follow market-based regulations. These regulations aim to protect MFIs from unhealthy practices that harm their clients and jeopardize their institutional sustainability.

However, external regulations cannot ensure the transparency and sustainability of MFIs on their own, and it can be very costly (Mersland, 2009). The practice of corporate governance ensures the transparency of the firm. The literature (e.g., Thomsen, 2008) argues that corporate governance improves firm performance and ensure their long-term survival. In the last few years, corporate governance in the microfinance industry has received considerable attention from industry players, investors, policy-making bodies, and academics. In addition, in ensuring the long-term survival of these financial service providers, they simultaneously have to strive to achieve their social mission. However, microfinance governance literature (e.g., Labie & Mersland, 2011; Mersland & Strøm, 2009) suggests that the traditional “best practice corporate governance” for commercial corporations in mature markets has little influence on the performance of MFIs. Hence, there is an increasing need for corporate governance practices that are tailored to the needs of the microfinance industry. There are several reasons for the inclusion of microfinance governance at the forefront of the policy debate to build a sustainable microfinance industry (Cull et al., 2009; Labie & Mersland, 2011; Mori & Mersland, 2014). The main reasons are described below.

**First**, with the increase in outreach target and market growth, the asset base of microfinance players have increased substantially in the last few years. The microfinance market, in some countries, is now more competitive. Moreover, growth in the number of players has also made the operational characteristics and the organizational management framework of MFIs more complex. Growth in this industry has placed more pressure for the improvement of internal controls, and control by market forces and regulators.

**Second**, while the industry has experienced tremendous growth, some big players have experienced significant crisis and failure. In particular, following the rise and fall of Corposol in Columbia, the SKS crisis in India, and the reaction of over-indebted borrowers in Bolivia, India and some other microfinance markets turned their attention to the need for corporate governance practices in MFIs for their survival and sustainability. For instance, Corposol (later reorganized as Finansol) in Colombia is an NGO MFI, which experienced crisis due to weak control mechanisms implemented by the board and its stakeholders, as well as the bureaucratic organizational structure and incorrect staff incentive mechanisms (see for details, Armendáriz & Morduch, 2010; Austin et al., 1998). SKS in India experienced high growth in client outreach and assets size over a short period, however, due to the incorrect incentive mechanism, weak governance and unethical insider trading by the CEO, SKS was also put into crisis (Hossain, 2013b; Sriram, 2010). Their unethical growth, followed by their

market failure, placed the overall microfinance market in India in turmoil. A similar situation occurred in Bolivia and Morocco. One of the central causes of these crises and the failure of big players include governance inadequacy and a lack of proper stakeholder orientation in the management and governance of MFIs.

**Third**, some MFIs are experiencing institutional and legal changes from NGOs to commercial MFIs (Ledgerwood & White, 2006). MFIs commercialize in order to accumulate capital by issuing shares to the general public. The connection of MFIs with the capital market in this way requires adequate regulation and supervision because commercial MFIs must protect the interests of their shareholders. Further, commercialization enables MFIs to attract deposits from the poor and low-income people. Hence, the MFIs must ensure the safety of the depositors' funds. They also have to balance the commercial and social mission of the organization. Balancing and ensuring both objectives is more challenging for commercial MFIs. They require both internal and external governance mechanisms to secure their double bottom line objective as their organizational structure is more complicated. SKS Microfinance in India, as stated earlier, was commercialized by entering into the capital market through an IPO. However, they failed to ensure both of their objectives due to their weak internal controls and governance. A similar situation occurred in Corposol. From these failures, it is evident that governance is important for MFIs; a comprehensive stakeholder-oriented governance mechanism is needed to ensure all critical and key stakeholder interests are protected, and to avoid jeopardizing the firm's objectives.

**Fourth**, MFIs initially started by providing credit only. With the evolution of the industry, their operations expanded from a single product to multiple products including savings and micro-insurance. The savings products also have different dimensions such as voluntary savings, compulsory savings, and fixed period savings. Credit also ranges from small credit to micro-enterprise loans. Some MFIs provide credit facilities only, some provide both the savings and credit facilities, while some also offer micro-insurance with their products. In some countries, some MFIs also offer remittance facilities to their clients. Some NGO MFIs offer financial services with non-financial services such as financial and entrepreneurial literacy, value chain facilities to the entrepreneurs to sell their products, and even healthcare facilities. The product offering mechanism is also diversified into group lending and savings, village banking, and individual credit. Such an evolution increases the risk of operations of the MFIs. To minimize these risks, and to protect the financial and social missions, MFIs need an effective management and governance mechanism.

**Finally**, the behaviour of public authorities in the microfinance industry is also changing (Lapie & Mersland, 2011). The government and the regulatory authorities are now increasing their attention to microfinance by introducing more regulatory requirements and

supervisory mechanisms. Such proactive policies from the government aim to guide the development of the industry. Nevertheless, recent examples of MFI failure and over-indebtedness of clients in some countries has caused a rise in criticism concerning microfinance (Sriram, 2010). The industry has recently encountered increasing media attention and public awareness which questions the motive of the microfinance industry in assisting poor and unbanked people. Between 2009 and 2016, global surveys by the CSFI<sup>32</sup> on microfinance practitioners, investors, support service providers, regulators, and other interested parties show that corporate governance is an important issue for MFIs. A growing number of policy papers also attempt to develop corporate governance guidelines for MFIs.

Notwithstanding, with the award of the “Nobel Peace Prize” to Mohammad Yunus and the Grameen Bank in 2006, and with the United Nations’ declaration of 2005 as the “Year of Microcredit”, the microfinance movement has now gained increased international attention. Nowadays, the movement is not limited to developing countries only; it has also spread to many developed countries which attract more actors to enter the sector.

### **2.5.1 The Need for Stakeholder-Based Governance**

Although researchers, policy-making bodies, and practitioners acknowledge that corporate governance is important for the double bottom line objectives of MFIs, the western world’s “best practice corporate governance mechanism” is not entirely fit the for MFIs (Hartarska, 2005; Labie & Mersland, 2011; Mersland & Strøm, 2009; Varottil, 2014). Owing to a lack of adequate regulation and standardization, investment in the microfinance sector, and establishing an MFI is now a risky undertaking (Lopatta & Tchikov, 2016). With the growth in market size, the entrance of different players in the market, and operational complexity, the microfinance governance structure is no longer simple. The literature suggests that the governance mechanism in microfinance should be stakeholder-based (Ashta, Demay, & Couchoro, 2016; Labie & Mersland, 2011; Mori & Mersland, 2014). A few reasons for such a mechanism are described below.

**First**, while traditional commercial corporations have a single objective of shareholder wealth maximization, microfinance organizations have multiple objectives

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<sup>32</sup> The recent CSFI Microfinance Banana Skins’ Survey 2016 on 179 respondents from 60 countries reports that corporate governance is the ninth important issue among 20 issues the MFI face. The prior survey in 2014 (on 306 respondents from 70 countries) reports corporate governance as the fifth important issue. While the 2012 survey (on 360 respondents from 79 countries) reports this as the second important issue. Several other surveys in 2011, 2009, and 2008 report the similar magnitude of importance. The respondents in these surveys include microfinance institutions (service providers), investors, observers (such as consultants, academics and industry experts), support service providers, rating agencies, and the regulators.

(Speckbacher, 2008). Although some commercialized MFIs focus on profit-seeking, they still retain the objective of serving the poor and unbanked people. Therefore, outreach to the poor and unbanked people is another dimension of the MFI objective. Poor people have limited collateral to obtain a loan. Hence, adding such a dimension is risky for MFIs. MFI front-line employees prepare all formal documentation (Agier & Szafarz, 2013b; Canales & Greenberg, 2015) as MFI clients are not typically literate. Therefore, MFI employees have to thoroughly investigate the borrowers' credit risk (Agier, 2012). They then develop an amortization schedule that is convenient for the borrower (Lopatta & Tchikov, 2016). The MFIs must develop their own operational strategy to ensure they can reach more clients at the bottom of the pyramid. It requires a governance structure that not only focuses on the financial performance; the governance structure should be stakeholder-based, so that the MFI can fulfill client demand, to increase its bottom line objective of social outreach. In addition, the preference of objectives differs among the "for-profit" and "non-profit" MFIs. For instance, commercial and profit-oriented MFIs focus on the financial objective more than the social objective whereas the non-profit MFIs tend to prefer social performance. However, both types of MFIs must focus on the financial sustainability of the firm in providing financial services to the poor because, compared to commercial banks, the operating costs are higher for microfinance providers.

**Second**, as stated previously, MFIs have a wide variety of organizational formats (Mersland, 2009). Among them, credit unions and cooperatives follow the old organizational format with limited and closed operation among their members. However, NGO MFIs have a more elaborate network of clients. Microfinance banks have a more mature organizational framework, and microfinance banks and cooperatives are more profit-oriented, while NGO MFIs are not profit oriented. Hence, along with the organizational mission, the origin and organization formation of microfinance players differ. The operating characteristics also vary among different types of MFIs. Such differences in operating characteristics make them vulnerable to different risks. Due to these variations, the conventional best practice "one size corporate governance mechanism" is not entirely suitable for the double bottom line objective of MFIs.

**Third**, the capital and liability structure among MFIs differ due to their organizational structure and legal status (Morduch, 1999). For instance, commercial and profit-oriented MFIs can issue shares to generate capital, while NGO MFIs typically cannot (Mersland, 2009; Mersland & Strøm, 2008). MFIs have to depend on external funds such as donor funds, soft loans, commercial funds, and local deposits to accumulate capital (Jansson et al., 2004). Hence, in addition to the shareholders, the social and commercial investors become important stakeholders of these MFIs. However, the preference and interests of the stakeholders may be

different (Lerpold, 2012). For instance, commercial investors place more emphasis on financial return rather than social return, while social investors such as donors focus more on the social impact rather than financial return. Further, the microfinance industry is now experiencing organizational transformation (Ledgerwood & White, 2006). Many non-profit MFIs are now commercializing and entering the capital market to generate funds from the general public. With such a change in the market and with the entrance of new players, the governance structure in MFIs should be well developed to protect the interest of the stakeholders.

**Fourth**, although the governance mechanisms of profit-seeking corporations follow an economic approach, the governance mechanism of non-profit organizations cannot follow this approach alone. They must consider multiple objectives, for which their governance approach is multiple objective oriented. These organizations have different stakeholder involvement, and different stakeholders have a different level of interest (Ashta & Hudon, 2012). Hence, balancing the interests of all the stakeholders is difficult (Lerpold, 2012). For instance, the founders (and shareholders) of non-profit organizations are not residual claimants. Hence, they have limited incentive to monitor and control the management activities of non-profit organizations. Other stakeholders also provide (generally immaterial) investments which cannot be protected by contractual governance. Instead, their interests are protected by corporate governance (Speckbacher, 2008). For instance, in the absence of share capital, the MFIs structure their liabilities in the balance sheet along with their donations, soft loans, and commercial loans from social and commercial investors. These fund providers want to ensure the proper use of their funds by ensuring both the sustainability and social mission of MFIs. Some other parties also provide material and immaterial resources that are valuable for MFIs. For instance, employees work to enable the organization to achieve both of their missions. Hence, while the investors and shareholders of for-profit organizations emphasize financial returns, the stakeholders in the non-profit organizations emphasize intangible returns. In order to protect these multidimensional objectives, both internal and external governance mechanisms of MFIs should be stakeholder-oriented.

**Fifth**, unlike commercial banks, MFIs cannot generally collect deposits from the public. However, they can collect small savings from their clients. Further, the acceptance of savings varies among MFIs and the countries in which they operate. For instance, in India, all microcredit providers (specifically NGO-MFIs) cannot accept savings from their clients. Only the regulated and specialized MFIs, operating as specialized banks, can collect savings. On the other hand, in Bangladesh, all MFIs licensed under the MRA can collect savings from their clients. The amount of savings is the primary source of funds for MFIs. For instance, the MIX Market report shows that of the total funds reported by MFIs between 2013 and 2015, deposits

from clients accounted for 54.7 percent, borrowing from the external sources accounted for 25.5 percent, and only 19.8 percent came from equity funds.<sup>33</sup> Poor people have a limited means to protect their small savings from misuse if the MFI governance mechanism does not secure it. Commercial banks must follow the supervisory requirements set by the central bank. The microfinance sector in many countries is not well established, and the regulatory and other legal mechanism is not yet developed in some countries. Even the mechanisms developed in some countries are at the trial stage, as the organizational structure and legal status of MFIs is changing with the growth of the market. For instance, commercialized MFIs must follow more regulatory formalities than non-profit and non-government MFIs. As the majority of MFIs are not commercialized, their clients have less protection than the clients of commercial banks. Due to inefficient contracting mechanisms, the property rights of MFI depositors is not yet adequate (Mersland, 2009). In these circumstances, it is essential to protect the illiterate and poor depositors from any unhealthy practice within the MFI to ensure the safety of the small deposits and a timely return of the savings to their members. Therefore, the governance mechanisms followed by banks is not adequate for MFIs.

**Finally**, non-government and non-profit MFIs are more dependent on the donor than others (Mersland, 2009). Donors help these MFIs to build capacity. In the initial stage of the industry life-cycle, non-profit MFIs are dependent on subsidized funds and donations. Unlike shareholder directors in commercial corporations, non-profit MFIs do not generally have individuals on the board who have a direct financial stake in the firm. Therefore, the CEOs in these MFIs have more power. Hence, there is a higher possibility that managers will misuse funds for their own benefit. It requires a more comprehensive corporate governance practice within the firm. Donors want MFIs to focus more on protecting the interests of its various stakeholders (Mori & Mersland, 2014). Further, with an increase in competition and changes in the organizational dimension of the market, the initial start-up support from donors is decreasing which in turn increases competition among MFIs for funds. MFIs are now increasingly dependent on commercial funds. Hence, commercial fund providers have become critical external stakeholders, who require timely repayment and want to ensure the safety of their investment in the firm. As external fund providers in these MFIs generally have limited influence on the decisions of the board, and as ordinary shareholders are absent in non-profit MFIs, external fund providers cannot directly control and monitor management activities. Therefore, to protect the interests of external fund providers, the governance structure should be stakeholder-based.

The above-stated discussion suggests that microfinance governance can more

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<sup>33</sup> <http://www.themix.org/mixmarket>

effectively drive the double bottom line performance of MFIs if their governance structure is stakeholder-based. However, the literature, based on stakeholder-orientated microfinance governance, is still insignificant (Ashta et al., 2016). The available research<sup>34</sup> (Hartarska, 2005; Mersland & Strøm, 2009; Mori & Mersland, 2014) does not provide a clear picture of whether microfinance governance can be used to explain firm performance. Instead, in some cases, the findings are mixed or inconclusive. Furthermore, all stakeholder involvement in board governance is not easy, as there is a risk of “free riding” (Ashta et al., 2016). It is imperative to identify the key stakeholders who influence the firm’s double bottom line performance. Against this backdrop, the researcher argues that it is essential to empirically explore the impact of critical stakeholder-oriented governance mechanisms on microfinance double bottom line performance.

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<sup>34</sup> Based on stakeholder orientation, Mori and Mersland (2014) find that customer are good for the financial performance while creditors are good for the social performance. Hartarska and Mersland (2012) find that insiders and donors on the board is less efficient for the MFIs. Hartarska (2005) suggests that board independence and limited employee presence on the board is good for the MFI performance.

# **Chapter 3            Do Founder Directors have any Influence on Double Bottom Line Performance in MFIs?**

## **3.1     Chapter Summary**

In this chapter, the researcher investigates the relationship between the presence of founding members on the board and double bottom line performance of MFIs: economic sustainability and social performance. Furthermore, the study explores whether the family ties and previous microfinance experience of founding directors have any influence on MFI performance. To test the hypotheses, the researcher uses a dataset of 679 MFIs between 2007 and 2015 from Bangladesh, the most mature and one of the largest microfinance markets in the world. This study demonstrates that the presence of founding members on the board, and their family ties, have a positive influence on MFI financial performance, but a negative influence on MFI social performance. However, when those directors have previous microfinance-specific experience, this has a positive influence on MFI social performance. The findings of this study suggest that the influence of founder presence on the board on MFI double bottom line performance is contingent on what attributes the founders brings to the board. These findings are robust to endogeneity tests and alternative tests.

## **3.2     Introduction**

This study investigates whether the presence of founding members on the board has any influence on the financial and social performance of MFIs. The study further investigates whether the family ties and previous microfinance experience of the founder directors influences the attainment of double bottom line objectives among MFIs. To date, there has been a little consensus on the impact of founder presence on the board on firm performance. Although an increasing body of literature (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Li & Srinivasan, 2011; Villalonga & Amit, 2006) identifies a positive association between founder presence on the board and firm performance, some of the literature also reports a negative (Anderson et al., 2003; Anderson & Reeb, 2003), or inconclusive (Begley, 1995; Daily & Dalton, 1992; Nelson, 2003) relationship between founder presence on the board and firm performance. However, in the case of microfinance, this issue has not thoroughly been explored. Furthermore, a large body of literature (Anderson et al., 2003; Anderson & Reeb, 2003; Barontini & Caprio, 2006; McConaughy, Matthews, & Fialko, 2001; McConaughy, Walker, Henderson, & Mishra, 1998; Patel & Cooper, 2014; Poutziouris, Savva, & Hadjielias, 2015; Villalonga & Amit, 2006) suggests that the family ties of founding members has a positive influence on firm performance, while some of the literature (e.g., Gomez-Mejia, Nunez-Nickel,

& Gutierrez, 2001; Thomsen & Pedersen, 2000) reports the opposite. This issue is also yet to be explored in the context of socially oriented organizations such as MFIs. In addition, although the literature suggests that founders are essential for the firm due to their firm-specific and industry-specific experience, (He, 2008), this issue also remains unexplored in the microfinance industry. Therefore, central to the governance literature, founder presence on the board and the attributes that founding members bring to the board has gathered renewed interest in determining firm performance. This study examines these issues in the microfinance industry, in the context of Bangladesh, who are considered to be the pioneer of the modern version of the microfinance movement throughout the world.

A growing body of literature argues that founding members are good for firm performance as they are the initial architects of the firm structure (Nelson, 2003). Due to their involvement in the firm since inception, they possess firm-specific specialized knowledge and skills (Fama & Jensen, 1983b; He, 2008) and know the “ins and outs” of the firm. Founders are the dominant stakeholder group among MFIs. Their presence on the board could have a significant contribution to the governance and management of those organizations because the founders have created the organization to accomplish a specific mission (Block & Rosenberg, 2002). They invest their time, effort, and identities in the formation and growth of the firm (He, 2008). They possess a strong psychological attachment to the firm, and strive to accomplish its’ mission (Fama & Jensen, 1983b; Gimeno et al., 1997; Smith & Miner, 1983). They imprint their beliefs and values in the creation of the structure of the firm, its’ culture and its’ policies and strategies (Baron et al., 1999; He, 2008; Nelson, 2003). These beliefs and values align their interests with the interest of the firm (Deci & Ryan, 1985). The literature suggests that the involvement of founding members in the firm’s leadership structure is a substitute for corporate governance (Randøy & Goel, 2003). Founders may be used to replace other monitoring mechanisms. Their pecuniary and non-pecuniary interest in the firm (Demsetz & Lehn, 1985; James, 1999; Li & Srinivasan, 2011) inspire them to protect the firm’s resources (Fama & Jensen, 1983b). Besides, Fama and Jensen (1983b) suggest that founder directors, who are also shareholders, are one of the few residual claimants of the firm. They generally act as the block holders in the firm. Literature on block holders has suggested that block holders show more willingness to monitor managers (Attig, El Ghouli, & Guedhami, 2009; Chen et al., 2012; Maury, 2006). Founders, when acting as block holders, could also do the same. In this way, the presence of founding members on the board may facilitate the practice of corporate governance within the firm, which can have a positive effect on firm performance.

MFIs, unlike commercial corporations, have different organizational characteristics and operational mechanisms. The involvement of founders on the MFI board may have a different influence than in commercial corporations. The reasons for this are described below.

**First**, MFIs are social enterprises (Ebrahim, Battilana, & Mair, 2014).<sup>35</sup> They have a double bottom line objective: financial self-sufficiency and the social mission of serving those who lack access to formal banking channels (Morduch, 1999, 2000; Salim, 2013). The literature argues that founders shape the ‘organizational blueprint’ as well as the culture of the firm (Baron et al., 1999; He, 2008; Nelson, 2003). Founders establish MFIs to serve the double bottom line objective; therefore, they design the organizational structure, policy, and governance mechanisms in the same way. The social mission of providing financial services to the underprivileged people originates from different sources. It may be inherited from their family or their social involvement. Such involvement may stimulate them to use their effort and energy for the enrichment of the MFI financial and social mission.

**Second**, although the concept of “microcredit” is roughly 200 years old (Hollis & Sweetman, 1998; Seibel, 2010), the modern version of the microfinance movement began its journey in the mid-1970s with the “Jobra experiment” by Mohammad Yunus (Mia et al., 2017; Morduch, 1999). Further, in most countries, the microfinance industry is in its infancy. Except for a few mature MFIs, founding members are the dominant stakeholders and are the most influential members of the MFI board and management (Cobb, Wry, & Yanfei Zhao, 2016).

**Third**, MFIs in most countries are yet to enter the capital market. Hence, most MFIs that have a dependency on the share capital are funded by their founding directors. As the primary provider of capital, these founders have a high pecuniary incentive in the MFI. To ensure a satisfactory return on their investments, founders often play an active role in the board (Nelson, 2003; Wasserman, 2017) by monitoring management (Randøy & Goel, 2003) and in making strategic decisions (Nelson, 2003; Wasserman, 2003).

**Fourth**, except for a few shareholder-funded MFIs, the capital and liability structure of most MFIs differs from that of commercial corporations. A large number of MFIs are dependent on external funds. Shareholder-funded MFIs also require external funds to grow their portfolios. Those MFIs collect external funds in different ways such as through donations, government subsidies, soft loans, social funds and even commercial loans from banks. External fund providers know that founding directors are the real architects of the MFI, and are therefore the dominant stakeholders on the board. Hence, external fund providers rely on the credibility of the founding directors. Therefore, the close relationship between founding directors and fund providers and clients through their commitment and long-term relationships are important (Ben-

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<sup>35</sup> MFIs are considered as social enterprises because their primary activity is to achieve a specific social mission of providing financial services to poor people through normal business practices similar to corporations (Frumkin, 2009; Young & Salamon, 2002) even though some MFIs are non-profit or charitable organizations.

Ner & Van Hoomissen, 1994).

Although a considerable amount of literature has been published on the influence of founders on the boards on the performance of commercial corporations, the influence remains unclear. Some studies report a positive influence (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Li & Srinivasan, 2011; Villalonga & Amit, 2006) while others (Anderson et al., 2003; Anderson & Reeb, 2003) report a negative or insignificant (Begley, 1995; Daily & Dalton, 1992; Nelson, 2003) influence. Only Mori et al. (2015) directly investigates the influence of founding directors on MFI social performance, and the results of that study are insignificant. Further, no existing studies have investigated the impact of founding directors on MFI financial performance. Against this backdrop, the present study explores those two areas.

Furthermore, the inconclusive findings of founder presence on the board suggest that the study of founding directors alone is not enough to explain firm performance. When more than one member of the same family are present on the board, they may have a different level of influence on the board and firm performance. For example, they may try to dominate the board meeting. Such dominance stems from the fact that founding members bring funds to the MFI from their family sources. Some literature suggests that the family ties of a founding member has a positive influence on the firm's financial outcomes (Anderson et al., 2003; Anderson & Reeb, 2003; Barontini & Caprio, 2006; McConaughy et al., 2001; McConaughy et al., 1998; Patel & Cooper, 2014; Poutziouris et al., 2015). Further, there is a negative or mixed view of the presence of a founding members' family connection on the board on firm performance (Gomez-Mejia et al., 2001; Thomsen & Pedersen, 2000). Therefore, consistent with this stream of literature, it is expected that the family ties of founder directors could have an effect on MFI governance, and hence, on firm performance.

Nevertheless, founding directors bring human capital to the board in the form of experience and knowledge from prior firms or other firms in a different but similar industry (He, 2008). Such an experience may be crucial for their present firm. MFIs are social entities tasked with serving the poor and underprivileged people to empower them economically (Morduch, 1999). Hence, there is more motivation for an individual to engage in the establishment of an MFI, particularly those who have prior experience in an MFI or similar other social organizations. Whether the founding members' firm-specific or microfinance industry-specific experience is beneficial to the firm's financial and social performance is, therefore, an important issue that remains unexplored in the microfinance industry. Therefore, the present study is perhaps the first to examine whether the previous microfinance experience of founding directors has any influence on the financial and social performance of MFIs.

In order to investigate the influence of founding directors, as well as their family ties and experience based human capital, on MFI performance, this study examines the situation in

Bangladesh, which is one of the largest and most mature microfinance markets in the world. This study hypothesizes that the presence of founding members on the board has a positive influence on the financial performance of MFIs and a negative influence on their social performance. The study further hypothesizes that the family ties of founding members have a positive influence on MFI financial performance but a negative influence on social performance. Furthermore, the study expects that previous microfinance experience of the founding directors has a positive influence on both financial and social performance. The study employs an unbalanced panel dataset of 679 MFIs operating in Bangladesh between 2007 and 2015 to test the hypotheses. Bangladesh data is used because the modern version of the microfinance movement first started in this country and further, the microfinance market in Bangladesh is fast growing, mature, and is one of the largest markets in the world.

The findings of this study support the proposed hypotheses. For instance, the results show that for one standard deviation (S.D.) increase in the proportion of founding directors to the total number of other directors (Founder Prop), the Return on Assets (ROA) increases by 5.34 percent and Return on Equity (ROE) by 9.53 percent, relative to the mean. On the other hand, for one S.D. increase in Founder Log, the breadth of borrower outreach (NAB) decreases by 4.81 percent (i.e., 1,492 active borrowers) relative to the mean. Further, for one S.D. increase in Founder Log (Founder Prop), the ALB increases by BDT 399 (BDT 333.73) relative to the mean that shows an adverse impact on the depth of outreach. These findings are consistent with the assumption this study made that, due to their economic interest in the firm, the founding directors place greater emphasis on financial outcomes rather than social outcomes.

Regarding the family ties of founding directors, consistent with the extant literature, the findings of this study suggest that family tie has a positive association with MFI financial performance and a negative association with MFI social performance. For instance, for one S.D. increase in the proportion of founder directors with a family tie to total directors, ROA increases by 5.65 percent relative to the mean but NAB (i.e., the breadth of outreach) decreases by 5.18 percent (i.e., 444 active borrowers), and ALB increases (the depth of outreach decreases) by 4.975 percent (i.e., BDT 430.19) relative to the mean. These findings also support the family members' dominance and interest in the financial outcome of their investment in the firm.

However, the study results show that the previous microfinance experience of founding directors has a positive association with MFI social performance. For instance, for one S.D. increase in the proportion of experienced founders to total directors (Experience Prop), NAB increases by 6.56 percent (i.e., 2,060 borrowers) and ALB decreases (the depth of outreach increases) by 6.71 percent relative to the mean. Hence, the findings suggest the inclusion of experience based human capital attributes of the founder directors for a better outcome of the MFIs. For all three hypothesized variables, the evidence obtained in the analysis is robust, when

used alternative measures of the explanatory variables (i.e., logarithmic), and the dependent variables, and different model specifications. Furthermore, the results do support the predicted hypotheses after mitigating the potential endogeneity concerns when two-stage least square (2SLS) regressions are applied using the instrumental variable.

This study contributes to the corporate governance literature in several ways. **First**, this study extensively investigates the influence of founding directors on both the financial and social performance of MFIs. Although a growing body of corporate governance literature has investigated this, it has not yet been thoroughly examined in the context of the microfinance market, which is a distinct financial market having both a social and financial mission. Even though Mori et al. (2015) investigate this issue, that study only relates to social performance and in the context of Sub-Saharan Africa. This study uses the context of Bangladesh, one of the largest and most mature microfinance markets in the world. As the corporate governance literature calls for a context and country-specific study of governance (Buck & Shahrim, 2005; Heyden et al., 2015; Jackson & Deeg, 2008) this study responds to such calls. The study is also unique in that the study uses a large, hand-collected dataset of almost all MFIs operating in Bangladesh. **Second**, this study is perhaps the first in the microfinance market that empirically demonstrates that the family ties of founding directors have a positive impact on MFI financial performance and a negative impact on both the breadth and depth of outreach. Further, this study is the first in such a context that identifies that the industry-specific experience of founding directors is important for both the breadth and depth of outreach of MFIs. **Last**, this study contributes to the debate on theories of the firm which considers both financial and social objectives, suggesting that founding directors are a vital stakeholder group of the financial institutions having both an economic and social mission. The evidence obtained in this study suggests that founding directors' human and social capital attributes such as their family connections and experience in microfinance need to consider before their inclusion in the board.

The rest of this chapter is organized as follows. Section 3.3 outlines the literature and the hypotheses, section 3.4 outlines the methodology and section 3.5 documents the results. Finally, section 3.6 discusses the findings and concludes the study.

### **3.3 Literature and Hypothesis**

#### **3.3.1 Theoretical Background and Literature Review**

The foundation of this study is based on the integration of agency theory, resource dependence theory, and stakeholder theory. Founding members are the leading supplier of capital to a firm. Notably, at the inception of the firm, the founding members supply initial capital to the firm. Hence, they act as block holders. In these circumstances, founders are the residual claimants of the firm (Fama, 1980; Fama & Jensen, 1983a, 1983b; Jensen & Meckling,

1976). Hence, the board is required to serve the interests of the founding members. Further, the presence of founding members on the board promotes effective monitoring of management to minimize managerial opportunism. Equally important, when founding directors bring financial capital and other resources to the firm from their families, they possess a similar interest in the firm's performance. Therefore, the presence of founders and their family members on the board reduces agency costs and provides a better return on their financial and personal investments. Furthermore, moving beyond an agency-based view, this study adopts the view of the stakeholder theory, using outreach to poor people as the bottom line objective. The main view of the stakeholder theory is that firms are interdependent on their stakeholders (Clarkson, 1995; Freeman, 1984). Hence, the study assumes that the board is tasked with serving the interests of these stakeholders. Furthermore, through their interactions and long-term relationships with commercial and social investors, founding members can obtain funds for the MFIs. For NGO MFIs, this connection is vital as the NGOs have little opportunity to accumulate capital by issuing shares to the public. Nevertheless, by using their connections to access resources in this way, founding directors bring essential resources to the firm. Furthermore, founding members also contribute to board decision making with their previous expertise and knowledge of the industry. This, in turn, boosts firm performance (Pfeffer & Salancik, 1978). Therefore, in addition to the agency-based view and stakeholder view, this study also uses a resource-based view to explain the relationship between the presence of founding members on the board and MFI double bottom line performance.

A growing body of mainstream corporate governance literature suggests that the presence of founding members on the board has a positive impact on firm performance (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Li & Srinivasan, 2011; Villalonga & Amit, 2006). As the creators of the firm, founding members have a position on the board from the inception of the firm. As they are the initial architects of the firm's organizational structure (Nelson, 2003) and are therefore the primary players in the firm (Pfeffer, 1981; Pfeffer & Salancik, 1978), they play an essential role in defining and accomplishing the goals of the firm and directing the behaviour of the firm (Gimeno et al., 1997; Nelson, 2003). The literature suggests that founders imprint their beliefs on the business, and form the firm's business structure (e.g., Baron et al., 1999; He, 2008; Nelson, 2003). Therefore, they have a strong psychological attachment to the firm (Deci & Ryan, 1985; Gimeno et al., 1997; Smith & Miner, 1983). As a result, a few mainstream corporate governance literature suggests that founder involvement on the board acts as a substitute for corporate governance (Demsetz & Lehn, 1985; James, 1999; Li & Srinivasan, 2011; Randøy & Goel, 2003). For instance, Li and Srinivasan (2011) suggest that the attendance of non-founding directors at board meetings increases when founding directors are present on the board. This possibility is also real for non-profit organizations (Block & Rosenberg, 2002). Regular attendance of all directors at board meeting encourages effective corporate governance

(Chen et al., 2012; Jensen, 1993; Jensen & Meckling, 1976; Li & Srinivasan, 2011) by reducing information asymmetry, which helps to reduce agency problems. Therefore, it is expected that the presence of founding members on the board will improve corporate governance in the firm, which boosts firm performance. An increasing body of empirical research supports this hypothesis (Chen et al., 2012; Li & Srinivasan, 2011). For instance, Chen et al. (2012) examine a sample of 716 Taiwanese firms, suggesting that a significant presence of founding members on the board improves the value of the firm. Likewise, Li and Srinivasan (2011) state that in US corporations, founders improve the functioning of the board, which increases firm value (Tobin's Q). Further, in a study of US firms going to IPOs, He (2008) identified that founder-managed firms have higher financial performance and are more likely to survive.

However, some researchers also express a negative view of the impact of founding directors on firm performance (Anderson et al., 2003; Anderson & Reeb, 2003; Begley, 1995; Daily & Dalton, 1992; Nelson, 2003). As firms grow, their operations become more complex, and the founding director may not be able to provide the required resources alone (Anderson et al., 2003; Anderson & Reeb, 2003). In these circumstances, the involvement of founding directors on the board tends to reduce and the involvement of non-founding directors increases. Moreover, the longer that founding directors serve on the board, the less influence they have (Schein, 1983). Hence, even though their ideas may be essential for the firm, they may ultimately not be adopted by the board.

Moreover, their extended service on the board may lead them to engage in opportunistic behaviour in order to receive a personal benefit (Anderson et al., 2003; Anderson & Reeb, 2003). Those benefits may include excessive compensation, related party transactions, risk avoidance, and preventing the firm to adapt to the changing environment (Anderson et al., 2003; Anderson & Reeb, 2003). As documented in Johnson, Magee, Nagarajan, and Newman (1985), in this situation, general shareholders consider the departure of the founding director as positive for the firm. Due to this, Johnson et al. (1985) suggest there will be a positive share price reaction upon the death of a founding member. However, Daily and Dalton (1992) reveal that there is no significant difference in firm performance between founding member managed firms and professionally managed firms. Therefore, the influence of founding directors on firm performance is mixed or inconclusive in mainstream corporate governance literature.

In the case of microfinance, founders still dominate the board as the majority of MFIs in this market are new. Founding directors are more often than not involved in corporate governance practices; the reasons for this are explained below. MFIs do not generally collect funds from the public as the majority of MFIs do not have access to the capital market. Therefore, the only capital these MFIs have access to is the founder provided funds at the inception of the firm. Except for commercial MFIs, founding directors in MFIs act as the block

holders. Consistent with the literature on block holder involvement on corporate boards (Attig et al., 2009; Chen et al., 2012; Maury, 2006), founding directors play an active role in MFIs. As the residual claimants (Fama & Jensen, 1983b), their involvement on the board may result in better corporate governance practices within the MFI. Therefore, the literature (e.g., Nelson, 2003; Wasserman, 2003) suggests that founding directors have a positive contribution to policy formulation, critical decision making, and strategy development. Further, founding directors possess firm-specific knowledge and skills by their long-term involvement on the board (Fama & Jensen, 1983b; He, 2008).

Moreover, the literature (Bénabou & Tirole, 2003; He, 2008; Murdock, 2002) suggests that founding members have an intrinsic motivation to serve their firms. Hence, MFIs with a higher involvement of founding directors have different governance structures, and their influence is stronger than that of the other members on the board. As a result, founding board members have a positive contribution to the performance of MFIs.

However, the presence of founding directors on the board may also have an adverse effect on the performance of MFIs. As the budget of the socially oriented organization is smaller when the organization is led by founding directors (Block & Rosenberg, 2002), MFIs must employ non-founding directors, executive directors and skilled managers to obtain further funds and other resources. Therefore, as the firm grows, the possibility of the loss of ownership and control is high (Whisler, 1988). Further, as argued by Block and Rosenberg (2002), it is possible that founding directors are less likely to adhere to governance mechanisms, such as infrequent meetings. An infrequent meeting may enable founding directors to concentrate less on the opinions of others and makes it easier for them to implement their ideas. Hence, it is also possible that founding directors contribute to inefficient governance mechanisms within MFIs. Therefore, the presence of founding directors on the board may have both a positive and negative influence on MFI performance. As MFIs aim to serve poor people as well as maintain their economic sustainability (Morduch, 1999), it is crucial for MFIs to identify the role of founding directors on the board with for their economic performance.

In light of the above discussion, there is limited knowledge of the impact of the presence of founding directors on the board on MFI performance. Only Mori et al. (2015) has investigated this topic, applying a Seemingly Unrelated Regression (SUR) on a sample of 63 MFIs operating in three Sub-Saharan African countries (Kenya, Tanzania, and Uganda) between 2004 and 2009. However, the findings of that study are insignificant. One reason for this is that their study focuses on African MFIs only. A more significant relationship may have been identified in a different context, where the market is more mature and has a more significant number of market players.

Furthermore, the involvement of founding directors alone is not sufficient to explain

firm performance. The relationship between the presence of founding directors on the board and MFI double bottom line performance is better explained by what attributes the founding members bring to the board. However, this issue is yet to be investigated in the microfinance industry. Moreover, Mori et al. (2015) do not examine the impact on MFI financial performance. Hence, there is renewed interest in the study of founding director presence on the board and MFI double bottom line performance, with an original and larger dataset from a specific economic context.

Nevertheless, an important attribute that founding members bring to the board is their family ties, through the inclusion of one or more member of the same family in the board membership. However, the literature on commercial firm performance is also mixed and inconclusive. Some literature (Anderson et al., 2003; Anderson & Reeb, 2003; Barontini & Caprio, 2006; McConaughy et al., 2001; McConaughy et al., 1998; Patel & Cooper, 2014; Poutziouris et al., 2015; Villalonga & Amit, 2006) suggests that family ties have a positive influence on governance and firm performance. For example, in a study of S&P500 companies, Anderson and Reeb (2003) reveal that U.S. firms with founding family ownership report better firm performance than non-family firms. This finding suggests that founding family members are more motivated to monitor managers and reduce the potential for “free riding” by board members. They also suggest that family involvement reduces the possibility of managerial opportunism. Anderson et al. (2003), McConaughy et al. (1998), and McConaughy et al. (2001) report similar findings; they suggest that founding family involvement helps to reduce agency costs and better protect the interests of debt holders. Patel and Cooper (2014), in a study of 231 publicly traded corporations, suggest that founder presence is associated with greater equality in the organizational structure of firms (in the areas of compensation, status, and representation) across family and non-family top management team members, which results in better firm performance. Barontini and Caprio (2006), in a study of 675 firms from 11 European countries, also identified improved firm performance with family founding members. They reveal that firm valuation, and operational performance is significantly higher when family founding directors control the firm, and also when the descendants of the founders control the firm. Villalonga and Amit (2006) also suggest that firm value increases when founder directors have an active involvement in the board. Zattoni, Gnan, and Huse (2012), in an investigation of family involvement on firm performance in small and medium-sized enterprises, found that family involvement has a positive impact on the norms the firm develops and on the use of knowledge and skills.

However, some literature states that family founder involvement may also have an adverse impact on MFI performance (Anderson & Reeb, 2003; Burkart, Panunzi, & Shleifer, 2003; DeAngelo & DeAngelo, 2000; Gomez-Mejia et al., 2001; Morck & Yeung, 2003; Randøy

& Goel, 2003; Thomsen & Pedersen, 2000). For instance, Randøy and Goel (2003) suggest that when family founders are present in the firm for an extended period, and the proportion of independent directors is minimal, founding family members try to minimize the presence of independent directors on the board and sub-committees. This activity may result in unchecked and unbalanced family power within the firm. In this way, family founder domination may increase the likelihood of opportunistic behaviour and may weaken the effectiveness of corporate governance mechanisms. Likewise, family founder involvement on the board requires increased monitoring by the other members, resulting in higher agency costs and weaker corporate governance (Randøy & Goel, 2003). For instance, family members may influence firm policies in order to meet their self-interests. Some examples of this include the extraction of private rent to extraordinary dividends and related party transactions (Anderson et al., 2003; Burkart et al., 2003; DeAngelo & DeAngelo, 2000; Demsetz & Lehn, 1985; Kenney, 1992). Such undue influence can limit the resources of the firm (DeAngelo & DeAngelo, 2000; Demsetz & Lehn, 1985), and may adversely affect firm productivity and profitability (Burkart, Gromb, & Panunzi, 1997). Moreover, Schulze, Lubatkin, Dino, and Buchholtz (2001) suggest that family involvement, such as through heirs and siblings, may result in family members enjoying favouritism in employment, compensation, and delegation of power. Consequently, this may result in poor firm performance (DeAngelo & DeAngelo, 2000). Chen et al. (2012) posit that in the absence of a family tie, founding director dominance in the firm has a positive association with increased firm value. Pérez-González (2006) suggests that when the top management of a firm is inherited from the founding members' family, this may result in wasteful nepotism, which limits the scope of labour market competition and diminishes firm performance. Consistent with the literature (Burkart et al., 2003; DeAngelo & DeAngelo, 2000), family involvement may, therefore, result in less participation in the decision making process, and reduced employee motivation and increased productivity. This, in turn, may result in poor monitoring practices and unfavourable decision making (Burkart et al., 2003; Chen et al., 2012; DeAngelo & DeAngelo, 2000). Hence, agency costs may increase which reduces the efficient use of firm resources (DeAngelo & DeAngelo, 2000; Demsetz & Lehn, 1985) which may result in poor firm performance (Burkart et al., 2003; Schulze et al., 2001).

The literature discussed above suggests that the influence of founding directors' family ties on firm performance is inconclusive; it may have both a positive and negative impact on firm performance. Hence, there is a need for a context-specific and industry-specific study of the influence of founding director family ties on firm performance, particularly within the microfinance industry. Further, the impact of the presence of founding directors' family members on the board on the double bottom line performance of MFIs has not yet been empirically investigated.

Another essential attribute a founding director may bring to the board is prior experience in the microfinance or similar industries. The literature argues that in addition to financial resources, human capital resources are also necessary for firms (Greene, Brush, & Brown, 2015). Human capital resources can be generated through gathering firm-specific and task-specific knowledge and skills (Chowdhury, Schulz, Milner, & Van De Voort, 2014; Kor & Sundaramurthy, 2009; Soriano & Castrogiovanni, 2012). When founding members are involved in similar industries for a long time, they tend to have a better understanding of the firm and the issues it faces. When an individual performs different tasks within the same firm, they gather different skills and ideas in that industry. He (2008) suggests that such experience increases the ability of founding directors to solve complex problems and to deal with high pressure situations. If a founder director has prior experience working in charitable or social organizations, or even in MFIs, they will be able to use their knowledge to establish a new MFI, in particular, to design the firm structure, its policies, and its operating mechanisms. An increasing body of literature (Boeker, 1997; Kor, 2003; Kor & Sundaramurthy, 2009) suggests that the firm-specific and industry-specific experience of directors provides them with the tacit knowledge of opportunities, threats, competitive conditions, technology, operational mechanisms, and regulations specific to an industry. Hence, they can share these managerial and technical skills with the board. They can also share their skills and provide valuable advice to management. The literature (Kor & Sundaramurthy, 2009; Westphal & Fredrickson, 2001) also suggests that a director or manager with experience in a single organization or industry will have specific skills and strategies, and will advocate for similar strategies to be used in their current firm.

Besides, such experience helps an individual to identify emerging opportunities in the industry and evaluate their growth potential (Castanias & Helfat, 2001; Schefczyk & Gerpott, 2001). In the case of microfinance, such an experience helps them to develop the firm's operating mechanisms, to formulate the organizational policies and strategies and to evaluate growth potential. It also helps them to understand the dynamics of the current industry (Arthur, 1994).

Furthermore, experienced founding members can effectively monitor management activities (Fama & Jensen, 1983b). Their long-term involvement with a firm provides them with increased power and firm-specific knowledge and experience (Tuggle, Schnatterly, & Johnson, 2010). Moreover, their involvement in the firm from its inception arms them with unique social capital and goodwill through their close interactions with different stakeholders (Ben-Ner & Van Hoomissen, 1994; Certo, 2003; Hillman & Dalziel, 2003; Mizruchi & Stearns, 1994). These stakeholders, in turn, will align themselves with the goals of the firm. Therefore, founding directors can use their experiences to formulate strategies and to design and approve financial

products or growth potentials. Hence, founding directors are more likely to have a positive impact on MFI performance when they bring firm-specific and industry-specific skills to the board; this topic has not yet been explored within the microfinance industry.

### **3.3.2 Hypotheses**

#### *3.3.2.1 Founder Directors and MFI Performance*

As founders are the focal persons on the board, they have the potential to have a positive influence on the corporate governance of the firm, which may contribute positively to its' financial performance. Founders define the goals of the firm, design the structure of the organization and establish the behaviour of its' members (Gimeno et al., 1997; Nelson, 2003). They imprint their beliefs on the business (Baron et al., 1999; He, 2008; Nelson, 2003), and translate their thoughts into a structural pragmatism (Block & Rosenberg, 2002). Hence, they possess a strong psychological attachment to the firm and are committed to the firm's outcome (Demsetz & Lehn, 1985; Gimeno et al., 1997; James, 1999; Li & Srinivasan, 2011; Smith & Miner, 1983). Such an incentive (Bénabou & Tirole, 2003; He, 2008; Murdock, 2002) may have a positive influence on the economic performance of the firm.

Furthermore, similar to the presence of founding members in commercial firms, founders in MFIs have an economic interest in the firm whereby they provide funds to the MFI during its inception, which is their only source of capital. Except for a few commercial MFIs, most MFIs do not generally issue shares publicly. Therefore, the founders act as block holders. These block holders have a high stake in the firm's performance (Attig et al., 2009; Chen et al., 2012; Maury, 2006). Besides, as the residual claimants of the firm (Fama & Jensen, 1983b), founding members monitor and control management, and participate in the decision-making process actively. Therefore, founding-director dominance helps to reduce agency problems, and this, in turn, results in better governance and financial performance.

Nevertheless, exception for the shareholder-funded MFIs, the majority of MFIs rely on external financing from social and commercial investors. Founder directors create a secure network with various fund providers through their personal relationships and interactions with them (Ben-Ner & Van Hoomissen, 1994). Founder directors can use such networks to access funds at a low-cost which, in turn, in turn can reduce the costs of obtaining funds for MFIs, and minimize operating costs through the economies of scale. To ensure timely repayment, founding members tend to place a higher emphasis on the firm's financial performance. Therefore, it is expected that the presence of founding members on the board will have a positive impact on the firm's financial performance through effective monitoring, effective decision making, and efficient use of firm resources.

Furthermore, although some corporate governance studies (Anderson et al., 2003;

Anderson & Reeb, 2003; Daily & Dalton, 1992; Nelson, 2003) employ a negative view of the influence of founding directors on firm performance, consistent with Chen et al. (2012), Li and Srinivasan (2011), and He (2008), it is expected that the financial benefits will outweigh the costs involved. Based on this discussion, it is assumed that to ensure economic sustainability, founding directors rely on their effort, experience, and knowledge to reduce transactional and monitoring costs and to obtain critical resources for the MFI. Therefore the following hypothesis is proposed:

**H1a:** The presence of founding members on the board has a positive association with MFI financial performance.

However, this study expects that founding director will place additional emphasis on the financial outcomes of the MFIs which may have an adverse effect on its' social performance. For those MFIs that are primarily funded by shareholders and therefore are less dependent on external funds, it is expected that they will focus more on the financial outcome of their investments. For those MFIs in which the founders act as the block holders, this emphasis on financial performance is increased which in turn reduces operating costs and increases loan sizes for clients (Cull et al., 2007; Hermes, Lensink, & Meesters, 2011). Operating costs per dollar of credit is high for MFIs when loan size is small, and the MFIs provide credit in the remote and rural areas. As founding members make a financial investment in MFIs, they may also wish to provide a larger amount of credit per client. To achieve this, they tend to focus on wealthy clients only (Pedrini & Ferri, 2016). The benefit of attracting wealthier clients is that the cost per dollar of credit decreases (Hermes et al., 2011). In this way, providing a larger size of credit reduces operational costs, and increases the MFI's economic performance (Pedrini & Ferri, 2016; Quayes, 2012).

However, larger loan sizes have a negative impact on the firm's social outreach to poorer borrowers (Schreiner, 2002) because poor and low-income earners have a limited ability to use larger loan amounts as their earnings are small and irregular (Collins et al., 2009). As poor people live at the subsistence level, they find it difficult to repay larger loan amounts (Collins et al., 2009). In these circumstances, providing larger loan amounts to these clients may result in borrower over-indebtedness (Guha & Chowdhury, 2013). MFIs provide credit without formal collateral, and the methods of enforcing contracts are informal (Collins et al., 2009; Morduch, 1999). Hence, it is difficult for MFIs to enforce against the defaulted clients to ensure the repayment of credit in time. To overcome such difficulties, MFIs prefer to serve wealthier borrowers. However, when the founding directors emphasize economic outcomes by providing larger amounts of credit, this reduces the possibility of reaching the poorer borrowers (Cull et al., 2007; Pedrini & Ferri, 2016). Therefore, the presence of founding directors on the board has an adverse impact on both the breadth and the depth of MFI social outreach. Based on this, the

following hypothesis is proposed:

**H1b:** The presence of founding members on the board adversely affects MFI social performance.

### 3.3.2.2 *Founders' Family Ties and MFI Performance*

Although mainstream governance literature is inconclusive on the influence of the family ties of founding directors on firm performance (Anderson et al., 2003; Andres, 2008; Barontini & Caprio, 2006; González, Guzmán, Pombo, & Trujillo, 2012; Lee, 2006; McConaughy et al., 2001; Miller & Le Breton-Miller, 2006; Patel & Cooper, 2014; Villalonga & Amit, 2006), this study hypothesizes that it has a positive influence on MFI financial performance. This influence is because family members on the board have characteristics of family ownership and family control as well as both a financial and physical investment in the firm (Tagiuri & Davis, 1992). When MFIs have a small capital base and have minimal shareholder involvement, family members provide funds and other resources in these MFIs. Further, when family members invest in the firm, they emphasize economic outcomes and the sustainability of the firm (Randøy & Goel, 2003; Tagiuri & Davis, 1992). Therefore, family members are more motivated to monitor the behaviour of management (Anderson & Reeb, 2003). In the absence of founding members, a high level of inside directors may create an environment that is conducive to managerial entrenchment (Anderson & Reeb, 2003). It also reduces the ability of the other directors to monitor and control the behaviour of management and reduces the possibility of “free riding” and managerial opportunism, thereby reducing agency conflict (Anderson et al., 2003; McConaughy et al., 2001). This situation is particularly true for small firms, due to the lack of monitoring by external stakeholders. Therefore, the presence of founding directors' family members on the board reduces the agency costs of the firm (Fama, 1980; Fama & Jensen, 1983a) and replaces other important monitoring mechanisms.

Consequently, family control on the board is likely to result in less conflict between the family members and external members, and have less interruption on the management (Giovannini, 2010; Poutziouris et al., 2015). Furthermore, when family members are involved in the board or management at the beginning of the firm, they are involved in the development of the norms and cultures of the firm. Hence, they have a strong commitment to maintaining the status quo of the firm (Zattoni et al., 2012). Further, due to the long-term experience in family enterprises, the founders' family members bring their capacity for entrepreneurship to the firm (Barontini & Caprio, 2006; Patel & Cooper, 2014; Villalonga & Amit, 2006). The literature (Randøy & Goel, 2003) suggests that family members have a high propensity for risk-taking, through which a firm can expand its operations. Such attributes increase the likelihood of a positive financial outcome for the MFI.

Furthermore, a firm may benefit from the use of their entrepreneurial capacity, and exceptional resources and capabilities (Randøy & Goel, 2003). When an MFI lacks financial resources, family members on the board may rely on their connections with other fund providers and use their family assets and reputations as collateral to obtain external funds (Barontini & Caprio, 2006; Patel & Cooper, 2014; Villalonga & Amit, 2006). Access to the funds and other resources at a low cost in this way reduces the operational costs of the MFI. Further, access to low-cost funds enables the MFI to grow loan portfolio, which helps to decrease their costs of operation through the economies of scale.

Moreover, founding members with a family connection within the board, are more likely to work toward achieving the goals of the MFI through dominating the board's decisions. Notably, non-profit MFIs have a strong mission to serve the poor by providing financial access to poor people. Founding members may inherit their commitment to this mission from their family if any of their family members are involved in microfinance activities or any other social entity. As founding members are the primary fund providers, their priority is to secure the MFIs' financial outcome through efficient operations, obtaining low-cost funds, active monitoring of management activities, and minimizing the conflict between family members and other directors, as well as by dominating the decision making of the board. In sum, this study posits that:

**H2a:** The family ties of founder directors have a positive association with MFI financial performance.

However, the present study anticipates that the family ties of founding directors have a negative influence on MFI social performance. As stated earlier, providing financial services to low-income earners results in higher operating costs per dollar of credit provided (Morduch, 2000; Schreiner, 2002). Founding directors, as the primary investors in MFIs, use their efforts and expertise to reduce this cost. As founding directors have both personal and financial investments in the firm, (Barontini & Caprio, 2006; Patel & Cooper, 2014), they try to increase their financial return by providing larger loans to reduce the costs per dollar. Therefore, they emphasize providing credit to wealthier borrowers. When the founding members have a family relationship with other members of the board, those members may come together to secure those financial outcomes. Hence, their disproportionate focus on financial outcomes may jeopardize the MFI's social outreach.

Moreover, it is a challenge for NGO MFIs to manage external funds to increase their loan portfolio as they have little opportunity to collect funds from the capital market (Morduch, 1999). Founding directors use their personal and family networks to attract external funds (Barontini & Caprio, 2006). For this, they often rely on their family connections. Family founding members, therefore, place a higher priority on financial performance in order to ensure

the MFI can repay the external funds. However, this excessive focus on financial sustainability may, in turn, cause the MFI to reduce their operating costs by serving only the wealthy clients with larger loan sizes (Hermes et al., 2011; Mersland & Strøm, 2008). It results in loss of the more underprivileged borrowers at the BOP and lowers the number of borrowers from the loan portfolio. Together, it can be argued that the family ties of founding directors have an adverse effect on the social performance of MFIs by reducing both the depth and breadth of social outreach. Therefore, the study hypothesizes that:

**H2b:** The family ties of founding directors adversely affect both the breadth and depth of social outreach.

### 3.3.2.3 *Experienced Founder Directors and MFI Performance*

Equally important, this study also suggests that the previous experience of founding directors in microfinance activity or skills in similar other organizations has a positive influence on MFI financial and social outcomes. The mainstream literature suggests that managerial and leadership positions in an industry increase an individual's industry-specific skills and knowledge (McCauley, Ruderman, Ohlott, & Morrow, 1994; Tesluk & Jacobs, 1998). Such experience enables founding members to solve complex problems and deal with high pressure situations (McCauley et al., 1994) which can have a positive financial outcome for the firm (Carter & Lorsch, 2004; Gimeno et al., 1997; He, 2008). This positive influence is also possible in microfinance. Experienced founding members tend to have better knowledge and understanding of their client's needs. They use this experience and knowledge in the development of new products and in evaluating new proposals, and detecting emerging opportunities in the industry (Castanias & Helfat, 2001; Kor & Sundaramurthy, 2009; Schefczyk & Gerpott, 2001). Further, experienced directors can easily understand the internal and external issues of the MFI. Hence, they have better ideas and skills to share with the board which will improve the firm's economic outcomes.

Moreover, due to their long-term involvement in the industry, founding directors have a long-term relationship with fund providers, suppliers, clients, and other industry players (Ben-Ner & Van Hoomissen, 1994; Certo, 2003; Mizruchi & Stearns, 1994). They create social capital through their networks with various stakeholders (Certo, 2003; Mizruchi & Stearns, 1994). As NGO MFIs do not have access to formal capital, they depend on external funds for their operation. The presence of experienced board members provides a sense of legitimacy to the board to these stakeholders (Certo, 2003; Hillman & Dalziel, 2003; Pfeffer & Salancik, 1978). Therefore, during the initial stage of the firm's life cycle, the firm needs directors with prior experience in the industry and ties with key industry players (Eisenhardt & Schoonhoven, 1996). Founding directors with firm-specific and industry-specific experience can bring the necessary skills and connections to access these funds and other resources and can provide an

expert contribution to the decision-making process of the board, which has a positive effect on the MFI's financial outcome. It is, therefore, suggested that:

**H3a:** Previous microfinance-specific experience of founding directors has a positive influence on MFI financial performance.

The present study also hypothesizes that the firm-specific and industry-specific experience of founding directors is important not only for financial outcomes but also for the social performance of the MFI. As stated earlier, founding directors are involved with the MFI since their inception. Further, founding members with prior experience on the board or management of another MFI have links to external stakeholders such as fund providers and clients. This prior firm-specific and industry-specific experience is beneficial for the social outreach of MFIs. Experience in the microfinance industry creates a long-term connection with its' client base. An experienced founder possesses a better knowledge of clients, their needs, and how to attract and better serve them (Castanias & Helfat, 2001; Schefczyk & Gerpott, 2001). Furthermore, founding directors experienced in the microfinance industry have a better understanding of the operation of microfinance firms. These directors can effectively contribute to board decision making as they have greater knowledge of poorer clients' needs, which can help to design better products to attract more clients.

Similarly, the long-term involvement of experienced founding members in the microfinance industry establishes a social connection with clients, which increases their legitimacy among the poor and unbanked people. The founding members can capitalize on this connection, to access more clients and to serve the poorest segments at the bottom of the economic pyramid. The microfinance industry operates in an informal economic environment. The poor and unbanked people who save small amounts with the MFIs want to ensure the safety of their savings. Therefore, experienced founding members bring client connections and legitimacy to attract more clients from the poor segments of society.

Further to this, when experienced founders can collect funds at subsidized or low cost the MFI can use such funds to provide small loans to cover the operating costs, or provide credit to more impoverished clients at a subsidized rate. In this way, the MFI can attract poorer borrowers at the bottom of the pyramid. As providing small loans increases the costs per dollar of the loan, it is difficult to provide credit in small amounts. If the MFIs can generate funds at a low cost, they can use it to serve more impoverished clients. Attracting the poorer segments of society in this way increases the depth of outreach of the MFI. Therefore, the study argues that:

**H3b:** Founding directors with experience in microfinance has a positive impact on the breadth and depth of the MFI's social outreach.

## **3.4 Methodology**

### **3.4.1 Sample and Data Sources**

The data for this study include MFIs operating in Bangladesh. In Bangladesh, in addition to the 680 licensed NGO MFIs operating under the umbrella of the Microcredit Regulatory Authority (MRA), 15 government and private commercial bank, as well as the Grameen Bank, are also providing microfinance services to unbanked people (MRA, 2016). Also, 175 new MFIs have been granted permission from the MRA to provide microfinance services temporarily. The present study excludes MFIs that do not have adequate data required for this study. The study also excludes 15 commercial banks as microfinance is not the main activity of commercial banks; they provide microfinance service as part of their corporate social responsibility and use financial incentives provided by the central bank (Bangladesh Bank) to offer microfinance facilities. Hence, their financial performance and social performance do not purely reflect the outcomes of microfinance operations. Of the total 681 MFIs used,<sup>36</sup> the present study uses data from 679 MFIs (including Grameen Bank) with 3,905 firm-year observations. The financial and social performance data is collected from yearly statistical publications by the MIS (Management Information Systems) department of the MRA. However, data generated from the boards of the MFIs are not readily available. This data was hand-collected from the MIS department and the licensing department. At first, the researcher consulted the MFI supplied relevant documents from the licensing department to take the information and relevant profiles of the founder directors. The researcher then consulted the latest submitted profiles (biodata) of the directors.<sup>37</sup> The sample covers a period of 9 years (from 2007 to 2015).<sup>38</sup> However, the dataset in the panel is unbalanced as some of the MFIs are newly established and were only licensed in recent year. Further, the MRA has cancelled the license of some of the MFIs in different years due to non-compliance with regulatory requirements.

### **3.4.2 Variables**

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<sup>36</sup> Although the panel consists of 750 MFIs, some are excluded from the panel as the MRA has cancelled license of some of the MFIs in different years. Further, some MFIs lack board related data which is required for this study. However, the study includes the Grameen Bank.

<sup>37</sup> The researcher consulted every document the MFIs submit to the MRA. If there is any change in the board composition, the MFI is required to submit the details of the change to the MRA with attestation from the specific government official (Office of the Social Welfare), with a resolution of the general meeting and the updated biodata of the new director(s). In addition, the MRA has collected the last update of the directors' profile from all of the MFIs in December 2016, through an official circulation to all MFIs. This study uses this opportunity to collect the director details of every MFI.

<sup>38</sup> The study considers 2007 as the base year of the study period because the MFIs in Bangladesh came under the regulation of the Microfinance Regulatory Authority (MRA) in 2006, and the dataset has been uniform since then.

In studying the impact of the presence of founding members on the board on MFI double bottom line performance, this study examines various dependent and explanatory variables in the empirical estimation. Table 3.A (in Appendix) provides the definition and the measurement techniques of the variables included in the model.

#### *3.4.2.1 Dependent Variables*

The dependent variables included in this study consist of both the financial performance and social performance of MFIs. Unlike the single objective of commercial firms, MFIs have a double bottom line objective: economic sustainability and social performance. The study uses return on assets (**ROA**), return on equity (**ROE**) and the operational self-sufficiency (**OSS**) as the measurement of economic sustainability. Table 3.A, Panel A, shows the definition and the description of the variables.

##### ***Return on Assets***

Based on mainstream governance literature (Chen et al., 2012; Mishra et al., 2001) and microfinance literature (Ahlin, Lin, & Maio, 2011; Mersland & Strøm, 2009; Strøm et al., 2014), this study refers to ROA as the measure of the overall financial performance of the MFIs. ROA indicates the ability of the MFIs to generate a return using their assets (Armendáriz & Morduch, 2010; Hartarska, 2005). ROA refers to the ratio of net operating income after tax, to the average total assets. The assets are averaged for the year to mitigate the distortions of financial statements resulting from seasonal fluctuations and rapid changes in the loan portfolio (in less than a year) (Armendáriz & Morduch, 2010; Morduch, 1999).

##### ***Return on Equity***

Similarly, (Pathan & Faff, 2013; Strøm et al., 2014), this study refers to ROE as the measure of the productivity (profitability) of the capital employed in the MFIs. Similar to the return on capital employed in commercial corporations, this ratio demonstrates the MFIs' ability to generate returns to their shareholders, particularly for those MFIs which are funded by share capital (Strøm et al., 2014). This ratio is essential not only for general shareholders but also for founding directors and the block holders. ROE refers to the ratio of net operating income less taxes, to the average equity. In calculating the ratio, the adjusted net operating income excludes (adjusts) non-operating items, donations, and taxes. ROE indicates the commercial viability of the MFI (Bruett et al., 2005).

##### ***Operational Self-sufficiency***

In addition to financial profitability, a growing body of literature (e.g., Cull et al., 2007; Mersland & Strøm, 2009; Strøm et al., 2014) uses OSS as the measure of operational sustainability of the MFI. OSS indicates the extent to which the MFI covers its operating

revenue from its operating costs, and is measured as the fraction of operating revenue to the cost to generate such revenue. An MFI is operationally self-sufficient if the MFI covers all of its' costs from the revenue generated. A value of 1 (100 percent) indicates that the MFI is entirely self-sufficient. A result below 1 indicates that the MFI is not self-sufficient. The larger the ratio is, the more the MFI is efficient in its operations. The costs in the denominator include operating expenses, financial expenses, and loan loss provision expenses (Armendáriz & Morduch, 2010).

Social performance variables indicate the ability of the MFI to serve economically active poor people. Although an MFI is considered to be the vehicle to eliminate poverty, it remains unclear whether they actually achieve this purpose (Banerjee & Jackson, 2017; Bateman, 2010). However, in the absence of a direct measure of poverty alleviation, outreach to the poor segments of society is used to measure the social performance of the MFIs (Cull et al., 2007; Schreiner, 2002). Social performance measures in two ways: the poverty approach and the self-sustainability approach (Morduch, 2000; Rhyne, 1998; Schreiner, 2002). The poverty approach focuses on the most indigent clients to whom providing financial services is costly due to the small average loan size per client. On the other hand, the self-sustainability approach targets wealthier clients at the bottom of the pyramid (BOP) with a larger average loan size per client (Schreiner, 2002). There is also the possibility of a trade-off in the social orientation of the MFIs (Cull et al., 2007; Jia, Cull, Guo, & Ma, 2016; Quayes, 2012). This study uses two alternative measures in line with the microfinance literature (Assefa et al., 2013; Mersland & Strøm, 2009; Schreiner, 2002; Strøm et al., 2014; Vanroose & D'espallier, 2013). These are the depth of outreach and the breadth of outreach.

#### ***Average Loan Balance per Borrower***

Following the poverty approach, the average loan balance per borrower (***ALB***) measures the depth of outreach to poor borrowers (Cull et al., 2007; Hulme & Mosley, 1996; Lapenu & Zeller, 2002; Weiss & Montgomery, 2005). The smaller the loan provided to underprivileged clients, the deeper their outreach to poor people is (Schreiner, 2002; Weiss & Montgomery, 2005). This idea is based on the argument that poor people have limited capacity to use larger loans and have a limited means to provide collateral (Armendáriz & Morduch, 2010; Collins et al., 2009). Besides, their ability to repay a larger loan is limited due to their small and irregular incomes. Relative to poor borrowers, wealthy borrowers are generally provided with larger loans. ALB is measured using the average loan balance per borrower. The smaller the ALB, the more the depth of outreach.

#### ***Number of Active Borrowers***

Another proxy to measure MFI social performance is the breadth of outreach, which is

measured by the natural logarithm of the total number of active borrowers (*NAB*) (Schreiner, 2002; Strøm et al., 2014; Zeller & Meyer, 2007). Borrowers include those individuals who currently have an outstanding loan balance with the MFI, or are responsible for paying any portion of the loan or interest included in the gross loan portfolio (Hartarska, 2005). The larger the *NAB* is, the greater the social orientation of the MFI. Moreover, serving a more significant number of borrowers may enable the MFIs to benefit from the economies of scale. Therefore, consistent with microfinance literature (e.g., Assefa et al., 2013; Gohar & Batool, 2015; Hartarska, 2005; Mersland & Strøm, 2009), this study uses that *NAB*, referring to the breadth of outreach, is an indication of MFI social performance. The study expects that an MFI will be more socially oriented through their breadth of outreach when their *NAB* is larger.

#### 3.4.2.2 Explanatory Variables

The present study uses the presence of founding members on the board as the explanatory variable to test the first hypothesis (H1a and H1b) (Anderson et al., 2003; Nelson, 2003). The study refers to founding directors as those who have sat on the board of the MFI since its' inception (Wang & Song, 2016). In order to test the second hypothesis (H2a and H2b), the study considers family founding members as those members who have a family connection (relative) with the other members on the board (Anderson et al., 2003; Anderson & Reeb, 2003; Patel & Cooper, 2014). Following Bennedsen, Kongsted, and Nielsen (2008), if two or more of the founding members on the board have a family relationship (such as any of the following: siblings, child (son or daughter), spouse, or parents), they are considered to be founders with a family tie. In order to identify the family relationship of the directors, the researcher examined the CV of each of the directors. As the MRA made a mandatory for the MFIs to disclose the kinship (either of the following: parents, siblings child or spouse) of the directors with their name, the researcher used such an opportunity to properly trace out founder directors' family relationship with other directors on the board. It eliminated the concerns related to name change or a change of marital status of the members. Furthermore, to test the third hypothesis (H3a and H3b), the study considers experienced founding directors to be those who have served at least two years in any MFI. Such experience must either be on the board or in management or at least as a consultant in an MFI or similar organization, having joined the present MFI at its inception.

Rather than a binary or count measure, this study uses two alternative measures for the explanatory variables. Following Kroll, Walters, and Le (2007) and Wang and Song (2016), the present study uses a ratio measure of the variables being: *Founder Prop*, *Family Prop*, and *Experience Prop* as the proportion of the count measure of the variable (such as total founders) to the total number of directors on the board. This ratio measure has a few main benefits (Gilbert, Fiske, & Lindzey, 1998; Wang & Song, 2016). First, the ratio is a comparative measurement. The research on group composition suggests that when two groups differ in

numbers (for example, founder and non-founder, or experienced and inexperienced), the use of proportion is appropriate to eliminate any differences. Levine and Moreland (1990) suggest that the majority-minority relationship is a significant group characteristic that can be explained using a ratio measure. For example, if there are more founders with a family relationship, the family founders may be more dominant on the board than that of firms with minimal founder family members. Second, the use of a count measure does not capture the differences in board control (Dalton et al., 1998; Wang & Song, 2016). Third, a binary measure does not show the magnitude of founder presence on the board.

Furthermore, following Cannella, Jones, and Withers (2015), the study log transforms the three explanatory variables by adding one with a counting measure of the variables. For instance, *Founder Log* =  $\log(1 + \text{total founders on board})$ . Similarly, *Family Log* =  $\log(1 + \text{total founders with family tie})$ , and *Experience Log* =  $\log(1 + \text{total founder directors having microfinance experience})$ . The log transformation of the explanatory variables makes the variables symmetric (reduces right skewness) and overcomes the influence of outliers and heteroscedasticity.

#### 3.4.2.3 Control Variables

Furthermore, this study controls other governance and firm-specific characteristics in determining firm performance. Previous literature (Bennedsen et al., 2008; Dalton et al., 1998; Jackling & Johl, 2009; Wagner, Block, Miller, Schwens, & Xi, 2015; Yermack, 1996) suggests that *Board Size* is one of the critical internal governance variables which may have a considerable influence on strategic decision making and the effectiveness of governance mechanisms (Jensen, 1993; Muth & Donaldson, 1998). Stakeholder orientation is associated with a larger board size (Hillman et al., 2001). However, a larger board may also experience the problem of “free-riders” (Jensen, 1993). Hence, board size could have an impact on firm performance (Jensen, 1993; Muth & Donaldson, 1998).

Another governance variable is the presence of a CEO as the chair of the board (*CEO-Chair*). The literature (e.g., Bhagat & Black, 2002; Boyd, 1995; Brickley, Coles, & Jarrell, 1997) suggests that the presence of a CRO increases firm stability, confidence in the management team, and communication between management and the board. Further, the CEO helps to integrate commands and reduce the costs of information. However, some researchers also express a negative view of the presence of a CEO (Fama & Jensen, 1983a; Lipton & Lorsch, 1992). Based on this, the present study includes CEO Power as a control variable.

The literature (Dalton, Daily, Johnson, & Ellstrand, 1999; Randøy & Goel, 2003) also suggests that *Firm Size* may have an impact on the complexity of firm governance and firm performance. It is likely that small firms follow a simple organizational and governance

structure, with concentrated leadership, tightened ownership, and control over decision making (Daily & Dalton, 1992; Whisler, 1988). Though the literature (García-Meca, García-Sánchez, & Martínez-Ferrero, 2015; Hartarska, 2009) uses total assets or total equity as the proxy to measure firm size, this study lacks data on assets size in 2007 and 2008. Instead, in following Cuéllar-Fernández, Fuertes-Callén, Serrano-Cinca, and Gutiérrez-Nieto (2016), Galema et al. (2012), Mersland and Strøm (2009), and (Strøm et al., 2014), this study uses the log of the gross loan portfolio as the measure of firm size. Inclusion of this variable stems from the idea that the scale of operation, as well as firm performance, varies among the MFIs based on their size.

Following Ahlin et al. (2011), this study includes growth in the gross loan portfolio (**Loan Growth**) and expects that Loan Growth has a positive influence on MFI double bottom line performance. Furthermore, as suggested in the literature (Anderson et al., 2003; Chen et al., 2012; Hartarska, 2009), the debt to equity ratio (**Debt-Equity**) shows the individual risk profile of the MFI and the leverage in their capital structure. The smaller the ratio, the less dependent the firm is on external funds, and the more likely the MFI is to meet their financial obligations to external stakeholders.

Finally, portfolio risk is another important variable for MFI performance because the disbursement of credit to poor and un-bankable people is inherently risky. In following the MFI literature (Ahlin et al., 2011; Cuéllar-Fernández et al., 2016), this study uses loan loss provision expenses (**Provision**) as the determinant of firm performance. The study measures the Provision as the fraction of the loan portfolio retained for bad loans over a year (Ahlin et al., 2011).

### 3.4.3 Estimation Method

Following the governance literature (Randøy & Goel, 2003; Xu, Yuan, Jiang, & Chan, 2015; Yermack, 1996), this study applies the pooled ordinary least square (Pooled OLS) method to examine the predicted relationship. The following empirical model is used to test the hypotheses:

$$Y_{it} = \alpha_0 + \beta_i X_{it} + \gamma_i Z_{it} + Y_d + \varepsilon_{it} \quad (1)$$

Where, the subscript  $i$  denotes the individual MFI ( $i = 1, 2, 3... 679$ ),  $t$  refers to the time in years ( $t = 2007, 2008... 2015$ ) and  $\beta_i$  and  $\gamma_i$  are the vectors of the coefficients for the main explanatory variables ( $X_{it}$ ) respectively. The variables of primary interest are the three main explanatory variables (Founders Prop, Family Prop, and Experience Prop), and their logarithmic measures. The study also includes a set of control variables ( $Z_{it}$ ), and the idiosyncratic error term ( $\varepsilon_{it}$ ). Including all of the variables for the three main hypotheses, the equations (1) is expressed as follows:

$$P_{it} = \alpha_0 + \beta_1 \text{Founders Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (2)$$

$$P_{it} = \alpha_0 + \beta_2 \text{Family Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (3)$$

$$P_{it} = \alpha_0 + \beta_3 \text{Experience Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (4)$$

The dependent variables ( $P_{it}$ ), are the financial (ROA, ROE, and OSS) and social performance of the firm (NAB and ALB). Further, this study includes year dummies ( $Y_d$ ) to cover the fixed temporal effect (i.e., the influence of factors specific to an individual year) (Javakhadze et al., 2016; Xu et al., 2015).

The pooled OLS estimates both the time-series and the cross-sectional variation of the association between the explanatory variables of interest and MFI performance. Though a few studies use fixed-effect ordinary least square (FE OLS) in the presence of unobserved firm fixed effects (Adams, Hermalin, & Weisbach, 2010), the FE OLS may not be suitable in this study. The FE OLS regression requires a significant variation in the main explanatory variables of interests to generate an unbiased and consistent estimate. However, in this study, the variables of interest (Founder Prop, Family Prop, and Experience Prop (alternatively, Founder Log, Family Log, and Experience Log) do not vary extensively over time as the founders remain in the MFI since its inception. Therefore, the use of FE OLS may be inappropriate (Wooldridge, 2016). Besides, for a large number of firms over limited periods, a fixed effect regression provides inconsistent estimates (Baltagi, 2005). This study uses a large number of firms (679); however, most of the MFIs are only observed for a few years. Therefore, the Fixed Effect may not provide an accurate result. However, pooling the cross-section and time-series data may be susceptible to heteroscedasticity and multicollinearity (Petersen, 2009). The study controls these issues by applying robust regressions in all of the models.

However, before finally applying the Pooled OLS, the researcher conducted both the fixed effect OLS (FE OLS) and random effect GLS (RE GLS) on the data, and applied the Hausman tests to determine which method best describes the predicted association between board independence variables and MFI performance without violating the underlying assumptions of the regressions. Finally, the researcher found the Pooled OLS as a suitable method for this study. However, it does not make any sense to apply and report the Hausman test that maintains the full set of the random effect assumptions when we use robust regression. As the study finally adopted robust regressions, the Hausman test was not reported in the analysis.

In the baseline model, the study uses the dependent and explanatory variables for the same reporting year. Also, the literature suggests that firm performance is susceptible to different definitions of governance variables (Adams & Ferreira, 2009; Carter, D'Souza,

Simkins, & Simpson, 2010). Therefore, the study conducts the regressions using both the ratio and logarithmic measures for the main explanatory variables. Also, to test their sensitivity, the study used one year lead of the dependent variables (lead-lag model) and one year lag of the explanatory variables (lag-independent model) as there is a possibility to transfer the effect of the changes in governance and other firm-specific variables to subsequent years. Moreover, for the robustness test, the study uses several alternative measures of the dependent and explanatory variables.

Furthermore, the literature (Adams et al., 2010; Hermalin & Weisbach, 1998) suggests that the association between the board related variables and firm performance is endogenous and may be affected by unobservable factors. Hence, to check whether the results hold after accounting for endogeneity, as a precaution, following Carter, Simkins, and Simpson (2003) and Strøm et al. (2014), this study also applies a two-stage least square (2SLS) regressions using the instrumental variable (IV) as the exogenous regressor of the main explanatory variables.

## **3.5 Results**

### **3.5.1 Descriptive Statistics**

Table 3.1 presents the summary statistics of the variables included in the model. Of the dependent variables, the financial performance variables are ROA, ROE, and OSS. Following the literature (Chen et al., 2012; Xu et al., 2015), except for the CEO-Chair, all the other variables are winsorized at the 1st and 99th percentile, to adjust the outliers. The average ROA shows a low (2%) return. However, the mean (median) return on equity (ROE) is 15% (12%), which is well above the ROA. This statistic indicates that the MFIs, which are funded by internal sources (equity financing or undistributed profit) are performing better than those MFIs that are primarily funded by external sources. It appears from the ROE that the MFIs that are dependent on external funds pay less attention to financial performance, while the MFIs that are funded by shareholders (such as founders) pay more attention to financial performance. As the founding members are the primary suppliers of equity capital, they have a more significant stake in the MFIs. Hence, they have a higher interest in the financial outcome of the MFI. In Bangladesh, no MFIs have entered the capital market as yet. Hence, the MFIs with equity capital mostly have founding members who act as private block holders. The mean (median) operational self-sufficiency (OSS) is 0.89 (0.97), which indicates that the microfinance industry in Bangladesh is not yet operationally self-sufficient. Providing a small amount of credit and savings per client to the poor and unbanked people in rural areas results in high operating costs. These results are consistent with the prior studies on microfinance performance (Hartarska, 2005; Mersland & Strøm, 2009). Among the social performance variables, the average (median) number of active borrowers (NAB) is 31,400 (4,250). It indicates that exception a few dominant MFIs, the majority of MFIs have a low-level client base. However, the low average loan balance per

borrower (BDT 8659.25, equivalent to approximately US dollar 110) shows that the depth of outreach is high for MFIs. It indicates that MFIs operating in Bangladesh mostly target poorer segments at the bottom of the pyramid.

As the primary explanatory variable, the average number of founding members on the board is 3.26 that represents 41 percent of the total directors on the board. It indicates that MFIs have a higher percentage of founder presence on the board. Further, the average number of founding members with a family tie with other members on the board is 0.85, which represents only 11 percent of the total members on the board. Also, the average percentage of founding members with prior experience in microfinance is meagre (four only).

Of the controlled variables, the average (median) board size is 7.66 (7).<sup>39</sup> However, only one percent of the MFIs have a single leadership role (CEO as Chair on board). The firm size, measured by the average size of the gross loan portfolio is BDT 290 million (BDT 31 million). The average debt to equity ratio (5.38) indicates that the MFIs are highly dependent on external funds.<sup>40</sup> Although the primary sources of funds are external, the MFIs still have positive growth. However, during the study period, the MFIs transferred a small percentage (one percent) of the loan to the provision expenses due to the permanent loss of the defaulted loan.

**Table 3.1 Descriptive statistics of the variables**

Variable	Obs. <sup>a</sup>	Mean	Std. Dev.	Min	Quantiles			
					0.25	Mdn	0.75	Max
<i>Dependent Variables:</i>								
ROA	3540	0.020	0.040	-0.130	0.000	0.010	0.040	0.190
ROE	3908	0.150	0.400	-1.790	0.030	0.120	0.250	2.030
OSS	3283	0.890	0.430	0.020	0.610	0.970	1.150	2.110
NAB (Log)	3908	8.793	1.54	6.31	7.64	8.36	9.8	13.61
NAB (,000)	3908	31.40	99.07	0.55	2.08	4.25	18.06	810
ALB (Log)	3906	8.946	0.497	7.621	8.62	8.95	9.29	10.12
ALB (BDT)	3908	8659.23	4386.43	1929	5535	7734	10775	24735
<i>Explanatory Variables:</i>								
Founder Log	3908	1.366	0.415	0.693	1.099	1.386	1.609	2.197
Founder Prop	3908	0.432	0.235	0.083	0.286	0.429	0.571	1.000
Founder Total	3908	3.262	1.736	1.000	2.000	3.000	4.000	8.000
Family Log	3908	0.458	0.551	0.000	0.000	0.000	1.099	1.386
Family Prop	3908	0.112	0.138	0.000	0.000	0.000	0.286	0.429

<sup>39</sup> The minimum board size suggested by the Microcredit Regulatory Authority (MRA) of Bangladesh is seven.

<sup>40</sup> As none of the MFIs entered the capital market to collect funds from the public, most of them depend on external funds. Very few of them are partially funded by founding members and socially motivated local entrepreneurs.

Family Total	3908	0.846	1.027	0.000	0.000	0.000	2.000	3.000
Experience Log	3908	0.199	0.358	0.000	0.000	0.000	0.693	1.386
Experience Prop	3908	0.040	0.075	0.000	0.000	0.000	0.067	0.300
Experience Total	3908	0.317	0.616	0.000	0.000	0.000	1.000	3.000
<i>Control Variables:</i>								
Board Size	3908	7.660	1.140	6.000	7.000	7.000	9.000	12.000
CEO-Chair	3908	0.010	0.080	0.000	0.000	0.000	0.000	1.000
Firm Size	3908	290	930	3	13	31	150	7300
Debt-Equity	3908	5.380	17.550	-12.06	0.450	1.78	4.49	147.92
Loan Growth	3908	0.134	0.453	-0.621	-0.068	0.109	0.261	2.077
Provision	3908	0.012	0.022	0.000	0.000	0.000	0.010	0.150

**Note:** Descriptive statistics of the variables. Financial performance variables (ROA, ROE, and OSS) are in decimal. Among the social performance variables, the number of active borrowers (NAB) is in thousands (000) and the average loan balance per borrower (ALB) is in BDT. The main explanatory variables (Founder, Family, and Experience) are presented in total, ratio and logarithmic measures. In the regression, both the proportion and the logarithm measures are used. Firm size (size of the loan portfolio) is in million BDT (000,000). Loan growth and Provision are in decimal. Except for the CEO-Chair, the researcher winsorized the data on all the variables at 1% and 99%.

<sup>a</sup>The observations are not equal in the model due to the missing values of some of the variables.

### 3.5.2 Model-Free Analysis

#### 3.5.2.1 Univariate *t*-tests

Table 3.2 shows the result of the mean difference test of the variables included in the model based on founding member presence, their family ties and microfinance experience. The results show that the average value of the dependent and the explanatory variables varies among the MFIs due to the presence of founding members on the board, their family ties, and firm-specific experience. For instance, financial performance related to the dependent variables (ROA, ROE, and OSS) is slightly larger for the MFIs that have founding directors on the board although the mean difference is insignificant. It validates the argument of the hypothesis (H1a) that MFIs with founding directors are financially better than the MFIs which do not have founding members on the board. The mean difference tests of NAB and ALB are also strongly significant ( $t= 10.15$ ;  $p<0.01$  for NAB;  $t= 3.69$ ,  $p<0.01$  for ALB) for the presence of founding directors on the board, initially supporting the hypothesis (H1b) of the influence of funding directors on MFI social performance. Similar results are uncovered for the family ties of founding members with the social performance variables (i.e.,  $t= 22.89$ ,  $p<0.01$  for NAB;  $t= 4.62$ ,  $p<0.01$ ), initially supporting the relationship between founders' family ties and MFI social performance (H2b). For founder directors' microfinance experience, NAB ( $t= -2.23$ ,  $p<0.05$ ) and ALB ( $t = -43.58$ ,  $p<0.01$ ) also have a significant variation in their mean. However, for the three explanatory variables, the mean difference among the financial performance variables is weak.

**Table 3.2 Univariate t-tests (Mean Difference Tests) of the Variables**

Variable	Founders			Family Tie			Experience		
	With	Without	t-value	With	Without	t-value	With	Without	t-value
ROA	0.03	0.02	1.08	0.02	0.03	-0.89	0.02	0.03	-0.42
ROE	0.17	0.16	0.29	0.16	0.17	-0.51	0.16	0.17	-1.13
OSS	0.92	0.89	1.28	0.89	0.89	-0.40	0.88	0.92	-2.23**
NAB	9.78	8.70	10.15***	9.12	8.22	22.89***	8.28	10.37	-43.58***
ALB	8.99	8.88	3.69***	8.92	8.85	4.62***	8.86	9.01	-9.46***
Founder				2.16	4.5	54.80***	3.13	2.86	4.41***
Board Size	8.39	7.65	7.82***	7.71	7.69	0.48	7.63	7.92	-6.51***
CEO-Chair	0.00	0.01	-5.40***	0.00	0.01	3.84***	0.01	0.00	5.40***
Firm Size	18.75	17.57	10.31***	18.02	17.06	22.03***	17.12	19.37	-43.06***
Debt-Equity	4.80	5.78	-1.01	5.63	5.11	1.01	5.65	4.76	1.70*
Loan Growth	0.16	0.13	0.99	0.13	0.13	-0.1	0.14	0.12	0.91
Provision Expense	0.01	0.12	1.24	0.01	0.01	0.24	0.01	0.01	-1.82**

**Note:** Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

### 3.5.2.2 Correlation Analysis

Table 3.3 presents the results of Pearson's pairwise correlation tests of the variables. As expected, in the first hypothesis (H1a), the results show that founding directors have a positive correlation with the financial performance variables: ROA, ROE ( $p < 0.5$ ) and OSS. Further, as per the H1b, founding directors have a positive correlation with NAB ( $p < 0.01$ ). Similarly, in line with H2a, founding directors' family ties are positively correlated with all the financial performance variables. Further, as per H2b, founders' family ties have a negative correlation with the breadth of outreach ( $p < 0.01$ ). In support of H3a, the results show that founding members' experience is significantly ( $p < 0.05$ ) and positively correlated with the financial performance variables, and with NAB (at  $p < 0.01$ ). The result is the same for the control variables. Besides, none of the explanatory and control variables have a higher level of correlation. Further, financial performance and social performance variables do not have a high degree of correlation. Overall, the relationships among the MFI performance variables and the explanatory variables are satisfactory, and the directions are as expected.

**Table 3.3 Pearson's Pairwise Correlation Matrix of the Dependent and Explanatory Variables**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<b>1 ROA</b>	1.000													
<b>2 ROE</b>	0.229**	1.000												
<b>3 OSS</b>	0.535**	0.101**	1.000											
<b>4 NAB</b>	0.081**	0.045**	0.132**	1.000										
<b>5 ALB</b>	0.083**	0.071**	-0.052**	0.151**	1.000									
<b>6 Founder</b>	0.018	0.032*	0.006	-0.208**	-0.010	1.000								
<b>7 Family Tie</b>	0.011	0.009	0.011	-0.280*	-0.053*	0.594*	1.000							
<b>8 Experience</b>	0.034*	0.032*	0.044*	0.627**	0.168**	-0.067**	-0.184**	1.000						
<b>9 Board Size</b>	0.022	-0.014	0.018	0.079**	-0.033*	-0.159**	-0.063**	0.043**	1.000					
<b>10 CEO-Chair</b>	0.006	-0.006	0.003	-0.034*	0.034*	0.070*	0.053**	-0.042**	0.008	1.000				
<b>11 Firm Size</b>	0.097**	0.063**	0.108**	0.953**	0.431**	-0.192**	-0.269**	0.624**	0.062**	-0.019	1.000			
<b>12 Debt-Equity</b>	-0.076**	-0.181**	-0.032	0.018	-0.020	-0.020	-0.006	-0.007	-0.052**	-0.020	0.010	1.000		
<b>13 Loan Growth</b>	0.201**	0.064**	0.335**	0.100**	-0.016	0.020	0.004	-0.013	-0.004	-0.002	0.098**	0.011	1.00	
<b>14 Provision</b>	-0.238**	-0.155**	-0.075**	0.027	-0.025	-0.019	0.006	0.015	-0.039*	0.004	0.017	0.011	-0.009	1.00

**Note:** \*\* p<0.01, \* p<0.05

### 3.5.3 Main Results

Table 3.4 to Table 3.6 present the regression results. Panel A, in all of the tables, reports the results for financial performance, and Panel B reports the results for social performance. In the baseline models, this study uses the dependent variables and explanatory variables for the same reporting year. The figures in parentheses report the heteroscedasticity adjusted robust standard errors. Also, the variance inflation factor (VIF) of the variables was checked to ensure that the variables included in the regression do not have multicollinearity problem.

#### 3.5.3.1 Founder Directors and MFI Performance

Column (1) and (2) in Panel A of Table 3.4, respectively show that ROA has a significant and positive relationship with Founder Log (= .004,  $p < .005$ ) and Founder Prop (0.005,  $p < 0.10$ ). Likewise, in Column (3), the coefficient between ROE and Founder Log is significant ( $p < 0.05$ ) and positive (= 0.035). Further, the association between Founder Prop and ROE is significant and positive (= 0.060;  $p < 0.05$ ) as shown in Column (4). Although OSS is not significant in the baseline model, the result is significant and positive in the robustness tests. Overall, the results in Panel A suggest a significant and positive association between founder presence on the board and MFI financial performance, supporting H1a. Economically, Column (1) shows a 7.55 percent increase in the ROA relative to the mean for one S.D. increase in the Founder Log. For the Founder Prop, ROA increases by 5.34 percent. Further, Column (4) shows that for one S.D. increase in Founder Prop, the level of ROE increases by 9.53 percent relative to the mean, which is also the same (9.81 percent) for the Founder Log in Column (3). These results are consistent with mainstream literature on the presence of founding members on the board and commercial firm performance (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Li & Srinivasan, 2011). These positive results support the wealth creation view (Chen et al., 2012), and the argument of higher firm value from founder presence on the board (Li & Srinivasan, 2011).

Additionally, Column (7) in Panel B (Table 3.4) shows that NAB has a strong, significant ( $p < 0.01$ ) and a negative relationship with Founder Log (= -0.116). A similar result is found between Founder Prop and NAB (= -0.173;  $p < 0.01$ ). In support of H1b, these results suggest that founder directors have an adverse influence on the breadth of outreach in the MFI. For instance, Column (7) indicates that for one S.D. increase in Founder Log, NAB decreases by 4.81 percent relative to the mean, which equals 1,492 borrowers. For Founder Prop, the reduction in NAB is 4.07 percent (i.e., 1,277 active borrowers) relative to the mean. Furthermore, Column (9) shows that ALB has a strong, significant ( $p < 0.01$ ) and positive relationship with Founder Log (= 0.111). Likewise, Founder Prop has a strong, significant ( $p < 0.01$ ) and positive (= 0.164) relationship with ALB. These results indicate that the more founding members there are on the board, the more possible it becomes to provide larger

average loans to wealthier borrowers. Therefore, H1b is supported. For instance, for an increase by one S.D. in Founder Prop, ALB increases by 3.85 percent relative to the mean, which accounts for a BDT 333.73 increase in loan size. Likewise, the results in Column (9) show a 4.61 percent (BDT 399) increase in ALB for one S.D. increase in Founder Log. These results suggest that founder directors on board have an adverse effect on MFI social performance. These findings contradict with Mori et al. (2015) (they report an insignificant influence of founder directors in social performance in African MFIs).

Together, the findings suggest that although founder dominance is not worthwhile for poorer borrowers due to the adverse influence on the MFI's social mission, such dominance on the board is worthwhile for investors and fund providers as founder presence on board bring a positive result on MFI financial performance. The positive results on the financial performance are consistent with the extant literature on founder directors and commercial firm performance (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Li & Srinivasan, 2011).

**Table 3.4 Baseline OLS. Founder Directors and MFI Double Bottom line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
Founder Log	0.004** (0.002)		0.035** (0.015)		0.010 (0.015)		-0.116*** (0.017)		0.111*** (0.016)	
Founder Prop		0.005* (0.003)		0.060** (0.026)		0.026 (0.027)		-0.173*** (0.031)		0.164*** (0.030)
Board Size	0.000 (0.005)	0.002 (0.005)	-0.108*** (0.039)	-0.083** (0.040)	0.003 (0.045)	0.013 (0.045)	0.228*** (0.045)	0.152*** (0.046)	-0.214*** (0.043)	-0.142*** (0.043)
CEO-Chair	0.003 (0.011)	0.003 (0.011)	-0.046* (0.027)	-0.049* (0.027)	0.033 (0.055)	0.031 (0.055)	-0.225** (0.115)	-0.223* (0.116)	0.183* (0.107)	0.181* (0.108)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.017*** (0.003)	0.017*** (0.003)	0.013*** (0.004)	0.013*** (0.004)	0.858*** (0.004)	0.860*** (0.004)	0.140*** (0.004)	0.138*** (0.004)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.011*** (0.002)	0.011*** (0.002)	0.055*** (0.018)	0.055*** (0.018)	0.056*** (0.019)	0.056*** (0.019)	-0.199*** (0.023)	-0.201*** (0.023)	0.154*** (0.018)	0.155*** (0.018)
Provision	-0.460*** (0.057)	-0.461*** (0.057)	-2.832*** (0.708)	-2.835*** (0.708)	-1.984*** (0.307)	-1.984*** (0.307)	0.268 (0.365)	0.284 (0.366)	-0.184 (0.315)	-0.198 (0.316)
Constant	-0.007 (0.012)	-0.008 (0.012)	0.083 (0.103)	0.059 (0.104)	0.812*** (0.129)	0.791*** (0.132)	-6.289*** (0.118)	-6.247*** (0.123)	6.314*** (0.110)	6.274*** (0.114)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,539	3,539	3,907	3,907	3,282	3,282	3,906	3,906	3,906	3,906
R-squared	0.126	0.126	0.073	0.073	0.355	0.355	0.931	0.931	0.414	0.412

**Note:** In Panel A, financial performance variables (ROA, ROE, and OSS) are in decimal. In Panel B, social performance variables (NAB and ALB) are in logarithmic. Founder Log = (1+ total founder directors). Founder Prop = Total founder directors/Total directors on board. Board Size and Firm Size are in logarithmic. CEO-Chair is a dummy variable. Debt-Equity, Loan growth, and Provision are in decimal. Except for CEO-Chair, all variables are winsorized at 1% and 99%. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively. The correlation-coefficient as well as the coefficient of the association between NAB and Firm size is high, due to which R-squared value is high in Column (7) and (8). This is as expected as per the variable definition. However, it may provide a biased result if

multicollinearity is present in the model. However, VIF related to Firm size is 1.07 and 1.06 in column (7) and (8) respectively. Also, the mean VIF is only 1.82 in both the columns, which indicates that multicollinearity is not a problem in both the model. For NAB, the similar results are also found in all of the other regression tables.

**Table 3.5 Baseline OLS: Founder Directors' Family Tie and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Family Log	0.002** (0.001)		0.017 (0.012)		0.010 (0.012)		-0.096*** (0.013)		0.093*** (0.012)	
Family Prop		0.009* (0.005)		0.075 (0.049)		0.040 (0.047)		-0.375*** (0.051)		0.360*** (0.047)
Board Size	0.001 (0.005)	0.002 (0.005)	-0.103*** (0.040)	-0.095** (0.039)	0.004 (0.045)	0.008 (0.044)	0.218*** (0.044)	0.179*** (0.045)	-0.204*** (0.042)	-0.167*** (0.042)
CEO-Chair	0.003 (0.011)	0.003 (0.011)	-0.043 (0.027)	-0.043 (0.027)	0.032 (0.055)	0.033 (0.055)	-0.221** (0.110)	-0.225** (0.111)	0.179* (0.102)	0.183* (0.102)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.017*** (0.003)	0.017*** (0.003)	0.014*** (0.004)	0.014*** (0.004)	0.856*** (0.004)	0.856*** (0.004)	0.142*** (0.004)	0.142*** (0.004)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.011*** (0.002)	0.011*** (0.002)	0.056*** (0.018)	0.056*** (0.018)	0.057*** (0.019)	0.057*** (0.019)	-0.203*** (0.023)	-0.203*** (0.023)	0.157*** (0.018)	0.157*** (0.018)
Provision	-0.462*** (0.057)	-0.462*** (0.057)	-2.852*** (0.708)	-2.851*** (0.708)	-1.991*** (0.307)	-1.990*** (0.307)	0.343 (0.365)	0.336 (0.365)	-0.254 (0.316)	-0.248 (0.315)
Constant	-0.005 (0.011)	-0.006 (0.012)	0.116 (0.101)	0.098 (0.102)	0.811*** (0.129)	0.801*** (0.131)	-6.332*** (0.114)	-6.262*** (0.117)	6.354*** (0.105)	6.286*** (0.107)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,539	3,539	3,907	3,907	3,282	3,282	3,906	3,906	3,906	3,906
R-squared	0.126	0.126	0.072	0.072	0.355	0.355	0.931	0.931	0.416	0.415

**Note:** Family Log = (1 + Total founder directors with family ties). Family Prop = Total founder directors with family ties to total directors on board. All the dependent and control variables are the same as in Table 3.4. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

**Table 3.6 Baseline OLS: Founder Directors' Microfinance Experience and MFI Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Experience Log	-0.003 (0.002)		-0.014 (0.020)		-0.010 (0.021)		0.184*** (0.023)		-0.188*** (0.022)	
Experience Prop		-0.011 (0.010)		-0.078 (0.092)		-0.034 (0.099)		0.875*** (0.105)		-0.894*** (0.098)
Board Size	0.002 (0.005)	0.001 (0.005)	-0.096** (0.040)	-0.099** (0.039)	0.008 (0.045)	0.006 (0.044)	0.156*** (0.045)	0.196*** (0.045)	-0.143*** (0.042)	-0.184*** (0.042)
CEO-Chair	0.003 (0.011)	0.003 (0.011)	-0.039 (0.027)	-0.039 (0.027)	0.035 (0.055)	0.035 (0.055)	-0.232** (0.109)	-0.234** (0.109)	0.188* (0.100)	0.190* (0.101)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.018*** (0.004)	0.018*** (0.004)	0.014*** (0.005)	0.014*** (0.005)	0.840*** (0.005)	0.840*** (0.005)	0.159*** (0.005)	0.159*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Loan Growth	0.011*** (0.002)	0.011*** (0.002)	0.055*** (0.018)	0.055*** (0.018)	0.056*** (0.019)	0.056*** (0.019)	-0.192*** (0.023)	-0.192*** (0.023)	0.146*** (0.017)	0.146*** (0.017)
Provision	-0.461*** (0.057)	-0.461*** (0.057)	-2.847*** (0.707)	-2.848*** (0.707)	-1.985*** (0.307)	-1.985*** (0.307)	0.312 (0.366)	0.320 (0.366)	-0.224 (0.315)	-0.233 (0.316)
Constant	-0.008 (0.013)	-0.006 (0.013)	0.108 (0.114)	0.110 (0.109)	0.796*** (0.150)	0.805*** (0.145)	-6.022*** (0.130)	-6.104*** (0.124)	6.027*** (0.120)	6.111*** (0.114)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,539	3,539	3,907	3,907	3,282	3,282	3,906	3,906	3,906	3,906
R-squared	0.125	0.125	0.072	0.072	0.354	0.354	0.931 <sup>a</sup>	0.931 <sup>a</sup>	0.417	0.417

**Note:** Experience Log = (1 + Total founder directors with microfinance experience). Experience Prop = Total founder directors with microfinance experience to total directors on board. All the dependent and control variables are the same as in Table 3.4. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

### 3.5.3.2 *Founder Directors with Family Tie and MFI Performance*

Panel A in Table 3.5 presents the results of the financial performance variables for the founder directors' family tie. Column (1) in Panel A shows that ROA has a significant ( $p < 0.05$ ) and positive ( $= 0.002$ ) relationship with Family Log. Similarly, in Column (2), Family Prop has a significant ( $p < 0.10$ ) and positive ( $= 0.009$ ) relationship with ROA. Though OSS is not significant in the baseline regressions, it is significant and positive in the robustness tests. Overall, the results in Panel A indicate that founder directors who have a family tie with other board members have a positive influence on MFI financial outcomes. Economically, the results in Column (1) show that for one S.D. increase in Family Log, ROA increases by 5.01 percent relative to the mean. For Family Prop, such an increase in ROA is 5.65 percent.

Therefore, the results in Panel A (Table 3.5) support H2a and are consistent with the literature on the influence of family in commercial firms (Barontini & Caprio, 2006; González et al., 2012; Lee, 2006; Patel & Cooper, 2014). Although the literature (Chen et al., 2012; Gomez-Mejia et al., 2001) argues that family involvement is harmful to firms due to the potential opportunistic behaviour and poor monitoring (DeAngelo & DeAngelo, 2000; Randøy & Goel, 2003), the findings of this study suggest that the financial benefits of family association could outweigh the costs.

However, Column (7) in Panel B shows that NAB has a strong, significant ( $p < 0.01$ ) and a negative relationship with Family Log ( $= -0.096$ ). Similar results were also achieved for the relationship between Family Prop and NAB ( $= -0.375$ ;  $p < 0.01$ ) as shown in Column (8). It can be seen from the results that the presence of family members of the founding members on the board do not place more emphasis on social outcomes. Instead, they tend to focus on financial outcomes at the expense of social outcomes. Due to this, the MFIs will reach fewer clients when family members are present on the board. For instance, the result in Column (8) shows a 5.18 percent decrease in NAB relative to the mean (i.e., 444 active borrowers) for one S.D. increase in Family Prop.

Furthermore, Panel B shows that ALB has a significant ( $p < 0.01$ ) and positive relationship with Family Log ( $= 0.093$ ) and Family Prop ( $= 0.360$ ) as shown in Column (9) and (10) respectively. For instance, the results in Column (10) show that for one S.D. increase in Family Prop, ALB increases by 4.975 percent (i.e., BDT 430.19) relative to the mean. These results indicate that founding family members prioritize providing larger loans to wealthier borrowers to minimize the cost per dollar of credit. Hence, the MFI is at risk of losing poorer borrowers as they have limited capability to afford larger loan sizes due to their low earning capacity. This situation deteriorates the MFIs' social mission (H2b) by adversely affecting the outreach target. The possible cause of such a negative impact is the same as stated above.

### 3.5.3.3 Founders' Microfinance Experience and Firm Performance

Column (7) in Panel B (Table 6) shows that Experience Log has a significant ( $p < 0.01$ ) and positive ( $= 0.184$ ) relationship with NAB. Further, Column (8) shows that the relationship between NAB and Experience Prop is strongly significant ( $p < 0.01$ ) as well as positive ( $= 0.875$ ). These results indicate that the experience of founding directors is helpful for the MFI to expand its outreach target. For instance, Column (7) shows that for one S.D. increased in Experience Log, the number of active borrowers increases by 6.59 percent relative to the mean, which equals 2,042 more borrowers. Furthermore, Column (9) shows that the relationship between Experience Log and ALB is strongly significant ( $p < 0.01$ ) as well as negative ( $= -0.188$ ). Furthermore, Column (10) shows that the coefficient between Experience Prop and ALB is negative ( $= -0.894$ ) and strongly significant ( $p < 0.01$ ). Such a negative relationship suggests that when experienced founders are present on the board, they can influence the firm to provide small credit amounts per borrower. For instance, the result in Column (9) shows that for one S.D. increase in Experience Log, the ALB decreases by 6.73 percent (BDT 582.80) relative to the mean. Further, for one S.D. increase in Experience Prop, the ALB decreases by 6.71 percent (i.e., BDT 580.60) relative to the mean. Therefore, H3b is supported.

The results Panel B suggest that the prior experience of founding directors enables the MFI to reach poorer borrowers and expand their outreach to more clients, thereby contributing to the social outcomes of the MFI. It is possible that experienced founders have a better understanding of microfinance operations and their operating environment. They can also easily understand the opportunities and threats faced by the MFI. Hence, they can contribute to the board by sharing firm-specific and industry-specific tacit knowledge and skills. Further, their prior involvement in microfinance establishes links to external stakeholders such as fund providers and clients (Ben-Ner & Van Hoomissen, 1994; Hillman & Dalziel, 2003). It helps the MFI to access low-cost funds to attract more impoverished clients. The MFIs' operating environment, the operating mechanisms, and the firm objectives are also different to commercial corporations. Hence, they require expert people on the board to share firm-specific and microfinance industry-specific ideas and knowledge. Therefore, contrary to the detrimental influence of founding board members and their family ties on the social outreach of MFIs, the findings in Table 3.6 (Panel B) show that the inclusion of experienced founding directors on the board is positive for the financial outcome of MFIs.

However, Panel A in Table 3.6 does not reflect any significant relationship between financial performance and the founding directors' previous microfinance experience. Therefore, H3a is not confirmed. Though the financial performance variables are not significant, their coefficients are positive with the presence of founding directors, which indicates that the presence of founding directors with previous microfinance experience does not offset the

financial performance of MFIs.

### **3.5.4 Endogeneity Tests**

The baseline results suggest that the family ties of founding directors are positively associated with MFI financial performance but negatively associated with social performance. Furthermore, the presence of founding directors with previous microfinance experience has a positive influence on the social performance of MFIs. However, the direction, magnitude, and significance of these variables may be biased if there is endogeneity present in the estimations (Hermalin & Weisbach, 1998; Wooldridge, 2016). In this situation, the main explanatory variables may correlate with the error terms. However, the possibility of a reverse causality should be minimal in this study as the founding directors are present from the inception of the MFI.

Nevertheless, to examine this problem, the study applies a two-stage least square (2SLS) regression using the instrumental variable (IV). The IV 2SLS approach is appropriate if the instruments correlate with the endogenous variables in the first stage, but are uncorrelated with the error terms in the second stage of the regression (Baum, Schaffer, & Stillman, 2007). For this, an appropriate instrument that not only solves the endogeneity problem but also mitigates the omitted variable bias and measurement errors to provide consistent results (Baum, Lewbel, Schaffer, & Talavera, 2012). In this study, a good instrument is an exogenous variable that is meaningfully and economically correlated with founder presence on the board but remains uncorrelated with the error terms.

However, it is difficult to identify such an appropriate instrument as there is no current well-developed theory for the economic determination of corporate governance variables. Barontini and Caprio (2006) use the age of the firm as an instrument of founder directors' family members in examining the determinants of firm performance (ROA and Tobin's Q). Further, Guenther, Oertel, and Walgenbach (2016) suggest that founding members that stay with the firm, either on the board or within management, are associated with the firms' life cycle. It is because founding members invest their effort and their economic assets in the firm (Gimeno et al., 1997; He, 2008; Nelson, 2003). Hence, new firms are heavily dependent on founding members as their primary source of capital (Guenther et al., 2016). However, as the firm ages, its' structure, routines and policies become explicit and imprinted in the firm (Nonaka, 1991). Hence, the importance of founding members within the firm diminishes, and new directors are included. Based on this, in following Barontini and Caprio (2006), this study uses (the log of) Firm Age as the instrument of founder presence on the board, as well as their family ties, and anticipates that the presence of founding directors has a negative relationship with Firm Age. Further, based on the same idea (Anderson & Reeb, 2004; Barontini & Caprio, 2006), it is expected that the family ties of founding directors have a negative association with Firm Age

because the ownership structure of the firm become more complex with the growth of the firm (Heiss & Köke, 2004) and new members join the board, meaning the family control reduces (Anderson & Reeb, 2003).

Furthermore, in studying the association between the experience of founding directors and MFI performance, the study uses the directors' social ties (Social) as the instrument of measurement. It is expected that the more social connections the directors have, the more likely they are to possess firm-specific and industry-specific experience. It is because MFIs are primarily social entities with the aim of alleviating poverty (Morduch, 1999). Hence, the MFIs need board members with prior experience in microfinance or those who have a connection with different stakeholder groups (Ben-Ner & Van Hoomissen, 1994). Based on this idea, it is expected that founding directors with previous microfinance experience have a positive effect on the social relationships (Social) of all directors.

Table 3.7, 3.8, and 3.9 present the 2SLS regression results. In the 2SLS test, the study conducts under-identification and weak identification tests to examine the validity of the instruments. Kleibergen and Paap (2006) under-identification test results (LM statistics) in all the models (in Table 3.7, 3.8, and 3.9) reveal that the instruments in the equations are all valid and relevant ( $p < 0.01$ ). Further, in all of the models, the results of the weak instrument tests show that the corrected Cragg and Donald (1993) Wald F statistics are higher than the Andrews and Stock (2005) critical values at 10 percent of the maximum IV size, indicating that the excluded instrument has a correlation with the endogenous variable in every model. Therefore, instruments are all valid as they are uncorrelated with the error terms and are excluded from the estimated equations accordingly.

Table 3.7 shows the 2SLS regression results of the association between founders and MFI performance. Column (1) and (2) present the results of the first stage of the regression (for both Founder Log and Founder Prop) and Column (3) to (12) report the results of the second stage of the regression. The results in the first stage show that the coefficient between Firm Age and Founder Log as well as Founder Prop is strongly significant ( $p < 0.01$ ) and negative, which is consistent with the literature (Barontini & Caprio, 2006; Guenther et al., 2016). In the second stage, the results in Column (3) to (8) show that the relationship between the firm performance variables and Founder Log (as well as Founder Prop) are robust and the direction remains the same after accounting for endogeneity. For instance, the estimated coefficient and p-values of ROA = 0.02,  $p < 0.01$ , ROE = 0.091,  $p < 0.05$  and OSS = 0.097,  $p < 0.05$  in the second stage of the regression (Column 4, 6, and 8 respectively) with Founder Prop, which suggests that endogeneity does not affect the positive relationship between founder presence on the board and MFI financial performance (H1a).

**Table 3.7 Instrumental Variable (IV) Two-stage Least Square (2SLS) Regressions of Founder Directors and MFI Performance**

VARIABLES	First Stage		Second Stage									
	(1) Founder (Log)	(2) Founder (Prop)	(3) ROA	(4) ROA	(5) ROE	(6) ROE	(7) OSS	(8) OSS	(9) NAB	(10) NAB	(11) ALB	(12) ALB
Firm Age	-0.720*** (0.013)	-0.409*** (0.008)										
Founder (Log)			0.011*** (0.003)		0.051** (0.024)		0.054** (0.022)		-0.178*** (0.027)		0.172*** (0.027)	
Founder (Prop)				0.020*** (0.005)		0.091** (0.042)		0.097** (0.039)		-0.314*** (0.047)		0.303*** (0.048)
Board Size	0.427*** (0.036)	-0.171*** (0.018)	-0.002 (0.005)	0.006 (0.005)	-0.113*** (0.040)	-0.075* (0.041)	-0.009 (0.045)	0.031 (0.046)	0.244*** (0.046)	0.115** (0.047)	-0.230*** (0.043)	-0.105** (0.044)
CEO-Chair	-0.096 (0.062)	-0.012 (0.041)	0.001 (0.011)	-0.000 (0.011)	-0.051* (0.027)	-0.055** (0.028)	0.023 (0.056)	0.019 (0.056)	-0.208* (0.116)	-0.194 (0.120)	0.166 (0.108)	0.153 (0.112)
Firm Size	0.018*** (0.003)	0.014*** (0.002)	0.002*** (0.000)	0.002*** (0.000)	0.018*** (0.003)	0.018*** (0.003)	0.015*** (0.004)	0.015*** (0.004)	0.855*** (0.004)	0.856*** (0.004)	0.143*** (0.004)	0.142*** (0.004)
Debt-Equity	0.000 (0.000)	0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	-0.055*** (0.013)	-0.034*** (0.007)	0.011*** (0.002)	0.011*** (0.002)	0.054*** (0.018)	0.054*** (0.018)	0.055*** (0.019)	0.055*** (0.019)	-0.197*** (0.023)	-0.198*** (0.023)	0.152*** (0.018)	0.153*** (0.018)
Provision	-0.276 (0.232)	-0.116 (0.128)	-0.458*** (0.057)	-0.459*** (0.057)	-2.824*** (0.706)	-2.828*** (0.706)	-1.976*** (0.306)	-1.980*** (0.306)	0.240 (0.363)	0.252 (0.365)	-0.155 (0.314)	-0.168 (0.315)
Constant	2.024*** (0.090)	1.580*** (0.046)	-0.038*** (0.012)	-0.046*** (0.013)	0.047 (0.104)	0.008 (0.112)	0.121 (0.110)	0.079 (0.117)	-7.019*** (0.122)	-6.885*** (0.132)	7.053*** (0.118)	6.924*** (0.130)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,907	3,907	3,539	3,539	3,907	3,907	3,282	3,282	3,906	3,906	3,906	3,906
R-squared	0.458	0.472	0.120	0.118	0.073	0.072	0.353	0.353	0.931	0.930	0.412	0.408
K-P LM Under id			846.662	718.977	946.115	807.215	784.598	670.425	945.453	806.748	945.453	806.748

Chi2 p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F	2778.962	2474.102	3187.827	2807.087	2561.637	2241.132	3184.297	2804.795	3184.297	2804.795	
Stock-Yogo (2005) 10% Max IV	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	

**Note:** Column (1) and (2) present the coefficient of the first stage regressions. Column (3) to Column (8) show the results of the second stage regressions of the association between the financial performance variables and the instrumented variables of interests. Instrumented (endogenous) variable: Founder (Log) and Founder (Prop). The instrument: Firm Age (Log). K-P LM statistics stands for Kleibergen-Paap's LM statistics of Underidentification test. Robust standard errors are in parentheses. As the study used only one instrument in every regression, the unreported Saragon/Hansen's J statistics show that all the equations are exactly identified. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. Robust standard errors are in parentheses.

**Table 3.8 IV 2SLS Regressions of Founder Directors' Family Tie and MFI Double Bottom Line Performance**

VARIABLES	First Stage		Second Stage									
	(1) Family (Log)	(2) Family (Prop)	(3) ROA	(4) ROA	(5) ROE	(6) ROE	(7) OSS	(8) OSS	(9) NAB	(10) NAB	(11) ALB	(12) ALB
Firm Age	-0.440*** (0.022)	-0.110*** (0.006)										
Family (Log)			0.019*** (0.004)		0.084** (0.039)		0.094** (0.038)		-0.292*** (0.043)		0.282*** (0.043)	
Family (Prop)				0.076*** (0.017)		0.338** (0.155)		0.376** (0.153)		-1.171*** (0.174)		1.130*** (0.174)
Board Size	0.309*** (0.058)	-0.026** (0.012)	-0.003 (0.005)	0.005 (0.005)	-0.117*** (0.040)	-0.082** (0.040)	-0.018 (0.045)	0.021 (0.045)	0.259*** (0.046)	0.139*** (0.046)	-0.244*** (0.044)	-0.128*** (0.043)
CEO-Chair	0.153* (0.088)	0.030 (0.022)	-0.003 (0.011)	-0.003 (0.011)	-0.069** (0.029)	-0.066** (0.028)	0.002 (0.058)	0.005 (0.058)	-0.146 (0.110)	-0.156 (0.112)	0.107 (0.101)	0.116 (0.103)
Firm Size	-0.047*** (0.005)	-0.011*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.023*** (0.005)	0.023*** (0.005)	0.021*** (0.005)	0.020*** (0.005)	0.838*** (0.006)	0.838*** (0.006)	0.159*** (0.006)	0.159*** (0.006)
Debt-Equity	0.000 (0.000)	0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	-0.047** (0.022)	-0.013** (0.005)	0.011*** (0.002)	0.011*** (0.002)	0.055*** (0.018)	0.056*** (0.018)	0.056*** (0.019)	0.057*** (0.019)	-0.201*** (0.023)	-0.202*** (0.023)	0.155*** (0.018)	0.156*** (0.018)

Provision	0.325 (0.358)	0.065 (0.089)	-0.468*** (0.057)	-0.466*** (0.057)	-2.866*** (0.710)	-2.861*** (0.709)	-2.040*** (0.306)	-2.029*** (0.306)	0.383 (0.367)	0.365 (0.366)	-0.294 (0.321)	-0.276 (0.320)
Constant	1.850*** (0.138)	0.662*** (0.032)	-0.046*** (0.013)	-0.061*** (0.015)	0.005 (0.113)	-0.063 (0.131)	0.086 (0.116)	0.009 (0.133)	-6.874*** (0.130)	-6.640*** (0.152)	6.914*** (0.127)	6.688*** (0.151)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,907	3,907	3,539	3,539	3,907	3,907	3,282	3,282	3,906	3,906	3,906	3,906
R-squared	0.168	0.168	0.080	0.078	0.064	0.065	0.344	0.344	0.927	0.926	0.376	0.374
K-P LM Under id			321.959	306.042	368.794	353.7	276.553	262.238	368.142	353.156	368.142	353.156
Chi2 p-value			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F			333.818	315.25	387.624	369.261	288.667	272.655	386.862	368.629	386.862	368.629
Stock-Yogo (2005) 10% Max IV			16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38

**Note:** Column (1) and (2) present the coefficient of the first stage regressions. Column (3) to Column (8) show the results of the second stage regressions of the association between the financial performance variables and the instrumented variables of interests. Instrumented (endogenous) variable: Family (Log) and Family (Prop). The instrument: Firm Age (Log). The unreported Saragon/Hansen's J statistics show that all the equations are exactly identified as we used one instrument only. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. Robust standard errors are in parentheses.

**Table 3.9 IV 2SLS Regressions of Founder Directors' Microfinance Experience and MFI Double Bottom Line Performance**

VARIABLES	First Stage		Second Stage									
	(1) Experience (Log)	(2) Experience (Prop)	(3) ROA	(4) ROA	(5) ROE	(6) ROE	(7) OSS	(8) OSS	(9) NAB	(10) NAB	(11) ALB	(12) ALB
Social	0.129*** (0.014)	0.030*** (0.003)										
Experience (Log)			0.009 (0.011)		0.050 (0.103)		-0.055 (0.106)		0.675*** (0.114)		- 0.636*** (0.107)	
Experience (Prop)				0.037 (0.048)		0.214 (0.443)		-0.237 (0.459)		2.904*** (0.479)		- 2.737*** (0.451)

Board Size	0.187***	-0.007	-0.001	0.001	-0.110**	-0.099**	0.019	0.007	0.047	0.194***	-0.043	-
	(0.037)	(0.007)	(0.005)	(0.005)	(0.047)	(0.039)	(0.052)	(0.044)	(0.053)	(0.047)	(0.050)	(0.044)
CEO-Chair	-0.113***	-0.021***	0.005	0.005	-0.029	-0.031	0.028	0.030	-0.161	-0.178*	0.123	0.139
	(0.022)	(0.004)	(0.008)	(0.008)	(0.031)	(0.030)	(0.057)	(0.056)	(0.102)	(0.105)	(0.094)	(0.097)
Firm Size	0.113***	0.023***	0.001	0.001	0.009	0.010	0.020	0.019	0.774***	0.783***	0.219***	0.211***
	(0.004)	(0.001)	(0.002)	(0.001)	(0.015)	(0.013)	(0.015)	(0.014)	(0.016)	(0.015)	(0.016)	(0.014)
Debt-Equity	-0.000	-0.000	-	-	-	-	-	-	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	0.000***	0.000***	0.004***	0.004***	0.001***	0.001***	(0.000)	(0.000)	(0.000)	(0.000)
Loan Growth	-0.059***	-0.013***	0.012***	0.012***	0.059***	0.059***	0.053***	0.053***	-	-	0.120***	0.122***
	(0.009)	(0.002)	(0.002)	(0.002)	(0.018)	(0.018)	(0.020)	(0.020)	0.163***	0.165***	(0.019)	(0.018)
Provision	0.011	-0.009	-	-	-	-	-	-	0.282	0.314	-0.197	-0.227
	(0.180)	(0.036)	0.462***	0.461***	2.852***	2.850***	1.983***	1.984***	(0.372)	(0.370)	(0.321)	(0.319)
Constant	-2.168***	-0.352***	0.005	-0.001	0.267	0.234	0.064	0.100	-	-	5.687***	6.103***
	(0.099)	(0.020)	(0.032)	(0.025)	(0.296)	(0.233)	(0.309)	(0.245)	5.561***	6.003***	(0.302)	(0.236)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,906	3,906	3,538	3,538	3,906	3,906	3,281	3,281	3,905	3,905	3,905	3,905
R-squared	0.442	0.433	0.119	0.120	0.070	0.070	0.354	0.354	0.923	0.925	0.356	0.371
K-P LM Under id			150.984	181.492	117.762	136.631	102.214	118.194	117.679	136.565	117.679	136.565
Chi2 p-value			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F			157.046	190.495	80.749	91.502	70.369	79.384	80.7	91.464	80.7	91.464
Stock-Yogo (2005) 10% Max IV			16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38

**Note:** Column (1) and (2) present the coefficient of the first stage regressions. Column (3) to Column (8) show the results of the second stage regressions of the association between the financial performance variables and the instrumented variables of interests. Instrumented (endogenous) variable: Experience (Log) and Experience (Prop). Instrument: Social (Directors' social ties). Robust standard errors are in parentheses. As we used only one instrument in every regression, the unreported Saragon/Hansen's J statistics show that all the equations are exactly identified. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. Robust standard errors are in parentheses.

Even after accounting for endogeneity, the results are strongly significant when compared to the baseline results. The result remains the same for the Founder Log (in Column 3, 5, and 7). Likewise, Column (9) shows that the association between NAB and Founder Prop is negative and strongly significant ( $= -0.314, p < 0.01$ ). A similar result is reported for the association between NAB and Founder Log ( $= -0.178, p < 0.01$ ) as shown in Column (10). These results ensure the robustness of the baseline findings of the negative impact of founder presence on board on the breadth of outreach, in support of H1b. In addition, the results in Column (11) and (12) support the baseline results of the positive association of ALB with both Founder Log ( $= 0.172, p < 0.01$ ) and Founder Prop ( $= 0.303, p < 0.01$ ), suggesting that the presence of founding directors has an adverse effect on the depth of outreach (H1b).

Similar to Table 3.7, the results of the first stage regression test as shown in Column (1) and (2) of Table 3.8 also report a significant and negative association between founders' family ties (both Family Prop and Family Log) and Firm Age. The results of the second stage of the regression (Column 3 to 8) show that endogeneity does not eliminate the significance of the positive association between financial performance and the family ties of founding directors (both for Family Log and Family Prop), thereby supporting H2a. Moreover, Column (9) and (10) reveal a significant, negative association between Family Prop and NAB ( $= -0.171, p < 0.01$ ) and between Family Log and NAB ( $= -0.292, p < 0.01$ ) respectively. Similarly, ALB has a positive relationship with Family Prop ( $= 1.130, p < 0.01$ ) and Family Log ( $= 0.282, p < 0.01$ ) as shown in Column (11) and (12) respectively. These results suggest that the negative influence of founder directors' family ties on both the breadth and depth of outreach cannot be eliminated even after accounting for endogeneity.

Concerning the previous experience of founding directors, the result of the first stage of the regression as shown in Table 3.9, Column (1) and (2), show that Social is significantly ( $p < 0.01$ ) and positively associated with both Experience Prop and Experience Log. The second stage results (Column 9 and 10) also report a significant and positive association between Experience Log and NAB ( $= 0.675, p < 0.01$ ) and between Experience Prop and NAB ( $= 2.904, p < 0.01$ ). Besides, Column (12) shows that the coefficient between Experience Prop and ALB is strongly significant as well as negative ( $= -2.737, p < 0.01$ ). The coefficient between Experience Log and ALB shows similar results ( $= -0.636, p < 0.01$ ) as reflected in Column (11). These results support the baseline findings of H3b.

### **3.5.5 Robustness Tests**

Another important concern when studying the impact of founder presence on the board on MFI double bottom line performance is the robustness of the results. In order to examine the sensitivity of the results, the study uses one year lead of the dependent variables in advance (lead-lag model) within the regressions. Second, the study applies the lag independent model,

using one year of lag on the independent variables. Finally, the study uses the alternative proxies of financial and social performance. Moreover, in all three techniques, the study uses both the log and ratio measures of the main explanatory variables. In all the measurements, the study finds similar evidence of the direction and significance of the explanatory variables on MFI financial and social performance as the baseline models. Similar to the baseline regressions, the VIF tests in all the models show that none of the models have multicollinearity problem. The results of the robustness tests are summarized below.

#### *3.5.5.1 Results with Lead Dependent Variables (Lead-lag Model)*

For the robustness tests, the study uses a one year lead of the dependent variables. This model stems from the assumption that board decisions at one end of the financial year may not be reflected in the financial statements of the same year. Table 3.10, Table 2.11, and Table 3.12 show the results of the lead-lag model of the influence of founding directors, their family ties and previous microfinance experience on MFI performance. Panel A of Table 3.10 shows that  $ROA_{t+1}$  has a significant and positive association with Founder Log (= 0.005;  $p < 0.05$ ) and Founder Prop (= 0.002;  $p < 0.05$ ) as shown in Column (1) and (2) respectively. Likewise, as shown in Column (3), the coefficient between  $ROE_{t+1}$  and Founder Log is significant ( $p < 0.05$ ) and positive (=0.037). Further, the association between Founder Prop and  $ROE_{t+1}$  is significant and positive (= 0.065;  $p < 0.05$ ) as reflected in Column (4). Although OSS is not significant in the baseline model, Column (5) and (6) show that  $OSS_{t+1}$  has a significant and positive relationship with Founder Log (=0.028;  $p < 0.10$ ) and Founder Prop (= 0.058;  $p < 0.05$ ) respectively. Overall, the results in all of the models suggest that there is a significant and positive association between founder presence on the board and MFI economic sustainability, thereby supporting H1a. Economically, Column (1) shows that for one S.D. increase in Founder Log,  $ROA_{t+1}$  increases by 10 percent relative to the mean. Similarly, Column (3) shows an 11.11 percent increase in  $ROE_{t+1}$  relative to the mean for one S.D. increase in Founder Log. Nevertheless, Column (7) in Panel B of Table 3.10 shows that the coefficient between Founder Log and  $NAB_{t+1}$  is strongly significant ( $p < 0.01$ ) as well as negative (= -0.086). A similar result is achieved for the relationship between Founder Prop and  $NAB_{t+1}$  (= -0.133;  $p < 0.01$ ) as shown in Column (8). These results further support H1b. For instance, Column (8) indicates that for one S.D. increase in Founder Prop, the number of active borrowers in the following financial year ( $NAB_{t+1}$ ) decreases by 3.06 percent relative to the mean, which accounts for 998 borrowers. Furthermore, Panel B in Table 3.4, shows that  $ALB_{t+1}$  is significantly ( $p < 0.01$ ) and positively associated with both Founder Log (= 0.113) and Founder Prop (=0.172). For instance, for one S.D. increase in Founder Prop,  $ALB_{t+1}$  increases by 3.96 percent relative to the mean, which accounts for an increase in the average loan amount by BDT 361.90. These results also support H1b.

Panel A in Table 3.11 presents the lead-lag results of the financial performance variables for founder directors' family tie. In Column (1),  $ROA_{t+1}$  has a strong, significant ( $p < 0.01$ ) and positive ( $= 0.003$ ) relationship with Family Log. In Column (2),  $ROA_{t+1}$  also has a significant ( $p < 0.05$ ) and positive ( $= 0.013$ ) relationship with Family Prop. The results in Column (1) indicate that for one S.D. increase in Family Log,  $ROA_{t+1}$  increases by 7.96 percent relative to the mean. For Family Prop, such an increase in  $ROA_{t+1}$  equals an 8.77 percent increase relative to the mean. Further, as shown in Column (5) and (6), Family Log and Family Prop also have a positive ( $= 0.021$  and  $= 0.084$  respectively) relationship with  $OSS_{t+1}$  although the evidence of the relationship is weak ( $p < 0.10$ ). However, Column (7) of Panel B in Table 3.11 shows that  $NAB_{t+1}$  has a strong, significant ( $p < 0.01$ ) and negative relationship with Family Log ( $= -0.081$ ). Column (8) also shows a similar result for Family Prop ( $= -0.316$ ;  $p < 0.01$ ). Besides, Column (9) and (10) of Panel B in Table 3.11 shows that  $ALB_{t+1}$  has a strong, significant and positive relationship ( $p < 0.01$ ) with both Family Log ( $= 0.094$ ) and Family Prop ( $= 0.361$ ). These results suggest that the findings are robust to support the positive influence of founders' family tie on MFI financial performance (H2a); however it has a negative influence on social performance (H2b).

Column (7) in Panel B of Table 3.12 shows that Experience Log has a strong, significant ( $p < 0.01$ ) and positive ( $= 0.081$ ) relationship with the  $NAB_{t+1}$ . Column (8) shows that the Experience Prop also has a strong, significant ( $p < 0.01$ ) and positive ( $= 0.316$ ) relationship with  $NAB_{t+1}$ . The result in Column (7) shows that for one S.D. increase in Experience Log, the number of active borrowers in the following reporting year increases by 4.46 percent relative to the mean, which equals 1,457 more borrowers. Further, Column (9) shows that the relationship between Founder Log and  $ALB_{t+1}$  is strong, significant ( $p < 0.01$ ) and negative ( $= -0.094$ ). Column (10) also shows that the coefficient between Founder Prop and  $ALB_{t+1}$  is also negative and strongly significant ( $= -0.361$ ;  $p < 0.01$ ). Economically, the results in Column (9) show that for one S.D. increase in Experience Log,  $ALB_{t+1}$  decreases by 5.18 percent relative to the mean, which is equal to a reduction of BDT 473.81 in the average loan per borrower. Therefore, these results support H3b.

**Table 3.10 Robustness Test with Lead-lag Model: Founder Directors and MFI Double Bottom line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA <sub>t+1</sub>	ROA <sub>t+1</sub>	ROE <sub>t+1</sub>	ROE <sub>t+1</sub>	OSS <sub>t+1</sub>	OSS <sub>t+1</sub>	NAB <sub>t+1</sub>	NAB <sub>t+1</sub>	ALB <sub>t+1</sub>	ALB <sub>t+1</sub>
Founder Log	0.005** (0.002)		0.037** (0.015)		0.028* (0.016)		-0.086*** (0.021)		0.113*** (0.019)	
Founder Prop		0.007** (0.003)		0.065** (0.027)		0.058** (0.028)		-0.133*** (0.037)		0.172*** (0.034)
Board Size	0.003 (0.005)	0.006 (0.005)	-0.024 (0.041)	0.002 (0.043)	0.025 (0.046)	0.047 (0.046)	0.239*** (0.054)	0.182*** (0.055)	-0.196*** (0.049)	-0.121** (0.049)
CEO-Chair	-0.002 (0.012)	-0.002 (0.012)	-0.009 (0.029)	-0.012 (0.029)	-0.012 (0.060)	-0.015 (0.060)	-0.223* (0.132)	-0.220 (0.134)	0.173 (0.133)	0.170 (0.134)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.870*** (0.005)	0.871*** (0.005)	0.138*** (0.004)	0.137*** (0.004)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.010*** (0.002)	0.010*** (0.002)	0.087*** (0.019)	0.087*** (0.019)	0.042** (0.018)	0.042** (0.018)	-0.147*** (0.031)	-0.148*** (0.031)	0.110*** (0.018)	0.111*** (0.018)
Provision Expense	-0.064 (0.047)	-0.065 (0.047)	0.563 (0.588)	0.560 (0.588)	-0.169 (0.304)	-0.169 (0.304)	-0.370 (0.340)	-0.358 (0.341)	0.232 (0.340)	0.216 (0.340)
Constant	-0.036*** (0.013)	-0.038*** (0.013)	-0.306** (0.121)	-0.332*** (0.124)	0.612*** (0.117)	0.579*** (0.120)	-6.580*** (0.144)	-6.543*** (0.150)	6.402*** (0.125)	6.357*** (0.130)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,956	2,956	3,199	3,199	2,966	2,966	3,280	3,280	3,266	3,266
R-squared	0.075	0.074	0.077	0.077	0.362	0.362	0.918	0.918	0.352	0.350

**Note:** One year lead of the financial performance variables are used as the dependent variables (Lead-lag Column) in Panel A. Similarly, one year lead of the social performance variables are taken as the dependent variables in Panel B. Financial performance variables (ROA<sub>t+1</sub>, ROE<sub>t+1</sub> and OSS<sub>t+1</sub>) are in decimal. The social performance variables (NAB<sub>t+1</sub> and ALB<sub>t+1</sub> in Panel B) are in logarithmic. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

**Table 3.11 Robustness Test with Lead-lag Model: Founder Directors with a Family Tie and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance					Panel B: Social Performance				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA <sub>t+1</sub>	ROA <sub>t+1</sub>	ROE <sub>t+1</sub>	ROE <sub>t+1</sub>	OSS <sub>t+1</sub>	OSS <sub>t+1</sub>	NAB <sub>t+1</sub>	NAB <sub>t+1</sub>	ALB <sub>t+1</sub>	ALB <sub>t+1</sub>
Family Log	0.003*** (0.001)		0.020 (0.013)		0.021* (0.012)		-0.081*** (0.015)		0.094*** (0.013)	
Family Prop		0.013** (0.005)		0.076 (0.052)		0.084* (0.049)		-0.316*** (0.061)		0.361*** (0.053)
Board Size	0.003 (0.005)	0.005 (0.005)	-0.018 (0.041)	-0.010 (0.042)	0.028 (0.046)	0.036 (0.046)	0.233*** (0.053)	0.200*** (0.054)	-0.184*** (0.048)	-0.147*** (0.048)
CEO-Chair	-0.002 (0.012)	-0.002 (0.012)	-0.005 (0.030)	-0.005 (0.029)	-0.012 (0.060)	-0.011 (0.060)	-0.217* (0.129)	-0.220* (0.129)	0.169 (0.128)	0.174 (0.129)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.867*** (0.005)	0.867*** (0.005)	0.141*** (0.004)	0.141*** (0.004)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.010*** (0.002)	0.010*** (0.002)	0.088*** (0.019)	0.088*** (0.019)	0.043** (0.018)	0.043** (0.018)	-0.150*** (0.031)	-0.150*** (0.031)	0.114*** (0.018)	0.114*** (0.018)
Provision Expense	-0.066 (0.047)	-0.066 (0.047)	0.542 (0.589)	0.543 (0.589)	-0.183 (0.304)	-0.183 (0.304)	-0.326 (0.340)	-0.330 (0.340)	0.173 (0.341)	0.177 (0.341)
Constant	-0.034*** (0.013)	-0.036*** (0.013)	-0.274** (0.118)	-0.288** (0.119)	0.626*** (0.116)	0.609*** (0.118)	-6.587*** (0.140)	-6.529*** (0.144)	6.435*** (0.120)	6.370*** (0.123)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,956	2,956	3,199	3,199	2,966	2,966	3,280	3,280	3,266	3,266
R-squared	0.075	0.075	0.077	0.077	0.362	0.362	0.918	0.918	0.354	0.353

**Note:** Dependent variables are the same as Table 3.10. All explanatory and control variables are the same as Table 3.8. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

**Table 3.12 Robustness Test with Lead-lag Model: Founder Directors with Microfinance Experience and MFI performance**

VARIABLES	Panel A: Financial Performance					Panel B: Social Performance				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA <sub>t+1</sub>	ROA <sub>t+1</sub>	ROE <sub>t+1</sub>	ROE <sub>t+1</sub>	OSS <sub>t+1</sub>	OSS <sub>t+1</sub>	NAB <sub>t+1</sub>	NAB <sub>t+1</sub>	ALB <sub>t+1</sub>	ALB <sub>t+1</sub>
Experience Log	0.002 (0.002)		0.019 (0.022)		0.007 (0.022)		0.173*** (0.028)		-0.154*** (0.024)	
Experience Prop		0.009 (0.011)		0.084 (0.103)		0.049 (0.103)		0.814*** (0.125)		-0.726*** (0.108)
Board Size	0.004 (0.005)	0.004 (0.005)	-0.019 (0.042)	-0.015 (0.041)	0.031 (0.046)	0.032 (0.046)	0.175*** (0.054)	0.214*** (0.053)	-0.130*** (0.049)	-0.164*** (0.048)
CEO-Chair	-0.000 (0.012)	-0.000 (0.012)	0.005 (0.030)	0.005 (0.030)	-0.003 (0.060)	-0.002 (0.060)	-0.223* (0.126)	-0.225* (0.127)	0.182 (0.127)	0.184 (0.127)
Firm Size	0.002*** (0.001)	0.002*** (0.001)	0.016*** (0.005)	0.016*** (0.005)	0.013** (0.005)	0.013** (0.005)	0.851*** (0.007)	0.852*** (0.006)	0.153*** (0.006)	0.153*** (0.006)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.010*** (0.002)	0.010*** (0.002)	0.089*** (0.019)	0.089*** (0.019)	0.043** (0.018)	0.044** (0.018)	-0.141*** (0.030)	-0.140*** (0.030)	0.106*** (0.018)	0.106*** (0.018)
Provision Expense	-0.067 (0.047)	-0.066 (0.047)	0.535 (0.588)	0.536 (0.588)	-0.183 (0.303)	-0.183 (0.303)	-0.333 (0.344)	-0.323 (0.344)	0.176 (0.347)	0.167 (0.347)
Constant	-0.023 (0.015)	-0.024* (0.014)	-0.189 (0.127)	-0.200 (0.122)	0.680*** (0.135)	0.684*** (0.128)	-6.274*** (0.160)	-6.358*** (0.153)	6.199*** (0.136)	6.271*** (0.130)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,956	2,956	3,199	3,199	2,966	2,966	3,280	3,280	3,266	3,266
R-squared	0.073	0.073	0.076	0.076	0.361	0.361	0.918	0.918	0.351	0.351

**Note:** Dependent variables and all the control variables are the same as Table 3.10. Explanatory variables are same as in Table 3.9. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

**Table 3.13 Lag Independent Model: Founder Directors and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance					Panel B: Social Performance				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
Founder Log <sub>t-1</sub>	0.004** (0.002)		0.037** (0.016)		0.028* (0.016)		-0.086*** (0.021)		0.113*** (0.019)	
Founder Prop <sub>t-1</sub>		0.007** (0.003)		0.065** (0.027)		0.059** (0.028)		-0.134*** (0.037)		0.172*** (0.034)
Board Size <sub>t-1</sub>	0.003 (0.005)	0.006 (0.005)	-0.023 (0.041)	0.004 (0.043)	0.025 (0.046)	0.048 (0.046)	0.238*** (0.054)	0.181*** (0.055)	-0.195*** (0.049)	-0.121** (0.049)
CEO Power <sub>t-1</sub>	-0.002 (0.012)	-0.002 (0.012)	-0.009 (0.029)	-0.012 (0.029)	-0.011 (0.060)	-0.015 (0.060)	-0.223* (0.132)	-0.220* (0.134)	0.173 (0.133)	0.171 (0.134)
Firm Size <sub>t-1</sub>	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.870*** (0.005)	0.871*** (0.005)	0.138*** (0.005)	0.137*** (0.005)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.086*** (0.019)	0.087*** (0.019)	0.042** (0.018)	0.042** (0.018)	-0.148*** (0.031)	-0.149*** (0.031)	0.110*** (0.018)	0.111*** (0.018)
Provision <sub>t-1</sub>	-0.065 (0.047)	-0.065 (0.047)	0.561 (0.588)	0.558 (0.588)	-0.174 (0.304)	-0.174 (0.304)	-0.375 (0.340)	-0.362 (0.341)	0.231 (0.340)	0.214 (0.340)
Constant	-0.037*** (0.013)	-0.039*** (0.014)	-0.310** (0.121)	-0.337*** (0.124)	0.609*** (0.118)	0.575*** (0.121)	-6.575*** (0.145)	-6.537*** (0.150)	6.402*** (0.126)	6.356*** (0.131)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,950	2,950	3,196	3,196	2,960	2,960	3,276	3,276	3,263	3,263
R-squared	0.075	0.075	0.077	0.077	0.362	0.363	0.917	0.917	0.352	0.350

**Note:** Financial performance (ROA, ROE, and OSS) and social performance variables (NAB and ALB in Panel B) are for the same reporting year. Independent variable are one year lag. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

**Table 3.14 Lag Independent Model. Founder Directors' Family Tie and MFI Double Bottom Line Performance**

	Panel A: Financial Performance					Panel B: Social Performance				
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
Family Log <sub>t-1</sub>	0.003*** (0.001)		0.020 (0.013)		0.021* (0.012)		-0.082*** (0.015)		0.094*** (0.013)	
Family Prop <sub>t-1</sub>		0.013** (0.005)		0.076 (0.052)		0.087* (0.049)		-0.318*** (0.061)		0.361*** (0.053)
Board Size <sub>t-1</sub>	0.004 (0.005)	0.005 (0.005)	-0.017 (0.041)	-0.009 (0.042)	0.028 (0.046)	0.037 (0.046)	0.231*** (0.053)	0.198*** (0.054)	-0.184*** (0.048)	-0.145*** (0.048)
CEO Power <sub>t-1</sub>	-0.002 (0.012)	-0.002 (0.012)	-0.005 (0.030)	-0.005 (0.029)	-0.011 (0.060)	-0.011 (0.060)	-0.217* (0.129)	-0.220* (0.129)	0.169 (0.128)	0.174 (0.129)
Firm Size <sub>t-1</sub>	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.867*** (0.005)	0.867*** (0.005)	0.141*** (0.004)	0.141*** (0.004)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.088*** (0.019)	0.088*** (0.019)	0.043** (0.018)	0.043** (0.018)	-0.151*** (0.031)	-0.151*** (0.031)	0.114*** (0.018)	0.114*** (0.018)
Provision <sub>t-1</sub>	-0.067 (0.047)	-0.067 (0.047)	0.540 (0.589)	0.541 (0.589)	-0.189 (0.304)	-0.188 (0.304)	-0.330 (0.340)	-0.334 (0.340)	0.171 (0.341)	0.175 (0.342)
Constant	-0.035*** (0.013)	-0.037*** (0.013)	-0.280** (0.118)	-0.294** (0.120)	0.622*** (0.117)	0.603*** (0.119)	-6.581*** (0.141)	-6.522*** (0.145)	6.433*** (0.121)	6.368*** (0.124)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,950	2,950	3,196	3,196	2,960	2,960	3,276	3,276	3,263	3,263
R-squared	0.075	0.075	0.077	0.077	0.362	0.362	0.918	0.918	0.354	0.353

**Note:** Financial performance (ROA, ROE, and OSS) and social performance variables (NAB and ALB in Panel B) are for the same reporting year. Independent variable are one year lag. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

**Table 3.15 Lag Independent Model. Founder Directors' Microfinance Experience and MFI performance**

VARIABLES	Panel A: Financial Performance					Panel B: Social Performance				
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Experience Log <sub>t-1</sub>	0.002 (0.002)		0.019 (0.022)		0.007 (0.022)		0.174*** (0.028)		-0.154*** (0.024)	
Experience Prop <sub>t-1</sub>		0.008 (0.011)		0.082 (0.103)		0.050 (0.103)		0.816*** (0.125)		-0.727*** (0.109)
Board Size <sub>t-1</sub>	0.004 (0.005)	0.004 (0.005)	-0.017 (0.042)	-0.013 (0.042)	0.031 (0.046)	0.033 (0.046)	0.173*** (0.054)	0.212*** (0.054)	-0.129*** (0.049)	-0.163*** (0.048)
CEO Power <sub>t-1</sub>	-0.000 (0.012)	-0.000 (0.012)	0.005 (0.030)	0.005 (0.030)	-0.002 (0.060)	-0.002 (0.060)	-0.223* (0.126)	-0.226* (0.127)	0.182 (0.127)	0.184 (0.127)
Firm Size <sub>t-1</sub>	0.002*** (0.001)	0.002*** (0.001)	0.016*** (0.005)	0.016*** (0.005)	0.013** (0.005)	0.013** (0.005)	0.851*** (0.007)	0.851*** (0.006)	0.153*** (0.006)	0.153*** (0.006)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.089*** (0.019)	0.089*** (0.019)	0.044** (0.018)	0.044** (0.018)	-0.142*** (0.030)	-0.141*** (0.030)	0.106*** (0.018)	0.106*** (0.018)
Provision <sub>t-1</sub>	-0.067 (0.047)	-0.067 (0.047)	0.533 (0.588)	0.534 (0.588)	-0.189 (0.303)	-0.189 (0.303)	-0.337 (0.344)	-0.326 (0.344)	0.174 (0.347)	0.165 (0.347)
Constant	-0.024 (0.015)	-0.025* (0.014)	-0.195 (0.128)	-0.206* (0.122)	0.677*** (0.136)	0.681*** (0.129)	-6.266*** (0.161)	-6.350*** (0.154)	6.196*** (0.136)	6.267*** (0.130)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,950	2,950	3,196	3,196	2,960	2,960	3,276	3,276	3,263	3,263
R-squared	0.073	0.073	0.076	0.076	0.362	0.362	0.918	0.918	0.351	0.351

**Note:** Financial performance (ROA, ROE, and OSS) and social performance variables (NAB and ALB in Panel B) are for the same reporting year. Independent variable are one year lag. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

### 3.5.5.2 *The Lag of the Independent Variables*

Following the literature (Ahmed & Ali, 2017; Xu et al., 2015), this study uses a one year lag for all of the explanatory variables (including controls) for the same regressions. The model uses the same expectation of the translation of the founder directors' action in the prior year on the MFI performance in the current year. The results are reported in Table 3.13 to Table 3.15 respectively. For both measures of the explanatory variables (log and proportion) for founder presence, Panel A of Table 3.13 shows that the magnitude and the direction of the association of founder directors with the dependent variables remain almost the same. For instance, Panel A of Table 3.13 shows that Founder Log<sub>t-1</sub> has a significant and positive relationship with ROA (= 0.004, p<0.05), ROE (= 0.037, p<0.05), and OSS (= 0.028, p>0.10) as shown in in Column (1), (3), and (5) respectively. Similarly, Founder Prop<sub>t-1</sub> has a significant and positive relationship with ROA (= 0.007, p<0.05), ROE (= 0.065, p<0.05), and OSS (= 0.059, p>0.05) as shown in Column (2), (4), and (6) respectively. Equally, Founder Log<sub>t-1</sub> (= -0.086, p<0.01) and Founder Prop<sub>t-1</sub> (= -0.134, p<0.01) have a strong, significant and negative relationship with NAB as shown in Column (7) and (8). Further, Founder Log<sub>t-1</sub> (= 0.113, p<0.01) and Founder Prop<sub>t-1</sub> (=0.172, p<0.01) have a strong, significant and positive relationship with ALB as shown in Column (9) and (10) respectively. These results support H1a and H1b.

Likewise, Panel A of Table 3.14 shows that Family Prop<sub>t-1</sub> (= 0.013, p<0.05) and Family Log<sub>t-1</sub> (= 0.003, p<0.01) have a significant and positive relationship with ROA as shown in Column (1) and (2) respectively. A similar result is achieved for OSS in Column (5) and (6). Furthermore, Panel B shows that similar to the baseline findings, both Family Log<sub>t-1</sub> and Family Prop<sub>t-1</sub> have a strong, significant (p<0.01) and negative relationship with NAB (= -0.082 and = -0.318 respectively) as shown in Column (7) and (8) respectively. Furthermore, ALB has a strong, significant (p<0.01) and negative relationship with both Family Log<sub>t-1</sub> (= 0.094) and Family Prop<sub>t-1</sub> (= 0.361) as shown in Column (9) and (10) respectively. These results support H2a and H2b.

Finally, supporting H3b, Panel B of Table 3.15 shows that NAB has a strong, significant (p<0.01) and positive relationship with both Experience Log<sub>t-1</sub> (= 0.174) and Experience Prop<sub>t-1</sub> (= 0.816) as shown in Column (7) and (8) respectively. Furthermore, ALB has a highly significant (p<0.01) and negative relationship with both Experience Log<sub>t-1</sub> (= -0.154) and Experience Prop<sub>t-1</sub> (= -0.727) as shown in Column (9) and (10) respectively. These results support H3b.

### 3.5.5.3 Alternative Proxies for Financial and Social Performance

As an alternative proxy to measure financial performance, this study generates a factor variable (FIN) by applying the Principal Component Analysis (PCA) of the financial performance variables used in the baseline models (such as ROA, ROE, and OSS). Through PCA, the study transforms the original set of variables (ROA, ROE, and OSS) to a linear combination of the same variables through dimension reduction (Hotelling, 1933). Factor variable reduces the redundancy of the variables and the correlation between them. Further, the study uses the log of the total number of savers (NSV) as an alternative proxy for the breadth of outreach, and the log of the average savings balance per saver (ASB) as an alternative proxy for the depth of outreach. Similar to NAB and ALB, it is assumed that poor borrowers need an opportunity to save a small amount of their income to overcome any unforeseen hazards in their future and to strengthen their financial position. In addition to providing credit, MFIs in many countries provide this service as part of their social mission. Similar to the first sensitivity test, the study uses a one-year lead of the dependent variables.

**Table 3.16 Lead-lag Model with Alternative Proxies for Financial and Social Performance**

**Panel A:** Association between founder directors and MFI financial and social performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN <sub>t+1</sub>	(2) FIN <sub>t+1</sub>	(3) NSV <sub>t+1</sub>	(4) NSV <sub>t+1</sub>	(5) ASB <sub>t+1</sub>	(6) ASB <sub>t+1</sub>
Founder (Log)	0.112*** (0.038)		- 0.055*** (0.020)		0.089*** (0.023)	
Founder (Prop)		0.195*** (0.069)		-0.068* (0.035)		0.123*** (0.040)
Board Size	0.050 (0.110)	0.130 (0.111)	0.192*** (0.053)	0.160*** (0.053)	-0.074 (0.070)	-0.018 (0.070)
CEO-Chair	-0.046 (0.201)	-0.053 (0.201)	- 0.299*** (0.095)	- 0.300*** (0.095)	0.258* (0.144)	0.258* (0.145)
Firm Size	0.063*** (0.009)	0.062*** (0.009)	0.865*** (0.005)	0.866*** (0.005)	0.102*** (0.005)	0.101*** (0.005)
Debt-Equity	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	- 0.002*** (0.001)	- 0.002*** (0.001)
Loan Growth	0.232*** (0.043)	0.233*** (0.043)	- 0.153*** (0.030)	- 0.153*** (0.030)	0.079*** (0.024)	0.080*** (0.024)
Provision	-0.426 (0.841)	-0.436 (0.841)	- 0.995*** (0.370)	- 0.981*** (0.371)	-1.003** (0.423)	-1.022** (0.423)

Constant	-	-	-	-	5.654***	5.637***
	1.434***	1.511***	6.168***	6.169***	(0.171)	(0.175)
	(0.285)	(0.293)	(0.137)	(0.142)		
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,917	2,917	3,256	3,256	3,250	3,250
R-squared	0.217	0.217	0.918	0.917	0.181	0.179

**Panel B:** Association between founder directors' family tie and MFI financial and social performance.

VARIABLES	Financial Performance		Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)
	FIN <sub>t+1</sub>	FIN <sub>t+1</sub>	NSV <sub>t+1</sub>	NSV <sub>t+1</sub>	ASB <sub>t+1</sub>	ASB <sub>t+1</sub>
Family (Log)	0.079***		-		0.076***	
	(0.030)		0.049***		(0.017)	
			(0.015)			
Family (Prop)		0.308**		-		0.261***
		(0.120)		0.189***		(0.069)
				(0.061)		
Board Size	0.062	0.094	0.187***	0.167***	-0.065	-0.036
	(0.110)	(0.110)	(0.052)	(0.052)	(0.068)	(0.069)
CEO-Chair	-0.044	-0.041	-	-	0.255*	0.261*
	(0.201)	(0.201)	0.296***	0.298***	(0.139)	(0.140)
			(0.093)	(0.094)		
Firm Size	0.065***	0.064***	0.864***	0.864***	0.105***	0.104***
	(0.009)	(0.009)	(0.005)	(0.005)	(0.006)	(0.006)
Debt-Equity	0.001	0.001	-0.001	-0.001	-	-
	(0.001)	(0.001)	(0.001)	(0.001)	0.002***	0.002***
					(0.001)	(0.001)
Loan Growth	0.238***	0.238***	-	-	0.082***	0.082***
	(0.043)	(0.043)	0.155***	0.155***	(0.024)	(0.024)
			(0.030)	(0.030)		
Provision	-0.485	-0.482	-	-	-1.050**	-1.049**
	(0.841)	(0.841)	0.968***	0.969***	(0.424)	(0.425)
			(0.371)	(0.371)		
Constant	-	-	-	-	5.675***	5.643***
	1.370***	1.427***	6.176***	6.142***	(0.170)	(0.173)
	(0.278)	(0.282)	(0.136)	(0.139)		
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,917	2,917	3,256	3,256	3,250	3,250
R-squared	0.217	0.217	0.918	0.918	0.182	0.180

**Panel C:** Association between founders' microfinance experience and MFI performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN <sub>t+1</sub>	(2) FIN <sub>t+1</sub>	(3) NSV <sub>t+1</sub>	(4) NSV <sub>t+1</sub>	(5) ASB <sub>t+1</sub>	(6) ASB <sub>t+1</sub>
Experience (Log)	0.036 (0.053)		0.148*** (0.027)		- 0.184*** (0.033)	
Experience (Prop)		0.184 (0.244)		0.689*** (0.125)		- 0.799*** (0.149)
Board Size	0.070 (0.111)	0.078 (0.110)	0.143*** (0.053)	0.176*** (0.052)	-0.008 (0.069)	-0.049 (0.068)
CEO-Chair	-0.009 (0.202)	-0.009 (0.202)	- 0.294*** (0.091)	- 0.296*** (0.091)	0.258* (0.140)	0.262* (0.141)
Firm Size	0.053*** (0.012)	0.052*** (0.012)	0.848*** (0.006)	0.849*** (0.006)	0.122*** (0.007)	0.120*** (0.007)
Debt-Equity	0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	- 0.003*** (0.001)	- 0.003*** (0.001)
Loan Growth	0.240*** (0.043)	0.240*** (0.043)	- 0.147*** (0.029)	- 0.146*** (0.029)	0.072*** (0.024)	0.072*** (0.024)
Provision	-0.491 (0.839)	-0.489 (0.839)	- 0.969*** (0.374)	- -0.960** (0.374)	-1.047** (0.428)	-1.058** (0.428)
Constant	- 1.137*** (0.316)	- 1.148*** (0.302)	- 5.876*** (0.156)	- 5.951*** (0.149)	5.332*** (0.192)	5.450*** (0.184)
Year dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,917	2,917	3,256	3,256	3,250	3,250
R-squared	0.215	0.215	0.918	0.918	0.185	0.183

**Note:** Independent variables are the same as Table 3.4. In Column (1) and Column (2), the dependent variable (FIN) is obtained as the factor variable of ROA, ROE, and OSS. In column (3) and (4), the dependent variable (NSV) represents the number of active savers (in logarithmic form) as the measure of the breadth of outreach. In column (5) and (6), the dependent variable (ASB) represents the log of the average savings balance (in BDT) per saver. One year lead (Lead-lag) of all the financial and social performance variables are taken as the dependent variables. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% levels respectively.

Column (1) and (2) in Panel A of Table 3.16 shows that the coefficient (p-value) of financial performance (FIN<sub>t+1</sub>) has a highly significant (p<0.01) and positive relationship with the Founder Log (= 0.112) and Founder Prop (= 0.195), supporting H1a. Further, the results in Panel A of Table 3.16 are more significant than the baseline results. Further, similar to the baseline results, the study identifies a significant and negative association between NSV<sub>t+1</sub> and Founder Prop (= -0.068, p<0.10), and between NSV<sub>t+1</sub> and Founder Log (= -0.055, p<0.01) as shown in Column (3) and (4) respectively, supporting H1b. Furthermore, as shown in Column

(5), the coefficient between  $ASB_{t+1}$  and Founder Prop is positive (= 0.123) and strongly significant ( $p < 0.01$ ). A similar result is found between  $ASB_{t+1}$  and Founder Log (= 0.089,  $p < 0.01$ ), demonstrating a negative relationship between founder presence on the depth of outreach (H1b).

Panel B of Table 3.16 (Column 1 and 2) shows that both Family Log (= 0.079,  $p < 0.01$ ) and Family Prop (= 0.308,  $p < 0.05$ ) have a significant and positive relationship with  $FIN_{t+1}$ , which supports H2a. Moreover, as shown in Column (3) and (4) in Panel B of Table 3.16, both Family Log (= -0.049,  $p < 0.01$ ) and Family Prop (= -0.189,  $p < 0.01$ ) have a significant and negative relationship with  $NSV_{t+1}$ . Further, as shown in Column (5) and (6), both Family Log (= 0.076,  $p < 0.01$ ) and Family Prop (= 0.261,  $p < 0.01$ ) have a significant and positive relationship with  $ASB_{t+1}$ . These results support H2b.

Furthermore, Panel C of Table 3.16 (Column 3 and 4), shows that  $NSV_{t+1}$  has a strong, significant ( $p < 0.01$ ) and positive relationship with both Experience Log (= 0.148) and Experience Prop (= 0.689), similar to the baseline results. Furthermore, Column (5) and (6) show that  $ASB_{t+1}$  has a significant ( $p < 0.01$ ) and negative relationship with both Experience Prop (= -0.799) and Experience Log (= -0.184) respectively. Therefore, these results support H3b.

Taken together, none of the above endogeneity tests and sensitivity tests significantly alter the main results. Instead, in some cases, the results are robust after the endogeneity test and use of alternative proxies of the dependent variables. Therefore, the predicted relationships between the presence of founding directors, their family ties, and their previous microfinance experience and MFI performance are sufficiently robust to support the predicted hypotheses.

## **3.6 Discussion and Conclusions**

### **3.6.1 Discussion**

Although an increasing body of research investigates whether the presence of founding directors has any influence on firm performance, the findings in commercial corporations are mixed or inconclusive. Further, little attention has been paid to this question in the context of microfinance, a social enterprise industry with a double bottom line objective. Although Mori et al. (2015) explore the presence of founding directors on MFI social performance, the result of that study is insignificant. Further, no study to date has investigated the influence of founder directors' family ties and firm (microfinance) specific experience on MFI double bottom line performance. Also, governance literature (Buck & Shahrim, 2005; Heyden et al., 2015; Jackson & Deeg, 2008) calls for a context and country-specific study of these governance issues. In order to fill this gap in the research, this study first investigates whether the presence of founding directors has any influence on MFI double bottom line performance in the context of

Bangladesh, the most mature microfinance market in the world. Further, this study is perhaps the first to explore whether the family ties and previous microfinance experience of founding directors have any influence on MFI sustainability and social performance.

Consistent with the extant literature (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Villalonga & Amit, 2006), the findings of this study suggest that founding directors have a significant and positive association with MFI financial performance (H1a). However, the study reports a negative association between their presence on the board and MFI social performance (H1b), although Mori et al. (2015) suggests that founders on board do not influence MFI social performance. This result could be due to the following reasons. As the architects of the firm, the founders design the firm's organizational structure and establish firm behaviour (Gimeno et al., 1997; Nelson, 2003). Also, they have a strong psychological attachment to the firm's economic outcomes (Jameson, Prevost, & Puthenpurackal, 2014; Li & Srinivasan, 2011). Hence, they also monitor management more effectively. Besides, they have both the financial and physical investment in the firm (Chen et al., 2012). Due to their pecuniary and non-pecuniary interests, founding directors tend to emphasize the economic returns of the firm rather than social outcome. Their focus on the financial outcomes is because the operating cost per dollar of a loan is high in MFIs, as they offer small average loans to poor borrowers. To overcome this problem, and to ensure the economies of scale, founders prefer serving wealthier clients with a larger loan and savings size. However, serving wealthier clients may result in the loss of poorer borrowers and savers at the bottom of the pyramid, which affects not only the depth of outreach but also the breadth of outreach. The primary cause of the difference in the social performance between this study and the study of Mori et al. (2015) could be the differences in the context of the studies. Founders in the present context of the study could be the main providers of funds to the MFI, or they provide legitimacy, connections or networks to access funds from the external sources. In that situation, founding members are the primary suppliers of capital within the firm or the guarantor of funds for the MFIs. Hence, they tend to put preference on the firm's economic performance over its' social performance.

Similar to this, this study further suggests that the family ties of founding directors have a positive influence on the MFI's financial performance (H2a). This result is consistent with the extant literature (Barontini & Caprio, 2006; González et al., 2012; Lee, 2006; Patel & Cooper, 2014). However, regarding social performance, the study further suggests that the presence of founding directors with family ties within the board has a negative influence on the breadth and depth of outreach (H2b). Founder family member presence on the board is associated with family ownership and family control. Notably, these MFIs have minimal shareholder involvement, as the MFIs generally cannot issue share to the general public. As the primary fund providers, the family members on the board tend to emphasize the economic sustainability

of the firm through the efficient use of the firm's limited resources (Randøy & Goel, 2003; Tagiuri & Davis, 1992). In these circumstances, the founder family members are motivated to monitor management more closely and to dominate the board (Anderson & Reeb, 2003). It also reduces the possibility of "free-riding" and managerial opportunism (Anderson et al., 2003; McConaughy et al., 2001). Further, the firm benefits from the use of founding family members' entrepreneurial opportunities, access to resources, and their propensity to take risks (Randøy & Goel, 2003). In addition, the firm can use their family resources and reputations to obtain further funds and other resources for the firm (Barontini & Caprio, 2006; Patel & Cooper, 2014; Villalonga & Amit, 2006). Due to this, founder family members place greater emphasis on the financial outcomes of the firm. This, in turn, reduces the firm's social outreach.

However, the results show that when the founders bring experience specific to microfinance or similar other social enterprises to the board, this has a positive influence on the social outcomes of the MFI (H3b). This finding is consistent with the resource-based view of the firm (Greene et al., 2015; Hillman & Dalziel, 2003). Experienced founders have a better understanding of the microfinance industry and its operating environment and can more easily understand the internal and external activities of the MFI. This experience helps them to solve complex problems and deal with critical situations within the firm (McCauley et al., 1994). Further, experienced individuals can quickly detect emerging opportunities in the industry (Castanias & Helfat, 2001; Schefczyk & Gerpott, 2001). Likewise, they have well-developed relationships with external stakeholders such as fund providers and clients (Ben-Ner & Van Hoomissen, 1994; Certo, Covin, Daily, & Dalton, 2001; Mizruchi & Stearns, 1994). Hence, their presence on the board provides legitimate network ties with these stakeholders (Certo et al., 2001; Hillman & Dalziel, 2003). The MFI uses these funds to expand their outreach target. Similarly, they capitalize on these connections to access more clients and to serve the poorest people. In this way, the MFI can better achieve its social mission.

Overall, the findings of this study suggest that the relationship between the presence of founding directors and MFI performance requires a deeper understanding of what attributes the founding directors bring in the board. Further, consistent with previous governance literature (Mersland & Strøm, 2009), the impact on some financial performance variables is weak in the study. A possible explanation this weak impact on financial performance is that, unlike commercial corporations or banks, MFIs do not focus purely on profitability; instead, they also pursue a social mission while simultaneously striving for economic sustainability.

### **3.6.2 Theoretical Implications**

This study is among the few that offer a consistent application of the integration of agency theory, resource dependence theory, and stakeholder theory. Based on such a theoretical perspective, this study is perhaps the first to investigate the influence of founding directors, their

family ties and previous experience on MFI performance. As the founders are the leading supplier of capital to MFIs, they act as the residual claimants, as the agency theorists would argue (Fama, 1980; Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976). The MFIs have little opportunity to enter the capital market to accumulate capital from the public. Therefore, founding members act as the block holders of MFIs. As the block holders place more importance on the firm's financial outcomes (Chen et al., 2012), the founding members have similar interests to block holders. When multiple founding members have family connections within the board, they tend to emphasize financial outcomes as well. Similar to previous agency theory literature (Fama, 1980; Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976), this study also assumes that founders' financial interests in the firm enable them to better monitor management for the achievement of financial outcomes. The empirical evidence regarding the positive influence of founding directors and their family ties on the financial performance of MFIs supports this notion. However, the researcher needs to be cautious in linking the agency relationship with the social mission of MFIs as this study identifies that the propensity for founding members to focus on financial outcomes tends to deteriorate the social performance of the MFI. This argument is also relevant when the founding directors have family ties within the board.

Furthermore, as an ongoing entity, MFIs are interrelated and interdependent on other stakeholders. For instance, due to the scarcity of funds, MFIs are dependent on donors and commercial investors. The interests and demands of stakeholders in MFIs differ significantly. For instance, social investors focus more on social outreach, while commercial investors are focused on securing a profitable return on their investment. Further, founding members tend to emphasize financial outcomes first (Chen et al., 2012). In such a situation, MFIs face the risk of losing clients, which adversely affects their social outcomes. By using outreach to poor people as the social objective, this study extends the theories of corporate governance from an agency-based view to a stakeholder-based view. Stakeholder theorists (Choi & Wang, 2009; Clarkson, 1995; Freeman, 1984, 1994) suggest that firms are interdependent on their key stakeholders. Therefore, the interrelationship and interdependency between MFIs and their key stakeholders may deteriorate if the board consists of only founding directors. Due to this, this research suggests that in the case of microfinance, board composition, in particular founder presence, should be based on a stakeholder view.

Accordingly, this study also supports a resource-based view. Founding members bring firm-specific and industry-specific skills and knowledge to the board. They share this experience, and knowledge with the board which may help them achieve their primary mission to serve the poor and unbanked people. Further, they can use their connections to access external resources (Ben-Ner & Van Hoomissen, 1994; Certo, 2003; Hillman & Dalziel, 2003). Their

legitimacy within the microfinance industry also helps the firm to attract prospective clients and other stakeholders (Hillman & Dalziel, 2003; Mizruchi & Stearns, 1994). Therefore, although the firm's dependence on founding members is not significant to financial performance, this study finds that founding directors have a significant and positive effect on the social performance of MFIs.

### **3.6.3 Methodological Implications**

This study has scientific implications. For instance, the study refines the generalizability assumptions of the association between founding directors and firm performance. The study responds to calls for a study of governance issues from a contextual setting (Buck & Shahrim, 2005; Heyden et al., 2015; Jackson & Deeg, 2008). This study uses the context of Bangladesh, which is the breeding ground of the modern version of the microfinance movement and investigates the issue in the context of microfinance, a hybrid type of financial institution having both financial and social objectives. The corporate governance system in NGO MFIs in Bangladesh lacks the presence of general shareholders as the MFIs have little opportunity to enter the capital market. Although the rule of law is underdeveloped in Bangladesh, NGO MFIs generally adhere to a satisfactory governance practice as a condition to access external funds. Further, unlike the single objective of financial performance in commercial corporations, MFIs have a double bottom line objective. To achieve the double objective, they require a different governance mechanism to satisfy the interests of their stakeholders. Therefore, the impact of founding directors and their influence on firm performance may be different in the microfinance industry in Bangladesh compared to other industries or other countries. The context-specific and country-specific nature of this study avoids the concerns inherent in cross-country studies, such as endogeneity, which arises from country-specific variables and omitted variables issues (Bona-Sánchez, Pérez-Alemán, & Santana-Martín, 2014). Further, this study is the first to use such a context to explore the influence of founder directors' family ties and their microfinance experience on the financial and social performance of MFIs.

Another methodological implication of this study is that it is the first to use a unique (and perhaps the largest) microfinance dataset from a single country. The MFIs in Bangladesh do not generally publish their director related data to the public. Without access to the director related detailed information, it is difficult to explore the impact of founding directors, their family ties and their previous microfinance experience on MFI double bottom line performance. Therefore, access to the MRA archival records allows the researcher to avoid concerns related to cross-country data and to investigate the issue from the context of a specific country.

### **3.6.4 Implications for Practice and Policy**

This study has several implications for practitioners and policy-making bodies. Notably, for practitioners and regulators, it is important to consider what attributes and powers founding directors bring to the board before their inclusion on the board. It is because founding directors are not always detrimental to the social performance of MFIs and are not always beneficial for their financial performance. Whether they are or not depends on what attributes the founding members brings to the firm. For instance, consistent with the mainstream literature (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Li & Srinivasan, 2011; Villalonga & Amit, 2006), this study suggests that founding directors have a positive influence on financial outcomes. The influence may be through the practice of corporate governance within the firm (Chen et al., 2012; Li & Srinivasan, 2011). This study also suggests that the family ties of founding directors have a positive influence on the economic sustainability of the MFI, despite contradicting evidence in commercial corporations. It may be due to the resource provisioning role of the family members (Tagiuri & Davis, 1992) or their entrepreneurship capacity (Barontini & Caprio, 2006; Patel & Cooper, 2014). Notably, when an MFI lacks financial resources during the early stages of growth, family members distribute their resources or rely on their connections with various fund providers. In these circumstances, they have a superior interest in the financial outcomes of the MFI.

However, when the founders and their family members focus excessively on the financial performance of the MFI, their role on the board may adversely affect the social performance of the MFI. For instance, irrespective of what attributes the founding directors bring to the board, the study concludes that the presence of founding directors has a negative impact on both the breadth and depth of outreach. Similarly, founders' family ties have a negative influence on outreach. However, when the founding directors bring firm-specific and microfinance industry-specific experience to the board, they may have a positive impact on both the breadth and depth of outreach. These findings support the importance of human capital to produce an expected outcome within the firm (Carpenter & Westphal, 2001; Kor, 2003). Therefore, before developing guidelines for the composition of the board, policy-makers and practitioners need to consider what attributes the founding directors bring to the firm and whether such attributes align with their strategic choices. When founding directors have firm-specific and industry-specific knowledge and skills, they can bring more ideas and knowledge (Boeker, 1997; Kor, 2003) and have the ability to solve complex problems and deal with high-pressure situations (Greene et al., 2015; Kor & Sundaramurthy, 2009).

### **3.6.5 Limitations and Future Research Directions**

Although this study makes several contributions, the study is not free of limitations. **First**, the study covers data on MFIs that have a license from the Bangladesh Microfinance

Regulatory Authority (MRA). The study, therefore, ignores other MFIs such as small, fragmented, non-licensed MFIs and banks. Further, except for NGO MFIs, other MFIs in this country have the same organizational formation. However, the MFIs operating in other developing countries have a variety of organizational structures and legal identities. For instance, some MFIs are working as NGOs, and some operate as COOPs or listed shareholder organizations. The founders' interests and stakes in these MFIs may vary substantially. Non-profit MFIs have non-distribution constraints, while COOPs do not have such a constraint as founders are the principal owners of COOPs (Galema et al., 2012). Board composition and governance mechanisms can also vary between different types of MFIs. Hence, the board members may have a different role, which is not considered by this study. Further research may, therefore, examine different types of MFIs.

**Second**, the regulatory requirements and governance mechanisms also vary from country to country. Further, the socio-economic environment and the cultural values differ among countries, which may also influence the governance mechanisms and the behaviour of the members in the board and management, which is not considered by this study. As the study covers samples from a single country, the findings of the study are not generalizable to other countries or other contexts. Future research may use a cross-country sample to overcome this issue.

**Third**, the founders not only sit on the board; they may also be involved in top management positions. Further, the founder CEO and board members may be related in some way, or the CEO and founders may be from the same family. The influence of these compositions and relationships on MFI performance is not investigated in this study.

**Fourth**, some of the MFIs are subsidy-dependent or dependent on external social funds. The providers of these funds may have different stakes and interests, which the MFIs are required to fulfill. Further, the dependency differs among MFIs, such as among commercial MFIs and non-profit or NGO MFIs. In this situation, the presence of founding directors on the board may have a different influence on the firm. Future research may explore the influence of founders who have the above-stated attributes on firm performance.

**Finally**, this study provides the foundation for future potential areas of research. While this study offers an initial perspective on the influence of founding directors on MFI double bottom line performance, and while the study assumes that founding members in MFIs act as block holders, future research may wish to undertake a qualitative study examining how the founding members behave on the board and how such behaviour influences firm performance.

## Appendix

**Table 3.A. Descriptions and Measurement of the Variables Used in the Model**

Variable	Description and Measurement
<i>Dependent Variables:</i>	
ROA	Return on Assets = (Net Operating Income – Taxes)/Average Total Assets
ROE	Return on Equity = Net Income/Total Equity. It measures the income attributable to the equity holders after the payment of all current obligations.
OSS	Operational Self-sufficiency = Operating Revenue/ (Operating expenses + Financial expenses + Loan loss provision expenses). It Measures the MFI's ability to cover its costs from the operating revenues.
NAB	The proxy to measure the breadth of outreach. Measured as the number of active borrowers (logarithmic) who have an outstanding loan balance at the MFI or is yet paying the unpaid portion of the credit to the MFI. The larger (more) the (NAB), the more is the breadth of outreach.
ALB	Average loan balance per borrower (natural logarithm). The proxy to measure the depth of outreach. The smaller the average loan size per borrower, the deeper is the outreach to the poor borrowers.
<i>Explanatory Variables:</i>	
Founder Log	Natural log of (1+ Total number of founder directors)
Founder Prop	The proportion of founder directors to total directors
Family Log	Founder directors with family tie = log(1+ total founders with family tie)
Family Prop	The proportion of founder directors with a family tie to total directors on board.
Experience Log	Founder directors with microfinance experience = log(1+ total founders with microfinance experience)
Experience Prop	The proportion of founder directors with microfinance experience to total directors
<i>Controls:</i>	
Board Size	Total number of board of directors (logarithmic)
CEO-Chair	Dummy (= one) if the CEO and Chair is the same person, zero otherwise.
Firm Size	Size of the firm, measured as the amount of loan portfolio (logarithmic)
Debt-Equity	Total debt to total equity. Equity is the residual interest of the assets after payment of all obligations. Debt includes both the short and long term debts.
Loan Growth	Growth of the gross loan portfolio = (Loan Size $_t$ - Loan Size $_{t-1}$ )/ Loan Size $_{t-1}$
Provision	Loan loss provision expenses. The proportion of loan amount set aside as the allowance for the loan losses to cover the costs of loan that the MFI is not expected to recover from the default borrowers (Armendáriz & Morduch, 2010).

# **Chapter 4                    Independent Directors on the Board, their Human and Social Capital and Microfinance Double Bottom Line Performance**

## **4.1            Chapter Summary**

This chapter investigates the relationship between the inclusion of independent directors on the board and MFI financial and social performance. Further, this study investigates whether the independent directors' human and social capital attributes have any influence on MFI double bottom line objectives. The study uses the independent directors' social experience, community connections, and advanced education as the human and social capital attributes. This study uses the context of Bangladesh, who are considered the pioneers of the modern microfinance movement and one of the largest and most mature microfinance markets in the world. The study uses an unbalanced panel dataset of 727 MFIs (2007-2015) to test the hypothesis. The findings of the study suggest that board independence does in fact influence MFI double bottom line performance. However, not all of the independent directors' human and social capital attributes are essential for positive financial and social outcomes. Further analysis suggests that the extent and the direction of the influence of independent directors are contingent on what human and social capital attributes they bring to the board. The results of this study are robust as demonstrated in several sensitivity tests.

## **4.2            Introduction**

This chapter examines the extent to which board independence affects firm performance. Existing corporate governance literature, which is rooted in agency theory (Baysinger & Butler, 1985; Fama, 1980; Fama & Jensen, 1983a; Jensen & Meckling, 1976; Weisbach, 1988), posits that board independence is, in fact, critical to firm performance. By board independence, this study refers to the directors who reside on the board, who are independent of management, are not employed by the company, and who have no financial interest in the company. Board independence is considered essential to effectively monitor and control management activities (Baysinger & Butler, 1985; Fama, 1980; Jensen & Meckling, 1976; Weisbach, 1988) as the key to effective functioning of the board (Mizruchi, 1983; Zahra & Pearce, 1989). However, evidence on the impact of independent directors on firm performance remains inconclusive.

Examining the available empirical evidence, some studies suggest there is a positive relationship between board independence and firm performance (Jackling & Johl, 2009; Perry

& Shivdasani, 2005; Rosenstein & Wyatt, 1990; Shleifer & Vishny, 1997), while the others report a negative or insignificant relationship (Bhagat & Black, 2002; Dulewicz & Herbert, 2004; Erickson et al., 2005; Weir & David, 2001). This idea is the same with respect to research focusing on MFIs in particular (e.g., Hartarska, 2005). These inconclusive results suggest that there is a gap in research on what the independent directors are expected to contribute and what they actually contribute to the firm through their presence on board.

In order to fill this gap in the literature, the present study explores the association between independent directors on the board and MFI double bottom line performance. The study relies on both economic and social performance measures, as MFIs adopt a dual objective, unlike their traditional commercial counterparts. By relying on both economic and social measures, this study expands the existing theoretical framework and establishes and tests new theoretical perspectives. Further, this study explores whether the independent directors' social experience, as a human and social capital attribute, has any influence on MFI financial and social performance. Additionally, the study explores whether the independent directors' community affiliations, as a social capital attribute, has any influence on MFI performance. Finally, this study explores whether the independent directors' advanced education, as a further human capital attribute, has any influence on MFI performance.

#### **4.2.1 Background of the Study and MFIs**

MFIs have different organizational characteristics than commercial entities. **First**, MFIs generally operate in countries with underdeveloped economies and immature markets. Hence, MFIs operational mechanisms are not the same as that of their commercial counterparts. MFIs focus on serving poor people who do not have access to financial services provided by commercial banks. Further, MFIs employ a double bottom line objective: financial self-sufficiency and a social mission (Cull et al., 2009; Morduch, 1999). To achieve these objectives, they must have board members who have displayed the characteristics of legitimacy and acceptability and who have connections with underprivileged people. Those people can better understand the needs of poor people and can assist the MFI to design financial products to fill those needs.

**Second**, due to their different organizational characteristics, most MFIs are not shareholder owned; MFIs often have limited contribution of capital from the owners. Hence, their capital and liability structures are different. Therefore, in order to mitigate capital deficiency, MFIs must access external funds from different sources. When the internal directors and management cannot accumulate these funds, they exploit the connections and legitimacy of the independent directors.

**Third**, in most MFIs, small entrepreneurs tend to invest capital. They lack basic

knowledge of entrepreneurship and recognition from different stakeholders. In these circumstances, MFIs appoint expert individuals to the board who have adequate knowledge of the operating mechanisms of MFIs and experience in managing social enterprises, as well as recognition within the industry. It enables them to better contribute to microfinance activities by sharing their knowledge and information on the board. **Fourth**, independent directors may bring experience, and specific human capital attributes that the MFI needs explicitly to make strategic decisions. **Fifth**, the independent members on the board can provide critical advice and suggestions without interference from the management or owners, which may be necessary for the survival of the firm and to the pursuit of their social mission. The independent directors do not have a monetary interest in the MFI and are not employees of the firm. Therefore, they can provide independent judgment on important issues faced by the MFI.

**Finally**, independent directors' connection with external economic and political entities help the MFIs to overcome external environmental risk and uncertainties. Although a growing body of corporate governance literature has investigated the association between board independence and firm performance, this issue has not been significantly studied in the microfinance industry. Hartarska (2005) addresses this issue in the context of microfinance; however, the results of her study are not significant in terms of the financial (OSS) and social performance (breadth of outreach) variables. Further, that study examines a small sample of Eastern and Central European MFIs only; other large markets are not considered. Therefore, governance literature suggests that there is room for a new empirical study on board independence in the context of the microfinance in a relatively unexplored market, with a large and recent dataset.

Consequently, the literature (Choi et al., 2007; Kim & Lim, 2010) suggests that the difference in the association between board independence and firm performance stems from the context and nature of the market in which the firm operates. Further, stakeholder theorists (Byrd & Hickman, 1992; John & Senbet, 1998) argue that independent board members are considered to be more reliable and competent in representing stakeholder interests. The higher the number of independent directors on the board, the more board diversity there is. For instance, Hartarska (2005) suggests that the presence of a high number of the independent director may account for increased stakeholder representation on the board. Stakeholder representation can act to check and balance the firm, to protect the interests of its' primary stakeholders (Klein, 2002; Petrovic, 2008; Wan & Ong, 2005). Although the role of board independence in improving firm performance is not clear, some stakeholders, such as institutional investors and donors, prefer to invest in firms with a higher proportion of independent directors (Dalton et al., 1998; Johnson et al., 1993; Schnatterly & Johnson, 2014). Hence, there is a need for research on board independence of financial institutions that have both a financial and social mission. Therefore,

the present study first explores the influence of independent directors on the board on MFI double bottom line performance.

Additionally, another body of literature (Hillman, Cannella, & Paetzold, 2000; Javakhadze et al., 2016; Johnson et al., 2013; Kor & Sundaramurthy, 2009; Vandenbroucke, Knockaert, & Ucbasaran, 2016) suggests that agency-based or stakeholder-based governance mechanisms are not sufficient to explain this relationship. The literature now brings attention to whether independent directors bring human and social capital to the board and whether such attributes can improve firm performance (Hillman & Dalziel, 2003; Johnson et al., 2013; Kor & Sundaramurthy, 2009; Westphal & Fredrickson, 2001; Westphal & Milton, 2000). These inconclusive and unclear findings may be due to a lack of research on the human and social capital attributes of independent directors (Crook et al., 2011; Galbreath, 2012; Johnson et al., 2013; Kor & Sundaramurthy, 2009; Walt & Ingley, 2003; Wincent, Anokhin, & Örtqvist, 2010). Resource dependence theorists (Pfeffer, 1972; Pfeffer & Salancik, 1978) argue that, by employing their human and social capital attributes, independent directors can bring resources through their external relationships and provide relevant knowledge to the board. (Johnson et al., 2013; Kor & Sundaramurthy, 2009). This study examines this proposition, thereby addressing a gap in the existing literature.

Independent members create board human capital by collectively bringing their knowledge, skills, and expertise to the firm (Hitt et al., 2001; Johnson et al., 2013; Kor & Sundaramurthy, 2009). It is typically assumed that independent directors are knowledgeable and competent (Kor & Sundaramurthy, 2009). They share their skills, experiences, knowledge, and information with the board and provide access to resources for the firm (Hillman & Dalziel, 2003; Johnson et al., 2013; Westphal & Milton, 2000). Hence, they can assist the board to enhance firm performance (Crook et al., 2011; Hillman, 2005; Huo et al., 2016; Johnson et al., 2013). Galbreath (2012), for example, suggests that independent directors are more likely to have a positive influence on the financial and social performance of the firm when they have certain forms of human capital such as advanced education (Becker, 1993; Kim & Lim, 2010). Academic development through formal education helps to develop an individuals' cognitive capacity (Dalziel, Gentry, & Bowerman, 2011). This, in turn, helps the board to solve complex problems and handle challenging issues (Wincent et al., 2010). In this way, independent directors help to make strategic board decisions. Further, independent directors with advanced education can easily detect whether the management activity aligns with shareholder interests. It enables them to monitor management effectively. Therefore, independent members' advanced education is considered to be a critical human capital which influences MFI financial and social performance.

Likewise, when independent directors have specific experience which is needed by the

firm, they are better able to share their experience with the board. As a financial institution with a social mission, MFI boards need members with social experience, as an important human capital attribute.

Independent directors with this kind of social experience bring both human and social capital to the board (Hillman et al., 2000; Johnson et al., 2013; Kor & Sundaramurthy, 2009; Westphal, 1999). Their social capital stems from their reputation within society, their social ties created through personal relationship and affiliations with others, and their community involvement (Burt, 2009; Davis & Mizruchi, 1999; Johnson et al., 2013). This social capital assists the firm in developing strategies (Baysinger & Butler, 1985; Kesner, 1988) and increases an individual's ability to access information and critical resources from external stakeholders (Kor & Sundaramurthy, 2009; Oh et al., 2006; Westphal, 1999). It also provides legitimacy to the firm.

Additionally, independent directors tend to have strong affiliations within the community. When an individual with political leadership, renowned clergy, or community leadership positions join the board, their social connections and influence in government or other key stakeholders are beneficial to the firm. It may influence both the economic sustainability and social performance of the MFI. However, this also remains unexplored in the microfinance context.

This study hypothesizes that board independence has a positive association with MFI financial and social performance. Further, the study hypothesizes that the social experience of independent directors, as a human and social capital attribute, has a positive association with MFI double bottom line performance. However, as a social capital attribute, independent directors' community connections are hypothesized to have a negative influence on MFI financial performance, but a positive influence on MFI social performance. Further, this study anticipates that independent members' advanced education, as a human capital attribute, also has a positive association with MFI financial and social performance. In order to empirically test these hypotheses, this study uses a panel dataset of 727 MFIs (4,173 firm-year observations) operating in Bangladesh between 2007 and 2015. Similar to the first study, this study uses data from Bangladesh for the following reasons. The microfinance movement was institutionalized in Bangladesh in the 1970s, following an experiment by Mohammad Yunus (Mia et al., 2017). The program then spread worldwide to more than 100 countries. Further, the microfinance industry in Bangladesh is the most mature and one of the largest microfinance markets in the world (Mia et al., 2017).

The findings of the study suggest that the presence of independent directors on the board has a positive association with MFI financial and social performance. The study also concludes that independent directors' social experience and advanced education have a positive

impact on the breadth and depth of outreach. Likewise, independent directors' community affiliations have a positive association with MFI social performance. In further support of this hypothesis, the findings also suggest that independent directors' community connections have a negative association with MFI financial performance. Therefore, the study suggests that, before the inclusion of independent directors on the board, it is important to consider what attributes they bring and whether such attributes are essential to the MFI.

This study contributes to corporate governance literature in several ways. **First**, this study extends the work of Hartarska (2005). Although Hartarska (2005) states that board independence has a positive association with ROA and depth of outreach, that study does not identify any relationship between board independence and the breadth of outreach and the other measures of financial performance. Contrary to this, this study suggests that board independence influences not only the depth of outreach but also the breadth of outreach. Further, this study identifies a significant positive relationship between board independence and the various measures of financial performance.

**Second**, this study responds to the calls of Heyden et al. (2015) and Jackson and Deeg (2008) for research on a context and country-specific governance practice. The operating environment of MFIs varies significantly between different economies. Although an increasing body of literature investigates the association between board independence and firm performance, these studies do not sufficiently examine this issue in the context of microfinance. Further, research by Hartarska (2005) focuses on Central and Eastern European countries only. This study is perhaps the first to investigate board independence using data from Bangladesh.

**Third**, the study is not limited to the single objective of firm economic performance. This study extends the theoretical development of corporate governance literature by using both financial and social performance as the outcome of board independence. This study suggests that studying corporate governance based on agency theory is not sufficient to explain the impact of board independence on firm performance. The role of independent directors may better be explained using an integration of agency theory, stakeholder theory and resource dependence theory. Based on such theoretical perspectives, this study is perhaps the first to investigate the independent directors' human and social capital attributes within the microfinance industry. The study suggests that it is critical to consider what attributes independent directors bring before they are included on the board.

**Fourth**, this study has methodological implications; the study uses a unique and perhaps the most extensive country-specific dataset covering all MFIs under the regulatory authority of the country. This study is the first to obtain information on the independent directors' human and social capital attributes by consulting the official archive records of the MRA.

The rest of this chapter is structured as follows: The next section 4.3 reviews the literature and develops the hypotheses, section 4.4 outlines the research methodology, section 4.5 presents the results of the study, and section 4.6 discusses the results and concludes the study.

### **4.3 Literature Review**

#### **4.3.1 Theoretical Perspectives**

The primary purpose of corporate governance stems from the agency theory (Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976). When managers have adequate control over the firm, there is a higher risk of managers using resources of the firm for personal benefits rather than for the benefit of shareholders. Managers possess firm-specific knowledge and expertise. However, they are susceptible to promoting their own interests in the absence of a well-developed monitoring system. In order to overcome this problem, agency-based research on corporate governance broadly focuses on internal governance such as board size and board independence (Baysinger & Zardkoohi, 1986; Daily & Dalton, 1994; Daily et al., 2003; Dalton & Dalton, 2005; Weisbach, 1988). Agency theorists suggest that the board is the primary mechanism to monitor and control management activities. However, Fama (1980) argues that monitoring management is difficult when internal directors dominate the board. In order to overcome this problem, the literature suggests the inclusion of independent directors, such as external stakeholders, on the board (Dalton et al., 1998; Gillan & Starks, 2000; Schnatterly & Johnson, 2014). Independent directors play a critical role in the supervision of management activities. In this way, independent board members can protect the interests of the firm's shareholders (Klein, 2002; Petrovic, 2008; Wan & Ong, 2005). However, there is some skepticism concerning the ability of independent directors to monitor and control management activities (Dalton et al., 1998; Hermalin & Weisbach, 1998; Wade & et al., 1990). If the activity of the board is passive and the board works as a "rubber stamp", the supervision of management activities may be weak (Huson, Parrino, & Starks, 2001).

However, there is also conflicting or insignificant evidence on the influence of board independence on firm performance. Studies of commercial corporations report a positive relationship (Jackling & Johl, 2009; Perry & Shivdasani, 2005; Rosenstein & Wyatt, 1990; Shleifer & Vishny, 1997), while others (Bhagat & Black, 2002; Dulewicz & Herbert, 2004; Erickson et al., 2005; Weir & David, 2001) report a negative or insignificant relationship between board independence and firm performance. It may be because research on board independence based on agency theory is not sufficient; a broader theoretical framework is needed.

Additionally, stakeholder theorists (Byrd & Hickman, 1992; Freeman, 1984; John &

Senbet, 1998) argue that board independence is expected to ensure the representation of a broader range of stakeholder interests. A larger number of independent directors on the board is associated with greater board diversity. It increases the representation of different stakeholder interests on the board. Independent directors are considered more reliable for external stakeholders, such as institutional investors and donors (Dalton et al., 1998; Johnson et al., 1993; Schnatterly & Johnson, 2014). Their inclusion on the board may assist in providing checks and balances to the firm in ensuring the interests of its stakeholders (Gillan & Starks, 2000; Klein, 2002; Petrovic, 2008; Wan & Ong, 2005). Independent directors may also reduce the uncertainty of the relationship with stakeholders and increase acceptance of the firm among stakeholders. In this way, they can bring legitimacy to the firm. This, in turn, increases the stability of the firm with its external environment.

However, examining the role of board independence based on agency theory or stakeholder theory is not sufficient to explain firm performance. According to resource dependence theorists (Pfeffer & Salancik, 1978), the external network connections of the firm has four main benefits: valuable advice and counsel to the board and management, communication of information, access to external resources, and legitimacy. Nevertheless, not all directors can contribute to these benefits. The effectiveness of these benefits depends on the firm's internal environment, and the specific types of links the firm requires, and with whom the links are made (Hillman et al., 2000; Pfeffer, 1972). Resource dependency theorists (Pfeffer, 1972; Pfeffer & Salancik, 1978) suggest the appointment of independent directors to bring about these benefit as they create these external links (Baysinger & Hoskisson, 1990; Mizruchi & Stearns, 1994). Based on this understanding, Weisbach (1988) suggests that firms are more likely to appoint independent directors to the board when firm performance is poor. Similarly, independent directors may assist the firm in its strategic decision making processes (Baysinger & Hoskisson, 1990; Johnson et al., 1993).

The above discussion suggests that board independence cannot explain firm performance based on a single theory. The role of the board through the inclusion of independent directors for firm performance can better be explained by the integration of agency theory, stakeholder theory, and resource dependence theory. The integration of these theories is critical to explain the role of independent directors because some MFIs are not shareholder owned and others operate as non-profit organizations. Some MFIs are also dependent on external sources of funds. Therefore, in the absence of equity financing, the MFIs dependent heavily on donations and social or commercial investments. The prevalence of donor funds and subsidized funds has decreased in the last few years. Therefore, liability management is now a significant concern for MFIs. With this, local depositors, microfinance investment vehicles and commercial fund providers are becoming significant stakeholders of MFIs (Labie & Mersland,

2011). If there are insufficient checks and balances on the board and management, this may result in a lack of trust by external investors. Therefore, the literature suggests that external investors prefer a higher proportion of independent director involvement on the board (Johnson et al., 1993). Besides, in the absence of shareholder interests, top management enjoys more power, meaning the risk management misbehaviour increases. In these circumstances, the board acts as a trustee to ensure efficient, ethical and professional management practices (Handy, 1995). In order to do so, the firms may appoint independent directors in the firm.

However, research on the impact of board independence in the microfinance industry is very scarce. The first study to investigate the influence of the board on MFI performance is Hartarska (2005). That study applies a random effect regression on a survey dataset and concludes that board independence has a positive influence on ROA and a negative impact on the depth of outreach. However, that study does not identify any influence on the other financial sustainability variables and the depth of outreach. Furthermore, that study covers only a small dataset from Central and Eastern Europe. The microfinance industry in those regions may not be the same as that of the other large microfinance markets, due to differences in the economy and their operating environments. Although Hartarska and Mersland (2012) support the inclusion of independent directors for MFI performance, their study does not provide any direct evidence of the relationship between the variables. Instead, their suggestion is based on the negative association identified in their study between the presence of internal directors and MFI technical efficiency. Hence, the impact of board independence on MFI performance is not yet clear.

Furthermore, the study of the impact of independent directors alone is not sufficient to explain MFI performance. Their role on the board and their impact on firm performance may vary based on what attributes they bring to the board (Johnson et al., 2013; Kor & Sundaramurthy, 2009). For instance, “board human capital” is one of the attributes independent directors bring to the firm (Hitt et al., 2001; Johnson et al., 2013; Kor & Sundaramurthy, 2009). A further attribute is “board social capital” (Fracassi & Tate, 2012; Harrison & St. John, 1996). An increasing body of literature suggests that it is important to study these attributes to predict the performance of a firm (e.g., Heyden et al., 2015; Hillman et al., 2000; Johnson et al., 2013). Independent directors’ advanced education is one example of a human capital attribute. Likewise, independent members’ experience in, or link with, other MFIs and social organizations is another human and social capital attribute. The use of these attributes as determinants of firm performance in the context of microfinance has not yet been explored.

Social capital provides a link between individual and collective actions (Coleman, 1988; Oh et al., 2006; Portes, 1998). This link brings a set of resources that is inherent in the structure of the relationship of individual actors to the firm (Burt, 1983, 1997, 2009; Coleman,

1988; Nahapiet & Ghoshal, 1998). Through connections among individuals (Burt, 2009), organizations (Leana & van Buren, 1999) and communities (Putnam, Leonardi, & Nanetti, 1994), or through an individual or group's connection with other groups or people (Manson, 1993; Oh et al., 2006), social capital is created. This social capital helps people to access a broader source of information and improves the quality of information (Jackson, 2010; Uzzi, 1997). The entire network can benefit from this flow of information. By communicating information from trusted social networks, the amount of search frictions and its associated costs is reduced (Brandes, Brechot, & Franck, 2015; Granovetter, 2005; Jackson, 2010). A perfect social tie facilitates the cost-effective transfer of complex information and tacit knowledge (Hansen, 1999). It enhances the possibility of inter-firm learning (Kraatz, 1998). In this way, social capital increases cross-functional team effectiveness (Adler & Kwon, 2002), which may have a considerable positive impact on the performance of a firm.

Besides, the external relationships of independent directors allow them to access resources outside of the firm (Oh et al., 2006; Pfeffer & Salancik, 1978). The literature suggests that social capital facilitates resource exchange and product innovation (Adler & Kwon, 2002; Gabbay & Zuckerman, 1998; Tsai & Ghoshal, 1998). The literature also argues that social capital creates intellectual capital (Adler & Kwon, 2002; Hargadon & Sutton, 1997; Nahapiet & Ghoshal, 1998) and strengthens the firm's relationships with the suppliers and fund providers. For example, the community connections of independent directors bring experience and link relevant to the firm's environment which their competitors and suppliers may not have (Hillman et al., 2000). Likewise, their links to different networks help the firm to develop connections with stakeholders who play an important role for the firm (Baysinger & Zardkoohi, 1986; Bazerman & Schoorman, 1983; Mizruchi & Stearns, 1988).

Furthermore, their community connections also provide legitimacy to the firm to its primary stakeholders (Hillman et al., 2000). It not only enables the firm to acquire external resources and take new initiatives (Pfeffer, 1972; Useem, 1982), but it also generates human capital through experiences in a variety of strategic and governance issues (Kor & Sundaramurthy, 2009). Therefore, an increasing body of literature suggests that firms may obtain benefit from the social capital attributes of independent directors. Hence, in studying stakeholder-oriented governance, it is essential to consider the human and social capital attributes of board members.

#### *4.3.1.1 Independent Directors' Social Experience as Human and Social Capital*

An essential attribute that independent directors bring to the board is the social experience gained by working with similar MFIs or social organizations. Social experience creates both human and social capital. Human capital is created by collectively bringing the knowledge, skills, and expertise in the firm (Hitt et al., 2001; Johnson et al., 2013; Kor &

Sundaramurthy, 2009). When independent directors have experience working in similar types of organizations, they can gain knowledge and experience specific to the firm and the industry. They contribute these skills, experiences, and knowledge with the board of their focal firm, which may provide access to resources for the firm (Hillman & Dalziel, 2003; Johnson et al., 2013; Westphal & Fredrickson, 2001; Westphal & Milton, 2000). Similarly, social capital is the process by which social actors create and mobilize their network connections and social relationships within and between organizations (Knoke, 1999; Kor & Sundaramurthy, 2009). Social capital is formed through the networks that board members create with a variety of stakeholders (Bazerman & Schoorman, 1983; Westphal, 1999). When independent directors have experience working in a social mission organization, they may also create connections with different entities and stakeholder groups (Uzzi, 1996). It provides social and human capital to the board (Haynes & Hillman, 2010).

An increasing body of literature suggests that board members' (particularly the outside members) social experience has a positive effect on the effectiveness of governance and firm performance. The director's previous experience working with social organizations equips them with familiarity with the firm's operations and policies of their previous workplace (Carpenter & Westphal, 2001; Oh et al., 2006). Hence, their social networks increase the opportunity for inter-firm learning (Kraatz, 1998). As social networks facilitate the communication of information, this has the potential to substantially reduce the number of search frictions (Brandes et al., 2015; Jackson, 2010). In this way, social capital increases cross-functional team effectiveness (Adler & Kwon, 2002). Further, it also reduces information asymmetry (Cai & Sevilir, 2012; Fracassi & Tate, 2012; Ishii & Xuan, 2014), and contributes to the development of firm strategies (Baysinger & Butler, 1985; Baysinger & Hoskisson, 1990; Johnson et al., 1993; Kesner, 1988). Therefore, a growing body of research (Fafchamps & Minten, 1999; Javakhadze et al., 2016; Montgomery, 1991) identifies evidence of the benefits of social ties in the information efficiency of firms. However, there is also a negative view expressed in some of the research (Hansen, 1999; Lee, Choi, & Kim, 2012). For instance, Hansen (1999) states that weak social connections require the costly acquisition of new information. This negative impact may be due to their involvement in multiple businesses and various social groups (Fich & Shivdasani, 2006; Lee et al., 2012), which leads to inadequate supervision, as their time is divided between many projects.

Further, independent directors bring trust and legitimacy to the board. Social relationships are governed by the norms of fairness and equity (Granovetter, 2005). Therefore, those independent directors who join the board who have social experience try to ensure that the MFI does not misuse their social reputation. Independent directors create this trust and legitimacy through their relationships with external parties which allows them to access critical

resources (Oh et al., 2006; Pfeffer & Salancik, 1978). The economic environment in which MFIs operate is informal. In such an environment, the protection of property rights is not adequate, and investor protection is weak. Further, MFIs are heavily dependent on external fund providers. In order to access financial and non-financial resources, the MFIs rely on their trust and legitimacy. Likewise, to avoid damage to the firm's reputation, independent directors effectively monitor and control the potential for managers to take advantage of the resources of the firm (Javakhadze et al., 2016; Kusnadi & Wei, 2011). Social ties and experience motivate the parties in any transaction to operate in a fair and credible way and to behave generously (Gulati, 1995; Shane & Cable, 2002). In this way, independent directors guarantee social investors that their funds will not be misused. It facilitates honest dealings in financial transactions, ensures transparency, and enables strict contract enforcement among economic agents (Javakhadze et al., 2016). It reduces the costs of financial transactions and increases the productivity and economic efficiency of the firm (Granovetter, 2005; Kandori, 1992). Further, these networks also provide access to cheap sources of funds (Francis, LaFond, Olsson, & Schipper, 2004; Khwaja, Mian, & Qamar, 2011) which may improve the firm's financial performance by reducing the costs of funds and increasing their outreach target.

Nevertheless, the literature (Adler & Kwon, 2002; Hargadon & Sutton, 1997; Nahapiet & Ghoshal, 1998) suggests that human and social capital creates intellectual capital. For example, independent directors' social connection brings experience and links relevant to the firm's environment which their competitors and suppliers may not have (Hillman et al., 2001). Likewise, these directors may be a member of primary stakeholder groups (Hillman et al., 2001) or may hold a position with different stakeholder groups. It, therefore, creates opportunity, motivation, and reciprocity between firms, and increases the capabilities of the firm (Adler & Kwon, 2002). For the MFIs, these directors can communicate more frequently with different types of people outside of the firm. This not only enables the firm to acquire resources (Baysinger & Zardkoohi, 1986; Bazerman & Schoorman, 1983; Mizruchi & Stearns, 1994), but it also generates exposure to a variety of strategic and governance issues (Baysinger & Hoskisson, 1990; Johnson et al., 1993; Kor & Sundaramurthy, 2009). It also facilitates entrepreneurship (Chung & Gibbons, 1997) and supports new and start-up corporations (Adler & Kwon, 2002; Walker, Kogut, & Shan, 1997). Further, the reduction of uncertainty may assist the firm to make effective decisions to protect itself from financial distress (Pennings, Lee, & Van Witteloostuijn, 1998). Hence, the literature (Goyal, 2012; Ishii & Xuan, 2014; Jackson, 2008; Javakhadze et al., 2016; Uzzi, 1996) suggests that social networks increase the financial sustainability and value of a firm. Based on the abovementioned literature, it can be said that independent directors' social experience and social networks can help MFIs to achieve their double bottom line performance.

#### 4.3.1.2 *Directors' Community Connections as Social Capital*

Firms also create social connections by appointing individuals to the board who have strong community affiliations (Baysinger & Butler, 1985; Hillman et al., 2000; Hillman & Dalziel, 2003) or relationships with political entities (Faccio, 2006; Hillman, 2005). Appointing these individuals to the board can have a positive impact on firm performance. This issue is common in both industrialized economies and countries with developed legal protection (Goldman, Rocholl, & So, 2009; Hillman, 2005; Jayachandran, 2006; Roberts, 1990) as well as in many developing countries (Faccio, 2006). For instance, Faccio (2006) states that corporate political connections are widespread in countries where institutional corruption is high, and foreign investment is restricted to citizens only. Likewise, Goldman et al. (2009) posit that corporate political involvement in the USA has a significant influence, where legal protection is high and institutional corruption is relatively low.

Firms appoint these directors as part of their strategy to cope with public policy and access to public resources. Prior research (e.g., Cooper, Gulen, & Ovtchinnikov, 2010; Goldman et al., 2009; Leuz & Oberholzer-Gee, 2006) suggests that corporate political connections have positive benefits for MFIs as they facilitate communication with external stakeholders (Waldinger, 1995) and reduce uncertainty through information sharing. However, some literature also expresses a negative view of corporate community associations for firm performance (Bona-Sánchez et al., 2014; Boubakri, Guedhami, Mishra, & Saffar, 2012; Frye & Shleifer, 1997; Shleifer & Vishny, 1994; Shleifer & Vishny, 1998). However, to the best of the researcher's knowledge, this issue remains unexplored in the context of microfinance. Independent directors with community affiliations include renowned clergy, community leaders, political leaders, renowned college or university faculty members who have an influence within the community and government authorities (Hillman et al., 2000).

Independent directors with community connections can be labelled as symbolic directors (Baysinger & Zardkoohi, 1986). The literature suggests that they have a relationship with primary stakeholders (Brammer & Millington, 2005; Clarkson, 1995). They improve the firm's reputation by establishing links between the firm and the community (Fombrun, 2004). Therefore, the appointment of these individuals improves the firm's corporate image (Heugens, Van Riel, & Van Den Bosch, 2004; Hill & Jones, 1992) and signals their commitment to serving the interests of other stakeholders (Brammer & Millington, 2005; Miller & del Carmen Triana, 2009). Besides, firms face risks and uncertainties due to their dependence on the external environment (Pfeffer, 1972). Of these environmental factors, the most important are government policy, regulations and enforcement policies (Hillman, 2005). Resource dependence theorists (e.g., Boyd, 1990; Hillman, 2005; Hillman et al., 2000; Pfeffer & Salancik, 1978) suggest that firms appoint directors with specific attributes and network connections to

overcome these uncertainties. Similarly, it is possible that directors with the community or political connections bring experience and links relevant to the firm's environment which their competitors may not have (Hillman et al., 2000). Firms use this as a buffer against environmental uncertainties (Hillman, 2005). This connection creates social capital (Pfeffer, 1981) and broadens the firm's appeal to external stakeholders. Systematic exchange of favours between politicians and the firm may add value to the firm (Boubakri et al., 2012; Chaney, Faccio, & Parsley, 2011) and reduce transaction costs (Williamson, 1984).

Besides, a board member with political connections provides expertise on legislative and bureaucratic procedures as well as administrative support (Agrawal & Knoeber, 1996; Goldman et al., 2009). Other benefits of this expertise include potential tax incentives for politically connected firms (Goldman et al., 2009). For instance, in Indonesia, Mobarak and Purbasari (2006) identified that firms that have a connection to President Suharto obtained systematic benefits from the government when obtaining import licenses. Further, Fisman (2001) states that the market value of politically connected firms declined following the announcement of Suharto's ill health. Similarly, Faccio and Parsley (2009) identified a significant decrease in the value of politically connected firms after the death of key politicians. Boubakri et al. (2012) also found that politically connected directors and managers tend to experience reduced exposure to market risks. Therefore, it is possible that independent members' community and political links may influence firm performance (Hillman, 2005; Singh, House, & Tucker, 1986). Therefore, the primary strategy for coping with external contingencies is appointing directors who have the necessary experience and external connections to deal with these situations.

Another benefit of independent directors' political and community connections is resource provision. An increasing body of literature suggests that a firm's community connections help to secure resources such as financial capital (e.g., Hillman & Dalziel, 2003; Miller, Xu, & Mehrotra, 2015; Provan, 1980; Zald, 1969). For example, a board member with a political connection may facilitate the firm's access to financial capital from banks (Khwaja & Mian, 2005), may provide them with positive tax incentives, and may reduce the amount of regulatory oversight they experience (Faccio, 2006). It may also provide them with preferential access to government subsidies (De Soto, 1989; Shleifer & Vishny, 1993). This, in turn, enables the MFI to increase its portfolio, to provide credit facilities to a greater extent of the more impoverished populations.

Moreover, these connections not only protect the firm from expropriation by the government (Chen, Li, Su, & Sun, 2011); the systematic interaction between the community influential and the government creates value to the firm in different ways (Boubakri et al., 2012; Chaney et al., 2011; Goldman et al., 2009). For instance, Oh et al. (2006) suggest that

independent directors also bring resources to the firm through referrals, protection, timely access to political support, and assistance in making decisions. Further, when the protection of property rights and the legal systems are weak, and corruption is widespread, such connections are vital for the firm (Chen et al., 2011; Faccio, 2006; Goldman et al., 2009). MFIs operate in an informal economic environment and in the countries where corruption is high, and property rights are not sufficiently secure. The presence of board members, who influence in the community, provides legitimacy to the firm (Hillman et al., 2000). Such legitimacy guarantees stakeholders of the existence of the firm. For instance, Fama and Jensen (1983b) suggest that the participation of savings banks in political endeavours has a positive effect on their sustainability

However, there is also an opposing view that the presence of dominant political or community influential may increase the potential that resources of the firm will be used for personal benefits (Bona-Sánchez et al., 2014; García-Meca & García, 2015). Therefore, independent directors' community and political connections may have an influence on MFI double bottom line performance. However, this line of research has not yet been explored in the microfinance market.

#### *4.3.1.3 Independent Directors' Advanced Education as Human Capital*

Another essential attribute that independent directors bring to the board is knowledge acquired through formal education and training, as a human capital attribute. According to Becker (1993), human capital encompasses the knowledge, skills, ideas, and information an individual brings to the firm. It is symbolic evidence of their knowledge and learning (Singh, 2007). Kim, Aldrich, and Keister (2006) suggest that formal education helps an individual to strengthen their entrepreneurial and managerial skills in three different ways: through the acquisition of skills, credentials, and sorting people by ambition and assertiveness. Education enables an individual to acquire general business and technical skills through specialized courses and training, which enables them to develop basic business functions (Kim et al., 2006). Formal education develops an individuals' ability to think critically and work in a team.

Furthermore, education develops an individual's cognitive capacity and improves their insight and flair for innovation (Dalziel et al., 2011). These cognitive abilities help the individual to determine what is wrong and what is right for the firm. When individuals with a high cognitive and managerial capacity join the board, they can effectively contribute to strategic decisions made by the firm (Carpenter & Westphal, 2001). Similarly, independent directors with advanced education are motivated by their independent status (Dalziel et al., 2011), which enables them to fulfill their "duty of care" (Jensen & Meckling, 1976), by providing better supervision of management activities. Dalziel et al. (2011) therefore, suggest that independent directors' educational background has a positive association with the research

and development (R&D) when such directors are involved in the assessment and creation of R&D strategies.

Similarly, formal education facilitates access to social networks through an individual's alumni (Kim, 2005). Further, their advanced education acts as a positive signal to stakeholders, particularly to the external resource providers. In this way, independent directors provide legitimacy to the firm. Notably, when the firm is in its initial stages, and when the firm needs to build its reputation and credibility to attract suppliers and customers, the social background of independent directors, which is created from their education and alumni, provides a positive signal to resource providers and prospective clients. Therefore, advanced education is a form of social capital as it provides additional resources to the firm in addition to the role of monitoring management and contributing to strategic decision making. However, board independence may adversely affect MFI financial performance if the cost of monitoring outweighs the benefits.

Unlike hi-technology firms, MFIs are not technology-oriented. However, they must work to develop new products or new markets. In doing so, management requires strategic support from the board. The internal board members may not possess the necessary knowledge, skills, and capabilities that are required by the firm (Chandler & Lyon, 2009). When the internal directors lack the required knowledge and skills, independent directors' academic knowledge may fill the gap.

Although a large body of literature supports the proposition that independent directors' advanced education improves firm performance, some empirical evidence is inconclusive on this issue. Kim and Lim (2010) suggest that there is a positive relationship between independent members' education and firm value in Korea. Similarly, Wincent et al. (2010) identify a positive relationship between education on the innovative performance of network participants. Likewise, Chandler and Lyon (2009) suggest that the acquisition of knowledge has a positive association with venture performance in emerging firms. However, Dalziel et al. (2011) report that independent members' advanced education has a negative influence on R&D expenditure. Further, Bantel and Jackson (1989) state that the impact is insignificant.

The microfinance industry presently faces a significant increase in market competition, which increased regulation. As a result, internal directors and founding members cannot adequately manage regulatory requirements alone, and they may not have sufficient access to external funds (Castrogiovanni, 1991; Chandler & Lyon, 2009). Therefore, there is a need for expert members who have the required knowledge and skills to overcome such contingencies and complexities. These individuals can share their knowledge with others (Simon, 1991) to improve firm performance. As this issue has not yet been explored in microfinance, the present study examines the topic.

### 4.3.2 Hypothesis Development

#### 4.3.2.1 *Board Independence and MFI Performance*

Based on the stated literature, this study anticipates that board independence has a positive association with MFI financial and social performance. A positive effect is in three ways: control of management, advice, and the provision of resources (Johnson et al., 1996; Lee et al., 2012; Peng, 2004). Control of management primarily relates to the supervision of management activities so that the best interests of the shareholders are protected. It is essential for two main reasons. There may be a conflict of interest between the managers and owners of the firm (Fama & Jensen, 1983b; Jensen & Meckling, 1976). The process of supervision becomes more complex when the board is dominated by internal members (Fama, 1980). When the managers have adequate control over the firm, there is a higher risk of improper use of firm resources by managers. In this situation, the independent directors can protect the interests of the shareholders through proper supervision of management (Gillan & Starks, 2000; Hermalin, 2005; Kesner, 1988).

Similarly, independent directors advise management based on the information received and the observation of the activities of the firm. As these directors are not related to the management or internal members in any way, they can provide independent judgment and advice (Kesner, 1988). However, the effectiveness of their advice and contribution to strategic decision making depends on the information provided by management and the relationship between the board and management team (Hermalin & Weisbach, 1998).

Likewise, independent directors create external links to the firm (Bazerman & Schoorman, 1983; Mizruchi & Stearns, 1994). They frequently communicate with different types of people and have a better relationship with external stakeholders such as clients and fund suppliers. When MFIs lack critical resources, they use the legitimacy and connection of independent directors to access actual and potential resources from outside of the firm (Hansen, 1999; Oh et al., 2006; Tsai, 2001). In some cases, independent directors can obtain subsidized and low-cost funds from the government and development agencies. It reduces the costs of funds and increases the productivity of MFIs. Also, access to funds increases the loan portfolio of the MFI through which they can reach the economies of scale. Based on this, it is predicted that, as a result of better supervision of management, proper advice, information sharing, and resource provisioning, independent directors have a positive impact on the financial outcomes of MFI. Hence, the following hypothesis is proposed:

**H1a:** Board independence has a positive association with MFI financial performance.

Further, independent directors help firms to access external funds (Baysinger & Hoskisson, 1990; Mizruchi & Stearns, 1994) and further expand their capacity through

increased performance (Weisbach, 1988). This, therefore, enables the MFI to increase its social outreach. In the case of social enterprises, it is generally expected that external directors place more emphasis on the social mission of the firm, compared to investors and shareholders. The social investors believe that outside directors can have a better understanding of potential clients and their interests which enables them to serve the more impoverished clients at the bottom of the pyramid. In particular, when the MFI has access to external funds at low cost through the connections of the independent directors, the opportunity to serve poorer people increases. Therefore, the following hypothesis is proposed:

**H1b:** Board independence has a positive association with MFI social performance.

#### *4.3.2.2 Independent Directors' Social Experience and MFI Performance*

Similar to the above, and following the extant literature (Hotho, Becker-Ritterspach, & Saka-Helmhout, 2012; Ishii & Xuan, 2014; Jackson, 2008; Javakhadze et al., 2016), this study also expects that independent directors' social experience has a positive association with MFI financial and social performance. When the directors use their experience and connections with other social organization, they can communicate the necessary information from their social networks (Brandes et al., 2015; Jackson, 2010). It mitigates the costs associated with searching for information (Brandes et al., 2015; Granovetter, 2005). Further, the uncertainty of the information is also substantially reduced (Uzzi, 1996).

Further, due to the independent directors' social connections and experience, a sense of obligation is created through their social involvement, they become self-disciplined, and are more inclined to act in a fair and credible way, to minimize potential damage to their reputation (Gulati, 1995; Shane & Cable, 2002). Also, outside directors' social connection can help to access critical resources from outside the firm through legitimacy (Hansen, 1999; Oh et al., 2006; Pfeffer & Salancik, 1978; Tsai, 2001)

Furthermore, the literature suggests that social experience creates intellectual capital (Adler & Kwon, 2002; Hargadon & Sutton, 1997; Nahapiet & Ghoshal, 1998). This intellectual capital can help a firm to cope with uncertainty (Pennings et al., 1998). In this way, independent directors bring expertise that is specific to the firm's needs and provide the firm with a competitive advantage (Hillman et al., 2000). It also helps in the formulation and evaluation of a variety of strategic and governance issues through which, the board can make effective decisions (Baysinger & Hoskisson, 1990; Johnson et al., 1993). It may assist the MFI to develop financial products, reduce operating costs, and identify cost-effective ways to serve poor people. Based on these ideas, the following hypothesis is proposed:

**H2a:** Human and social capital created through independent directors' experience in social organizations has a positive effect on MFI financial performance.

Furthermore, experienced based human and social capital also have positive benefits for MFI social performance. Their experience in similar organizations and their external social connections help the firm to understand a variety of stakeholders and their role within the firm (Baysinger & Zardkoohi, 1986; Bazerman & Schoorman, 1983; Mizuchi & Stearns, 1994). When independent directors belong to social networks such as charities or NGOs, they develop knowledge on how to achieve more significant social impact. It is because they better understand the socio-economic profile of their clients, the nature of the demand for microfinance products, market conditions, the needs of prospective clients, and how to fill such needs without inhibiting the firm's financial objective. When the independent members have a close connection to the underprivileged segment of society, they have a better understanding of the economic needs of poor people which can be used to expand the firm's outreach target. Hence, following the literature (Goyal, 2012; Jackson, 2008), it is argued that social networks not only help to increase the firm's financial sustainability but also to increase their social outreach. Therefore, the following hypothesis is proposed:

**H2b:** Independent directors' social experience has a positive influence on the breadth and depth of outreach.

#### *4.3.2.3 Independent Directors' Community Affiliations and MFI Performance*

This study expects that independent directors' community ties do not always have a positive effect on firm performance. In firms where ownership and control remain separate, the political affiliations of the firm's managers or directors often increase information asymmetry (Chen et al., 2011). In particular, when the interests of the minority shareholders are not protected, these connections can increase the dominant owners' motivation to exploit the wealth of minority shareholders (Bona-Sánchez et al., 2014; García-Meca & García, 2015). There is also a high possibility of this situation in countries where property rights are not adequately protected and corruption is widespread, or where the regulatory environment is weak (Bona-Sánchez et al., 2014). As the capital market is under-developed in these countries (Bona-Sánchez et al., 2014), shareholders and prospective investors are not encouraged to invest in these economies (Boubakri et al., 2012). For instance, Chen et al. (2011) suggest that in China, political connections provide rent-seeking incentives for politically connected individuals sitting on the board.

Similarly, individuals on the board find the opportunity to extract private benefits and resources from the firm when they use their political connections to access financial resources from banks (Khwaja & Mian, 2005). Hence, in these economies, the cost of community and political connections are high (Ben-Nasr, Boubakri, & Cosset, 2012). In developing countries, MFIs may experience the same problem. MFIs provide financial services in an informal economic setting. Although the MFIs use political leaders and individuals with influence in the

community to attract government incentives and subsidies, these individuals may take these opportunities to use government awards for a personal benefit. It has occurred in the early stages of the agricultural credit program in many developing countries (Armendáriz & Morduch, 2010). Further, when the directors' political connections are unfavourable due to a hostile relationship between political directors and the government, the impact on sustainability of the firm may be worsened.<sup>41</sup>

Likewise, those individuals with influence within the community may intervene in business activities without proper professionalism (Fan, Wong, & Zhang, 2007; Shleifer & Vishny, 1994). For instance, Fan et al. (2007) suggest that community leaders and political leaders have little managerial and professional skills. It may result in low firm performance. Besides, politically connected directors may impose interest rate caps on credit to obtain political benefits from poverty lending. It decreases the interest margin of the MFI; when the firms cannot cover the costs of financial intermediation from their revenue, they will experience financial loss. This, therefore, undermines the poverty reduction target of the credit delivery programs. For instance, Boubakri et al. (2012) suggest that if the marginal cost (cost of capital) is higher than the marginal benefit of the firm's political connection, firm performance will deteriorate. Also, due to the inefficient use of the funds, when the marginal cost of attracting funds are higher than the marginal revenue generated from it, firm performance will also decline. Based on this, the following hypothesis is proposed:

**H3a:** Independent directors' community connections have a negative influence on MFI economic sustainability.

However, this study anticipates that these connections have a positive influence on social performance. As suggested in the literature (Brammer & Millington, 2005; Miller & del Carmen Triana, 2009), the inclusion of community leaders as external members on the board provides legitimacy of the firm to different stakeholders. They can facilitate communication with the people outside of the firm (Waldinger, 1995) and with primary stakeholders (Hillman et al., 2001). This, in turn, improves the corporate image of the firm among its' stakeholders (Heugens et al., 2004; Hill & Jones, 1992).

The MFIs use their corporate reputation and legitimacy in two main ways: to access funds and other benefits from the government and other agencies to use for poverty lending and

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<sup>41</sup>The founder and the chair of the board of PROSHIKA, a large NGO MFI in Bangladesh, was affiliated to the political party in Bangladesh, acting as the opposition treasury bench during the 2001-2006 political regime. The chair of PROSHIKA motivated their field level employees and their clients to stand against the ruling party and planned a movement to bring the ruling party back from the power. As they were not successful, the ruling government took action against the PROSHIKA and its chair. The MFI lost its capacity to survive.

to attract poor clients. As stated earlier, political connections enable the firm to overcome budget constraints by obtaining easy and low-cost access to funds from development agencies and the government (Faccio, 2006; Khwaja & Mian, 2005). For instance, Agrawal and Knoeber (2001) suggest that the more political directors there are on the board, the more interaction the firm will have with the government. Through this connection, MFIs can also gain access to government incentives and subsidized funds, which it can use for poverty outreach. Also, politically connected directors help corporate bailout by different government support (Faccio, Masulis, & McConnell, 2006). Due to their acceptance in the community, these directors can make valuable connections with creditors, fund suppliers, and legal authorities. For instance, De Soto (1989) suggests that the leaders of a political party belonging to the treasury bench are better able to manage subsidized funds for the firm. Also, non-profit organizations can raise funds when individuals with influence within the community serve on their board (Provan, 1980; Zald, 1969). Further, political connections provide expertise on legislative and bureaucratic procedures, tax incentives, and provides administrative favours to the firm (Agrawal & Knoeber, 2001; Goldman et al., 2009). The MFI can also use such incentives and benefits to enhance their loan portfolio and expand their social outreach. Besides, the inclusion of political leaders or journalists on the board can provide the firm with advanced access to information on future changes in laws or regulations. It gives the firm a competitive advantage.

Similarly, MFIs use corporate reputation and legitimacy to attract people at the bottom of the pyramid. The economic environment in underdeveloped countries is risky, and it is unsafe to deposit the small income of poor people with MFIs because the MFIs are not prudentially regulated. Hence, corporate legitimacy created by community leaders prevents the risk of damage to their reputation as they enforce discipline within the MFI (Hillman et al., 2000). Further, poor borrowers may not be treated well by the MFI if they experience difficulty in repaying their credit. Therefore, in line with García-Meca and García (2015), this study also anticipates that the presence of a person with influence within the community on the board can act as a safeguard to protect the deposits of the poor people. Also, to ensure the political mission of the MFI is achieved, these members encourage the board and management to broaden their area of operation and their outreach target. Hence, the following hypothesis is proposed:

**H3b:** Independent directors' community connection has a positive effect on the breadth and depth of outreach.

#### *4.3.2.4 Independent Directors' Advanced Education and MFI Performance*

Following the literature (Bantel & Jackson, 1989; Chandler & Lyon, 2009; Dalziel et al., 2011), it is expected that independent directors' advanced education, as another human capital attribute, has a positive effect on the financial and social outcome of MFIs. Formal education makes an individual more knowledgeable (Jensen & Meckling, 1976). It enables

those individuals to understand the internal and external environment and cope with market uncertainties. This, in turn, reduces the instances of information asymmetry and improves the supervision of management (Carpenter & Westphal, 2001). In this way, an educated and independent director can help the firm to reduce agency costs. Further, independent directors can solve complex problems (Bantel & Jackson, 1989) and can, therefore, ensure the better and efficient use of firm resources.

Another benefit of having educated, independent directors is access to resources from external sources. Independent directors rely on their alumni network (Kim & Lim, 2010) and the legitimacy that they bring to the firm. It reduces the cost of capital. Also, an educated, independent director can negotiate with regulatory authorities to enable the firm to handle market competition better. They can advise management on important regulatory requirements. All of this is important for MFI sustainability. Wincent et al. (2010) suggest that education enables an individual to solve complex problems and face challenging issues. Therefore, independent members' advanced education has a positive impact on MFI financial performance.

**H4a:** Independent directors' advanced education has a positive influence on MFI financial performance.

Similar to the above, it is expected that independent directors' advanced education has a positive influence on MFI social performance. Educated directors possess knowledge on market demands (Huber, 1991) and business ideas, and are better equipped to solve complex problems and manage complex environments. Further, educated independent directors provide a signal to fund providers that they can effectively monitor the MFI's activities to ensure that the funds are being properly used. Receiving external funds in this way enables the MFI to grow their portfolio and increases the depth and breadth of social outreach.

Further, independent directors can solve complex problems and manage challenging issues (Wincent et al., 2010), and quickly understand market conditions and competitors. It allows them to understand the demand of prospective clients and how to satisfy such demand. It can be used to develop new microfinance products. Therefore, the following hypothesis is proposed:

**H4b:** Independent directors' advanced education has a positive influence on MFI social performance.

## **4.4 Empirical Methodology**

### **4.4.1 Data Source and Sample**

The data for this study is collected from the Microfinance Regulatory Authority (MRA) of Bangladesh. The sample includes MFIs registered (licensed) under the MRA Act 2006.

Although 15 commercial banks provide microfinance services in Bangladesh, the sample of this study excludes commercial banks because microfinance is not their primary activity. They provide microfinance services as part of their corporate social responsibility programs only. Further, they enjoy financial incentives from the central bank to provide these services. Hence, their financial and social performance do not purely reflect the outcomes of the microfinance activity. Also, this study excludes 42 MFIs due to insufficient data on the required board related variables. Therefore, among the 769 MFIs till December 2016<sup>42</sup>, the final data includes 727 MFIs with 4,173 firm-year observations (2007–2015). However, the data is unbalanced because many new entrants have recently obtained a license from the MRA, and the MRA has canceled some licenses for non-compliance with MRA regulations. Further, the data of the dependent and explanatory variables are not the same, as some of the MFIs have incomplete data.

The detailed data on board related variables is not readily available in the MRA. The researcher hand-collected this data from the MRA archive records. The researcher consulted detailed records of the directors and their curriculum vitae from the license and the MIS section of the MRA. For instance, to determine whether the independent director has a social experience, the researcher studied the director's profile and their curriculum vitae. The researcher also consulted the resolution of the Annual General Meeting submitted to the MRA to confirm whether there have been any changes in board composition that may also result in a change in the board's human and social capital attributes. The MFIs are required to notify the MRA of these changes and are required to attest the resolution of the AGM and the directors' CV by specific government officials of the respective area where the MFI head office is located. Hence, the researcher considers that the information is authentic and correct.

#### **4.4.2 Variables**

The panel data for this study includes dependent, explanatory and control variables. As the study investigates the impact of board independence on the MFI double bottom line performance, the study includes both the financial and social performance variables. The definition of the variables and their calculation is outlined in Table A4 (Appendix).

##### *4.4.2.1 Dependent Variables*

This study uses Return on Assets (ROA), Return on Equity (ROE), and Operational Self-sufficiency (OSS) as the dependent variables to measure MFI financial performance.

**ROA** is the measure of overall financial performance of the MFIs. ROA shows how effectively the MFIs can generate returns using their assets (Armendáriz & Morduch, 2010;

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<sup>42</sup> Including all the MFIs that have a permanent (659 MFIs) or temporary license (including Grameen Bank). The data is from 2007 because the MFIs report data to the MRA after its formation in 2006.

Hartarska, 2005). ROA is measured by the ratio of the net operating income after tax to the average total assets. Following the literature (Armendáriz & Morduch, 2010; Morduch, 1999), the researcher averaged the total assets for the beginning and end of each year, to overcome potential distortion in the financial statements due to seasonal fluctuations and rapid changes in the loan portfolio.

**ROE** measures the productivity and profitability of the capital employed in the firm (Pathan & Faff, 2013; Strøm et al., 2014). It shows the ability of the MFI to generate profit attributable to the equity holders, after the payment of all obligations (Strøm et al., 2014).

**OSS** refers to the extent to which the MFI can generate sufficient revenue to cover its operating costs (Cull et al., 2007; Mersland & Strøm, 2009; Strøm et al., 2014). If the MFI covers the entirety of its operating costs from the revenue generated (such as  $OSS > 1$ ), the MFI is considered to be operationally self-sufficient. An OSS below one indicates an inability of the MFI to generate enough revenue to cover its' costs. These costs include operating expenses, finance expenses, and loan loss provision expenses (Armendáriz & Morduch, 2010; Cull et al., 2007).

There is no direct measure of the social performance of MFIs. Following the literature (Assefa et al., 2013; Mersland & Strøm, 2009; Schreiner, 2002), this study uses outreach to poor people as a measure of social performance. Although microfinance is considered as a mechanism to eradicate poverty, it is still unclear whether this goal is actually achieved (Banerjee & Jackson, 2017). Even though some MFIs contribute to the eradication of poverty, it is beyond the scope of the researcher to directly examine the impact of microfinance on poverty. However, as the main aim of the MFIs is to serve the poor and unbanked people with the financial services (Morduch, 1999), the microfinance literature considers outreach to poor people as the primary social performance indicator for MFIs (Cull et al., 2007; Schreiner, 2002). Outreach to the underprivileged people is measured in two ways – through the breadth and depth of social outreach (Assefa et al., 2013; Mersland & Strøm, 2009; Strøm et al., 2014; Vanroose & D'espallier, 2013). These two dimensions of social performance based on the sustainability approach and poverty approach.

**The breadth of outreach** refers to how many borrowers the MFI serves at the bottom of the pyramid (Morduch, 2000; Rhyne, 1998; Schreiner, 2002). Based on the poverty approach, it is generally expected that the more active borrowers the MFI serves, the greater their breadth of outreach will be (Schreiner, 2002). From a self-sustainability approach, it is generally expected that serving a large number of borrowers enables the MFI to reach the economies of scale (Schreiner, 2002). Furthermore, in following the microfinance literature (Assefa et al., 2013; Hartarska, 2005; Mersland & Strøm, 2009; Strøm et al., 2014), breadth of outreach is measured by the log of the number of active borrowers (**NAB**). NAB includes the borrowers

who have obtained a loan from the MFI of which the loan or the associated interest remains unpaid (Hartarska, 2005). The larger the NAB, the greater the outreach of the firm.

*The depth of outreach* measures the MFI's outreach to poorer borrowers (Schreiner, 2002). It is measured as the log of the average loan balance per borrower (*ALB*) (Cull et al., 2007; Hulme & Mosley, 1996; Weiss & Montgomery, 2005). The microfinance literature argues that the smaller the loan provided to clients, the deeper the MFI can penetrate the bottom of the pyramid (Collins et al., 2009; Morduch, 2000). This measure follows the pure poverty approach, which stems from the idea that poor people have limited means to provide collateral to obtain a larger loan (Armendáriz & Morduch, 2010). Further, they have limited capacity to use a larger loan as they typically earn only small incomes (Collins et al., 2009). Therefore, *ALB* is used to measure the depth of outreach to poor borrowers.

#### 4.4.2.2 Explanatory Variables

To test H1a and H1b, the study considers independent directors (*Independent Prop* and *Independent Log*) as those who are not employees or shareholders of the firm, and do not have any other financial interest in the firm (Adams et al., 2010; Dalton et al., 1998; Shivdasani & Zenner, 2004). In accordance with the literature (Brandes et al., 2015; Goyal, 2012; Jackson, 2010; Kor & Sundaramurthy, 2009), this study considers that an independent director has social experience (*Social Prop* and *Social Log*) if the director is engaged in an MFI or similar other organization, or has previously worked in an NGO either on the board or top or middle-level management for at least five years.

Further, to test H3a and H3b, this study uses independent members' community connections (*Community Prop* and *Community Log*). In accordance with the literature (Fan et al., 2007; Lester, Hillman, Zardkoohi, & Cannella Jr, 2008), the study considered that an independent director has a community tie if the director has an affiliation to a political party in a leadership position, or is represented in parliament or local government, or is a former government official, a community organizer, or even a religious leader. As political leaders or former government officials have influence in both government policy making or the development of regulations and the community, these individuals are also considered as community influential. Further, in following the literature (Bantel & Jackson, 1989; Carpenter & Westphal, 2001; Kim & Lim, 2010), the study uses independent directors' advanced education (*Graduate Prop* and *Graduate Log*) as a human capital attribute to test H4a and H4b. An independent director possesses an advanced educational background if the director has graduated from a reputed university or college before joining the board.

For all of the four explanatory variables, the researchers log-transformed the count measures of the variables following the model by Cannella et al. (2015). For instance,

independent directors' community affiliation is transformed to *Community Log* =  $\log(1 + \text{Independent directors with community tie})$ , independent directors' social experience is *Social Log* =  $\log(1 + \text{Independent directors with social experience})$  and so on. It eliminates the problem of skewness. Furthermore, in accordance with the literature (Kroll et al., 2007; Wang & Song, 2016) the study uses a ratio measure of the explanatory variables. For example, *Independent Prop* is measured as the ratio of total independent directors to the total number of directors; *Community Prop* is measured as the proportion of total independent directors with community ties to the total number of directors and so on. According to the literature (Gilbert et al., 1998; Wang & Song, 2016), the use of a ratio measure rather than the use of a direct count measure has some key benefits. First, a ratio is a comparative measure that appropriately explains the majority-minority relationship inside the group (Levine & Moreland, 1990). For instance, the dominance of the independent directors with community affiliations on the board may not be clear if the total number is used rather than the ratio measure. Furthermore, Dalton et al. (1998) and Wang and Song (2016) suggest that a count variable does not capture the differences in the control of the board and the resource provisions of the directors. Instead, the ratio measures the extent of stakeholder involvement, which is consistent with the theoretical background.

#### 4.4.2.3 Control Variables

Further, in line with governance and firm performance literature, this study controls the other governance and firm-specific attributes in the model. For instance, board size could have a considerable influence on governance effectiveness (Jensen, 1993; Muth & Donaldson, 1998). A larger board means increased stakeholder-orientation (Hillman et al., 2001). However, a larger board may also mean an increased number of "free riders" on the board (Jensen, 1993). Therefore, based on the literature (Bennedsen et al., 2008; Dalton et al., 1998; Jensen, 1993; Muth & Donaldson, 1998), this study includes *Board Size* as a governance-related control variable with the expectation that this variable influences the performance of the firm. Further, this study includes CEO Power (*CEO-Chair*) within the model based on the idea that CEO power, as another corporate governance issue, increases the stability of the firm, confidence in management, and facilitates better communication with the board (Bhagat & Black, 2002; Boyd, 1995; Brickley et al., 1997). It is expected that top management power fosters integrated command and reduces the cost of information (Brickley & James, 1987). However, such power may also increase agency costs (Fama & Jensen, 1983a; Lipton & Lorsch, 1992).

Besides, this study includes (log of) the gross loan portfolio as a firm-specific control variable as the measure of *Firm Size* (Cuéllar-Fernández et al., 2016; Mersland & Strøm, 2009; Strøm et al., 2014). Although assets size is often used in previous literature (García-Meca et al., 2015; Hartarska, 2009) as a measure of firm size, this study has insufficient data on asset size for 2007 and 2008. Hence, the loan portfolio is used as an alternative measure. It is expected

that the larger the *Firm Size*, the more complex the organisation is, and the more complex its' governance structure will be (Daily & Dalton, 1992; Whisler, 1988).

Furthermore, the literature (Ahlin et al., 2011) suggests that growth in the loan portfolio has a positive influence on financial and social performance. That study includes *Loan Growth* as another control variable in the model. Furthermore, both the classic (Anderson et al., 2003) and microfinance literature (Hartarska, 2005) suggest that capital structure of the firm (such as, *Debt-Equity* ratio) reveals the dependency of the firm on the external funds, and provides an individual risk profile of the firm, which may have an influence on firm performance. This study includes the *Debt-Equity* ratio as another firm-specific control variable, with the expectation that the smaller the ratio, the safer the MFI is in respect of its' financial obligation.

Finally, due to the distinctive nature of MFI operations, portfolio risk is an important consideration for MFI performance. As MFIs generally provide credit to poor borrowers without obtaining physical collateral (Collins et al., 2009; Morduch, 1999), the risk of portfolio loss is high. Hence, following Ahlin et al. (2011) and Cuéllar-Fernández et al. (2016), this study uses provision for loan loss expenses (*Provision*) as the measure of portfolio risk.

#### 4.4.3 Estimation Method

The following equation is used to empirically test the relationship between the board independence variables and MFI double bottom line performance:

$$Y_{it} = \alpha_0 + \beta_i X_{it} + \gamma_i Z_{it} + Y_d + \varepsilon_{it} \quad (1)$$

Where, the subscript  $i$  denotes the individual MFI ( $i = 1, 2, 3... 727$ ) and  $t$  denotes the time in years ( $t = 2007, 2008... 2015$ ). The coefficient,  $\beta_i$  and  $\gamma_i$  are the vectors of the coefficient of the independent director related explanatory ( $X_{it}$ ) and control variables ( $Z_{it}$ ) respectively, and  $\varepsilon_{it}$  is the idiosyncratic error term. The dependent variable,  $Y_{it}$  denotes the MFI financial and social performance variables. For instance, for the ratio measures of the four main explanatory variables (*Independent Prop*, *Community Prop*, *Social Prop*, and *Graduate Prop*), equation (1) is as follows:

$$P_{it} = \alpha_0 + \beta_1 \text{Independent Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (2)$$

$$P_{it} = \alpha_0 + \beta_2 \text{Social Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (3)$$

$$P_{it} = \alpha_0 + \beta_3 \text{Community Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (4)$$

$$P_{it} = \alpha_0 + \beta_4 \text{Graduate Prop}_{it} + \gamma_i \text{Controls}_{it} + Y_d + \varepsilon_{it} \quad (5)$$

Following the governance literature (e.g., Xu et al., 2015; Yermack, 1996), this study

employs a pooled ordinary least square (OLS) regression to measure the association between board independence and firm performance. The pooled OLS estimates both the time-series and the cross-sectional variation of the association between the main explanatory variables and MFI performance. Though the fixed-effect OLS (FE) can be applied in the presence of unobserved firm fixed effects (Adams et al., 2010), the FE may not be suitable in this case because the fixed effect regression requires a significant variation in the main variables of interests to generate an unbiased and consistent estimate. However, in this case, the explanatory variables do not vary substantially over time. Therefore, the fixed effect regression may be inaccurate in this study (Wooldridge, 2016). Further, for a large number of firms and limited periods of examination, fixed effect regression is likely to provide an inconsistent estimate (Baltagi, 2005). Though the study has a large number of firms (727), the majority of the MFIs only have a few years of observations readily available, as they have only recently entered the market and some MFI's had their licenses cancelled. However, before finally applying the Pooled OLS, the researcher conducted both the fixed effect OLS (FE OLS) and random effect GLS (RE GLS) on the data, then applied the Hausman tests to determine which method best describes the predicted association between board independence variables and MFI performance, without violating the underlying assumptions of the regressions. In the end, the Pooled OLS was deemed suitable for this study. However, pooling the cross-section and time-series observations may be susceptible to heteroscedasticity and multicollinearity (Petersen, 2009). This study checks this issue by applying robust regressions in all of the models. However, it does not make any sense to apply and report the Hausman test that maintains the full set of the random effect assumptions when the robust regression is used.

The literature (Adams & Ferreira, 2009; Carter et al., 2010) also suggests that firm performance is sensitive to different definitions of governance variables. Therefore, this study runs the regressions using both ratio and logarithmic measures for the explanatory variables. Moreover, as robustness tests, this study uses several alternative estimation procedures such as using the (one year) lead-lag model of the dependent and explanatory variables and using alternative proxies to measure financial and social performance.

## **4.5 Results**

### **4.5.1 Descriptive Statistics**

Table 4.1 reports the summary statistics of the variables used in the Model. In following Chen et al. (2012) and Xu et al. (2015), except for the CEO-Chair, all other variables are winsorized at the 1st and 99th percentile to adjust for outliers. The table shows that, among the financial performance variables, the average (median) ROA is 2.3 percent (1.4 percent). However, the mean (median) ROE is 15 percent (12 percent), which is higher than the ROA. It indicates that the MFIs are more efficient in using shareholder funds than external funds.

However, the mean (median) OSS is only 0.89 (0.97), which indicates that MFIs in Bangladesh are not typically operationally self-sufficient. The poor financial performance in the sample MFIs is consistent with prior studies on microfinance performance (Hartarska, 2005; Mersland & Strøm, 2009). This poor performance is due to the distinctive nature of the microfinance operating mechanisms and its unique mission. In the dataset, the firm-year observation for all of the financial performance variables is not equal. The observation is lower for the OSS because the study lacks data on the OSS for 2007 and 2008. The study also lacks data on the ROA for 2008.

Table 4.1 shows that the average (median) number of borrower outreach (NAB) is 34,000 (5,000) and the average loan size per borrower (ALB) is BDT 8,750 (5,000). The NAB indicates that there is a considerable variation in the microfinance market in Bangladesh with respect to client outreach. Except for a few dominant MFIs, the market share, as well as the outreach, is relatively small for most MFIs. Further, the small size of the ALB indicates that MFIs in Bangladesh tend to provide smaller loans to their borrowers to ensure their mission of deeper outreach at the bottom of the pyramid, as an indication of a strong social mission.

Of the sample MFIs, an average of 32.8 percent of the directors are independent (median is 28.6 percent). It means that only one-third of the directors are from outside of the firm. Furthermore, only 2.9 percent of the directors have a community connection or leadership. The percentage of independent directors with social experience is also small (3.3 percent). These variables indicate that very few independent directors have a community connection or previous social experience. However, the number of independent directors with advanced education is comparatively high (mean 22.3 and median 33.3 percent).

Of the control variables, the average board size for the sample MFIs is 7.7. Further, only one percent of the MFIs have a CEO duality. The univariate statistics of the firm size (mean BDT 320 million and median BDT 33 million) indicate that the MFIs are typically small in size except for a few dominant MFIs. However, those MFIs still experienced positive growth (loan growth) during the study period. Further, the Debt-Equity ratio indicates that the MFIs, on average, have high financial leverage (mean 5.26 and median 1.78).

**Table 4.1 Summary Statistics of the Variables**

Variable	Obs.	Mean	S.D.	Min	0.25	Mdn	0.75	Max
<i>Dependent Variables:</i>								
ROA	3791	0.023	0.040	-0.127	0.003	0.014	0.042	0.186
ROE	4173	0.150	0.396	-1.790	0.030	0.120	0.250	2.030
OSS	3520	0.888	0.433	0.019	0.611	0.974	1.151	2.112
NAB	4172	8.858	1.580	6.310	7.650	8.427	9.924	13.605

NAB (,000)	4172	34	100	0.550	2.100	4.568	20	810
ALB	4172	8.956	0.499	7.621	8.633	8.962	9.297	10.116
ALB (Total)	4172	8748.957	4418.161	1929	5613.5	7801.5	11000	25000
<i>Explanatory Variables:</i>								
External Prop	4173	0.328	0.296	0.000	0.000	0.286	0.571	0.900
External Log	4173	1.004	0.744	0.000	0.000	1.099	1.609	2.197
Community Prop	4173	0.029	0.062	0.000	0.000	0.000	0.000	0.286
Community Log	4173	0.147	0.304	0.000	0.000	0.000	0.000	1.099
Social Prop	4173	0.033	0.070	0.000	0.000	0.000	0.000	0.286
Social Log	4173	0.163	0.326	0.000	0.000	0.000	0.000	1.099
Graduate Prop	4173	0.223	0.227	0.000	0.000	0.143	0.333	0.857
Graduate Log	4173	0.791	0.637	0.000	0.000	0.693	1.386	2.079
<i>Control Variables:</i>								
Board Size	4173	7.707	1.201	6.000	7.000	7.000	9.000	12.000
CEO Power	4173	0.006	0.076	0.000	0.000	0.000	0.000	1.000
Firm Size (,000,000)	4173	320.000	960	3.300	14	33	170	7300
Debt-Equity	4173	5.263	16.940	-12.060	0.470	1.780	4.440	147.920
Loan Growth	4173	0.137	0.455	-0.621	-0.066	0.110	0.264	2.077
Provision	4173	0.012	0.022	0.000	0.000	0.010	0.010	0.150

**Note:** Financial performance variables (ROA, ROE, and OSS) are in decimal. Among the social performance variables, the number of active borrowers (NAB) is in both log and thousands (000), and the average loan balance per borrower (ALB) is in BDT. Independent Prop, Community Prop, Social Prop, and Education Prop are measured as the proportion of total directors. In the regressions, both the proportion and the logarithm are used in estimating MFI performance. Firm size (size of the loan portfolio) is in a million BDT (000,000). Loan growth and provision expenses are in decimal. Except for CEO-Chair, all the variables are winsorized at 1% and 99%.

## 4.5.2 Model-Free Analysis

### 4.5.2.1 Univariate Test

As a Model-free analysis, this study applies the mean-difference test of the variables. Table 4.2 presents the results of the two-sample t-tests. The results indicate that the average financial performance is higher when the board has at least one independent director. For instance, the mean ROE for independent director presence is 17.2 percent, while the mean ROE without the presence of independent directors is 14 percent (with  $t = -2.509$ ,  $p < 0.01$ ). Similarly, the mean OSS for independent director presence is 0.897 while the mean OSS without independent directors is 0.872 ( $t = -1.608$ ,  $p < 0.10$ ). It indicates that the presence of independent directors on the board is associated with higher MFI financial performance. Besides, the NAB is higher for firms that include independent directors on the board (8.959 compared to 8.880,  $t = -14.772$ ,  $p < 0.01$ ), thereby supporting the influence of board independence on the breadth of

outreach.

Similarly, the model-free tests suggest that there is a variation in financial and social performance based on the independent directors' community affiliations. The results show a significant and higher financial and social performance when community ties are present. Likewise, for both the independent directors' social experience and advanced education, the average financial and social performance are higher (with significant t-test statistics). All of these variations initially support the validity of the hypothesis and the model. Further, the governance and firm-specific control variables also show a significant variation, based on the presence of independent directors and their human and social capital attributes.

#### 4.5.2.2 *Correlation Matrix*

Table 4.3 presents the results of Pearson's pairwise correlation tests. The table shows that, in line with H1a, the relationship between the Independent Prop and each of the financial performance variables (ROA, ROE, and OSS) is significant ( $p < 0.05$ ) and positive. The correlation with the social performance variables is also significant ( $p < 0.01$ ) and positive, thereby supporting H1b. Regarding independent directors' social experience, the relationship with the financial performance variables is also significant ( $p < 0.05$ ) and positive, thereby supporting H2a; this is the same concerning the social performance variables ( $p < 0.01$ ), further supporting H2b. Further, the social performance variables have a significant ( $p < 0.01$ ) and positive correlation with the independent directors' community ties, thereby supporting H3b. The results are similar with respect to the advanced education of independent directors, thereby supporting H4a and H4b. The correlation matrix also reveals that none of the explanatory and control variables have a higher correlation than 0.50. Overall, the direction of the relationships and the level of significance of the dependent and the explanatory variables are as expected, meaning they are satisfactory for inclusion in the regression models.

**Table 4.2 Univariate Two-sample t-tests**

	ROA	ROE	OSS	NAB	ALB	Board Size	CEO Power	Firm Size	Debt-Equity	Loan Growth	Prov. Expense
<i>Independent Directors:</i>											
With	0.025	0.172	0.897	8.959	8.897	2.034	0.004	17.841	5.668	0.134	0.012
Without	0.023	0.140	0.872	8.308	8.880	2.024	0.010	17.175	4.816	0.129	0.011
t-value	-0.998	-2.509***	-1.608*	-14.772***	-1.082	-2.363***	2.224**	-13.768***	-1.642*	-0.313	-0.903
<i>Social Tie:</i>											
With	0.027	0.178	0.926	9.858	8.971	2.046	0.013	18.815	6.041	0.125	0.011
Without	0.024	0.159	0.880	8.494	8.872	2.026	0.004	17.349	5.277	0.134	0.012
t-value	-2.298**	-1.437*	-2.630***	-23.158***	-5.865***	-3.748***	-2.641***	-22.856***	-1.141	0.614	0.206
<i>Community Tie:</i>											
With	0.026	0.165	0.916	9.819	8.979	2.055	0.000	18.787	4.100	0.140	0.012
Without	0.024	0.162	0.884	8.518	8.872	2.025	0.007	17.374	5.744	0.130	0.011
t-value	-1.404*	-0.232	-1.852**	-20.566***	-6.238***	-5.153***	5.403***	-20.953***	3.364***	-0.627	-0.942
<i>Advanced Education:</i>											
With	0.025	0.171	0.897	8.980	8.908	2.031	0.006	17.873	5.371	0.137	0.012
Without	0.023	0.145	0.874	8.316	8.860	2.029	0.005	17.163	5.430	0.122	0.011
t-value	-0.952	-1.999**	-1.434*	-15.695***	-3.104***	-0.618	-0.082	-15.183***	0.110	-0.948	-1.273

**Note:** Mean difference tests of the variables based on the independent directors, their Community tie, Social tie, and Advanced education (assuming unequal variance). \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4.3 Pearson's Pairwise Correlation Matrix of the Dependent and Explanatory Variables**

Sl.	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	ROA	1.00														
2	ROE	0.22**	1.00													
3	OSS	0.53**	0.10**	1.00												
4	NAB	0.05**	0.02	0.08**	1.00											
5	ALB	0.07**	0.06**	-0.08**	0.11**	1.00										
6	Independent	0.04*	0.03*	0.03*	0.08**	0.08**	1.00									
7	Community	0.02	0.00	0.02	0.267**	0.07**	0.44**	1.00								
8	Social	0.04*	0.02	0.04*	0.20**	0.07**	0.47**	0.43**	1.00							
9	Education	0.03*	0.02	0.04*	0.19**	0.11**	0.79**	0.52**	0.59**	1.00						
10	Board Size	0.03*	0.00	0.03	0.13**	0.01	-0.08**	0.04*	-0.01	-0.08**	1.00					
11	CEO Power	0.01	-0.01	0.00	-0.02	0.05**	0.02	-0.04*	0.12**	0.05**	0.01	1.00				
12	Firm Size	0.07**	0.04*	0.06**	0.95**	0.23**	0.09**	0.25**	0.21**	0.20**	0.13**	-0.02	1.00			
13	Debt-Equity	-0.08**	-0.20**	-0.03*	0.00	-0.01	0.01	-0.03	0.01	0.00	-0.06**	-0.02	0.00	1.00		
14	Loan Growth	0.22**	0.07**	0.33**	0.02	-0.02	0.03	0.02	0.00	0.02	-0.01	0.00	0.02	0.02	1.00	
15	Provision	-0.23**	-0.15**	-0.07**	0.01	-0.04*	0.01	0.01	-0.01	0.02	-0.04*	0.00	0.00	0.01	-0.01	1.00

**Note:** Superscripts \*\*, \* indicate significance at 1%, and 5% level respectively.

### 4.5.3 Main Results

Table 4.4 to Table 4.7 present the results of the Pooled OLS regressions used to test the hypothesis. In all of the tables, Panel A (Column 1 to 6) reports the results of the financial performance variables, and Panel B (Column 7 to 10) reports the results of the social performance variables. Further, for all of the explanatory variables, the results for both the logarithmic measures and the ratio measures are used. In order to mitigate the concern that the results reported in the tables might be biased due to multicollinearity, the researcher checked the variance inflation factor (VIF) values.

#### 4.5.3.1 Board Independence and MFI Performance

Panel A of Table 4.4 shows that both Independent Log (=0.002) and Independent Prop (=0.004) are significantly ( $p < 0.10$ ) and positively associated with ROA as shown in Column (1) and Column (2) respectively. Economically, the results in Column (1) indicate that for one standard deviation (S.D.) increase in Independent Prop, ROA increases by 5.15 percent relative to the mean. Similarly, Column (2) shows a 6.47 percent increase in ROA relative to the mean for one S.D. increase in the Independent Log. Likewise, as shown in Column (4), Independent Log has a significant ( $p < 0.05$ ) and positive (=0.016) association with ROE. It means that for one S.D. increase in Independent Log, the ROE increases by 7.94 percent relative to the mean. Furthermore, as shown in Column (5) and (6), both Independent Prop (=0.036) and Independent Log (=0.015) are positively associated with OSS, although the association is weak ( $p < 0.10$ ). It means that there is a 1.2 percent and 1.26 percent increase in OSS relative to the mean for one S.D. increase in Independent Log and Independent Prop respectively. Overall, Panel A of Table 4.4 shows that for all of the financial performance variables, the results support H1a.

These findings are consistent with Hartarska (2005). Even though that study identified a positive association with ROA only (and even though the context of the study is different to the present study), this study identifies a significant and positive association between board independence and ROE and OSS, the other essential indicators of financial performance. Therefore, in accordance with Hartarska (2005), and similar to the empirical and theoretical studies on commercial corporations (e.g., Jackling & Johl, 2009; Schnatterly & Johnson, 2014; Shleifer & Vishny, 1997), this study supports the role of independent directors in improving the financial performance of MFIs.

Column (7) in Panel B of Table 4.4 also shows that NAB has a positive (=0.019) and significant ( $P < .05$ ) association with Independent Log.<sup>43</sup> The larger the NAB, the more outreach

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<sup>43</sup> The correlation-coefficient as well as the coefficient of the association between NAB and Firm size is high, due to which R-squared value is high in Column (7) and (8). This is as expected as per

to borrowers the MFI has. Therefore, the study shows that the independent director presence on the board results in more breadth of outreach. Economically, this result indicates that for one S.D. increase in the Independent Log, NAB increases by 1.41% (i.e., 480.62 more borrowers) relative to the mean. These results overcome the insignificant influence of board independence on the breadth of outreach, the previous study suggests (e.g., Hartarska, 2005), thereby supporting H1b.

Further, Column (10) in Panel B of Table 4.4 reports that the coefficient between ALB and Independent Log is significant ( $p < 0.05$ ) and negative ( $= -0.017$ ). This result indicates that the more independent directors are present on the board, the smaller the average loan size per borrower will be, and hence the greater outreach to poorer borrowers will be. Economically, the results show that for one S.D. increase in Independent Log, ALB decreases by 1.26 percent (i.e., BDT 110.66) relative to the mean. This reduction in loan size enables the more impoverished population to access credit from the MFI. Hence, a negative association between Independent Log and ALB indicates that independent director presence on the board helps MFIs to achieve its depth of outreach objective. This finding is also consistent with research by Hartarska (2005). Therefore, the results in Panel B support H1b.

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the variable definition. However, it may provide a biased result if multicollinearity is present in the model. However, VIF related to Firm size is 1.32, and the mean VIF is only 1.84 in both the column (7) and (8), which indicates that multicollinearity is not a problem in both the columns.

**Table 4.4 Baseline OLS: Board Independence and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Independent Prop	0.004* (0.002)		0.030 (0.019)		0.036* (0.020)		0.028 (0.022)		-0.024 (0.021)	
Independent Log		0.002* (0.001)		0.016** (0.007)		0.015* (0.008)		0.019** (0.009)		-0.017** (0.008)
Board Size	0.005 (0.004)	0.004 (0.004)	-0.077** (0.037)	-0.086** (0.037)	0.035 (0.042)	0.024 (0.042)	0.184*** (0.042)	0.175*** (0.042)	-0.170*** (0.039)	-0.162*** (0.039)
CEO Power	-0.000 (0.011)	0.000 (0.011)	-0.055** (0.027)	-0.052* (0.027)	0.019 (0.056)	0.022 (0.056)	-0.192 (0.118)	-0.190 (0.118)	0.151 (0.109)	0.149 (0.109)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.017*** (0.003)	0.017*** (0.003)	0.016*** (0.004)	0.016*** (0.004)	0.850*** (0.004)	0.849*** (0.004)	0.148*** (0.005)	0.149*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.012*** (0.002)	0.012*** (0.002)	0.058*** (0.016)	0.058*** (0.016)	0.040** (0.018)	0.040** (0.018)	-0.191*** (0.023)	-0.191*** (0.023)	0.148*** (0.017)	0.148*** (0.017)
Provision	-0.426*** (0.056)	-0.427*** (0.056)	-2.685*** (0.675)	-2.689*** (0.676)	-1.889*** (0.307)	-1.893*** (0.307)	0.415 (0.341)	0.410 (0.341)	-0.355 (0.295)	-0.351 (0.295)
Constant	-0.002 (0.010)	0.000 (0.010)	0.111 (0.090)	0.130 (0.089)	0.712*** (0.101)	0.732*** (0.101)	-6.537*** (0.101)	-6.515*** (0.102)	6.548*** (0.094)	6.528*** (0.095)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,791	3,791	4,173	4,173	3,520	3,520	4,172	4,172	4,172	4,172
R-squared	0.123	0.123	0.076	0.076	0.358	0.358	0.933	0.933	0.415	0.415

**Note:** Financial performance variables (ROA, ROE, and OSS) are in decimal. The social performance variables (NAB and ALB in Panel B) are in logarithmic. Independent Log = (1 + Total Independent directors). Independent Prop = Total Independent directors/Total directors on board. Board Size, Firm Size, and Firm Age are in logarithmic. CEO Power is in binary. Debt-Equity, Loan growth, and Provisions are in decimal. Except for CEO-Chair, all variables are winsorized at 1% and 99%. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. The correlation-coefficient as

well as the coefficient of the association between NAB and Firm size is high, due to which R-squared value is high in Column (7) and (8). This is as expected as per the variable definition. However, it may provide a biased result if multicollinearity is present in the model. However, VIF related to Firm size is 1.32, and the mean VIF is only 1.84 in both the column (7) and (8), which indicates that multicollinearity is not a problem in both the model (in this table and other subsequent tables).

**Table 4.5 Baseline OLS. Independent Directors with Social Ties and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Social Prop	0.012 (0.008)		0.027 (0.078)		0.107 (0.087)		0.280*** (0.091)		-0.305*** (0.086)	
Social Log		0.002 (0.002)		0.009 (0.018)		0.024 (0.019)		0.066*** (0.020)		-0.070*** (0.019)
Board Size	0.004 (0.004)	0.004 (0.004)	-0.084** (0.037)	-0.085** (0.037)	0.029 (0.042)	0.025 (0.042)	0.184*** (0.042)	0.174*** (0.042)	-0.172*** (0.039)	-0.161*** (0.039)
CEO Power	-0.001 (0.011)	-0.001 (0.011)	-0.055* (0.029)	-0.056** (0.029)	0.009 (0.056)	0.011 (0.056)	-0.223* (0.116)	-0.218* (0.116)	0.186* (0.107)	0.179* (0.107)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.018*** (0.004)	0.018*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.847*** (0.005)	0.847*** (0.005)	0.150*** (0.005)	0.151*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.012*** (0.002)	0.012*** (0.002)	0.058*** (0.016)	0.059*** (0.016)	0.042** (0.018)	0.042** (0.018)	-0.189*** (0.022)	-0.189*** (0.022)	0.147*** (0.017)	0.146*** (0.017)
Provision	-0.425*** (0.056)	-0.425*** (0.056)	-2.682*** (0.674)	-2.681*** (0.674)	-1.877*** (0.306)	-1.877*** (0.306)	0.433 (0.340)	0.435 (0.340)	-0.374 (0.294)	-0.376 (0.294)
Constant	0.000 (0.010)	0.001 (0.011)	0.118 (0.090)	0.124 (0.091)	0.732*** (0.101)	0.742*** (0.103)	-6.498*** (0.102)	-6.466*** (0.104)	6.506*** (0.096)	6.473*** (0.097)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,791	3,791	4,173	4,173	3,520	3,520	4,172	4,172	4,172	4,172
R-squared	0.124	0.124	0.076	0.076	0.358	0.358	0.933	0.934	0.416	0.416

**Note:** Variables descriptions are in Appendix. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 4.6 Baseline OLS: Independent Directors with a Community Affiliation and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Community Prop	-0.002 (0.010)		-0.156** (0.079)		-0.024 (0.098)		0.336*** (0.096)		-0.273*** (0.091)	
Community Log		-0.001 (0.002)		-0.032** (0.016)		0.005 (0.020)		0.074*** (0.020)		-0.062*** (0.019)
Board Size	0.004 (0.004)	0.004 (0.004)	-0.085** (0.037)	-0.080** (0.037)	0.026 (0.042)	0.025 (0.042)	0.178*** (0.041)	0.167*** (0.041)	-0.165*** (0.039)	-0.156*** (0.039)
CEO Power	-0.000 (0.011)	-0.000 (0.011)	-0.056** (0.028)	-0.056** (0.028)	0.020 (0.055)	0.021 (0.055)	-0.181 (0.118)	-0.180 (0.118)	0.142 (0.110)	0.141 (0.109)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.018*** (0.004)	0.017*** (0.004)	0.847*** (0.005)	0.846*** (0.005)	0.150*** (0.005)	0.151*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.012*** (0.002)	0.012*** (0.002)	0.058*** (0.016)	0.058*** (0.016)	0.041** (0.018)	0.041** (0.018)	-0.190*** (0.022)	-0.190*** (0.022)	0.147*** (0.017)	0.147*** (0.017)
Provision	-0.426*** (0.056)	-0.426*** (0.056)	-2.683*** (0.674)	-2.683*** (0.674)	-1.884*** (0.306)	-1.884*** (0.306)	0.415 (0.340)	0.417 (0.341)	-0.355 (0.295)	-0.357 (0.295)
Constant	-0.002 (0.011)	-0.002 (0.011)	0.090 (0.090)	0.078 (0.092)	0.714*** (0.102)	0.724*** (0.104)	-6.481*** (0.103)	-6.451*** (0.104)	6.502*** (0.096)	6.476*** (0.098)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,791	3,791	4,173	4,173	3,520	3,520	4,172	4,172	4,172	4,172
R-squared	0.122	0.123	0.076	0.076	0.358	0.358	0.933	0.933	0.415	0.415

**Note:** Variables descriptions are in Appendix. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 4.7 Baseline OLS: Independent Directors with Advanced Education and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Graduate Prop	0.002 (0.003)		-0.006 (0.025)		0.036 (0.028)		0.072** (0.030)		-0.060** (0.028)	
Graduate Log		0.001 (0.001)		0.006 (0.009)		0.018* (0.010)		0.030*** (0.011)		-0.026*** (0.010)
Board Size	0.005 (0.004)	0.004 (0.004)	-0.086** (0.038)	-0.084** (0.037)	0.035 (0.042)	0.027 (0.042)	0.193*** (0.042)	0.178*** (0.042)	-0.178*** (0.040)	-0.166*** (0.039)
CEO Power	-0.000 (0.011)	-0.000 (0.011)	-0.051* (0.028)	-0.054* (0.028)	0.016 (0.055)	0.017 (0.056)	-0.201* (0.116)	-0.199* (0.116)	0.159 (0.107)	0.157 (0.107)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.019*** (0.003)	0.018*** (0.004)	0.016*** (0.004)	0.015*** (0.004)	0.847*** (0.005)	0.847*** (0.005)	0.150*** (0.005)	0.150*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.012*** (0.002)	0.012*** (0.002)	0.058*** (0.016)	0.058*** (0.016)	0.041** (0.018)	0.041** (0.018)	-0.190*** (0.022)	-0.191*** (0.022)	0.148*** (0.017)	0.148*** (0.017)
Provision	-0.426*** (0.056)	-0.427*** (0.056)	-2.683*** (0.674)	-2.686*** (0.675)	-1.888*** (0.306)	-1.893*** (0.307)	0.410 (0.339)	0.404 (0.339)	-0.351 (0.294)	-0.346 (0.294)
Constant	-0.001 (0.010)	0.000 (0.011)	0.113 (0.089)	0.122 (0.089)	0.722*** (0.101)	0.740*** (0.101)	-6.523*** (0.102)	-6.494*** (0.102)	6.536*** (0.095)	6.510*** (0.095)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,791	3,791	4,173	4,173	3,520	3,520	4,172	4,172	4,172	4,172
R-squared	0.127	0.127	0.076	0.076	0.359	0.359	0.934	0.934	0.423	0.424

**Note:** Dependent variables are the same as Table 4. Graduate Log = (1 + Total independent directors with advanced education). Graduate Prop = Total independent directors with advanced education to total directors on board. All the control variables are the same as Table 4.5. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

#### 4.5.3.2 *Independent Directors' Social Experience*

With respect to independent members' social experience, Column (7) and Column (8) in Panel B of Table 4.5 shows that NAB has a strong, significant ( $p < 0.01$ ) and positive relationship with both Social Prop (= 0.280) and Social Log (= 0.066). These results provide strong evidence of the importance of independent directors' social connections for the breadth of outreach. For instance, the results in Column (7) indicate that for one S.D. increase in Social Prop, NAB increases by 1.96 percent (i.e., 666 borrowers) relative to the mean. For Social Log, the increase is 2.15 percent (i.e., 731.54 borrowers). Nevertheless, as shown in Column (9) and (10), ALB has a strong, significant and negative relationship with both Social Prop (= -0.305) and Social Log (= -0.070). It indicates that ALB decreases by 2.14 percent (BDT 186.79) and 2.28 percent (BDT 199.65) relative to the mean for one S.D. increase in Social Prop and Social Log respectively. As MFIs can reach more borrowers at the bottom of the pyramid by providing smaller loans, these results provide strong evidence of the importance of independent directors' social experience for MFI depth of outreach. These results strongly support H2b. However, with respect to H2a, none of the financial performance variables (such as ROA, ROE, and OSS) have a significant result in the baseline model shown in Panel A. Therefore, this study cannot conclude that independent directors' social experience has a negative effect on MFI financial outcomes. Rather, in the robustness tests and the endogeneity tests, the relationship between the variables is significant and positive. These results indicate that they have a positive effect on the financial and social outcome of MFIs.

#### 4.5.3.3 *Independent Directors' Community Ties*

Column 3 in Panel A of Table 4.6 shows that the coefficient between Community Prop and ROE is significant ( $p < 0.05$ ) and negative (= -0.156). Likewise, as shown in Column (4), the coefficient between Community Log and ROE is also significant ( $p < 0.05$ ) and negative (= -0.032). These results indicate that independent directors' community ties have an adverse effect on financial performance. Economically, the results in Column (3) show that for one S.D. increase in Community Prop, the ROE decreases by 6.45 percent relative to the mean. Column (4) also shows a 6.49 percent decrease in ROE relative to the mean for one S.D. increase in Community Log. Therefore, following the literature on corporate political connections (e.g., Boubakri et al., 2012; Chen et al., 2011), these findings support H3a.

Column (7) in Panel B of Table 4.6 shows that the coefficient between Community Prop and NAB is strongly significant ( $p < 0.01$ ) and positive (=0.336). A similar result is achieved between Community Log and NAB (= 0.074;  $p < 0.01$ ) as shown in Column (8). These results indicate that when the independent directors bring community connections, as a social capital attribute, to the board, this has a positive effect on the firm's breadth of outreach (H3b).

Economically, for instance, the results in Column (7) shows that for one S.D. increase in Community Prop, NAB increases by 2.08 percent relative to the mean (708.29 borrowers). Similarly, Column (8) shows that for one S.D. increase in Community Log, NAB increases by 2.35 percent relative to the mean. In addition, as shown in Column (9), the coefficient between Community Prop and ALB is strongly significant ( $p < 0.01$ ) and negative ( $= -0.273$ ), which indicates that for one S.D. increase in Community Prop, ALB decreases by 1.69 percent (BDT 140.08) relative to the mean. Similarly, as shown in Column (10), the coefficient between Community Log and ALB is strongly significant ( $p < 0.01$ ) and negative ( $= -0.062$ ); showing that ALB reduces by 1.88 percent (BDT 164.90) relative to the mean for one S.D. increase in Community Log. Hence, both results indicate that the presence of independent directors with a community affiliation has the potential to reduce the loan size provided to borrowers, which has a positive impact on the firm's depth of outreach (H3b). When these results are considered together, it can be concluded that the social capital attributes of independent directors, through their connection to the community, are beneficial for the social performance of MFIs, thereby supporting H3b.

#### 4.5.3.4 *Independent Directors' Advanced Education*

Concerning independent directors' advanced education, Column (7) in Panel B of Table 4.7 shows that NAB has a significant ( $p < 0.05$ ) and positive ( $= 0.072$ ) association with Graduate Prop. Economically, the results indicate that for one S.D. increase in Graduate Prop, NAB increases by 1.63 percent (i.e., 556 borrowers) relative to the mean. Similarly, as shown in Column (8), NAB has a strong, significant ( $p < 0.01$ ) and positive ( $= 0.030$ ) association with Graduate Log. This result indicates that NAB will increase by 1.91 percent (i.e., 650 borrowers) relative to the mean for one S.D. increase in Graduate Log. These results suggest that the presence of independent directors with, as a minimum, a graduate degree from a reputable university or college, will cause an increase in the breadth of outreach. Additionally, as shown in Column (9), the coefficient between Graduate Prop and ALB is significant ( $p < 0.05$ ) and negative ( $= -0.060$ ). Likewise, as shown in Column (10), ALB has a significant ( $p < 0.01$ ) and negative ( $= -0.026$ ) association with Graduate Log. These results indicate that the presence of independent directors with advanced education will enable MFIs to provide small loans to borrowers. Economically, the results in Column (9) indicate that ALB decreases by 1.36 percent (i.e., BDT 119.16) relative to the mean for one S.D increase in Graduate Prop. Further, Column (10) shows a 1.67 percent (BDT 144.90) decrease in ALB relative to the mean for one S.D. increase in Graduate Log. Such a decline in ALB indicates that the presence of independent directors with graduate degrees on the board has a significant, positive influence on the depth of outreach of MFIs. Overall, all of the Columns in Panel B of Table 4.7 demonstrate a positive relationship between independent directors with graduate degrees

and MFI double bottom line performance, thereby supporting H4b.

Regarding financial performance (Panel A, Table 4.7), only OSS has a positive ( $=0.018$ ) relationship with Graduate Log; however, the evidence of the relationship is weak ( $p < 0.10$ ). Further analysis using an alternative proxy, and the endogeneity test, reveals a more significant association, which is discussed further in the following sub-sections. Economically, the results in this panel show that for one S.D. increase in Graduate Log, OSS increases by 1.29 percent relative to the mean. Overall, it can be concluded that independent directors' academic knowledge, as a board human capital attribute, is vital for MFI double bottom line performance.

#### **4.5.4 Endogeneity Tests**

The governance literature (e.g., Adams et al., 2010; Hermalin & Weisbach, 1998) argues that there may be a reverse causality of the association between board independence and firm performance. For instance, an independent member may join the board after observing the performance and reputation of the MFI. Similarly, an individual with a political connection or previous social experience may choose only to join the board of successful MFIs. The question of whether high performing firms (both in financial and social) are better able to attract the independent board members, as well as politicians or social activists, is not addressed in the methodology of this study. In order to examine this issue, the instrumental variable (IV) regression is commonly implemented, using the appropriate exogenous instruments of the endogenous explanatory variables. For the instrumental variable (IV) regression, the instruments should satisfy the orthogonality condition and have a meaningful correlation with the endogenous regressors. The instruments also need to confirm that their effect on the dependent variables is indirect. However, in this study, it is difficult to identify appropriate instruments which simultaneously satisfy all of these conditions because only a minimal number of variables are found in the dataset. In order to overcome this problem, this study adopts the approach of Lewbel (2012) and generates instruments as the simple functions of the data from the model.<sup>44</sup> An increasing body of empirical literature (e.g., Arcand, Berkes, & Panizza, 2015; Sabia, 2007) uses this method in the absence of an appropriate instrument to test the endogeneity.

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<sup>44</sup> This study uses a further development of Rigobon (2003) model following Baum et al. (2012) through generating instruments from the model and using the appropriate lagged values of the endogenous regressors as the exogenous instruments, which is similar to the Arellano and Bond (1991) dynamic panel data estimation. When no exogenous instrument is available or needs to improve efficiency by supplementing external instrument, this method is used. Also, as the exogenous instruments, the study used the lagged values of the endogenous explanatory variables.

**Table 4.8 Endogeneity Test: Independent Directors and MFI Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
External Prop	0.005** (0.002)		0.046** (0.023)		0.044* (0.023)		0.024 (0.027)		-0.036 (0.033)	
External Log		0.002** (0.001)		0.021** (0.009)		0.017* (0.009)		0.020* (0.011)		-0.019* (0.010)
Board Size	0.009* (0.005)	0.007 (0.005)	-0.067 (0.041)	-0.081** (0.041)	0.083* (0.047)	0.070 (0.046)	0.217*** (0.050)	0.210*** (0.049)	-0.207*** (0.059)	-0.192*** (0.046)
CEO Power	0.001 (0.013)	0.001 (0.013)	-0.025 (0.034)	-0.020 (0.034)	0.019 (0.066)	0.024 (0.066)	-0.289** (0.129)	-0.286** (0.129)	0.225 (0.168)	0.234* (0.120)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.018*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.847*** (0.005)	0.846*** (0.005)	0.164*** (0.006)	0.156*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.001)	-0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Loan Growth	0.012*** (0.003)	0.012*** (0.003)	0.069*** (0.025)	0.069*** (0.025)	0.027 (0.025)	0.026 (0.025)	-0.301*** (0.038)	-0.302*** (0.038)	0.232*** (0.041)	0.222*** (0.026)
Provision	-0.457*** (0.066)	-0.457*** (0.066)	-3.623*** (0.796)	-3.628*** (0.796)	-2.038*** (0.331)	-2.042*** (0.331)	0.578 (0.456)	0.569 (0.457)	-1.023* (0.567)	-0.478 (0.383)
Constant	-0.036*** (0.011)	-0.033*** (0.011)	0.020 (0.103)	0.046 (0.102)	-0.021 (0.108)	0.002 (0.108)	-7.593*** (0.123)	-7.573*** (0.124)	7.464*** (0.149)	7.489*** (0.111)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,729	2,729	2,852	2,852	2,742	2,742	2,851	2,851	1,613	2,851
R-squared	0.155	0.155	0.098	0.098	0.394	0.394	0.933	0.933	0.404	0.410
K-P LM Under id	1397.212	1606.503	1444.469	1683.2	1402.022	1613.874	1443.796	1682.647	831.749	1682.647
Chi2 p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F <sup>a</sup>	1800000	3700000	2000000	4100000	1800000	3700000	1900000	4100000	310000000	4100000

Stock-Yogo (2005) 10% Max	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51
Hansen J	15.247	16.056	15.35	12.932	11.109	13.355	19.792	15.716	20.91	20.66
p-value	0.3615	0.31	0.3546	0.5319	0.6774	0.499	0.1368	0.331	0.104	0.1107

**Note:** Instrumented variable: Independent Prop and Independent Log. The instruments are generated as the simple functions of the model's data following Lewbel et al. (2012). Excluded instruments: all the control variables, year dummies, and the lags of the main explanatory variable (Independent Prop and Independent Log). The same is for the Independent Log in Column 2, 4, 6, 8, and 10. In Panel B, Column 9, a five year's lag of Independent Prop is also used as an excluded instrument. For instance, in 1, 3, 5, 7, and 9, lag Independent Prop includes Independent Prop  $t-1$ , Independent Prop  $t-2$ , and Independent Prop  $t-3$ . Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

<sup>a</sup> K-P Wald F value is unusually large in the models because the study uses both the lagged values of the explanatory variables and as the simple function of model's data.

**Table 4.9 Endogeneity Test: Independent Directors' Social Experience and MFI Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Social Prop	0.020** (0.009)		0.092 (0.094)		0.139 (0.097)		0.234** (0.110)		-0.296*** (0.103)	
Social Log		0.006 (0.005)		-0.017 (0.027)		0.025 (0.030)		0.019 (0.033)		-0.008 (0.031)
Board Size	0.008 (0.005)	0.004 (0.004)	-0.077* (0.041)	-0.083** (0.037)	0.075 (0.046)	0.025 (0.042)	0.218*** (0.050)	0.175*** (0.042)	-0.201*** (0.046)	-0.164*** (0.039)
CEO Power	-0.002 (0.013)	-0.003 (0.010)	-0.032 (0.036)	-0.045 (0.031)	0.005 (0.067)	0.011 (0.056)	-0.314** (0.127)	-0.198* (0.118)	0.269** (0.117)	0.153 (0.109)
Firm Size	0.002*** (0.000)	0.002*** (0.001)	0.018*** (0.004)	0.019*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.845*** (0.006)	0.849*** (0.005)	0.158*** (0.005)	0.147*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.001)	-0.000 (0.000)	0.000 (0.001)	0.000 (0.000)
Loan Growth	0.012*** (0.003)	0.018*** (0.002)	0.071*** (0.025)	0.058*** (0.016)	0.028 (0.026)	0.042** (0.018)	-0.298*** (0.038)	-0.189*** (0.023)	0.218*** (0.027)	0.148*** (0.017)
Provision	-0.455***	-0.414***	-3.604***	-2.688***	-2.018***	-1.876***	0.604	0.428	-0.517	-0.359

	(0.066)	(0.055)	(0.797)	(0.673)	(0.332)	(0.306)	(0.457)	(0.341)	(0.381)	(0.295)
Constant	-0.031***	-0.000	0.042	0.112	0.013	0.187*	-7.559***	-7.398***	7.467***	7.429***
	(0.011)	(0.012)	(0.103)	(0.089)	(0.109)	(0.100)	(0.125)	(0.107)	(0.112)	(0.101)
Year Dummy	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,728	3,791	2,850	4,173	2,741	3,520	2,849	4,169	2,849	4,172
R-squared	0.156	0.113	0.097	0.076	0.394	0.359	0.93	0.93	0.410	0.421
K-P LM Under id	475.141	148.169	488.715	805.726	475.813	680.372	488.72	806.174	488.72	805.625
Chi2 p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F <sup>a</sup>	580000000	34	630000000	155	590000000	144	630000000	155	630000000	155
Stock-Yogo (2005) 10% Max	11.51	11.29	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51
Hansen J	12.773	4.332	10.977	11.717	10.677	10.251	15.708	15.992	17.579	13.159
p-value	0.545	0.632	0.688	0.629	0.711	0.673	0.3315	0.3138	0.2267	0.514

**Note:** Instrumented variable: Social Prop and Social Log. The excluded instruments are: all the control variables and year dummies, and 1 to 3 years lag of the explanatory variable (Social Prop) including year dummies. For instance, in 1, 3, 5, 7, and 9, the lag of Social Prop includes Social Prop<sub>t-1</sub>, Social Prop<sub>t-2</sub>, and Social Prop<sub>t-3</sub>. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

<sup>a</sup> K-P Wald F value is unusually large in the models because the study uses both the lagged values of the explanatory variables and as the simple function of model's data.

**Table 4.10 Endogeneity Test: Independent Directors' Community Affiliation and MFI Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
Community Prop	-0.010		-0.183**		-0.018		0.336**		-	0.278***
	(0.011)		(0.087)		(0.106)		(0.131)		(0.106)	
Community Log		0.001		-0.040*		0.017		0.033		-0.018
		(0.004)		(0.022)		(0.034)		(0.046)		(0.038)
Board Size	0.007	0.004	-0.080**	-0.079**	0.071	0.024	0.224***	0.218***	0.195***	0.191***
	(0.005)	(0.004)	(0.041)	(0.037)	(0.046)	(0.042)	(0.055)	(0.056)	(0.046)	(0.046)

CEO Power	0.001 (0.013)	0.000 (0.011)	-0.026 (0.036)	-0.057** (0.029)	0.022 (0.065)	0.023 (0.056)	-0.281* (0.148)	-0.285* (0.149)	0.227* (0.121)	0.232* (0.122)
Firm Size	0.003*** (0.000)	0.002*** (0.000)	0.022*** (0.004)	0.021*** (0.004)	0.018*** (0.004)	0.016*** (0.004)	0.841*** (0.006)	0.843*** (0.007)	0.158*** (0.005)	0.156*** (0.006)
Debt-Equity	- 0.000*** (0.000)	- 0.000*** (0.000)	- 0.005*** (0.001)	- 0.005*** (0.001)	- 0.001*** (0.000)	- 0.001*** (0.000)	- -0.001 (0.001)	- -0.001 (0.001)	0.000 (0.001)	0.000 (0.001)
Loan Growth	0.012*** (0.003)	0.012*** (0.002)	0.070*** (0.025)	0.058*** (0.016)	0.028 (0.025)	0.041** (0.018)	0.317*** (0.051)	0.319*** (0.051)	0.220*** (0.026)	0.220*** (0.026)
Provision	- 0.456*** (0.066)	- 0.426*** (0.056)	- 3.615*** (0.796)	- 2.684*** (0.673)	- 2.025*** (0.331)	- 1.884*** (0.306)	0.865 (0.568)	0.856 (0.570)	-0.495 (0.382)	-0.493 (0.383)
Constant	- 0.036*** (0.011)	- -0.015 (0.011)	0.000 (0.103)	0.085 (0.092)	-0.014 (0.110)	0.179* (0.105)	7.541*** (0.147)	7.556*** (0.156)	7.460*** (0.113)	7.484*** (0.122)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,729	3,791	2,852	4,173	2,742	3,520	2,191	2,191	2,851	2,851
R-squared	0.154	0.127	0.098	0.077	0.393	0.358	0.931	0.931	0.410	0.410
K-P LM Under id	472.957	841.668	487.353	917.279	474.666	771.94	390.968	537.188	487.368	681.941
Chi2 p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F <sup>a</sup>	1200000	38.475	1300000	40.732	1200000	40.787	900000	82.455	1300000	117.441
Stock-Yogo (2005) 10% Max	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51	11.51
Hansen J p-value	13.095 0.519	9.711 0.7174	13.369 0.4977	13.493 0.4105	15.243 0.3617	15.818 0.1997	19.612 0.1429	21.948 0.0797	18.044 0.2048	20.452 0.1165

**Note:** Instrumented variable: Community Prop and Community Lag. The generated instruments and the excluded instruments are similar to Panel Table 4.8. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

<sup>a</sup> K-P Wald F value is unusually large in the models because the study uses both the lagged values of the explanatory variables and as the simple function of model's data.

**Table 4.11 Endogeneity Test: Independent Directors' Advanced Education and MFI Performance**

VARIABLES	Dependent Variables: Financial Performance						Dependent Variables: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Graduate Prop	0.004 (0.003)		0.001 (0.028)		0.056* (0.030)		0.054* (0.032)		-0.050* (0.030)	
Graduate Log		0.002 (0.001)		0.006 (0.011)		0.022** (0.011)		0.024* (0.013)		-0.025** (0.012)
Board Size	0.008* (0.005)	0.007 (0.005)	-0.079* (0.041)	-0.078* (0.041)	0.084* (0.047)	0.073 (0.046)	0.202*** (0.046)	0.213*** (0.050)	-0.190*** (0.043)	-0.196*** (0.046)
CEO Power	0.000 (0.013)	0.000 (0.013)	-0.021 (0.036)	-0.022 (0.036)	0.014 (0.066)	0.017 (0.066)	-0.241** (0.117)	-0.292** (0.128)	0.196* (0.109)	0.240** (0.119)
Firm Size	0.003*** (0.000)	0.002*** (0.000)	0.019*** (0.004)	0.019*** (0.004)	0.015*** (0.004)	0.015*** (0.004)	0.851*** (0.005)	0.845*** (0.006)	0.150*** (0.005)	0.158*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.005*** (0.001)	-0.005*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	-0.000 (0.001)	0.000 (0.000)	0.000 (0.001)
Loan Growth	0.012*** (0.003)	0.012*** (0.003)	0.070*** (0.025)	0.071*** (0.025)	0.028 (0.026)	0.028 (0.026)	-0.285*** (0.033)	-0.300*** (0.038)	0.216*** (0.024)	0.220*** (0.026)
Provision	-0.457*** (0.066)	-0.457*** (0.066)	-3.612*** (0.795)	-3.614*** (0.797)	-2.040*** (0.331)	-2.045*** (0.332)	0.477 (0.367)	0.574 (0.456)	-0.390 (0.316)	-0.482 (0.382)
Constant	-0.033*** (0.011)	-0.032*** (0.011)	0.030 (0.102)	0.037 (0.102)	0.000 (0.108)	0.020 (0.109)	-7.576*** (0.110)	-7.562*** (0.124)	7.534*** (0.101)	7.477*** (0.112)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,728	2,728	2,850	2,850	2,741	2,741	3,508	2,849	3,508	2,849
R-squared	0.155	0.155	0.097	0.097	0.394	0.394	0.936	0.936	0.414	0.410
K-P LM Under id	874.709	1378.032	906.716	1440.016	880.18	1386.291	1079.286	1406.682	1079.286	1406.682
Chi2 p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F <sup>a</sup>	18000000	100000000	19000000	120000000	18000000	110000000	1900000	2500000	1900000	2500000

Stock-Yogo (2005) 10% Max	11.51	11.51	11.51	11.51	11.51	11.51	19.93	9.08	19.93	9.08
Hansen J	13.471	14.456	8.008	10.11	8.678	8.568	0.025	0.253	0.647	0.386
p-value	0.4898	0.5559	0.8889	0.7541	0.8511	0.8577	0.8749	0.8811	0.421	0.8243

**Note:** Instrumented variable: Graduate Prop and Graduate Log. The generated instruments and the excluded instruments are similar to Table 4.8. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

<sup>a</sup> K-P Wald F value is unusually large in the models because the study uses both the lagged values of the explanatory variables and as the simple function of model's data.

### Table 4.12 Reverse Causality Test

**Panel A:** Independent directors and MFI performance. Dependent variable: Independent Prop.

Explanatory Variables: Financial Performance					Explanatory Variables: Social Performance				
VARIABLES	(1)	VARIABLES	(2)	VARIABLES	(3)	VARIABLES	(4)	VARIABLES	(5)
ROA <sub>t-1</sub>	0.254 (0.197)	ROE <sub>t-1</sub>	0.008 (0.017)	OSS <sub>t-1</sub>	0.032 (0.022)	NAB <sub>t-1</sub>	0.004 (0.029)	ALB <sub>t-1</sub>	-0.007 (0.039)
ROA <sub>t-2</sub>	0.146 (0.191)	ROE <sub>t-2</sub>	0.003 (0.016)	OSS <sub>t-2</sub>	0.014 (0.028)	NAB <sub>t-2</sub>	0.014 (0.034)	ALB <sub>t-2</sub>	0.008 (0.049)
ROA <sub>t-3</sub>	0.018 (0.181)	ROE <sub>t-3</sub>	0.015 (0.014)	OSS <sub>t-3</sub>	-0.009 (0.028)	NAB <sub>t-3</sub>	0.020 (0.032)	ALB <sub>t-3</sub>	-0.036 (0.041)
Constant	0.372* (0.219)	Constant	0.082 (0.205)	Constant	0.292 (0.248)	Constant	0.367 (0.239)	Constant	0.340 (0.242)
Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes
Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes
Observations	1,587	Observations	2,066	Observations	1,464	Observations	2,066	Observations	2,066
R-squared	0.078	R-squared	0.067	R-squared	0.074	R-squared	0.069	R-squared	0.068

**Panel B:** Independent directors' social experience and MFI performance. Dependent variable: Social Prop.

Explanatory Variables: Financial Performance					Explanatory Variables: Social Performance				
VARIABLES	(1)	VARIABLES	(2)	VARIABLES	(3)	VARIABLES	(4)	VARIABLES	(5)
ROA <sub>t-1</sub>	0.080* (0.041)	ROE <sub>t-1</sub>	0.004 (0.004)	OSS <sub>t-1</sub>	0.009* (0.005)	NAB <sub>t-1</sub>	0.003 (0.006)	ALB <sub>t-1</sub>	-0.003 (0.010)
ROA <sub>t-2</sub>	0.021 (0.040)	ROE <sub>t-2</sub>	-0.000 (0.004)	OSS <sub>t-2</sub>	0.004 (0.006)	NAB <sub>t-2</sub>	0.006 (0.006)	ALB <sub>t-2</sub>	-0.011 (0.010)
ROA <sub>t-3</sub>	0.018 (0.035)	ROE <sub>t-3</sub>	0.000 (0.003)	OSS <sub>t-3</sub>	-0.001 (0.006)	NAB <sub>t-3</sub>	0.000 (0.007)	ALB <sub>t-3</sub>	0.002 (0.010)
Constant	-0.133** (0.057)	Constant	-0.184*** (0.053)	Constant	-0.154** (0.064)	Constant	-0.114* (0.058)	Constant	-0.102* (0.059)
Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes
Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes
Observations	1,587	Observations	2,066	Observations	1,464	Observations	2,066	Observations	2,066
R-squared	0.155	R-squared	0.128	R-squared	0.150	R-squared	0.130	R-squared	0.131

**Panel C:** Independent directors' community connection and MFI performance. Dependent Variable: Community Prop

Explanatory Variables: Financial Performance					Explanatory Variables: Social Performance				
VARIABLES	(1)	VARIABLES	(2)	VARIABLES	(3)	VARIABLES	(4)	VARIABLES	(5)
ROA <sub>t-1</sub>	-0.072* (0.037)	ROE <sub>t-1</sub>	-0.003 (0.003)	OSS <sub>t-1</sub>	-0.004 (0.004)	NAB <sub>t-1</sub>	0.007 (0.005)	ALB <sub>t-1</sub>	-0.007 (0.007)
ROA <sub>t-2</sub>	-0.037 (0.039)	ROE <sub>t-2</sub>	-0.005 (0.003)	OSS <sub>t-2</sub>	-0.006 (0.006)	NAB <sub>t-2</sub>	-0.001 (0.006)	ALB <sub>t-2</sub>	0.006 (0.008)
ROA <sub>t-3</sub>	0.071* (0.041)	ROE <sub>t-3</sub>	-0.002 (0.003)	OSS <sub>t-3</sub>	0.003 (0.006)	NAB <sub>t-3</sub>	0.002 (0.007)	ALB <sub>t-3</sub>	-0.007 (0.009)
Constant	-0.255*** (0.049)	Constant	-0.278*** (0.044)	Constant	-0.240*** (0.054)	Constant	-0.223*** (0.048)	Constant	-0.220*** (0.048)

Controls (lag)	Yes								
Year Dummy	Yes								
Observations	1,587	Observations	2,066	Observations	1,464	Observations	2,066	Observations	2,066
R-squared	0.134	R-squared	0.123	R-squared	0.132	R-squared	0.124	R-squared	0.124

**Panel D.** Independent directors' advanced education and MFI performance. Dependent variable: Education Prop.

Explanatory Variables: Financial Performance					Explanatory Variables: Social Performance				
VARIABLES	(1)	VARIABLES	(2)	VARIABLES	(3)	VARIABLES	(4)	VARIABLES	(5)
ROA <sub>t-1</sub>	0.069 (0.143)	ROE <sub>t-1</sub>	-0.009 (0.012)	OSS <sub>t-1</sub>	0.019 (0.016)	NAB <sub>t-1</sub>	-0.005 (0.019)	ALB <sub>t-1</sub>	-0.008 (0.027)
ROA <sub>t-2</sub>	0.055 (0.137)	ROE <sub>t-2</sub>	-0.013 (0.011)	OSS <sub>t-2</sub>	0.002 (0.021)	NAB <sub>t-2</sub>	0.005 (0.021)	ALB <sub>t-2</sub>	0.003 (0.034)
ROA <sub>t-3</sub>	-0.011 (0.129)	ROE <sub>t-3</sub>	0.004 (0.010)	OSS <sub>t-3</sub>	-0.003 (0.020)	NAB <sub>t-3</sub>	0.029 (0.023)	ALB <sub>t-3</sub>	-0.021 (0.030)
Constant	-0.095 (0.172)	Constant	-0.346** (0.157)	Constant	-0.137 (0.194)	Constant	-0.139 (0.182)	Constant	-0.160 (0.184)
Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes	Controls (lag)	Yes
Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes	Year Dummy	Yes
Observations	1,587	Observations	2,066	Observations	1,464	Observations	2,066	Observations	2,066
R-squared	0.165	R-squared	0.155	R-squared	0.163	R-squared	0.157	R-squared	0.156

**Note:** Financial performance variables and the social performance variables (1, 2, and 3 years lag) are the explanatory variables. All the control variables are also taken as 1 to 3 years lag. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

Table 4.8 to Table 4.11 report the results of the Lewbel (2012) model. In all of the models, the Hansen J statistics fail to reject the null hypothesis of the over-identification restriction at 5 percent. Further, in all of the models, the Kleibergen-Paap's statistics of under-identification results are significant at  $p < 0.01$ . Further, in all of the models, the Kleibergen-Paap's Wald F statistics are higher than the Stock and Yogo (2005) weak identification test critical values at 10%.<sup>45</sup> These results support the validity of the use of the generated instruments to test the endogeneity. The K-P Wald F values are very high because the instruments of the endogenous regressors are generated as the simple function of the data of the model and the lags of the endogenous regressors.

Concerning board independence, Panel A of Table 4.8 shows that both ROA and ROE have a significant ( $p < 0.05$ ) and positive association with the ratio and logarithmic measures of board independence. OSS also has a significant ( $p < 0.10$ ) and a positive relationship with Independent Prop and Independent Log. The social performance variables (NAB and ALB) also demonstrate a similar relationship as in the baseline model, although the significance level is not as strong as the baseline results. The significance and the direction of the relationship between the financial performance variables and board independence in Table 4.8 indicate that the relationship is robust to support the hypothesis (H1a), even after accounting for endogeneity. However, the social performance variables show similar but weak evidence of the relationship ( $p < 0.10$ ) between board independence and social performance (NAB and ALB) in the endogeneity tests. Overall, the results contained in Panel A of Table 4.8 support H1a and H1b.

Regarding the independent directors' social experience, Panel B of Table 4.9 shows that ROA has a significant ( $p < 0.05$ ) and positive ( $=0.020$ ) association with Social Prop. Further, concerning social performance, Column (7) shows that NAB has a significant ( $p < 0.05$ ) and positive ( $=0.234$ ) association with Social Prop. Furthermore, as shown in Column (9), ALB has a significant ( $p < 0.01$ ) and negative ( $=-0.296$ ) relationship with Social Prop. Hence, similar to the baseline findings, this study suggests there is a significant and positive relationship between external directors' social experience and MFI financial and social performance, thereby supporting H2a and H2b.

With respect to independent directors' community connections, Table 4.10 shows that ROE has a significant ( $p < 0.05$ ) and positive relationship with Community Prop and Community Log, although the significance level is weak ( $p < 0.10$ ) for Community Log. These

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<sup>45</sup>The Wald F values are very large in all the columns because this study uses the generated instruments as the simple function of the model's data and the one to three years' lag of the endogenous explanatory variables.

results indicate that endogeneity does not mitigate the negative impact of independent directors' community connections on MFI financial performance (H3a). Further, NAB has a significant ( $p < 0.05$ ) and positive ( $= 0.336$ ) association with Community Prop, as shown in Column (7). Furthermore, as shown in Column (9), ALB has a strong, significant ( $p < 0.01$ ) and negative ( $= -0.278$ ) relationship with Community Prop. Hence, these results further support H3b.

In the case of independent directors' advanced education, Panel D of Table 4.11 shows that only OSS has a significant and positive association with Graduate Prop ( $p < 0.10$ ) and Graduate Log ( $p < 0.05$ ), similar to the baseline findings. Further, Graduate Log has a positive relationship with NAB, but a negative relationship with ALB at the same significance level ( $p < 0.05$ ). Although the significance level is weak when compared to the baseline results, the results are similar after accounting for endogeneity. Therefore, Panel D suggests that the posited relationship between the presence of independent directors with graduate education and MFI double bottom line performance is robust to support the hypotheses (H4a and H4b). Further, the impact on financial performance (i.e., OSS) is strongly significant even after accounting for endogeneity. When considered together, the results in all of the Tables (Table 4.8 to Table 4.11) suggest that = endogeneity does not mitigate the predicted relationship between board independence, members' social experience, community ties, and advanced education, with MFI financial and social performance.

Furthermore, in accordance with Hillman (2005), this study runs an additional analysis using data on the prior financial and social performance of the firm (1 to 3 years lag) as the predictors of independent member inclusion in the board, and their human and social capital attributes. Table 4.12 reports the results of the reverse causality tests for the ratio measures of the dependent variables. In addition to the 1 to 3 years' lag in the financial performance variables, similar lags (i.e., 1 to 3 years lag) are also used for all of the control variables. In Panel A, for Independent Prop, the lags of the financial performance variables are insignificant. Similarly, in Panel B, the lags of the social performance variables are also insignificant. Similar results are obtained for Social Prop, Community Prop, and Graduate Prop. Furthermore, the unreported results of the logarithmic measures of these dependent variables are insignificant with the lags of the financial and social performance variables. Therefore, the reverse causality tests, shown in Table 4.12, suggest that prior financial and social performance of the MFIs are not significant predictors of the presence of independent directors on the board.

#### 4.5.5 Robustness Tests

In order to examine the robustness of the results, this study uses several alternative specifications. First, this study uses several alternative proxies to measure financial and social performance. Second, using a one-year lag of the explanatory variables, this study conducts further regressions. Third, this study again uses a one-year lag on the alternative proxies for financial and social performance. Further, similar to the baseline models, in all of the specifications, the study uses both the log and ratio measures of the explanatory variables of interest.

##### 4.5.5.1 Alternative Proxies to Measure Financial and Social Performance

In order to test whether the results are sufficiently robust to support the hypotheses, this study first creates FIN as a factor variable using the financial performance variables (ROA, ROE, and OSS) through dimension reduction (Hotelling, 1933) using the Principal Component Analysis (PCA). Also, this study uses the log of the total number of savers (NSV) as the measure of the breadth of outreach. Besides, to measure the depth of outreach, this study uses the log of the average savings balance per savers (ASB). Similar to NAB and ALB, these variables (NSV and ASB respectively) are based on the idea that poor people try to save small amounts of their income to meet unforeseen contingencies and to use as collateral when obtaining credit from MFIs (Collins et al., 2009). Similar to the outreach to borrowers, it is proposed that the larger the NSV, the greater the breadth of outreach is and, alternatively, the smaller the ASB, the more the depth of outreach is.

**Table 4.13 Association when Alternative Proxies for Financial and Social Performance are used**

**Panel A:** Board independence and MFI financial and social performance.

VARIABLES	Dependent Variables: Financial Performance		Dependent Variables: Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
Independent Prop	0.110** (0.048)		0.044* (0.023)		-0.111*** (0.027)	
Independent Log		0.047** (0.019)		0.024*** (0.009)		-0.054*** (0.011)
Board Size	0.026 (0.099)	-0.006 (0.098)	0.182*** (0.043)	0.169*** (0.042)	-0.058 (0.055)	-0.025 (0.054)
CEO Power	-0.021 (0.186)	-0.010 (0.187)	-0.247** (0.103)	-0.243** (0.103)	0.270** (0.132)	0.260** (0.130)
Firm Size	0.063*** (0.009)	0.062*** (0.009)	0.842*** (0.004)	0.841*** (0.004)	0.122*** (0.005)	0.123*** (0.005)
Debt-Equity	-0.007*** (0.001)	-0.007*** (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.002*** (0.001)	-0.002*** (0.001)

Loan Growth	0.245*** (0.044)	0.245*** (0.044)	-0.186*** (0.025)	-0.186*** (0.025)	0.034 (0.022)	0.034 (0.022)
Provision	-8.177*** (0.915)	-8.191*** (0.917)	-0.205 (0.342)	-0.210 (0.342)	-1.021*** (0.348)	-1.009*** (0.347)
Constant	-0.783*** (0.242)	-0.722*** (0.242)	-6.112*** (0.104)	-6.083*** (0.104)	5.837*** (0.128)	5.770*** (0.128)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,504	3,504	4,144	4,144	4,135	4,135
R-squared	0.2597	0.2599	0.9096	0.9096	0.2407	0.2423

**Panel B:** Independent directors' social tie and MFI financial and social performance.

VARIABLES	Dependent Variables: Financial Performance		Dependent Variables: Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
Social Prop	0.324 (0.203)		0.355*** (0.087)		-0.348*** (0.106)	
Social Log		0.076* (0.044)		0.086*** (0.019)		-0.077*** (0.024)
Board Size	0.009 (0.098)	-0.004 (0.098)	0.181*** (0.042)	0.168*** (0.042)	-0.040 (0.055)	-0.027 (0.055)
CEO Power	-0.050 (0.185)	-0.044 (0.185)	-0.285*** (0.102)	-0.280*** (0.102)	0.302** (0.131)	0.294** (0.131)
Firm Size	0.063*** (0.009)	0.062*** (0.009)	0.839*** (0.004)	0.838*** (0.004)	0.122*** (0.005)	0.123*** (0.005)
Debt-Equity	-0.007*** (0.001)	-0.007*** (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth	0.249*** (0.044)	0.249*** (0.044)	-0.184*** (0.025)	-0.183*** (0.025)	0.031 (0.022)	0.030 (0.022)
Provision	-8.148*** (0.909)	-8.144*** (0.909)	-0.181 (0.341)	-0.177 (0.341)	-1.050*** (0.350)	-1.051*** (0.350)
Constant	-0.726*** (0.243)	-0.690*** (0.246)	-6.062*** (0.105)	-6.018*** (0.106)	5.778*** (0.128)	5.743*** (0.130)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,504	3,504	4,144	4,144	4,135	4,135
R-squared	0.259	0.259	0.920	0.920	0.239	0.239

**Panel C:** Independent directors' community tie and MFI financial and social performance.

VARIABLES	Dependent Variables: Financial Performance		Dependent Variables: Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
Community Prop	-0.222 (0.234)		0.285*** (0.096)		-0.628*** (0.128)	
Community Log		-0.033 (0.047)		0.064*** (0.021)		-0.130*** (0.026)

Board Size	-0.003 (0.098)	0.003 (0.098)	0.173*** (0.042)	0.164*** (0.042)	-0.033 (0.055)	-0.014 (0.055)
CEO Power	-0.020 (0.187)	-0.019 (0.187)	-0.236** (0.104)	-0.235** (0.104)	0.244* (0.130)	0.243* (0.130)
Firm Size	0.069*** (0.009)	0.069*** (0.009)	0.840*** (0.004)	0.839*** (0.004)	0.125*** (0.005)	0.126*** (0.005)
Debt-Equity	-0.007*** (0.001)	-0.007*** (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth	0.246*** (0.044)	0.246*** (0.044)	-0.185*** (0.025)	-0.185*** (0.025)	0.031 (0.022)	0.031 (0.022)
Provision	-8.170*** (0.909)	-8.170*** (0.909)	-0.203 (0.341)	-0.201 (0.341)	-1.027*** (0.351)	-1.031*** (0.351)
Constant	-0.799*** (0.245)	-0.802*** (0.249)	-6.063*** (0.105)	-6.036*** (0.105)	5.726*** (0.129)	5.678*** (0.131)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,504	3,504	4,144	4,144	4,135	4,135
R-squared	0.259	0.259	0.920	0.920	0.242	0.242

**Panel D:** Independent directors' advanced education and MFI financial and social performance.

VARIABLES	Dependent Variables: Financial Performance		Dependent Variables: Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
Graduate Prop	0.068 (0.065)		0.091*** (0.031)		-0.120*** (0.037)	
Graduate Log		0.041* (0.023)		0.035*** (0.011)		-0.053*** (0.013)
Board Size	0.015 (0.099)	0.002 (0.098)	0.192*** (0.043)	0.174*** (0.042)	-0.058 (0.056)	-0.034 (0.055)
CEO Power	-0.023 (0.187)	-0.024 (0.187)	-0.257** (0.102)	-0.254** (0.102)	0.279** (0.128)	0.276** (0.126)
Firm Size	0.064*** (0.010)	0.062*** (0.009)	0.839*** (0.005)	0.839*** (0.005)	0.124*** (0.006)	0.125*** (0.005)
Debt-Equity	-0.007*** (0.001)	-0.007*** (0.001)	-0.000 (0.000)	-0.000 (0.000)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth	0.247*** (0.044)	0.247*** (0.044)	-0.185*** (0.025)	-0.185*** (0.025)	0.032 (0.022)	0.032 (0.022)
Provision	-8.172*** (0.912)	-8.185*** (0.914)	-0.211 (0.340)	-0.217 (0.341)	-1.017*** (0.347)	-1.006*** (0.347)
Constant	-0.758*** (0.242)	-0.716*** (0.243)	-6.095*** (0.104)	-6.061*** (0.104)	5.807*** (0.128)	5.754*** (0.129)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,504	3,504	4,144	4,144	4,135	4,135
R-squared	0.259	0.259	0.930	0.930	0.240	0.241

**Note:** The alternative measures of the dependent variables in all the panels are FIN, NSV, and ASB. The financial performance variable (FIN) is obtained as the factor variable of ROA, ROE, and OSS by applying PCA. The dependent variable (NSV) represents the number of active savers (in logarithmic form) as a measure of the breadth of outreach. The depth of outreach is measured as the log of the average savings balance (in Bangladeshi Taka) per saver (ASB). In panel A, the explanatory and the control variables are the same as in Table 5. In all the panels, the robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

Column (1) and (2) in Panel A of Table 4.13 shows that financial performance (FIN) has a significant ( $p < 0.05$ ) and positive association with both Independent Log ( $= 0.047$ ) and Independent Prop ( $= 0.110$ ), thereby supporting H1a. Similarly, Independent Log is significant at 1 percent (Column 4) and positive ( $= 0.024$ ) relationship with NSV, and Independent Prop has a positive and significant relationship with NSV at 10 percent (Column 3). These results, therefore, support H1b. Furthermore, concerning ASB, both Independent Log and Independent Prop have a strong, significant ( $P < 0.01$ ) and negative relationship. These results also support H1b.

Panel B of Table 4.13 shows that FIN has a significant (10%) relationship with Social Prop, similar to the baseline results, thereby supporting H2a. Furthermore, the breadth of outreach, as measured by NSV, has a strong, significant ( $p < 0.01$ ) and positive relationship with both Social Log ( $= 0.086$ ) and Social Prop ( $= 0.355$ ), similar to the baseline findings. Likewise, the depth of outreach, as measured by ASB, has a strong, significant ( $p < 0.01$ ) and negative association with both Social Log ( $= - 0.077$ ) and Social Prop ( $= - 0.348$ ). These results again demonstrate the robustness of H2b.

Regarding independent directors' community affiliations, Panel C of Table 4.13 does not identify any significant impact of those affiliations on MFI financial performance (FIN). On the other hand, concerning social performance, Panel C shows that both Community Log and Community Prop have a strong, significant ( $p < 0.01$ ) and positive ( $= 0.064$  and  $0.285$  respectively) association with NSV. For ASB, the association is negative and strongly significant ( $p < 0.01$ ) for both Community Prop ( $= - 0.130$ ) and Community Log ( $= - 0.628$ ). These results also support the robustness of H3b.

Finally, Panel D of Table 4.13 shows that Graduate Log has a significant and positive relationship with financial performance (FIN), similar to the baseline results, thereby supporting H4a, although the evidence of the relationship is weak. However, both Graduate Log and Graduate Prop are strongly significant ( $p < 0.01$ ) and positively associated with NSV. Further, both of the explanatory variables are strongly significant ( $p < 0.01$ ) and negatively associated with ASB. These results support the baseline findings of H4b.

#### 4.5.5.2 *Results with the Lag of the Independent Variables*

Furthermore, following Xu et al. (2015) and Ahmed and Ali (2017), this study uses one-year lag for all of the explanatory control variables used in the baseline regression model.

The results are reported in Table 4.14. For board independence, although the coefficient is not significantly associated with the financial performance variables (Panel A), the directions are the same as that of the baseline models. In Column (7) and (8) in Panel A of Table 4.14, Independent Log<sub>t-1</sub> (= 0.031; p<0.01) and Independent Prop<sub>t-1</sub> (= 0.061; p<0.05) both have a significant and positive association with NAB, more specifically, board independence has a significantly positive effect on the breadth of outreach (H1b).

Column (1) and (2) in Panel B of Table 4.14 shows that ROA has a significant (p<0.05) and positive association with both Social Log<sub>t-1</sub> (= 0.011) and Social Prop<sub>t-1</sub> (= 0.023). Also, OSS has a significant (p<0.10) and positive (=0.150) association with Social Prop<sub>t-1</sub> (in Column 5). These findings, therefore, support H2a. In the case of social performance, both Social Log<sub>t-1</sub> (=0.084), and Social Prop<sub>t-1</sub> (=0.361) have a positive and significant association with NAB (p<0.01). Similarly, regarding ALB, Social Log<sub>t-1</sub>, and Social Prop<sub>t-1</sub> both have a significant (p<0.05) and negative (= -0.052 and -0.241 respectively) association, similar to the baseline results. Further, in comparison to the baseline models, these results are robust when the study uses a one-year lag of the social experience variables.

For the independent directors' community affiliations (Panel C of Table 4.14), similar to the baseline results, NAB has a significant (Column 7 to 10 in Panel C) association with Community Prop<sub>t-1</sub> and Community Log<sub>t-1</sub>, with a similar direction as the baseline model, thereby supporting H3b. For independent directors' advanced education, OSS has a positive and significant (p<0.10) association with Graduate Log<sub>t-1</sub>, which is also similar to the baseline results (H4a). Further, NAB is strongly significant (p<0.01) and positively associated with both Graduate Log<sub>t-1</sub> and Graduate Prop<sub>t-1</sub>, thereby supporting H4b.

#### 4.5.5.3 *Lag Independent Variables and the Alternative Proxies of the Dependent Variables*

Similar to the above, this study also runs regressions using a one-year lag for all of the explanatory variables and the alternative proxies of the financial and social performance variables. The results are reported in Panel A, B, C and D of Table 4.15.

Panel A of Table 4.15, similar to the baseline findings, demonstrates a positive association between Independent Log<sub>t-1</sub> and FIN (= 0.041; p<0.05). A similar result is achieved for Independent Prop<sub>t-1</sub> (at p<0.10). Further, both NSV and ASB have a strong and significant (p<0.01) association with both the log and ratio measures of board independence, with the same directions as predicted in the hypothesis. Therefore, although the significance is weak for some of the financial and social performance variables in the baseline model, and the robustness tests, the results shown in Panel A of Table 4.15 show strong support for the positive relationship between board independence and MFI double bottom line performance.

Furthermore, Panel B of Table 4.15 shows that the financial performance variable (FIN) has a significant ( $p < 0.05$ ) and positive association with Social Log<sub>t-1</sub> and Social Prop<sub>t-1</sub>, thereby supporting H2a. Similarly, for both Social Prop<sub>t-1</sub> and Social Log<sub>t-1</sub>, the social performance variables are significantly associated ( $p < 0.05$  for NSV;  $p < 0.01$  for ASB), with a similar direction as the baseline results, thereby supporting H2b.

Further, Panel C of Table 4.15, similar to the baseline results, shows that both Community Prop<sub>t-1</sub> and Community Log<sub>t-1</sub>, have a strong, significant ( $p < 0.01$ ) and positive association with NSV. A similar level of significance is identified, in a negative way, between ASB and both the log and ratio measures of independent directors' community ties (thereby supporting hypothesis H3b). Finally, although the financial performance variables are not significant with independent directors' advanced education in the baseline model, the study nevertheless identifies a positive but weak ( $p < 0.10$ ) association between Graduate Log<sub>t-1</sub> and FIN, demonstrating the robustness of the relationship. Nevertheless, both Graduate Log<sub>t-1</sub> and Graduate Prop<sub>t-1</sub> have a strong, significant ( $p < 0.01$ ) and positive association with NSV and a negative association with ASB, thereby supporting H4b.

**Table 4.14 Lag Independent Model****Panel A:** Independent directors and MFI performance.

VARIABLES	Financial Performance						Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Independent Prop $t_{-1}$	0.003 (0.002)		0.019 (0.020)		0.031 (0.021)		0.061** (0.026)		-0.004 (0.023)	
Independent Log $t_{-1}$		0.001 (0.001)		0.009 (0.008)		0.013 (0.009)		0.031*** (0.011)		-0.011 (0.010)
Board Size $t_{-1}$	0.008* (0.005)	0.007 (0.005)	0.023 (0.040)	0.017 (0.039)	0.059 (0.043)	0.050 (0.043)	0.215*** (0.049)	0.196*** (0.049)	-0.153*** (0.045)	-0.151*** (0.045)
CEO Power $t_{-1}$	-0.003 (0.012)	-0.003 (0.012)	-0.018 (0.030)	-0.016 (0.030)	-0.021 (0.061)	-0.018 (0.061)	-0.196 (0.135)	-0.191 (0.134)	0.140 (0.137)	0.140 (0.136)
Firm Size $t_{-1}$	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.018*** (0.004)	0.017*** (0.004)	0.860*** (0.005)	0.860*** (0.005)	0.146*** (0.005)	0.146*** (0.005)
Debt-Equity $t_{-1}$	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Loan Growth $t_{-1}$	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.033* (0.017)	0.034* (0.017)	-0.128*** (0.030)	-0.128*** (0.030)	0.105*** (0.017)	0.106*** (0.017)
Provision $t_{-1}$	-0.054 (0.045)	-0.055 (0.045)	0.572 (0.551)	0.569 (0.551)	-0.088 (0.293)	-0.093 (0.293)	-0.148 (0.323)	-0.157 (0.323)	-0.003 (0.322)	0.002 (0.322)
Constant	-0.030*** (0.011)	-0.029** (0.011)	-0.293*** (0.103)	-0.281*** (0.102)	0.595*** (0.105)	0.612*** (0.106)	-6.766*** (0.123)	-6.728*** (0.124)	6.633*** (0.108)	6.622*** (0.109)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,160	3,160	3,415	3,415	3,171	3,171	3,497	3,497	3,483	3,483
R-squared	0.077	0.077	0.071	0.071	0.368	0.368	0.913	0.913	0.363	0.363

**Panel B:** Independent directors with social experience and MFI performance.

VARIABLES	Financial Performance						Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Social Prop <sub>t-1</sub>	0.023** (0.009)		0.058 (0.088)		0.150* (0.091)		0.361*** (0.103)		-0.241** (0.096)	
Social Log <sub>t-1</sub>		0.005** (0.002)		0.012 (0.019)		0.031 (0.020)		0.084*** (0.023)		-0.052** (0.021)
Board Size <sub>t-1</sub>	0.008 (0.005)	0.007 (0.005)	0.020 (0.040)	0.018 (0.039)	0.056 (0.043)	0.050 (0.043)	0.209*** (0.050)	0.195*** (0.049)	-0.158*** (0.045)	-0.149*** (0.045)
CEO Power <sub>t-1</sub>	-0.006 (0.012)	-0.005 (0.012)	-0.023 (0.032)	-0.021 (0.032)	-0.037 (0.062)	-0.032 (0.062)	-0.237* (0.133)	-0.229* (0.133)	0.170 (0.135)	0.164 (0.135)
Firm Size <sub>t-1</sub>	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.020*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.858*** (0.005)	0.858*** (0.005)	0.148*** (0.005)	0.149*** (0.005)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.034** (0.017)	0.034** (0.017)	-0.126*** (0.030)	-0.126*** (0.030)	0.104*** (0.017)	0.104*** (0.017)
Provision <sub>t-1</sub>	-0.052 (0.045)	-0.052 (0.044)	0.577 (0.550)	0.577 (0.550)	-0.075 (0.292)	-0.074 (0.292)	-0.119 (0.322)	-0.115 (0.322)	-0.019 (0.323)	-0.020 (0.323)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,160	3,160	3,415	3,415	3,171	3,171	3,497	3,497	3,483	3,483
R-squared	0.078	0.078	0.071	0.071	0.368	0.368	0.913	0.913	0.364	0.364

**Panel C:** Independent directors with community tie and MFI performance.

VARIABLES	Financial Performance						Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
Community Prop <sub>t-1</sub>	-0.000 (0.015)		-0.075 (0.099)		0.020 (0.115)		0.376* (0.202)		-0.189 (0.200)	
Community Log <sub>t-1</sub>		-0.000 (0.003)		-0.015 (0.020)		0.014 (0.023)		0.085* (0.044)		-0.046 (0.042)
Board Size <sub>t-1</sub>	0.007 (0.006)	0.007 (0.006)	0.018 (0.046)	0.020 (0.046)	0.052 (0.049)	0.050 (0.049)	0.201** (0.093)	0.189** (0.093)	-0.153* (0.092)	-0.146 (0.092)
CEO Power <sub>t-1</sub>	-0.003 (0.011)	-0.003 (0.011)	-0.018 (0.037)	-0.018 (0.037)	-0.017 (0.052)	-0.016 (0.052)	-0.179 (0.272)	-0.178 (0.271)	0.135 (0.266)	0.134 (0.266)
Firm Size <sub>t-1</sub>	0.002*** (0.001)	0.002*** (0.001)	0.022*** (0.005)	0.022*** (0.005)	0.018*** (0.004)	0.018*** (0.004)	0.858*** (0.010)	0.857*** (0.010)	0.148*** (0.010)	0.148*** (0.010)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.001)	-0.001 (0.001)	0.000 (0.001)	0.000 (0.001)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.034* (0.017)	0.034* (0.017)	-0.127*** (0.031)	-0.127*** (0.031)	0.105*** (0.019)	0.105*** (0.019)
Provision <sub>t-1</sub>	-0.054 (0.046)	-0.054 (0.046)	0.575 (0.572)	0.575 (0.572)	-0.084 (0.284)	-0.084 (0.284)	-0.152 (0.380)	-0.152 (0.380)	0.002 (0.371)	0.002 (0.371)
Constant	-0.030** (0.014)	-0.030** (0.014)	-0.302*** (0.112)	-0.307*** (0.114)	0.603*** (0.112)	0.615*** (0.114)	-6.698*** (0.228)	-6.662*** (0.230)	6.602*** (0.219)	6.581*** (0.221)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,160	3,160	3,415	3,415	3,171	3,171	3,497	3,497	3,483	3,483
R-squared	0.076	0.076	0.071	0.071	0.367	0.367	0.913	0.913	0.363	0.364

**Panel D:** Independent directors with advanced education and MFI performance.

VARIABLES	Financial Performance						Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
Graduate Prop <sub>t-1</sub>	0.003 (0.003)		-0.006 (0.027)		0.039 (0.028)		0.093*** (0.034)		-0.023 (0.030)	
Graduate Log <sub>t-1</sub>		0.001 (0.001)		0.004 (0.010)		0.017* (0.010)		0.037*** (0.012)		-0.014 (0.011)
Board Size <sub>t-1</sub>	0.008 (0.005)	0.007 (0.005)	0.017 (0.040)	0.018 (0.039)	0.061 (0.044)	0.053 (0.043)	0.222*** (0.050)	0.202*** (0.049)	-0.157*** (0.045)	-0.153*** (0.045)
CEO Power <sub>t-1</sub>	-0.003 (0.012)	-0.003 (0.012)	-0.015 (0.031)	-0.017 (0.031)	-0.024 (0.061)	-0.023 (0.061)	-0.207 (0.133)	-0.203 (0.133)	0.144 (0.136)	0.145 (0.136)
Firm Size <sub>t-1</sub>	0.002*** (0.000)	0.002*** (0.000)	0.021*** (0.004)	0.020*** (0.004)	0.017*** (0.004)	0.016*** (0.004)	0.858*** (0.006)	0.858*** (0.006)	0.147*** (0.005)	0.147*** (0.005)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.034** (0.017)	0.034** (0.017)	-0.127*** (0.030)	-0.128*** (0.030)	0.105*** (0.017)	0.105*** (0.017)
Provision <sub>t-1</sub>	-0.054 (0.045)	-0.054 (0.045)	0.574 (0.550)	0.571 (0.550)	-0.089 (0.293)	-0.094 (0.293)	-0.153 (0.322)	-0.161 (0.323)	-0.000 (0.322)	0.004 (0.322)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,160	3,160	3,415	3,415	3,171	3,171	3,497	3,497	3,483	3,483
R-squared	0.077	0.077	0.071	0.071	0.368	0.368	0.913	0.913	0.363	0.363

**Note:** One year lag of all the independent (explanatory and control) variables are used. For instance, in Panel A: Independent Prop<sub>t-1</sub>, Independent Log<sub>t-1</sub>. In Panel B: Social Prop<sub>t-1</sub>, Social Log<sub>t-1</sub>. In Panel C: Social Prop<sub>t-1</sub>, Social Log<sub>t-1</sub>. In Panel D: Community Prop<sub>t-1</sub>, Community Log<sub>t-1</sub>. Panel D: Graduate Prop<sub>t-1</sub>, Graduate Log<sub>t-1</sub>. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 4.15 Lag Independent Model with Alternative Proxies to Measure the Dependent Variables**

**Panel A:** Independent directors and MFI performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
Independent Prop $t_{-1}$	0.095* (0.050)		0.073*** (0.026)		-0.110*** (0.030)	
Independent Log $t_{-1}$		0.041** (0.020)		0.034*** (0.011)		-0.054*** (0.012)
Board Size $t_{-1}$	0.182* (0.104)	0.154 (0.103)	0.197*** (0.049)	0.175*** (0.049)	-0.048 (0.061)	-0.015 (0.060)
CEO Power $t_{-1}$	-0.084 (0.202)	-0.076 (0.202)	-0.270*** (0.098)	-0.264*** (0.097)	0.187 (0.148)	0.178 (0.146)
Firm Size $t_{-1}$	0.066*** (0.010)	0.065*** (0.010)	0.856*** (0.005)	0.856*** (0.005)	0.126*** (0.006)	0.127*** (0.006)
Debt-Equity $t_{-1}$	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth $t_{-1}$	0.215*** (0.041)	0.215*** (0.041)	-0.136*** (0.028)	-0.136*** (0.028)	0.061*** (0.022)	0.061*** (0.022)
Provision $t_{-1}$	-0.203 (0.813)	-0.219 (0.814)	-0.817** (0.351)	-0.827** (0.352)	-1.066*** (0.393)	-1.049*** (0.392)
Constant	-1.353*** (0.253)	-1.299*** (0.254)	-6.355*** (0.121)	-6.312*** (0.120)	5.818*** (0.142)	5.751*** (0.142)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,124	3,124	3,474	3,474	3,466	3,466
R-squared	0.223	0.224	0.923	0.923	0.211	0.213

**Panel B:** Independent directors with a social tie and MFI performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
Social Prop $t_{-1}$	0.458** (0.216)		0.428*** (0.099)		-0.288** (0.115)	
Social Log $t_{-1}$		0.102** (0.047)		0.102*** (0.022)		-0.063** (0.026)
Board Size $t_{-1}$	0.171* (0.103)	0.153 (0.103)	0.190*** (0.049)	0.174*** (0.048)	-0.029 (0.061)	-0.018 (0.061)
CEO Power $t_{-1}$	-0.133 (0.200)	-0.122 (0.200)	-0.318*** (0.096)	-0.311*** (0.095)	0.213 (0.148)	0.205 (0.147)
Firm Size $t_{-1}$	0.063*** (0.010)	0.063*** (0.010)	0.854*** (0.005)	0.853*** (0.005)	0.126*** (0.006)	0.126*** (0.006)
Debt-Equity $t_{-1}$	0.001	0.001	-0.001	-0.001	-0.002***	-0.002***

	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Loan Growth $t-1$	0.218***	0.218***	-0.134***	-0.134***	0.059***	0.058***
	(0.041)	(0.041)	(0.028)	(0.028)	(0.022)	(0.022)
Provision $t-1$	-0.170	-0.166	-0.779**	-0.773**	-1.102***	-1.104***
	(0.808)	(0.808)	(0.349)	(0.349)	(0.395)	(0.395)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,124	3,124	3,474	3,474	3,466	3,466
R-squared	0.224	0.224	0.913	0.913	0.209	0.209

**Panel C:** Independent directors with community tie and MFI performance.

VARIABLES	Financial Performance		Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)
	FIN	FIN	NSV	NSV	ASB	ASB
Community Prop $t-1$	-0.066		0.316***		-0.574***	
	(0.244)		(0.106)		(0.139)	
Community Log $t-1$		-0.002		0.070***		-0.119***
		(0.050)		(0.023)		(0.029)
Board Size $t-1$	0.158	0.159	0.180***	0.170***	-0.023	-0.006
	(0.103)	(0.103)	(0.049)	(0.048)	(0.061)	(0.061)
CEO Power $t-1$	-0.077	-0.075	-0.253**	-0.252**	0.159	0.158
	(0.203)	(0.203)	(0.100)	(0.100)	(0.146)	(0.146)
Firm Size $t-1$	0.070***	0.069***	0.855***	0.855***	0.129***	0.130***
	(0.010)	(0.010)	(0.005)	(0.005)	(0.006)	(0.006)
Debt-Equity $t-1$	0.001	0.001	-0.001	-0.001	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Loan Growth $t-1$	0.215***	0.215***	-0.135***	-0.135***	0.059***	0.059***
	(0.041)	(0.041)	(0.029)	(0.029)	(0.022)	(0.022)
Provision $t-1$	-0.193	-0.194	-0.815**	-0.814**	-1.068***	-1.070***
	(0.808)	(0.808)	(0.350)	(0.350)	(0.395)	(0.395)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,124	3,124	3,474	3,474	3,466	3,466
R-squared	0.223	0.223	0.913	0.913	0.212	0.212

**Panel D:** Independent directors with advanced education tie and MFI performance.

VARIABLES	Financial Performance		Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)
	FIN	FIN	NSV	NSV	ASB	ASB
Graduate Prop $t-1$	0.076		0.107***		-0.095**	
	(0.068)		(0.034)		(0.040)	
Graduate Log $t-1$		0.040*		0.039***		-0.045***
		(0.024)		(0.012)		(0.014)
Board Size $t-1$	0.176*	0.160	0.204***	0.181***	-0.044	-0.024
	(0.105)	(0.103)	(0.050)	(0.049)	(0.062)	(0.061)
CEO Power $t-1$	-0.088	-0.088	-0.282***	-0.276***	0.193	0.191

	(0.203)	(0.203)	(0.096)	(0.097)	(0.144)	(0.143)
Firm Size $t-1$	0.065***	0.064***	0.854***	0.854***	0.127***	0.128***
	(0.010)	(0.010)	(0.005)	(0.005)	(0.006)	(0.006)
Debt-Equity $t-1$	0.001	0.001	-0.001	-0.001	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Loan Growth $t-1$	0.216***	0.216***	-0.135***	-0.136***	0.059***	0.060***
	(0.041)	(0.041)	(0.028)	(0.028)	(0.022)	(0.022)
Provision $t-1$	-0.202	-0.216	-0.824**	-0.833**	-1.068***	-1.053***
	(0.810)	(0.812)	(0.350)	(0.351)	(0.393)	(0.394)
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,124	3,124	3,474	3,474	3,466	3,466
R-squared	0.223	0.223	0.913	0.913	0.209	0.210

**Note:** The explanatory variables in Panel A, B, C, and D are the same as the explanatory variables in Panel A, B, C, D in Table 12 respectively. Robust standard errors are in parentheses. Superscripts \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

When considered together, the robustness tests reveal similar results when the study uses different alternative specifications to support the baseline results. In some cases, the results are stronger than the baseline results.

## 4.6 Discussions and Conclusion

### 4.6.1 Discussion

The impact of board independence on firm performance has received considerable attention in corporate governance literature. Recently, this issue has also gained attention from financial institutions that adopt a social mission. However, little research has been conducted in the context of microfinance, a financial industry that has both a financial and social mission. Further, a growing body of literature (e.g., Galbreath, 2012; Johnson et al., 2013; Kor & Sundaramurthy, 2009) argues that the study of the board independence is not sufficient to explain firm performance. Therefore, an overarching question arises: to what extent does board independence impact firm performance? Further, what influence do the attributes of independent directors have on firm performance? In order to advance this stream of research in the context of the microfinance industry, this study investigates the association between board independence and MFI double bottom line performance. Besides, for a deeper understanding of the impact of the attributes of independent directors, this study examines whether the independent directors' social experience, advanced education or community connections, as human and social capital attributes, have any influence on MFI performance. To answer these questions, the researcher empirically studies a large microfinance dataset from Bangladesh, the pioneer of the microfinance movement and the most mature, and one of

the largest, microfinance markets in the world. Table 4.16 outlines a summary of the findings.

**Table 4.16 Summary of the findings**

Hypothesis	Description	Results
H1a	Board independence has a positive association with MFI financial performance.	Supported
H1b	Board independence has a positive association with MFI social performance.	Supported
H2a	Independent directors' experience in social organizations has a positive effect on MFI financial performance.	Moderately supported
H2b	Independent directors' experience in social organizations has a positive association effect on outreach performance	Supported
H3a	Independent directors' community connections has a negative influence on MFI economic sustainability.	Supported
H3b	Independent directors' community connections has a positive effect on social outreach.	Supported
H4a	Independent directors' advanced education has a positive influence on MFI financial performance	Moderately Supported
H4b	Independent directors' advanced education has a positive influence on MFI social performance.	Supported

In support of H1a and H1b, the results of this study suggest that board independence has a significant positive impact on MFI financial and social performance. This finding is consistent with the traditional stream of corporate governance literature (e.g., Johnson et al., 1996; Lee et al., 2012; Peng, 2004). A possible cause of this positive outcome is due to the four main functions of the board through the presence of independent members: control of management, advice, resource provision, and bringing critical stakeholder issues in the board. Although the microfinance regulatory authority in Bangladesh has not developed guidelines for the inclusion of a maximum or a minimum number of independent directors, the MFIs operating in Bangladesh, the present context of the study, tend to appoint well reputed individuals as the independent directors to obtain the above-stated four benefits from their appointment. The data in this study shows that of the board members, 32.8 percent are independent directors. Hence, they are the dominant group in the board, and the possibility to contribute to the board through these four activities are high in the MFIs operating in Bangladesh. By carrying out these roles, independent directors can reduce management opportunism. Further, they can provide valuable suggestions and independent judgment to the management personnel by using their experience and cognitive ability. Similarly, independent directors can share their experience and knowledge of microfinance and other relevant firms with the other members of the board, to assist in the strategic decision making process.

Besides, by relying on their network ties, independent directors can connect the MFI to external resources. Similarly, independent directors legitimize the firm in the eyes of critical stakeholder groups, by emphasizing their trust and reputation. These connections can help the MFI to access cheap sources of funds and other resources. This, in turn, reduces operating and

funding costs. These funds can be used to grow the loan portfolio, which enables the MFIs to provide credit to more clients. Further, low cost funds and reduced operating costs achieved through the economies of scale help the MFIs to provide small credit to the more disadvantaged populations. Therefore, it is suggested that board independence is an important corporate governance attribute for the economic sustainability and social outreach of MFIs.

Furthermore, this study concludes that independent directors' social experience has a positive influence on the breadth and depth of outreach, thereby supporting H2b. In supporting H2a, this study also concludes that independent directors' social experience has a positive influence on financial performance, although the performance is weak in the baseline model. These findings are consistent with the extant literature (e.g., Hillman & Dalziel, 2003; Kor & Sundaramurthy, 2009) which suggests that the human and social capital created through independent directors' experience in social organizations can have a positive impact on the financial and social outcomes of MFIs. This positive outcome is because they can share their experience and knowledge to improve operational efficiencies and reduce costs. It enables the firm to reach more of the poorer populations, therefore, increasing their social outreach. Furthermore, the social connections of these board members increase the acceptance and legitimacy of the firm among prospective clients and other stakeholders.

However, independent directors do not always contribute in a positive way to MFI financial performance. In particular, when independent directors bring community connections to the board, this may have an adverse effect on the financial outcome of the firm. Similar to the extant literature on corporate community and political connection (Bona-Sánchez et al., 2014; Boubakri et al., 2012; Chen et al., 2011), this finding supports H3a. A possible explanation for this adverse impact is that the MFIs operate in countries where property rights are not as strong, and corruption is often widespread. Hence, when politically connected individuals are appointed to attract government subsidies or incentives, these individuals may use this opportunity to obtain personal political benefits from the business activities of the firm (De Soto, 1989; Shleifer & Vishny, 1998). In these circumstances, the MFI's risk of washing up the loan portfolio increases (Binswanger & Khandker, 1995; Braverman & Guasch, 1986). This risk is caused predominantly by weak regulatory environments (Bona-Sánchez et al., 2014). Another possible cause arises when political directors intervene in MFI's business activities without an appropriate level of professionalism (Shleifer & Vishny, 1998).

However, independent directors' political affiliations are not always harmful, as this study identifies a positive impact of such connections on the breadth and depth of outreach. This impact is because the firm can better access to subsidized funds or soft loans from government sources and other agencies. The MFI uses these funds to increase the loan

portfolio and serve more borrowers. Therefore, this study suggests that although the independent directors' community connections may be considered as an obstacle to MFI financial performance, these connections are essential for the MFI's social mission. Hence, the study suggests that before the inclusion of a politician or a community influential person on the board, it is important to consider what attributes the director brings and what attributes the MFI needs.

Lastly, this study suggests that independent directors' advanced education, as a human capital attribute, is important for the MFI's social mission (H4b). This attribute is also important to MFI's financial sustainability (H4b). As academic development through formal education improves an individual's cognitive capacity and makes them more insightful (Dalziel et al., 2011), they can help the board to be more informed about market conditions, competition within the market, and market demand. It also increases the MFI's legitimacy to its prospective clients. Likewise, graduate directors can effectively evaluate information and proposals provided by the management, which helps in the decision making process. Therefore, this study suggests that independent directors' advanced education, as a human capital attribute, is vital for both economic sustainability and social mission of the MFI.

#### **4.6.2 Implications**

This study provides a deeper insight into the debate on the impact of board independence on the performance of MFIs. This study expands on research by Hartarska (2005) which investigates the relationship between board independence and MFI performance. Hartarska suggests that board independence has a positive association with ROA and depth of outreach. However, that study does not identify any relationship between board independence and breadth of outreach or other crucial financial performance variables. This study explores these and other issues and suggests that board independence is not only crucial for the breadth of outreach and ROA, but also the depth of outreach and other financial performance indicators. Besides, this study is perhaps the first to identify a significant relationship between independent directors' human and social capital attributes on MFI double bottom line performance. The findings of the study have important implications which are discussed below.

##### *4.6.2.1 Contextual and Methodological Implications*

This study responds to call for research on corporate governance theory from a new institutional perspective. For instance, the literature (Hillman & Keim, 2001; North, 1991) suggests that the influence of board social capital attributes on firm performance may vary in different institutional contexts. Hence, there is renewed support from research on governance issues from a new contextual setting (e.g., Heyden et al., 2015; Jackson & Deeg, 2008) This

study, therefore, examines the microfinance industry. Unlike commercial corporations, MFIs adopt a dual mission and have different operating mechanisms, clientele, ownership structures, and stakeholder involvement. Although an increasing body of literature has examined board independence, this issue remains largely unexplored in the context of microfinance. The literature (e.g., Choi et al., 2007; Kim & Lim, 2010) suggests that there may be differences in the association between board independence and firm performance based on the context and the nature of the market in which firms operate. This study is the first to examine these issues in the microfinance industry.

This study also uses perhaps the most extensive and unique dataset from a single country to empirically test the hypotheses. Hartarska (2005) uses data from Central and Eastern European countries, and the dataset was relatively small. This study uses data from all MFIs operating in Bangladesh. Bangladesh is considered to be the breeding ground of the modern version of microfinance from which the microfinance movement has spread to more than 100 countries (Hollis & Sweetman, 1998; Mia et al., 2017). Hence, the microfinance market in Bangladesh is considered the pioneer and the most mature (Mia et al., 2017) microfinance market in the world. However, the issue of board independence and firm performance has not yet been explored in this market.

Furthermore, unlike commercial corporations, MFIs do not publish an annual report or director related detailed information to the public. Therefore, it was difficult to study board independence and their human and social capital attributes in this market. Against this backdrop, the researcher hand-collected the independent directors' detailed data from the archive records of the Bangladesh Microfinance Regulatory Authority (MRA). Using such a detailed, unique, and large dataset avoids the concerns related with the cross-country studies, such as inadequate sample sizes, endogeneity arising from the country-specific variables, and omitted variable issues (Bona-Sánchez et al., 2014; Miller, 2004).

#### *4.6.2.2 Theoretical Implications*

This study also contributes to the debate on the theoretical development of corporate governance literature. This study is perhaps the first in microfinance governance literature to use an integrated theoretical perspective to investigate the relationship between board independence and MFI double bottom line performance. Unlike traditional commercial corporations, MFIs rely on a dual objective. Due to this, the study suggests that studying the role of board independence based on agency theory is not sufficient to explain MFI double bottom line performance. Instead, MFI performance can be better explained using a broader theoretical perspective such as the integration of agency theory, stakeholder theory, and resource dependence theory.

The agency theory stems from the idea that a conflict of interest exists between the managers and the owners of a firm (Fama & Jensen, 1983b), which requires the supervision and control of managerial actions to protect the interests of shareholders. In relation to this, agency theorists (Dalton et al., 1998; Gillan & Starks, 2000; Schnatterly & Johnson, 2014) advocate for the inclusion of independent directors on the board. Although this study primarily supports this argument, by highlighting the positive relationship between board independence and firm performance, skepticism remains concerning whether all the independent directors achieve this purpose. Further evidence obtained in this study suggests that the study of board independence alone is not sufficient to explain MFI double bottom line performance. Therefore, in relying on the resource dependence theory (Pfeffer, 1972; Pfeffer & Salancik, 1978), the evidence obtained in this study suggests that it is important to consider what attributes independent members bring to the board. For this, the study uses independent directors' social experience, as a human and social capital attribute, their community connections, as a social capital attribute, and advanced education, as a human capital attribute, to measure the effect on firm performance. Based on the resource dependency view, this study is the first among the microfinance governance literature to investigate the impact of independent board members on MFI double bottom line performance.

Based on the resource dependency theory (e.g., Hillman et al., 2000; Hitt et al., 2001; Johnson et al., 2013; Kor & Sundaramurthy, 2009), the study shows that independent members create board human capital by collating their knowledge, skills, and expertise in the firm by working in other similar organizations or enriching their knowledge base through formal education. They contribute their skills, experiences, knowledge, and information to the board and provide access to resources (Hillman & Dalziel, 2003; Johnson et al., 2013; Westphal & Milton, 2000). Hence, they play an important role in enhancing the performance of the firm (Crook et al., 2011; Huo et al., 2016; Johnson et al., 2013). Further, independent board members with advanced education also have a positive impact on firm performance. However, this study suggests that independent directors do not always have a positive impact on the firm. In some cases, when independent directors bring community connections to the board, this may have an adverse impact on the financial outcomes of the firm, although this attribute is important for the firm's social performance. Therefore, based on a resource dependence perspective, the study suggests that the impact of independent directors on firm performance is contingent on what attributes these directors bring to the board.

Furthermore, this study suggests that the agency theory and resource dependence theory are not sufficient to explain the impact of board independence on firm performance because MFIs do not follow a single objective of firm economic performance (Morduch, 1999; Schreiner, 2002). Due to this, the relationship between board independence and MFI

performance needs to be considered in the context of a stakeholder view. Based on the stakeholder theory (Freeman, 1984; Freeman & Evan, 1990) this study uses poor clients as the critical primary stakeholders to whom the MFI serves its' financial products. The investors in the firm and other resource providers are also important stakeholders. In order to improve the financial and social outcomes of the firm, governance literature must consider the interdependency and needs of these stakeholders.

To explain this issue, the role of independent directors on the board is crucial. Therefore, with the inclusion of the social objective as the outcome of board independence, this study extends the theoretical foundation of the issue from the agency and resource-dependence perspectives, to a stakeholder perspective. Based on this, the study suggests that when firms want to improve their social outreach, they should primarily focus on human and social capital attributes, however, when the firm wants to increase their financial performance, they must consider which human and social capital attributes are essential for the MFI. Therefore, the study suggests that such an integrated theoretical approach provides a better understanding of the dynamics of board composition and performance of the firm.

#### *4.6.2.3 Managerial Implications*

The findings of this study also have implications for microfinance practices and policies. First, this study calls for the inclusion of independent directors on the board to improve the financial and social performance of the firm. However, this study also suggests that considerable attention should be paid to what human and social capital attributes independent directors bring to the board, and whether such attributes align with the firm's strategic preferences. Further, the study suggests that the impact of independent board members on firm financial and social performance is contingent on what attributes they bring to the firm. In particular, this study demonstrates that independent directors' social experience, advanced education, and community affiliations are important for the social performance of MFIs. Besides, independent directors' advanced education and social experience have a strong, significant and positive association with the social performance of the firm. However, their community affiliations have the potential to influence financial performance negatively.

Further, policymakers and government agencies must be cautious in imposing guidelines and regulations for corporate governance, particularly for MFIs. It is particularly important in countries where the government appoints the independent members as government representatives. Therefore, this study emphasizes the need to exercise caution in the process of selecting independent members for appointment to the board.

#### **4.6.3 Limitations and Directions for Future Research**

This study is not free of limitations. First, this study is based on data from a single

country with a specific industrial setting. In Bangladesh, MFIs work as non-government organizations. Unlike commercial corporations, some MFIs in Bangladesh do not focus solely on making a profit. Hence, the impact of independent directors on firm performance may vary in other institutional settings (Hillman & Keim, 2001), particularly among commercial corporations and in advanced economies. Therefore, the results of this study cannot be generalized to another institutional context or another country. Further research may benefit from exploring these issues in different institutional contexts and economic environments.

Second, this study uses independent directors' advanced education, industry-specific relevant experience, and community connections as the human and social capital attributes. However, this study does not explore other human and social capital attributes, such as industry-specific knowledge and education, board professional heterogeneity, and board interlock as the predictors of firm performance. Further, independent directors' political ties may have a different influence based on the nature of the ties with the government, for example, whether the political director is either conducive or collusive (Bona-Sánchez et al., 2014; Hillman, 2005). A lack of available information inhibits the researcher's ability to investigate these possibilities.

Third, although this study empirically investigates the impact of external board attributes on the performance of the firm, it does not explore how those attributes influence MFI double bottom line performance. Further research may examine this through qualitative research at the firm level.

Finally, there may be an interaction between board independence and board expertise (Sundaramurthy & Lewis, 2003; Zajac & Westphal, 1994). For example, the presence of human and social capital attributes may outweigh the costs of a reduction in external directors (Kor & Sundaramurthy, 2009). This study does not identify the most efficient number of independent directors and the balance of such attributes in different contexts. Future research may explore these issues.

#### **4.6.4 Conclusion**

This study examines the impact of board independence, and their human and social capital attributes, on microfinance double bottom line performance using the context of Bangladesh, one of the largest and most mature microfinance markets in the world. The findings of this study suggest that the presence of independent directors has a positive influence on MFI double bottom line performance. Further, this study suggests that the influence of such directors is contingent on their human and social capital attributes. For instance, independent directors' human and social capital attributes are essential for social performance. However, regarding financial performance, the influence of these attributes is

weak. There may be a negative association between the presence of the independent director and financial performance when those members bring political connections to the board. Therefore, the findings of this study suggest that academics and practitioners should pay close attention to the particular attributes an independent director brings to the firm, to gain a clear understanding of the role they will have in firm performance. As this study is based on a specific context, researchers and practitioners should exercise caution when attempting to generalize the findings of this study.

## Appendix

**Table A4 Descriptions and Measurement of the Variables used in the Model**

Variable	Description and Measurement
<i>Dependent Variables:</i>	
ROA	Return on Assets = (Net Operating Income – Taxes)/Average Total Assets
ROE	Return on Equity = Net Income/Total Equity. It shows the income attributable to the equity holders after payment of all current obligations.
OSS	Operational Self-sufficiency = Operating Revenue/ (Operating expenses + Financial expenses + Loan loss provision expenses). Measures the ability of the MFI to cover its costs from the operating revenues.
NAB	The breadth of outreach performance. Measured as the number of active borrowers (logarithmic) who have an outstanding loan balance at the MFI or is yet paying the unpaid portion of the credit to the MFI. The larger (more) the NAB, the more is the breadth of outreach.
ALB	The depth of outreach performance. Measured as the average loan balance per borrower (logarithm). The smaller the average loan size, the deeper is the outreach to the poor borrowers.
<i>Explanatory Variables:</i>	
Independent Log	Outside directors who do not have a primary employment in the firm, not the shareholders or employees, and do not have a financial involvement with the firm. Measured as a Natural log of (1+ Total number of independent directors)
Independent Prop	The proportion of independent directors to total directors
Social Log	Independent directors who have experience in the NGOs, development organizations, philanthropic organizations, or as social workers. Measured as log (1+ Total independent directors with social experience)
Social Prop	The proportion of independent directors with social ties to total directors.
Community Log	Independent directors having community affiliation/connection. It includes political leaders, representative in the parliament or local government, former government officials in key positions, community organizers, journalists, or religious leaders. Measured as like Social Log.
Community Prop	The proportion of independent directors with community tie to total directors on the board.
Graduate Log	Independent directors having at least graduation from a reputed university or college. Measured as log (1+ Total independent directors with graduation).
Graduate Prop	The proportion of independent directors with higher education to total directors.
<i>Controls:</i>	
Board Size	Total number of board of directors (logarithmic)
CEO-Chair	Dummy (= 1) if the CEO and Chair is the same person, zero otherwise.
Firm Size	Size of the firm, measured as the amount of loan portfolio (logarithmic)
Debt-Equity	Total debt to total equity. Equity represents the residual interest of the assets after the payment of all the obligations. Debt represents both the short term and long term debts.
Loan Growth	Growth of the gross loan portfolio = (Loan Size <sub>t</sub> - Loan Size <sub>t-1</sub> )/ Loan Size <sub>t-1</sub>
Provision Expense	The percentage of the loan portfolio set aside as the allowance for the loan losses due to the difficulty to recover the defaulted loan (Armendáriz & Morduch, 2010).

# **Chapter 5      Employees on the Board, Human Capital and Microfinance Double Bottom Line Performance**

## **5.1      Chapter Summary**

This chapter of the thesis explores the relationship between employee presence on the board and MFI double bottom line performance. Furthermore, this study investigates whether the experience of employee directors, as the specific human capital attribute, and their advanced education, as the general human capital attribute, have any influence on MFI financial and social performance. In order to answer those questions, this study uses the context of Bangladesh, one of the largest and most mature microfinance markets in the world. The study uses data from 734 MFIs (4,198 firm-year observations) between 2007 and 2015 and identifies that employee presence on the board has a positive influence on MFI financial and social performance, including the breadth and depth of outreach. Further, the study suggests that the previous microfinance experience of employee directors has a positive influence on MFI financial and social performance. Although the study identifies a positive association between their general education and MFI social performance, the findings are inconclusive regarding financial performance. The findings of the study suggest that it is essential to consider which human capital attributes employee directors bring to the board.

## **5.2      Introduction**

The value of including employees on the board of directors has gained further interest. In fact, according to Balsmeire, Bermig, and Dilger (2013), employees are considered to be important stakeholders on the board capable of influencing the impact of corporate governance on firm outcomes. Of the empirical evidence examined, some studies suggest that employee presence on the board is critical for firm performance (Balsmeier et al., 2013; Fauver & Fuerst, 2006; Lin et al., 2018). For MFIs, the importance of employee presence on the board is different from commercial firms. This difference is because MFIs have different organizational structures, operational mechanisms, and stakeholder engagement. For instance, in comparison to commercial banks and other financial institutions, MFIs have different client segments, lending procedures, and operating environments. Poor borrowers have limited means to provide formal collateral to MFIs to obtain credit. In such circumstances, through relationship-based lending technology, MFI front-line employees complete all procedures on behalf of the borrowers, in addition to their usual jobs (Agier & Szafarz, 2013b). Hence, MFIs depend heavily on their employees, particularly their front line credit officers and other personnel (Agier & Szafarz, 2013b). Therefore, employees are more familiar with the processes of the

MFI, in particular, their main operating activities. As employees have a close interaction with clients (Canales & Greenberg, 2015), they have more internal knowledge than that of the shareholder directors or outside directors. Therefore, it is argued that they may bring better information for improved decisions on the board. Based on this, a natural question arises: is the presence of employees on the board essential for MFI double bottom line performance?

Although employee presence on the board has received considerable attention in the other streams of academic research, it has received less attention in microfinance literature, except for studies by Hartarska (2005), and Hartarska and Mersland (2012). Interestingly, in contradiction to some streams of research, these studies report a negative association between employee presence on the board and MFI performance. Such findings suggest that there is a gap in understanding what employee directors are expected to contribute to the firm through their presence on the board. Consequently, corporate governance literature suggests that there is a difference in the study of the relationship between board composition and firm performance due to institutional variations in different contexts and depending on the nature of the market (e.g., Choi et al., 2007; Heyden et al., 2015). This situation could be the same for the microfinance industry. For instance, the Central and the East European microfinance markets and their operating environments are not the same as the South Asian or Latin American markets (Ahlin et al., 2011). Also, the same microfinance model that has been successful in Bangladesh and India will not be successful in Africa or Europe (Lerpold, 2012). For instance, MFIs operating in Bangladesh generally focus more on “group lending” than “individual lending” compared to MFIs operating in Latin America or Central and Eastern Europe. It is due to differences in the socio-economic background, historical antecedents, culture, and social bonding, demographic conditions, and legislative frameworks in those areas (Ahlin et al., 2011; Lerpold, 2012). MFIs in Bangladesh are generally not ordinary shareholder owned; they work as a non-government organization (NGOs) or private organizations. Hence, they are dependent on external funds. External fund providers prefer a stakeholder-orientated board through more independent directors and employee directors to reduce the dominance of block holders within the board. In addition, microfinance operations in Bangladesh are the most mature around the world (Mia et al., 2017). Therefore, the impact of employee presence on the board to firm performance in Bangladesh may be different when compared to MFIs operating in other countries, which has not yet been explored. For these reasons, there is room for a context-specific empirical study using the most extensive and more recent dataset of this unexplored market.

Additionally, the study of employee directors is not sufficient to explain MFI performance. For instance, Hillman and Dalziel (2003) suggest that the human capital attributes of board members could better explain firm performance. Consistent with their idea, this study

anticipates that the above inconsistent findings in microfinance literature may be due to a lack of research on what human capital attributes employee directors bring to the board. When employees work in a firm for a long time, they develop unique knowledge and skills related to the firm's strategies, cultures, and operations (Huo et al., 2016). For MFIs, this possibility has not yet been tested.

Therefore, to fill the gaps in the literature, the present study primarily explores whether employee presence on the board has any influence on MFI double bottom line performance. The study goes beyond the single objective of economic performance and uses the dual objectives of economic and social performance. By relying on social performance in addition to economic performance, this study further develops the theoretical perspective on this issue. Additionally, the study explores whether the previous microfinance experience of employee directors, as a "specific human capital" attribute, has any influence on MFI performance. Furthermore, as a "general human capital" attribute, this study uses the advanced education of employee directors as a predictor of firm performance.

### **5.2.1 Background of the Study**

The presence of employees on the board is essential for MFIs. **First**, MFIs have a unique organizational formation, operational mechanism, stakeholder engagement, client segment, lending procedures, and operating environment. In the absence of formal collateral, MFIs generally follow a relationship-based lending methodology. For this, the MFIs are primarily dependent on their employees (Agier & Szafarz, 2013b). Therefore, employees are more familiar with the processes of the MFI as they have close interactions with clients (Canales & Greenberg, 2015) and the internal issues of the firm. Therefore, the literature (e.g., Fauver & Fuerst, 2006; Harris & Helfat, 1997) suggests that employees can provide the best information about their clientele, and the internal issues of the firm, to the board.

**Second**, MFIs are not generally shareholder owned. Their ownership composition and capital structure are different from those of commercial corporations and banks. As the capital market in the countries in which the MFIs operate are not well developed, the MFIs depend on external funds as the founders and the entrepreneurs have limited means to contribute to capital formation. Hence, there is generally limited shareholder presence in the MFI board. In these circumstances, the potential to extract private benefits or unjustified privilege by the block holders or management is high (Fauver & Fuerst, 2006). This may jeopardize the financial sustainability of the MFI and hinder the interest of the other stakeholders. When external fund providers want to ensure proper use of their funds, they must depend on the employee directors because the interests of external investors and employees are the similar: a fixed and consistent financial return (Lin et al., 2018). Due to this, in the absence of external fund providers on the

board, the employee representation on the board can play an important role in ensuring the efficient use of firm resources for a positive outcome.

**Third**, unlike the single objective of economic performance, MFIs have a double bottom line objective: economic sustainability and outreach performance. Therefore, clients are the critical stakeholders of the MFI. The MFIs must rely on stakeholder-focused governance to achieve the social objective of client outreach. Due to the relationship based lending methodology, MFIs depend heavily on their employees, particularly mid-level and front line employees (Agier, 2012; Agier & Szafarz, 2013b). As the employees have a close interaction with their clients,<sup>46</sup> they have a better knowledge of client characteristics, the demands of prospective clients, and the methods to fulfil such demands. Due to their knowledge and interaction with clients and their familiarity of the firm's operational mechanisms, employees can share relevant information about the MFI's operation, the essential issues of the firm, and outreach related issues better than other shareholders. Therefore, to ensure the double bottom line performance, MFIs need to include employee representatives on the board.

**Finally**, when employee representatives are present on the board, the possibility of information asymmetry and agency problems are reduced, as employee presence on the board acts as a monitoring mechanism to control the management misbehaviour. Although corporate governance literature argues for the inclusion of independent directors (Jackling & Johl, 2009; Mizuchi, 1983; Zahra & Pearce, 1989), they may not be well informed about critical internal firm issues. As the employees know more about the management activities and the internal issues of the firm, they can share this information with the board (Fauver & Fuerst, 2006; Tuggle et al., 2010). Furthermore, due to their involvement in different kinds of microfinance activities, they develop their unique way to work efficiently for improved productivity. They can share this method with other board members that may reduce the cost of operation and increase the productivity of the MFI.

Consistent with the discussion above, it is anticipated that employee presence on the board positively influences MFI performance. A growing body of literature (e.g., Fauver & Fuerst, 2006; Lin et al., 2018) also argues for the inclusion of employee directors on the board. However, studies in the field of microfinance (e.g., Hartarska, 2005; Hartarska & Mersland, 2012) state that employee presence on the board has an adverse effect on MFI performance. For instance, Hartarska (2005) identifies a negative association between employee presence and ROA, while Hartarska and Mersland (2012) report a negative association between employee

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<sup>46</sup> This is because the microfinance literature (e.g., Agier & Szafarz, 2013b; Warning & Sadoulet, 1998) suggests that microlending methodology is highly decentralized. The MFIs have to depend on how effectively their employees can work in the credit management and expansion of the market (Agier, 2012; Armendáriz & Morduch, 2010).

presence and MFI efficiency. Furthermore, Hartarska (2005) states that employee directors have an adverse effect on the breadth of outreach. In addition, Mori and Mersland (2014) report an adverse influence of both employee and customer presence on the board on the portfolio yield and the depth of outreach. Therefore, although some streams of corporate governance literature suggest that employee directors have a positive impact on MFI performance, the overall position is uncertain.

A possible cause of such conflicting evidence is sample selection bias. For instance, Hartarska (2005) studies the issue in the context of Central and the East European MFIs and examines MFIs in the early stage of their life cycle. MFIs in mature and more developed microfinance markets may have a clearer and different set of circumstances than what Hartarska (2005) finds. Similarly, Hartarska and Mersland (2012) and Mori and Mersland (2014) use a sample of rated MFIs only, although they use a global dataset. Hence, their results may be biased.

Consequently, corporate governance literature (e.g., Choi et al., 2007; Heyden et al., 2015) suggests that there are differences in the study of the relationship between board composition and firm performance due to the differences in the context and the nature of the market. For instance, the Central and the Eastern European microfinance markets are not the same as the Latin American or African markets. Equally, the microfinance operating environment in the African region is not the same as the South Asian region, due to the demographic, geographical, socio-economic and cultural differences. Therefore, corporate governance mechanisms and firm performance may be different among these economies. Hence, there is room for a new empirical study using a large and more recent dataset from a mostly unexplored market, and from a market from which the modern microfinance movement has been replicated worldwide.

Additionally, employee presence on the board alone may not provide a clear answer on what board attributes influence firm performance. The literature (Hillman and Dalziel, 2003) brings attention to whether the board members' human capital attributes could better explain firm performance. The above inconsistent findings in microfinance literature, contrary to the findings of classical corporate governance literature, may be due to a lack of research on human capital attributes. Human capital can be 'general' and 'specific' (Jin, Hopkins, & Wittmer, 2010; Pil & Leana, 2009). A general measure of human capital is formal education. Formal education develops the cognitive abilities of an individual. Such an ability can provide a competitive advantage to the firm (Wright, McMahan, & McWilliams, 1994) as advanced education increases employee productivity in performing jobs requiring the knowledge of difficult and abstract concepts (Chowdhury et al., 2014; Feeny & Willcocks, 1998). When these employees join the board, they can contribute these skills to the decision making process.

Furthermore, specific human capital may be generated through the experiences of the core business activities and firm-specific activities (Pil & Leana, 2009). When employees work in the firm for an extended period, they develop firm-specific skills and experience and create long-term relationships with stakeholders (Rodríguez & Ventura, 2003). They develop unique knowledge and skills related to the firm's strategies, cultures, and operations (Huo et al., 2016). Therefore, the literature (Wright et al., 2001; Chowdhury et al., 2014) suggests that firms with superior and unique human capital outperform their competitors. However, this has not yet been tested in microfinance literature. Therefore, to the researcher's knowledge, the present study is the first to explore the relationship between the human capital of employee directors and MFI double bottom line performance.

After considering the theoretical gaps in the literature, this study hypothesizes that the presence of employee directors on the board has a positive effect on MFI financial and social performance, based on the following ideas. First, MFIs are considerably different from other formal financial institutions with respect to organizational formation, operational mechanisms, and stakeholder engagement. Compared to commercial banks, MFIs have a different client segment and operating mechanism which means the MFIs depend heavily on their employees, particularly their front line credit officers and other personnel (Agier & Szafarz, 2013b).<sup>47</sup> Hence, they have better internal knowledge than that of other shareholder directors or outside directors. Employee directors can, therefore, share their ideas during the decision making process, which may reduce the costs of operations, increase productivity and have a positive influence on financial performance. Reaching these clients also increases the possibility of reaching the poorer and underserved client segments which can have a positive impact on the breadth and depth of outreach. Second, MFIs depend on external funds as they are not generally shareholder owned and founders have limited means to contribute to capital. External fund providers try to ensure that the firm does not misuse their funds. Employee representation on the board protects the interests of external investors because they have similar interests in the firm – a fixed return either as interest on the investment or remuneration (Lin et al., 2018). It helps the MFI to access low-cost funds to grow their loan portfolio, which also enables the MFI to reach poorer borrowers and serve more clients. Finally, employee directors minimize agency problems as they provide peer monitoring of management personnel (Fauver & Fuerst, 2006). It reduces the possibility of the resources of the firm being used for personal benefit. This, in turn, increases the ability of the MFI to improve its financial and social performance.

Furthermore, this study hypothesizes that when the employee directors have prior

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<sup>47</sup> This is due to the relationship-based lending technology the MFIs generally apply. Because the poor borrowers do not have adequate formal or physical collateral to obtain credit from the MFI.

experience specific to microfinance activities and operating environments, this has a positive effect on the performance of the firm. Employees obtain this experience by completing different jobs within the firm, or by doing the same job repeatedly (Kim et al., 2006). It increases their skills and experience and helps them to observe and handle a variety of situations (Soriano & Castrogiovanni, 2012). When employees share this experience with the board, this may improve the financial and social performance of the firm.

This study also hypothesizes that the advanced education of employee directors, as a human capital attribute, has a positive effect on MFI performance. This is based on the idea that formal education enhances an individual's cognitive capacity (Dalziel et al., 2011) and increases their intellectual and managerial competencies (Soriano & Castrogiovanni, 2012). Therefore, they have better business ideas and can manage complex situations (Kim et al., 2006). It also increases their communication skills and their capacity to think critically (Soriano & Castrogiovanni, 2012). Furthermore, they can better understand the microfinance market and its clients which helps the board to function adequately to ensure better firm outcomes.

To empirically test the proposed hypotheses, this study uses a sample of 734 MFIs operating in Bangladesh between 2007 and 2015.<sup>48</sup> Bangladesh is used as the context of the study because it is the pioneer of the modern version of microfinance movement and is the most mature microfinance market in the world (Mia et al., 2017).<sup>49</sup> The findings suggest that, contrary to Hartarska (2005) and Hartarska and Mersland (2012), employee presence on the board has a positive effect on MFI financial and social performance. For instance, the results show that for one standard deviation (SD) increase in the proportion of employee directors to total directors (*EMPL\_P*), ROE increases by 8.73 percent, NAB increases by 3.14 percent (i.e., 1,067 borrowers), and ALB decreases by 3.02 percent (i.e., BDT 263.91) relative to the mean. Furthermore, the results suggest that previous microfinance experience of employee directors has a positive effect on MFI double bottom line performance. Economically, for instance, for one standard deviation increase in the experienced employee directors to the total board of directors, ROA increases by 5.48 percent, NAB increases by 2.12 percent (i.e., 722 borrowers), and ALB decreases by 1.69 percent (BDT 147.51) relative to the mean. Similarly, the study suggests that the advanced education of employee directors has a positive effect on the breadth and depth of outreach. For instance, for one SD increase in the proportion of graduate employee

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<sup>48</sup> The MFIs in Bangladesh came under the umbrella of the Microfinance Regulatory Authority (MRA) since 2006 and the governance mechanism and reporting standard are unique since then. Due to this, the present study uses the data from 2007 as the starting year of the study.

<sup>49</sup> After the initial experiment by the Nobel laureate Professor Mohammad Yunus in a small village in Bangladesh in the 1970s, the modern version of microfinance was institutionalized and replicated in more than 100 countries around the world (Mia et al., 2017).

presence on the board, NAB increases by 8.97 percent (i.e., 3,051 borrowers), and ALB decreases by BDT 798.08 (9.14 percent) relative to the mean. However, the study does not identify a consistent positive association between their advanced education and MFI financial performance. Therefore, this study suggests that it is important to consider the human capital attributes of employee directors before placing them on the board.

This study contributes to the current debate in corporate governance literature in several ways. First, the study contradicts the opposing view of employee presence on the board for MFI financial and social performance (Hartarska, 2005; Hartarska & Mersland, 2012). Instead, consistent with other streams of literature (Fauver & Fuerst, 2006; Lin et al., 2018), this study suggests that employee directors are essential for MFI financial and social performance. In adopting outreach performance as a second bottom line objective, in addition to the financial objective, and considering employees as an important stakeholder, this study extends the agency based governance mechanism to a more stakeholder-based mechanism. In addition, in adopting a resource-based view, this study is the first to consider the microfinance experience of employee directors as a specific human capital attribute. Similarly, this study is the first to consider the advanced education of employee directors as a general human capital attribute as the determinant of firm performance.

Second, this study methodologically contributes to the literature by responding to the calls (Heyden et al., 2015; Jackson & Deeg, 2008) for a context and country-specific study of corporate governance. Although Hartarska (2005) investigates the Central and Eastern European markets, and Hartarska and Mersland (2012), and Mori and Mersland (2014) use a small global dataset of rating MFIs, no study has examined Bangladesh market, the most mature microfinance market in the world. While a growing body of literature investigates board composition and board human capital attributes, this type of research is scarce in the microfinance context. In the microfinance context, this study uses a unique and perhaps more extensive dataset covering all NGO MFIs operating in Bangladesh under the umbrella of the MRA. This study is also the first to use employee director related detailed data. The data was hand-collected by the researcher by consulting the official archive records of the MRA.

The rest of this chapter is organized as follows. The next section outlines the theoretical foundations and provides a review of the literature. Section 5.4 outlines the literature in microfinance and section 5.5 develops the hypotheses. Section 5.6 presents the research methodology, and section 5.7 outlines the results of the study. Finally, section 5.8 discusses the results and concludes the study.

## **5.3 Theoretical Background and the Literature**

### **5.3.1 Theoretical Foundations**

The foundation of corporate governance stems from agency theory (Fama, 1980; Fama & Jensen, 1983b). The primary focus of this theory is to control management misbehaviour to reduce agency costs. The board of directors is tasked with monitoring management personnel on behalf of the shareholders so that the firm achieves optimal financial performance. Based on this view, an increasing body of literature suggests that employee presence on the board is a powerful means of monitoring management and reducing agency costs (e.g., Fauver & Fuerst, 2006; Lin et al., 2018). Based on the principal-agent perspective, board functioning is closely related to the interest of the shareholders, and mostly dependent on the presence of independent directors. However, in opposition to the agency based assumption, this study argues that in addition to external directors, the board should include internal directors who are the employees of the firm. An increasing body of literature (Fauver & Fuerst, 2006; Lin et al., 2018) suggests that employee inclusion on the board reduces agency costs. It is because external directors depend on the management (such as CEO) for firm-specific information. Due to information asymmetry, external directors have little opportunity to justify the information provided by top executives. Further, external members have limited access to firm-specific information when there is no employee representation on the board. In addition, the CEO sets the board agenda and provides firm-specific internal information to the board. The external directors, in this situation, must rely on the information provided by the top management (Baysinger & Hoskisson, 1990). If the CEO intentionally provides inadequate or false information to the board, the external directors or the other board members may not be able to justify it. Hence, information asymmetry will continue if the board does not employ employee directors.

Against this backdrop, this study suggests that the possibility of providing false information or hiding information is reduced if an employee representative is present on the board. Moreover, employee directors can provide sensitive and superior information to the CEO on specific issues, which is essential to board decisions (Osterloh & Frey, 2005). It is because they have better operational knowledge of the firm (Fauver & Fuerst, 2006) and their representation on the board enables them to share their knowledge. Employee representation is from two theoretical viewpoints: stakeholder view (Freeman, 1984) and resource dependence view (Pfeffer & Salancik, 1978).

Stakeholder theorists (Clarkson, 1995; Freeman, 1994) suggest that stakeholders invest capital (financial, human, and social) in the firm. If they withdraw this capital support in part or whole, a firm may suffer detrimental consequences. The investors and shareholders invest their financial capital while the employees invest their knowledge capital. When employee

representatives are present on the board, they can provide their knowledge to the board. The firm combines financial and knowledge (or human) capital to achieve its strategic outcomes. Furthermore, as argued by stakeholder theorists, employee directors demonstrate their commitment of the firm to other employees through their presence on board. It facilitates board diversity (Huse, Nielsen, & Hagen, 2009). The literature suggests that diversity on the board has an impact on corporate value creation (Forbes & Milliken, 1999; Rindova, 1999). The effectiveness of the board depends on the performance of different aspects of board tasks (Zahra & Pearce, 1989). Employees are directly involved in specific corporate tasks; due to this involvement, they have detailed job-specific and firm-specific knowledge, which the external directors may not have.

Furthermore, employee directors motivate other employee representatives and their colleagues who feel as though their views are being heard by the board (Lin et al., 2018). Further, their knowledge and information are shared and respected by the firm through their presence on board. It encourages them to work more effectively. Similarly, the literature suggests that incentives provided to the employees in this way can reduce employee favouritism (Bandiera, Barankay, & Rasul, 2008; Beaman & Magruder, 2012; Brandes et al., 2015). It also ensures greater diversity within the board for effective decision making, while reducing transaction costs (Hansmann, 1996), and legitimizing stakeholder representation on the board. In addition, MFIs have a social objective of client outreach in addition to their financial objective. This objective adds a social performance dimension, which agency-based governance cannot explain. Therefore, to cover the outreach dimension, microfinance governance studies must adopt a stakeholder-based approach.

In addition to the stakeholder view, the resource-based view argues that when employees who have knowledge and skills join the board, this can provide the firm with a competitive advantage (Barney, 1991; Chowdhury et al., 2014; Wernerfelt, 1984). For instance, an organization can achieve superior firm performance by possessing resources that are most valuable, rare, and inimitable (Barney, 1991; Wernerfelt, 1984). Human capital is a valuable resource that provides the firm with a competitive advantage and superior firm performance (Huselid, 1995). The individuals of the firm form the organizational human capital when they collectively contribute general and specific knowledge and skills accumulated through their education and experience (Lucas, 1988). Employees with such knowledge and skills are unique to the firm (Chowdhury et al., 2014), and provide valuable human capital when they sit on the board.

As argued in the literature (Chowdhury et al., 2014; Huo et al., 2016; Lopez, Valle, & Herrero, 2006), employees have firm-specific and task-specific competencies due to their direct involvement in the firm as internal human resources, and due to their knowledge and skills, they

have acquired. Hence, their presence on the board may give the firm a significant advantage over external directors. More particularly, when the firm is more diverse and decentralized in operation, and its organizational complexity increases, external directors have little knowledge of the internal complexity of the firm (Child & Rodrigues, 2003). Therefore, external directors have little information to contribute to the decision making process. If the top management does not provide adequate information to the board, the quality of the board's decisions may be inadequate. In those circumstances, employee directors can provide the required internal information to the board. Due to this, in addition to the agency theory and stakeholder theory, this study considers the resource dependence theory as the foundation to examine the impact of employee presence on the board on MFI performance.

### **5.3.2 Employee Presence on Board and Firm Performance**

The empirical literature on the direct relationship between employee representation on the board and firm performance is insignificant. However, some corporate governance studies favour the inclusion of the employee members on board for governance effectiveness, which could influence firm performance. For instance, Fauver and Fuerst (2006) examined 991 German firms and suggest that employee directors bring first-hand operational knowledge to the board which helps in active monitoring. Further, Balsmeier et al. (2013), in a study of 240 listed companies on the German Stock Exchange, reports that moderate employee presence on the board enhances value of the firm. More recently, Lin et al. (2018) found that employees on the board assist in obtaining funds from external sources. They suggest that employee power reduces agency conflict between the firm and its debt providers, which improves the firm's financial condition.

Based on the above theoretical framework, and the empirical literature, this study anticipates that employee presence on the board may have a positive effect on MFI financial and social performance. MFIs possess distinguishing features with respect to clientele, lending procedures, and operating mechanisms. Due to their framework of relationship based lending, MFIs depend heavily on their employees, particularly front line credit officers and other personnel. These employees are more familiar with the processes of the MFI. Hence, they have better internal knowledge than other shareholder directors and external directors. Through a more flexible relationship based contract, the MFI employees have close interactions with their clients (Canales & Greenberg, 2015). Due to the lack of formal collateral provided by poor people, information asymmetry is the main problem faced by MFIs when providing credit to those people (Karlan & Zinman, 2009; Stiglitz & Weiss, 1981, 1986). Therefore, the credit officers and the front desk employees play an integral role within MFIs due to their direct involvement with credit disbursement and collection procedures (Agier, 2012; Agier & Szafarz,

2013b; Battilana & Dorado, 2010).<sup>50</sup> In particular, credit offices are given more power to allocate, disburse, and monitor loans, and to ensure timely repayments (Armendáriz & Morduch, 2010). Mid-level employees also closely supervise and monitor the microfinance activities of front line employees. Hence, the front and mid-level employees have a better understanding of the issues associated with microfinance activities. Consistent with the literature (Harris & Helfat, 1997; Tuggle et al., 2010), it is assumed that employees are expected to provide better information about their clientele and internal issues. This information can be used by the board to develop policies and strategies, reduce repayment complexities, increase their client base and provide better services. In this way, employee representation on the board can ensure the MFI double bottom line objectives.

Furthermore, when employees are present on the board, a sense of self-responsibility and a “duty of care” grows among them (Lin et al., 2018). Therefore, these employees and their peers are less likely to break the rules of the firm. As they are well informed and self-monitored, they can identify any employees who violate the organizational norms. Similarly, the employees are, in general, well informed about the fraudulent behaviour of top management whereas other internal and external directors have little information on such issues. In the absence of employee representation on the board, the external directors rely on the information provided by the CEO (Baysinger & Hoskisson, 1990). If the CEO intentionally provides inadequate or false information to the board, the external or other board members may not be able to justify it. In addition, employee presence on the board enhances the bi-directional flow of information (Fauver & Fuerst, 2006). This is because the important decisions related to firm policies and operational issues are easy to disseminate and explain to the employees when they have a representative on the board. This, in turn, reduces the possibility of conflict between the board and its employees.

Accordingly, employee directors monitor their peers through their presence on the board. This process of peer monitoring does not undermine the employees that are externally monitored and controlled. Hence, it does not intervene in the intrinsic work of the employees (Frey, 1997). The literature suggests that the incentives provided to employees in this way can reduce employees favouritism (Bandiera et al., 2008; Beaman & Magruder, 2012; Brandes et al., 2015). Nevertheless, employee directors feel intrinsically motivated when they find that their voice is respected by the board (Deci & Ryan, 1985). The other employees also recognize the acceptable evaluation by their colleagues which increases the possibility of distributive

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<sup>50</sup> This is because the literature (Agier, 2012; Agier & Szafarz, 2013b; Aubert, de Janvry, & Sadoulet, 2009; Warning & Sadoulet, 1998) suggests that microlending methodology is highly decentralized. For screening, approval, and processing of credit, and for ensuring proper repayment through follow-up, the MFIs have to depend on their employees.

justice and demonstrates organizational citizenship behaviour (Osterloh & Frey, 2005).

Furthermore, employees have interactions with other stakeholders such as fund providers due to their long-term presence in the firm. Therefore, employee presence on the board enables the firm to access these funds. The literature suggests that both employees and fund providers have similar financial interests: receiving a fixed financial reward such as remuneration or interest (Lin et al., 2018). This reduces agency problems between external investors and the firm. Likewise, employees have close interactions with their clients to whom the MFI provides financial services. Hence, it is expected that employees are well informed about various stakeholders and the operating environment of the MFIs. Hence, they can offer robust information to the board (Mori & Mersland, 2014). Such information may be crucial to the MFI's ongoing operational sustainability and may influence their economic and social performance.

However, there is also a negative view of employee presence on the board. For instance, the literature (Dalton et al., 1998; Lipton & Lorsch, 1992) suggests that insider-dominated boards may be less effective in monitoring and control. Furthermore, some scholars argue that employees have little capacity to act in a resource provisioning role (e.g., Sutton & Callahan, 1987). Further, they also have limited capacity to act as experts in comparison to boards dominated by outsiders (Dalton et al., 1998). In addition, the literature (Dalton et al., 1998; Wagner, Stimpert, & Fubara, 1998) suggests that employees may not be able or willing to monitor and evaluate the CEO with equanimity, as the employees are the subordinates to the CEO. Similarly, employee directors may not have adequate external information on the firm (Daily & Dalton, 1994). Accordingly, employees may participate in the decision-making process through their advice and counsel to the CEO (Dalton et al., 1998). In addition, employee directors can form a coalition with the CEO, with a view to forming a relationship with the CEO for personal benefit, which may result in their manipulation of information.

#### **5.4 Empirical Literature on Microfinance**

The empirical literature on microfinance also reveals a negative view of employee presence on the board on MFI performance. For instance, Hartarska (2005) applies random effect regression to survey data of Central and Eastern European MFIs between 1998 and 2001 and posits that employee representation on the board is associated with declining financial performance (ROA) and the breadth of outreach performance. Similarly, Hartarska and Mersland (2012) identified that a large proportion of employee directors has a negative impact on MFI efficiency. That study uses a dataset of 155 MFIs from 45 countries (collected by five rating agencies) between 2000 and 2007 and applies a frontier analysis. They argue that the costs of monitoring outweigh the benefits derived from employee presence on the board.

Contrary to these findings, Mori and Mersland (2014) identify a significant positive association between board size and employee representation on the board. They argue that, due to the resource provision role of a larger board, employee representation is beneficial for MFIs as they provide firm-specific information to the board. However, their study also reports a negative association between employee directors and financial performance (portfolio yield) when both employee and customer representatives are included on the board. However, when only employee directors are used, the relationship to portfolio yield and other financial performance variables is insignificant. They also identified a negative relationship between both employee and customer presence on the board on the depth of outreach. That study uses a dataset of 379 MFIs from 73 countries collected from five microfinance rating agencies, similar to Hartarska and Mersland (2012).

The findings of the existing microfinance study suggest that, contrary to what is discussed in classical corporate governance literature, the influence of the employee directors on MFI performance is conflicting. In some instances, it has a negative influence on MFI financial and social performance. Such results may be due to the following reasons. For instance, Hartarska (2005) examines MFIs in the region where the microfinance market is not well developed. Employee representation on the board in these countries may have a little to contribute to the board, as they have minimal skills in microfinance operations. Further, the dataset in the study is small and has few observations. Although both Hartarska and Mersland (2012) and Mori and Mersland (2014) use data from the same source, the data is biased toward rated MFIs only as they collected the data from the five rating agencies to whom the MFIs purposefully provided their information. Further, it is generally believed that MFIs take the benefit of ratings when they need access to funds from international investors, commercial sources, and from donor agencies. Not all MFIs may need a rating. Furthermore, in all the three studies, the MFIs include all organizational types together, such as commercial MFIs, cooperatives, NBFIs, and NGOs. However, the role of employees on the board may vary depending on organizational structure. Hence, there is a renewed interest in the study of the relationship between employee presence on the board and MFI performance, with a larger and more recent dataset from the most mature market (Bangladesh).

Furthermore, the study of employee representation on the board alone is not sufficient to explain MFI performance. Current mainstream literature is inconclusive regarding board employee presence and firm performance. Against this backdrop, it is important to examine what attributes employee directors bring to the board for a better understanding of their role in the firm. For instance, their human capital attributes can better explain whether they have an impact on firm performance. Therefore, it is important to know what human capital attributes are important for the firm. The human capital of the employees can be created in two ways: by

obtaining a formal education and gathering relevant knowledge and skills (Chowdhury et al., 2014; Soriano & Castrogiovanni, 2012). As such human capital attributes are yet to be explored in the microfinance context, the present study addresses this issue.

One form of human capital is a specific experience gathered by working in a firm of a specific relevant industry. Experience-based human capital can be firm-specific or task-specific (Chowdhury et al., 2014). Task-specific human capital refers to the employees' skills, experience, and knowledge created from their present job setting (Zarutskie, 2010) through learning by doing (Smith, 1776). The literature suggests that, due to the repeated nature of the tasks in their present job, employees become proficient in the requirements of their present job (Gibbons & Waldman, 2004). Hence, human capital created through job-specific experience helps to improve employee productivity (Chowdhury et al., 2014). Similarly, employee firm-specific experience is created through the experience obtained in their previous jobs in the same industry or different jobs in the present firm. Firm-specific job experience may be less valuable to current tasks if it is not a repeated task, however, it enables the employee to encompass firm-specific knowledge and skills in the forms of policies, culture, and communications (Groysberg, Sant, & Abrahams, 2008). Such skills and knowledge may enable them to understand the present firm-specific processes and systems more easily (Chowdhury et al., 2014). Employee directors can share their experience on the board with other members, which can be a valuable input for strategic decision making. A firm with a higher level of human capital can gain a competitive advantage. Hence, this study anticipates that employee representation on the board with microfinance-specific experience can improve firm performance.

Another form of human capital is general human capital developed through university or college education (Becker, 1993; Chowdhury et al., 2014; Wright & McMahan, 2011). It is an investment through which a person acquires intangible resources through institutional learning. An educated individual can easily acquire such knowledge through a course based degree. The person, therefore, can use such knowledge in the workplace. The literature (Chowdhury et al., 2014; Feeny & Willcocks, 1998) suggests that advanced education increases employee productivity in completing jobs that require sophisticated knowledge. According to Schultz (1960), education is treated as a human capital when it renders a productive service of value to the economy. According to Dalziel et al. (2011), internal directors' higher education helps to develop a cognitive capacity among them. The literature (Jensen, 1989; Schmidt & Hunter, 1998; Wright & McMahan, 2011) suggests that such cognitive ability helps them to learn different job aspects and perform any task with confidence. In addition to job-related knowledge, education helps employees to develop both general and firm-specific skills (Reuber & Fischer, 1999; Szilagyi & Schweiger, 1984). Furthermore, advanced education improves an individual's general skills, such as communication, critical analysis, and teamwork (Soriano &

Castrogiovanni, 2012). Furthermore, when such an employee joins the board, they are more confident in expressing their ideas and sharing their knowledge with the board. The other members are also more likely to respect the information and ideas shared by an educated employee. Nevertheless, advanced education also improves the employees' and managers' ability to develop business plans (Haber & Reichel, 2007), identify market opportunities and threats, as well as client needs. Hence, these individuals are a critical resource for the firm. Furthermore, these individuals can help the firm to obtain resources easily and reduce operating costs (Castrogiovanni, 1991; Dyke, Fischer, & Reuber, 1992; Florin, Lubatkin, & Schulze, 2003). In this way, the firm can improve its financial performance. Therefore, some prior research (Becker & Lindsay, 1994; Chowdhury et al., 2014; Feeny & Willcocks, 1998; Huo et al., 2016) reports a positive relationship between educated employees and firm performance and productivity. As this issue is yet to be explored in the microfinance context, the present study examines this issue.

## **5.5 Hypothesis**

### **5.5.1 Employee Directors and MFI Performance**

Although a few studies report mixed or inconclusive evidence, based on the above theoretical framework and empirical literature, this study anticipates that employee representation on the board has a positive association with MFI financial and social performance. This hypothesis is based on the following ideas. First, the operating mechanisms, clientele, and lending procedures of MFIs can be distinguished from that of commercial banks. Due to their relationship based lending technologies, MFIs depend heavily on their employees, in particular, their front line credit officers and other personnel, as they have close interactions with clients (Canales & Greenberg, 2015).<sup>51</sup> The employees are more familiar with the processes of the MFI and have better internal knowledge than shareholder directors and external directors. Due to this, employees are expected to provide better information about their clientele and the internal issues of the MFI. Such information may help to effectively formulate strategies, reduce repayment complexities, increase the client base and provide better services. This, in turn, may have a positive effect on financial and social performance.

Second, when the employees are part of the corporate governance mechanism, a sense of self-responsibility and a "duty of care" grows among them (Lin et al., 2018). Hence, the

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<sup>51</sup> The literature (Agier, 2012; Agier & Szafarz, 2013b; Aubert et al., 2009; Warning & Sadoulet, 1998) suggests that microlending methodology is highly decentralized. For screening, approval, and processing of credit, and for ensuring proper repayment through follow-up, the MFIs have to depend on their employees. Furthermore, due to the lack of formal collateral, information asymmetry is the main problem the MFIs face in providing credit to the poor people (Karlan & Zinman, 2009; Stiglitz & Weiss, 1981, 1986).

employees and their peers are less likely to break the rules of the firm. Accordingly, employee presence on the board acts as a process of peer monitoring. Such peer monitoring does not undermine employees. Hence, it influences the motivation of the employees (Frey, 1997). Besides, the employees are intrinsically motivated when they feel as though the board listens to their ideas and contributions (Deci & Ryan, 1985). It increases the possibility of distributive justice within the organization (Osterloh & Frey, 2005). These positive interpretations among employees may improve firm performance.

Third, the employees are, in general, well informed about the fraudulent behaviour of top management. In the absence of employee representation on the board, external directors rely on information provided by the CEO (Baysinger & Hoskisson, 1990). If the CEO intentionally provides inadequate or false information to the board, the other board members may not be able to justify it. Therefore, employee presence on the board can safeguard against misleading information or the withholding of critical information from the board.<sup>52</sup> In addition, employee directors can provide more sensitive and superior information than the CEO on specific issues faced by the firm (Fauver & Fuerst, 2006). Sharing such information helps the board to make an informed decision, which in turn, can improve financial and social performance.

Fourth, employee directors enhance the bi-directional flow of information (Fauver & Fuerst, 2006). When employees are present on the board, the significant decisions related to firm policies and operational issues are easy to disseminate and explain to the other employees. It helps the workers and their union to understand the firm's strategies and board decisions and reduces the possibility of adverse worker reactions or strikes. Hence, the conflict between the board and the employees is reduced. It may improve both the productivity and social outreach of the firm.

Finally, employees interact with other stakeholders such as fund providers. Hence, employee presence on the board enables the firm to access these funds. The literature (Lin et al., 2018) suggests that both the employees and the fund providers have similar financial interests: receiving a fixed financial reward such as remuneration or interest or profit. Due to this, the instance of agency problems is reduced between external investors and the firm. It helps to grow the firm's loan portfolio to reach a large number of clients and the economies of scale. In addition, close interaction with clients helps the MFI to reach more clients at the bottom of the pyramid. This relationship is because they can share with the board the lending-related

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<sup>52</sup> However, the CEO may allegedly provide misleading information by forming a coalition or personal relationship with employee directors. This can be mitigated if the board does not include any employees on the board on the basis of the CEO's recommendation. Further, there is little incentive for the employees to make any allegation as their job security and remuneration are dependent on the long-term sustainability of the MFI.

issues, customer demands, and complexities faced by clients in credit disbursement and repayment procedures. It enables the board and management to address these issues effectively and serve more clients. Serving more clients helps the MFI to achieve greater breadth and depth of outreach. In sum, this study posits that:

**H1a:** Employee representation on the board has a positive association with MFI financial performance.

**H1b:** Employee presence on the board has a positive association with MFI social performance.

### **5.5.2 Employee Directors' Experience and MFI Performance**

This study anticipates that employee directors' experience in the microfinance industry or similar, as a specific human capital attribute, has a positive effect on MFI performance. This argument is based on the following ideas. Employee directors can bring relevant knowledge and expertise specific to the microfinance industry as a "specific human capital" to the board (Chowdhury et al., 2014). Employees acquire such knowledge and experience from their present job (Zarutskie, 2010) through learning by doing (Smith, 1776) or from doing different jobs in the same firm or from their previous job in another firm. When employees work in similar organizations, they become experts on similar tasks. Similarly, experience in different jobs within the same organization or similar other organizations enables the individual to develop a broader range of experience specific to the firm and its industry (Kim et al., 2006). This helps them to understand firm-specific knowledge and skills in the forms of policies, culture, and communication (Groysberg et al., 2008). Such skills and knowledge allows them to understand the present firm-specific processes and systems more easily (Chowdhury et al., 2014). Hence, they can deal with a variety of situations (Soriano & Castrogiovanni, 2012) and can positively contribute to the decision making processes of the board. Therefore, a firm with a higher level of this human capital can gain a competitive advantage. Such an advantage helps to expand their market share by serving more impoverished clients and increasing the financial performance of the firm.

In the same way, experience in similar firms or similar activities equips an individual with knowledge of the industry, its markets and its customers (Reuber & Fischer, 1999). It helps them to evaluate the firm's internal and external environment to identify resources and opportunities more effectively (Castrogiovanni, 1996). Hence, they have better resources to share with the board for discussion. It helps the MFI to overcome the complexities and problems inherent in their operations and enables them to expand their market share. Moreover, due to their long-term involvement in the microfinance activities of the present firm or their previous firm, employees create connections with external networks. These networks enable them to bring resources, particularly external funds, to the firm at a low cost. It reduces the operating

and financial costs of the firm and increases loan portfolio to reach more underprivileged clients.

Finally, experience in the present firm or the other firms in the same industry increases the employees' familiarity with the products or services they offer, the markets, and the related technological and procedural improvements. Through direct involvement with microfinance operations, employees gather an air of expertise and experiences on microfinance lending methodologies, collection procedures, repayment difficulties and customer grievances (Agier & Szafarz, 2013b). Furthermore, using such experience, they can identify those markets and clients that are not yet served and share such experience on the board to develop new microfinance products. Therefore, experience in microfinance helps employee directors to serve more clients and reach the poorer people at the bottom of the pyramid. In sum, based on these ideas, the study predicts that:

**H2a:** Experienced employee presence on the board has a positive association with MFI financial performance.

**H2b:** Experienced employee presence on the board has a positive association with the MFIs' breadth and depth of outreach.

### **5.5.3 Employee Directors' Advanced Education and MFI Performance**

Another critical attribute this study considers is the employee directors' general human capital created through their advanced education. Consistent with the literature (Kim et al., 2006; Soriano & Castrogiovanni, 2012; West & Noel, 2009), this study anticipates that board members' advanced level of formal education has a positive influence on MFI performance. Such an influence is based on the following ideas.

An individual acquires intangible resources through formal education, which they can use within an organization in which they work. Further, formal education enables directors to develop their cognitive capacity (Dalziel et al., 2011). Moreover, employees' advanced education enables them to possess more knowledge about firm-specific internal issues which helps the employees to provide deeper insight and develop new ideas based on the complex issues of the firm. Academic knowledge aids in intellectual development and enables them to learn from the working environment of the firm (Singh, 2007).

Similarly, an individual can improve their general understanding through general education. It improves an individual's managerial capability (Soriano & Castrogiovanni, 2012) through human capital development (Becker, 1993) and improves the effectiveness of the firm, either through the administration or the board, in undertaking a new venture or in developing a new product (Soriano & Castrogiovanni, 2012). Further, an individual can develop general business knowledge through formal education which enables them to develop better business

ideas and industry-specific expertise (Kim et al., 2006). Human capital theorists argue that, as a human capital attribute, education improves an individual's capacity to foster general and specific skills (Reuber & Fischer, 1999; Szilagyi & Schweiger, 1984). In addition to the development of general knowledge, advanced education enables the development of communication skills, teamwork, critical thinking, and problem-solving abilities in individuals (Soriano & Castrogiovanni, 2012). In addition, education acts as the driver of self-determination, motivation, and commitment to the organization (Kim et al., 2006). Hence, employees with formal education have increased capacity to contribute to the board through their presence.

Furthermore, the knowledge gained through advanced education enhances an individual's capacity to develop better business ideas and strategies of the firm (Kim et al., 2006; Soriano & Castrogiovanni, 2012; West & Noel, 2009). When an employee with advanced education joins the board, they are better able to contribute to the strategic decisions of the board (Carpenter & Fredrickson, 2001). These employees can develop their imagination, flexibility, and innovation and adapt the firm with its environment (Haber & Reichel, 2007; Soriano & Castrogiovanni, 2012). As stated earlier, the board is mainly dependent on employees for the effectiveness of credit disbursements and repayment processes. The failure of employees to achieve these goals, and to adapt to the changing environment, may jeopardize the sustainability of the MFI.

Further, educated individuals have sufficient capacity to understand the internal and external environment of the firm and the market. As employee directors are at the intersection between the board and the MFIs internal environment, they play a central role in bringing tacit knowledge to the board. Employee representation on the board, with such human capital attributes, gives the board a better understanding of their clients. Their intellectual ability enables to grasp a broader range of complex issues of the firm. Hence, in following the literature (Soriano & Castrogiovanni, 2012), the study accepts that intellectual capacity developed through education and knowledge enables them to acquire resources more efficiently, reduce the costs of operations and in turn, improve the financial performance of the MFI. Likewise, their cognitive capacity helps them to identify new market opportunities and develop ways to expand the existing market and retain existing clients. In this way, they can help MFIs to increase their client base, which has a positive impact on their social performance. By taking all these together, this study posits that:

**H3a:** Employee directors' advanced education has a positive influence on MFI financial performance.

**H3b:** Employee directors' advanced education positively influences the MFI social performance.

## **5.6 Empirical Methodology**

### **5.6.1 Data and Source**

The dataset used for this study corresponds to the MFIs operating in Bangladesh under the umbrella of the Microfinance Regulatory Authority (MRA). The study excludes commercial banks that also provide microfinance services, in addition to their core banking business. A total of 758 MFIs, including all licensed MFIs and those which have previously obtained a temporary license which was cancelled later, were included. As of 2015, a total of 659 MFIs held a valid license. However, the data has some missing values as some of the MFIs entered the market later on and have only recently been granted a license from the MRA. Of the 758 MFIs, the final dataset consists of 734 MFIs, with 4,198 firm-year observations across nine years (2007-2015).<sup>53</sup> The starting date of the study period is 2007 because MFIs came under the regulation of MRA in 2006, and the data has been uniform since then. The researcher obtained the data on financial and outreach performance and the other control variables from the compiled records of the MIS section of the MRA. As the employee director related and other corporate governance data is not readily available, the researcher consulted the official records of the MRA, from both the license section and the MIS section, to obtain the detailed records of the directors' profiles. Further, the researcher consulted the relevant updated documents to identify changes in board composition from year to year.

### **5.6.2 Variables**

The study investigates the hypothesized relationship between the presence of employee directors and MFI double bottom line performance using both financial and social performance measures as the dependent variables and both the explanatory and control variables. The definition and their calculation procedure are contained in the Appendix, Table A5.

#### *5.6.2.1 Dependent Variables*

Following the literature, this study includes Return on Assets (ROA), Return on Equity (ROE), and Operational Self-sufficiency (OSS) as the dependent variables to measure MFI financial performance.

**ROA** is the measure of overall financial performance. It shows how effectively the

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<sup>53</sup>This study excludes Grameen Bank because the organizational formation and the regulatory requirements of Grameen Bank are not the same as the MFIs operating under the MRA regulation, although microfinance is their core business activity.

MFIs can generate returns using their assets (Armendáriz & Morduch, 2010; Hartarska, 2005). ROA is measured as the ratio of after-tax net operating income to the average of total assets. The study takes the average of the total assets from the beginning and end of each year, to overcome distortions in the financial statements as a result of seasonal fluctuations and rapid changes in the loan portfolio.

**ROE** measures the productivity and profitability of the capital employed by the firm (Strøm et al., 2014). It shows the ability of the MFI to generate net income attributable to equity holders after the payment of all obligations (Strøm et al., 2014).

**OSS** shows the extent to which the MFI generates revenue to cover its costs (Cull et al., 2007; Mersland & Strøm, 2009). If the MFI covers the full costs from the revenue generated (such as  $OSS > 1$ ), the MFI is considered operationally self-sufficient. An OSS below one indicates the inability of the MFI to generate enough revenue to cover its costs to be operationally self-sufficient. The costs in the denominator include operating expenses, financing expenses and loan loss provision expenses (Cull et al., 2007).

As there is no direct measure of social performance, in following the literature (Mersland & Strøm, 2009; Schreiner, 2002), this study includes outreach to poor people as the measure of social performance. Although microfinance is a mechanism used to eradicate poverty, there is still debate as to whether they actually eliminate poverty (Banerjee & Jackson, 2017). Further, it is difficult to examine the impact on poverty alleviation directly. As the primary objective of the MFI is to serve poor people who lack access to formal financial services (Morduch, 1999), outreach to the poor people is considered as the primary social performance indicator for all MFIs (Cull et al., 2007; Schreiner, 2002). Therefore, in following the literature (Mersland & Strøm, 2009; Strøm et al., 2014), this study includes the breadth and depth of outreach as the measures of MFI social performance.

**The breadth of outreach** demonstrates how many borrowers the MFI serves at the bottom of the pyramid (Morduch, 2000; Schreiner, 2002). Based on the poverty approach, it is anticipated that the larger number of active borrowers the MFI serves, the higher their credit coverage to poor people will be and hence, the higher their social performance will be (Schreiner, 2002). Based on the self-sustainability approach, it is anticipated that serving a large number of borrowers enables the MFI to ensure the economies of scale (Schreiner, 2002). In following the microfinance literature (Hartarska, 2005; Mersland & Strøm, 2009; Strøm et al., 2014), the breadth of outreach is measured by the natural logarithm of the number of active borrowers (**NAB**). NAB includes the borrowers who obtained a loan from the MFI where a portion of the loan or its interest remains unpaid (Hartarska, 2005). The larger the NAB, the higher the outreach to the poor.

*The depth of outreach* is measured as the log of the average loan balance per borrower (*ALB*) (Hulme & Mosley, 1996; Weiss & Montgomery, 2005). This idea follows the pure poverty approach (Hulme & Mosley, 1996; Schreiner, 2002). It is anticipated that the smaller the loan amount the MFI provides to the more impoverished clients, the deeper the MFI can enter the bottom of the pyramid (Hulme & Mosley, 1996; Morduch, 2000). Further, poor people have limited capacity to use larger loans due to their limited scope to earn income (Collins et al., 2009). Hence, they have limited scope to repay a large loan and remain unserved by banks or MFIs. However, relative to poor borrowers, wealthier borrowers earn more and tend to use larger loans. Due to this, *ALB* is used to measure the depth of outreach to poorer borrowers.

#### 5.6.2.2 Explanatory Variables

In order to test the hypothesis (H1a and H1b), the primary explanatory variable is *EMPL\_P*, measured as the ratio of employee directors to the total number of directors on the board. The employee directors are those who are the permanent full-time employees but are not shareholders of the firm (Baysinger & Hoskisson, 1990; Hartarska, 2005; Hartarska & Mersland, 2012). They are either elected by the employees of the firm or selected by the other board members. Refining the definition of Hermalin and Weisbach (1991), this study excludes those insiders who are not the present or former full-time employees. Further, in following Fauver and Fuerst (2006), the study excludes union representatives on the board as employee directors. In addition, the CEO, acting as the secretary of the board, is not considered as an employee director as the CEO has a different role within the board. In addition to the ratio measure, a log transformation of the variable is also used as *EMPL\_L* ( $= 1 + \text{total number of employees on the board}$ ). The log transformation makes the variable symmetric (reduces right skewness) and reduces the influence of outliers and heteroscedasticity.

Furthermore, the study uses the employee directors' microfinance experience, measured as *EXEM\_P*, to test the hypothesis (H2a and H2b). In following the literature (Groysberg et al., 2008; Zarutskie, 2010), the study considers experienced employee directors as those who have at least five years of experience in either front or mid-level roles or the management level in the present MFI or a former MFI. *EXEM\_P* is calculated as the ratio of employee directors with microfinance experience to the total number of directors. The study also used a logarithmic measure (*EXEM\_L*), similar to the above.

Finally, the study uses the employee directors' education level as another human capital attribute to test the hypothesis (H3a and H3b). In following the literature (Kim et al., 2006; Soriano & Castrogiovanni, 2012), an employee director is considered to have a general human capital attribute if the director has at least a graduate degree. Similar to the above, the study measures *GREM\_P* as the ratio of employee directors with at least an undergraduate degree, to

the total number of directors. Further, similar to EXEM\_L, the study uses a log transformation of the variable as **GREM\_L** is measured by (1+ total employee directors having graduation).

### 5.6.2.3 Control Variables

In following the literature on corporate governance and firm performance, this study includes a number of corporate governance and firm specific control variables in the model. The literature (Hillman et al., 2001) suggests that board size represents more of a stakeholder-orientation. This may influence the effectiveness of governance mechanisms (Jensen, 1993; Muth & Donaldson, 1998) and hence firm performance. Therefore, the study includes **Board Size** in the model. Further, following the literature (Bhagat & Black, 2002; Brickley et al., 1997), the study includes CEO Power (**CEO-Chair**) as another governance variable in the model. It is assumed that CEO power helps to ensure integrated command, reduces the costs of information (Brickley & James, 1987) and increases firm stability. However, such power may increase agency costs which may adversely affect firm performance.

In addition to board governance variables, some firm-specific variables may also influence MFI performance. For instance, **Firm Size** is important for firm performance. Although asset size is generally used as a measure of firm size (García-Meca et al., 2015; Hartarska, 2009), this study lacks data on asset size for the period between 2007 and 2008. However, an increasing body of literature in microfinance (Mersland & Strøm, 2009; Strøm et al., 2014) uses the size of the gross loan portfolio as the measure of firm size. As we have ready access to data on the gross loan portfolio, the study uses the log of the gross loan portfolio as the measure of **Firm Size**. The study anticipates that the larger the firm, the more complex the organization and its governance mechanisms will be (Daily & Dalton, 1992).

Additionally, in following the literature (Ahlin et al., 2011), the study adds **Loan Growth** as another control variable with the expectation that growth in the loan portfolio has a positive influence on firm performance. Further, the firm's capital structure is essential for firm performance. This study uses the ratio of debt to equity (**Debt-Equity**) as the measure of leverage in the capital structure. This shows the extent of dependency on external funds. As a solvency risk, the study expects that a smaller debt-equity ratio equals a lower financial risk profile for the firm.

Finally, for financial institutions, portfolio risk is an essential determinant of firm performance due to their distinct nature. Notably, for MFIs, this ratio is important because MFIs generally provide credit to poor people without formal collateral being taken (Collins et al., 2009; Morduch, 1999). Hence, their loan portfolios are generally high risk if their loan repayments methods are not efficient. Therefore, in following the literature (Ahlin et al., 2011; Cuéllar-Fernández et al., 2016), this study uses loan loss **Provision** expenses as the measure of

portfolio risk.

### 5.6.3 Estimation Method

In order to test the hypothesized relationship between employee director variables and MFI double bottom line performance, the study used the following empirical model.

$$Y_{it} = \alpha_0 + \beta_i X_{it} + \gamma_i Z_{it} + Y_d + \varepsilon_{it} \quad (1)$$

Where, the subscript  $i$  denotes the individual MFI ( $i = 1, 2, 3... 734$ ), and  $t$  expresses time in years ( $t = 2007, 2008... 2015$ ). The coefficients,  $\beta_i$  and  $\gamma_i$  are the vectors of the coefficients for the employee director related explanatory variables ( $X_{it}$ ) and the control variables ( $Z_{it}$ ) respectively.  $\varepsilon_{it}$  is the idiosyncratic error term, and  $Y_d$  is the year dummy. The dependent variable,  $P_{it}$ , denotes both the MFI financial performance variables (ROA, ROE, and OSS) and social performance (NAB and ALB). For instance, for employee presence on the board ( $EMPL\_P$ ), equation (1) can be expressed as follows:

$$P_{it} = \alpha_0 + \beta_1 EMPL\_P_{it} + \gamma_i Z_{it} + Y_d + \varepsilon_{it} \quad (2)$$

Similarly, for experienced employee presence on the board ( $EXEM\_P$ ), equation (1) can be expanded in equation (3) as follows:

$$P_{it} = \alpha_0 + \beta_2 EXEM\_P_{it} + \gamma_i Z_{it} + Y_d + \varepsilon_{it} \quad (3)$$

Finally, for graduate employee presence on the board ( $GREM\_P$ ), equation (1) can be written as equation (4) in the following way:

$$P_{it} = \alpha_0 + \beta_3 GREM\_P_{it} + \gamma_i Z_{it} + Y_d + \varepsilon_{it} \quad (4)$$

In following the governance literature (e.g., Xu et al., 2015; Yermack, 1996), similar to the other two studies, this study employs the pooled ordinary least square (OLS) regression to measure the association between governance and firm performance. The pooled OLS estimates both the time-series and the cross-sectional variation of the association between the main explanatory variables and MFI performance. Although the literature (e.g., Adams et al., 2010) uses fixed-effect OLS (FE OLS), FE OLS may not be suitable in this case for the following reasons. The fixed effect regression requires significant variation in the main variables of interests to generate unbiased and consistent results. However, in this study, the main explanatory variables do not vary substantially over time. In addition, with a large number of firms having a limited period, fixed effect (FE OLS) regression provides an inconsistent estimate (Baltagi, 2005). Although the study has a large number of the firms (734), a majority of the MFIs have only a few years of observations, as most of them have only recently entered

the market. However, pooling the cross-section and time-series observations may be susceptible to heteroscedasticity and multicollinearity (Petersen, 2009). The study checks these issues by applying a robust regression in all models.

## **5.7 Results**

### **5.7.1 Descriptive Statistics**

Table 5.1 presents the descriptive statistics of the variables. Consistent with prior microfinance studies (Hartarska, 2005; Mersland & Strøm, 2009), this study also shows that the financial performance variables in MFIs are at a low level compared to commercial corporations and banks. For instance, the mean (median) ROA 2.3% (1.4%) indicates a low level of return. However, the mean (median) ROE is 15% (12%), which is far higher than the ROA. It indicates that the MFIs that are financed by shareholders or accumulate a massive earning reserve have a higher level of return on equity compared to those MFIs that depend heavily on external sources. However, the OSS is not satisfactory (0.89), which indicates that the MFIs in Bangladesh, on average, are not yet able to cover their operating costs from their generated income. Further, Table 5.1 shows that the average (median) number of borrower outreach (NAB total) is 34,000 (4,563) and the average loan size per borrower (ALB total) is BDT 8,783 (7,786). The NAB indicates that except for a few dominant MFIs, the outreach in most of the MFIs is small. Furthermore, the small size of the ALB indicates that the MFIs in Bangladesh prioritize serving the bottom of the pyramid with smaller loan sizes per borrower, demonstrating their strong compliance with their social mission.

Table 5.1 also reports that the average number of employees serving on the MFI board is only 1.22, which equals only 16% of the board size. It indicates that employee representation on the MFI board is insignificant. Further, the average number of employee directors having experience in microfinance is only 0.34, which represents only 4.2% of the total number of directors. Furthermore, only a small number (0.431, being 5.6% of the total number of board members) of employee directors have graduated from a reputable university or college.

Among the control variables, the average board size for the sample MFIs is 7.70. Further, CEO duality is very insignificant. Firm size, measured by portfolio size, is BDT 320 million on average (median BDT 33 million). It indicates that except for a few dominant MFIs, most of the MFIs are small in size. However, the MFIs still displayed a positive growth (loan growth) during the study period. The average Debt-Equity ratio (5.31) indicates that the MFIs in Bangladesh are still mostly dependent on external funds.

**Table 5.1 Summary Statistics of the Variables**

Variable	Obs	Mean	S.D.	Min	0.25	Mdn	0.75	Max
ROA	3814	0.023	0.040	-0.127	0.003	0.014	0.042	0.186
ROE	4198	0.150	0.398	-1.790	0.030	0.120	0.250	2.030
OSS	3541	0.889	0.434	0.019	0.611	0.973	1.151	2.112
NAB (,000)	4197	34	100	0.550	2.100	4.563	20	810
NAB	4197	8.859	1.581	6.31	7.65	8.426	9.923	13.61
ALB (Total)	4197	8736.56	4420.99	1929	5597	7786	11000	25000
ALB	4197	8.954	0.499	7.621	8.63	8.96	9.294	10.12
Employee Total	4198	1.218	0.852	0.000	1.000	1.000	1.000	5.000
EMPL_L	4198	0.733	0.356	0.000	0.693	0.693	0.693	1.792
EMPL_P	4198	0.160	0.118	0.000	0.111	0.143	0.143	1.000
Experience Total	4198	0.335	0.497	0.000	0.000	0.000	1.000	2.000
EXEM_L	4198	0.229	0.334	0.000	0.000	0.000	0.693	1.099
EXEM_P	4198	0.042	0.063	0.000	0.000	0.000	0.111	0.200
Graduate Total	4198	0.431	0.688	0.000	0.000	0.000	1.000	3.000
GREM_L	4198	0.269	0.398	0.000	0.000	0.000	0.693	1.386
GREM_P	4198	0.056	0.090	0.000	0.000	0.000	0.143	0.429
Board Size	4198	7.708	1.203	6	7	7	9	12
CEO Power	4198	0.006	0.075	0	0	0	0	1
Firm Size	4198	320	960	3	14	33	170	7300
Debt-Equity	4198	5.308	17.180	-12.06	0.460	1.760	4.440	147.92
Loan Growth	4198	0.136	0.455	-0.621	-0.067	0.110	0.263	2.077
Provision	4198	0.012	0.022	0.000	0.000	0.005	0.010	0.150

**Note:** Descriptive statistics of the variables. Financial performance variables (ROA, ROE, and OSS) are in decimal. Among the social performance variables, the number of active borrowers (NAB) is in thousands and the average loan balance per borrower (ALB) is in Bangladeshi Taka. Explanatory variables are in total, the proportion of total directors, and logarithmic form (Employee Total, EMPL\_P, and EMPL\_L respectively; Experience Total, EXEM\_P, and EXEM\_L respectively; Graduate Total, GREM\_P, and GREM\_L respectively). In the regression, both the proportion and the logarithm are used in estimating MFI performance. Firm size (size of the loan portfolio) is in BDT million. Loan growth and Provisions are in decimal (fraction).

## 5.7.2 Model-Free Analysis

### 5.7.2.1 Univariate t-tests

Before examining the hypothesized relationship between the explanatory variables and MFI double bottom line performance, this study applies the univariate t-tests of the dependent and explanatory variables based on the presence of employee directors, their experience and advanced education. Table 5.2 presents the results of the mean-difference tests. The results indicate a significant difference in the explanatory variables based on employee director

presence and their experience. For instance, the mean ROA is higher for the presence of employee directors than without their presence ( $t = -2.781, p < 0.01$ ). Similarly, the mean ROE ( $t = -1.680, p < 0.10$ ), and the mean OSS ( $t = -2.652, p < 0.05$ ) are higher in the MFIs which have employee directors on the board. This significant and higher average financial performance for employee director presence initially supports H1a. Similarly, the mean difference tests of both the NAB ( $t = -21.202$ ) and ALB ( $t = -4.988$ ) are strongly significant ( $p < 0.01$ ) for employee director presence on the board, which also initially supports H1b. Likewise, the mean difference tests for all of the financial performance variables (such as ROA, ROE, and OSS) are strongly significant ( $p < 0.01$ ), showing a higher average financial performance for experienced employee presence on the board (H2a). Similarly, the univariate tests of the NAB and ALB are strongly significant ( $p < 0.01$ ) for experienced employee presence on the board, which initially supports H2b.

With respect to employee directors' advanced education, the mean OSS is higher and significant ( $p < 0.10$ ), although the mean difference of the other financial performance variables (ROA and ROE) are insignificant. However, the mean difference tests of the social performance variables (NAB and LAB) are strongly significant ( $p < 0.01$ ) for graduate employee presence on the board (H3b). Therefore, all these variations initially support the validity of the predicted relationships. Furthermore, in all three specifications (employee presence, experience, and advanced education), the included control variables also show a significant difference in most cases.

#### 5.7.2.2 *Correlation Analysis*

Table 5.3 presents the results of Pearson's pairwise correlation tests. As per the expectation (H1a), the table shows a positive correlation between EMPL\_P and the MFI financial performance variables. For instance, the correlation between ROA and EMPL\_P is strongly significant ( $p < 0.01$ ) and positive (H1a). Likewise, for social performance, the correlation coefficient between EMPL\_P and NAB is strongly significant ( $p < 0.01$ ) and positive (H1b). A similar level of significance is also demonstrated for the relationship between EMPL\_P and ALB (H1b). Likewise, for experienced employee directors, the coefficient is positive for all of the financial performance variables (H2a). For instance, the correlation coefficient between EXEM\_P and ROA is strongly significant and positive. Likewise, the correlation between EXEM\_P and OSS is positive and significant, at 5%. Likewise, the correlation coefficient between NAB and EXEM\_P is strongly significant ( $p < 0.01$ ) and positive (H2b). ALB also has a significant correlation with EXEM\_P. Although the correlation coefficient for GREM\_P is not significant to financial performance, it is strongly significant ( $p < 0.01$ ) for the NAB and ALB, which initially supports the hypothesized relationship between GREM\_P and MFI social performance (H3b). Furthermore, none of the explanatory variables

in the matrix shows a high level of correlation (greater than 0.50) to violate the collinearity assumption. Overall, the magnitude and the direction of the relationships, as well as the level of significance of the variables, are as per the expectation.

**Table 5.2 Univariate Two-sample t-tests (Mean Difference Tests) of the Variables (Assuming Unequal Variance)**

	Employee Directors			Experienced Employee Directors			Graduate Employee Directors		
	With	With-out	t-value	With	Without	t-value	With	With-out	t-value
ROA	0.026	0.023	-2.781***	0.027	0.023	-3.259***	0.024	0.025	-0.502
ROE	0.165	0.145	-1.680*	0.173	0.158	-1.329*	0.162	0.163	0.025
OSS	0.922	0.877	-2.652***	0.9184	0.877	-2.777***	0.907	0.882	-1.660*
NAB	9.79	8.543	-21.202***	9.94	8.238	-35.978***	10.299	8.031	-56.433***
ALB	9.021	8.931	-4.988***	9.012	8.838	-11.591***	8.995	8.843	-10.078***
Board Size	2.078	2.016	-10.634***	2.062	2.17	-8.921***	2.048	2.023	-4.958***
CEO Power	0.011	0.004	-2.174**	0.007	0.005	-0.749	0.004	0.007	1.507*
Firm Size	18.787	17.452	-20.862***	19.053	17.189	-34.148***	19.407	16.981	-51.352***
Debt-Equity	3.917	5.781	3.788***	4.708	5.759	2.149**	5.587	5.337	-0.482
Loan Growth	0.145	0.133	-0.84	0.14	0.128	-0.842	0.129	0.134	0.366
Provision	0.012	0.012	-0.962	0.0126	0.0111	-2.344**	0.0132	0.011	-3.483***

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5.3 Pearson's Pairwise Correlation Matrix of the Dependent and Explanatory Variables**

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	ROA	1													
2	ROE	0.223**	1												
3	OSS	0.531**	0.096**	1											
4	NAB	0.054**	0.019	0.074**	1										
5	ALB	0.068**	0.063**	-0.072*	0.104**	1									
6	EMPL_P	0.025	0.052**	0.029	0.169**	0.071**	1								
7	EXEM_P	0.056**	0.027	0.042*	0.296**	0.151**	0.279**	1							
8	GREM_P	0.021	0.018	0.032	0.410**	0.146**	0.361**	0.389**	1						
9	Board Size	0.035*	-0.004	0.033	0.125**	0.001	-0.058**	0.029	0.012	1					
10	CEO Power	0.005	-0.006	0.003	-0.022	0.053**	0.002	0.021	-0.022	0.008	1				
11	Firm Size	0.073**	0.039*	0.064**	0.945**	0.232**	0.165**	0.291**	0.394*	0.127**	-0.022	1			
12	Debt-Equity	-0.078**	-0.179**	-0.035*	-0.002	-0.012	-0.02	-0.013	0.004	-0.06**	-0.019	-0.005	1		
13	Loan Growth	0.214**	0.067**	0.329**	0.018	-0.018	0.011	0.011	-0.005	-0.006	-0.002	0.016	0.012	1	
14	Provision	-0.222**	-0.151**	-0.070**	0.009	-0.033*	0.003	0.024	0.036*	-0.032*	0.004	-0.003	0.005	-0.01	1

Note: Superscripts \*\*, \* indicate significance at 1%, and 5% level respectively.

### 5.7.3 Multivariate Tests

Table 5.4 to Table 5.6 present the results of the baseline OLS regressions used to test the hypotheses. In all of the models, the study includes all control variables in addition to the hypothesized explanatory variables. Further, in all of the tables, Panel A reports the results for financial performance and Panel B reports the results for the social performance variables. In all of the models, the heteroscedasticity adjusted robust standard errors are reported in parentheses. Also, in the models, multicollinearity is not a concern as none of the models has a high variance inflation factor (VIF).

#### 5.7.3.1 *Employee Directors and MFI Performance*

Table 5.4 presents the regression results for employee presence on the board. Column (3) in Panel A of Table 5.4 shows that ROE has a positive association with *EMPL\_P* (=0.111). Further, the coefficient between *EMPL\_L* and ROE is positive (=0.035) as shown in column (4). However, the evidence of the relationship is weak ( $p < 0.10$ ) in both of the models. Although the relationship is not significant between the OSS and ROA, the further robustness tests and endogeneity tests show a strong significant positive impact of employee directors (both *EMPL\_P* and *EMPL\_L*) on the financial performance variables. Overall, the results suggest that employee presence on the board has a positive association with MFI financial performance, thereby supporting H1a. Economically, for instance, the results in Column (3) demonstrate that for one standard deviation (S.D.) increase in *EMPL\_P*, the ROE increases by 8.73% relative to the mean. Similarly, Column (4) shows an 8.31% increase in the ROE relative to the mean for one S.D. increase in *EMPL\_L*.

**Table 5.4 Baseline OLS. Employee Directors and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
EMPL_P	0.004 (0.006)		0.111* (0.062)		0.057 (0.052)		0.266*** (0.056)		-0.256*** (0.052)	
EMPL_L		0.003 (0.002)		0.035* (0.019)		0.022 (0.017)		0.109*** (0.018)		-0.104*** (0.017)
Board Size	0.005 (0.004)	0.004 (0.004)	-0.071* (0.037)	-0.091** (0.036)	0.047 (0.042)	0.036 (0.042)	0.178*** (0.043)	0.120*** (0.043)	-0.165*** (0.040)	-0.110*** (0.041)
CEO Power	0.000 (0.011)	-0.000 (0.011)	-0.056* (0.029)	-0.056** (0.028)	0.020 (0.055)	0.020 (0.055)	-0.198* (0.116)	-0.200* (0.116)	0.157 (0.107)	0.159 (0.107)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.016*** (0.004)	0.017*** (0.004)	0.016*** (0.004)	0.015*** (0.004)	0.848*** (0.004)	0.847*** (0.004)	0.149*** (0.004)	0.150*** (0.004)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.012*** (0.002)	0.012*** (0.002)	0.056*** (0.017)	0.057*** (0.017)	0.043** (0.018)	0.043** (0.018)	-0.191*** (0.022)	-0.190*** (0.022)	0.148*** (0.017)	0.147*** (0.017)
Provision	-0.422*** (0.056)	-0.421*** (0.056)	-2.680*** (0.670)	-2.679*** (0.671)	-1.856*** (0.305)	-1.855*** (0.305)	0.352 (0.339)	0.359 (0.338)	-0.293 (0.294)	-0.300 (0.294)
Constant	-0.003 (0.010)	-0.001 (0.011)	0.127 (0.090)	0.160* (0.092)	0.696*** (0.101)	0.718*** (0.103)	-6.514*** (0.102)	-6.408*** (0.103)	6.527*** (0.096)	6.426*** (0.096)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,814	3,814	4,198	4,198	3,541	3,541	4,197	4,197	4,197	4,197
R-squared	0.126	0.126	0.070	0.070	0.357	0.357	0.934	0.934	0.419	0.421

**Note:** Financial performance variables are in decimal. For the description of the variables, see Appendix A5. Except for CEO-Power, all variables are winsorized at 1% and 99%. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.5 Baseline OLS. Employee Directors' Microfinance-specific Experience and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
EXEM_P	0.020*		-0.033		0.019		0.337***		-0.268**	
	(0.011)		(0.102)		(0.107)		(0.121)		(0.111)	
EXEM_L		0.004**		-0.003		0.011		0.061***		-0.048**
		(0.002)		(0.019)		(0.020)		(0.023)		(0.021)
Board Size	0.005	0.004	-0.081**	-0.080**	0.043	0.040	0.163***	0.144***	-0.149***	-0.135***
	(0.004)	(0.004)	(0.037)	(0.037)	(0.042)	(0.042)	(0.043)	(0.043)	(0.040)	(0.040)
CEO Power	-0.001	-0.001	-0.052*	-0.053*	0.020	0.019	-0.203*	-0.200*	0.160	0.158
	(0.011)	(0.011)	(0.028)	(0.028)	(0.055)	(0.055)	(0.120)	(0.119)	(0.111)	(0.110)
Firm Size	0.002***	0.002***	0.019***	0.019***	0.016***	0.016***	0.847***	0.847***	0.150***	0.149***
	(0.000)	(0.000)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Debt-Equity	-0.000***	-0.000***	-0.004***	-0.004***	-0.001***	-0.001***	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Loan Growth	0.012***	0.012***	0.056***	0.056***	0.043**	0.043**	-0.190***	-0.190***	0.148***	0.148***
	(0.002)	(0.002)	(0.017)	(0.017)	(0.018)	(0.018)	(0.022)	(0.022)	(0.017)	(0.017)
Provision	-0.422***	-0.423***	-2.685***	-2.685***	-1.859***	-1.860***	0.328	0.329	-0.272	-0.273
	(0.056)	(0.056)	(0.673)	(0.673)	(0.305)	(0.305)	(0.343)	(0.343)	(0.298)	(0.298)
Constant	0.001	0.005	0.120	0.123	0.700***	0.715***	-6.434***	-6.400***	6.462***	6.436***
	(0.011)	(0.011)	(0.091)	(0.095)	(0.104)	(0.108)	(0.107)	(0.111)	(0.100)	(0.103)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,814	3,814	4,198	4,198	3,541	3,541	4,197	4,197	4,197	4,197
R-squared	0.126	0.126	0.069	0.069	0.357	0.357	0.934	0.934	0.417	0.417

**Note:** Dependent variables are the same as Table 5.4. EXEM\_L = (1 + Total Employee Directors with Microfinance Experience). EXEM\_P = Total Employee Directors with Microfinance Experience to the Total Directors on Board. All the control variables are the same as Table 5.4. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.6 Baseline OLS. Employee Directors' Advanced Education and MFI Double Bottom Line Performance**

VARIABLES	Panel A: Financial Performance						Panel B: Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
GREM_P	-0.011 (0.009)		-0.124 (0.082)		-0.126 (0.085)		0.997*** (0.106)		-1.015*** (0.102)	
GREM_L		-0.004* (0.002)		-0.039** (0.019)		-0.034 (0.021)		0.261*** (0.024)		-0.263*** (0.022)
Board Size	0.004 (0.004)	0.005 (0.004)	-0.087** (0.037)	-0.079** (0.037)	0.035 (0.042)	0.044 (0.042)	0.212*** (0.044)	0.146*** (0.042)	-0.201*** (0.041)	-0.133*** (0.040)
CEO Power	0.000 (0.011)	0.000 (0.011)	-0.053* (0.028)	-0.053* (0.027)	0.021 (0.055)	0.021 (0.055)	-0.197* (0.115)	-0.196* (0.113)	0.156 (0.105)	0.156 (0.103)
Firm Size	0.003*** (0.000)	0.003*** (0.001)	0.022*** (0.004)	0.024*** (0.004)	0.020*** (0.005)	0.021*** (0.005)	0.821*** (0.005)	0.815*** (0.006)	0.177*** (0.005)	0.183*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.012*** (0.002)	0.012*** (0.002)	0.055*** (0.017)	0.054*** (0.017)	0.041** (0.018)	0.041** (0.018)	-0.181*** (0.022)	-0.178*** (0.022)	0.138*** (0.017)	0.135*** (0.017)
Provision	-0.421*** (0.056)	-0.420*** (0.056)	-2.677*** (0.673)	-2.670*** (0.673)	-1.851*** (0.305)	-1.847*** (0.305)	0.270 (0.333)	0.234 (0.330)	-0.211 (0.288)	-0.175 (0.286)
Constant	-0.008 (0.011)	-0.013 (0.012)	0.074 (0.096)	0.024 (0.104)	0.640*** (0.107)	0.605*** (0.115)	-6.076*** (0.108)	-5.822*** (0.114)	6.080*** (0.101)	5.829*** (0.106)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,814	3,814	4,198	4,198	3,541	3,541	4,197	4,197	4,197	4,197
R-squared	0.126	0.126	0.070	0.070	0.357	0.357	0.936	0.936	0.435	0.439

**Note:** Dependent variables are the same as Table 5.4. GREM\_L = (1 + Total Employee Directors with Advanced Education). GREM\_P = Total Employee Directors with Advanced Education to Total Directors on the Board. All the control variables are the same as in Table 5.4. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. Robust standard errors are in parentheses.

Further, Column (7) in Panel A shows that the coefficient between *EMPL\_P* (=0.266) and NAB is strongly significant ( $P < 0.01$ ) and positive. A similar result is uncovered for the correlation between *EMPL\_L* and NAB (=0.109;  $p < 0.01$ ) as shown in Column (8). As reaching a large number of borrowers indicates a higher breadth of outreach, these results strongly support H1b. For instance, the result in Column (7) shows that for one S.D. increase in the *EMPL\_P*, the NAB increases by 3.14% relative to the mean, which equals 1,067 more borrowers reached. Similarly, Column (8) shows an increase of 3.88% of borrowers relative to the mean for one S.D. increase in the *EMPL\_L*, which equals 1,319 active borrowers reached. Concerning the MFI depth of outreach, Column (9) of Panel B shows strong evidence ( $p < 0.01$ ) of the negative association between *EMPL\_P* (= - 0.256) and ALB. Likewise, Column (10) shows that *EMPL\_L* has a strong, significant ( $p < 0.01$ ) and positive correlation with the ALB (= - 0.104). The smaller the loan balance per borrower, the more the depth of outreach is, which increases the potential to reach poorer borrowers at the bottom of the pyramid. For instance, Column (9) shows that the ALB can decrease by 3.02% (i.e., BDT 263.91) relative to the mean for one S.D. increase in the *EMPL\_P*. Therefore, the results in Panel B of Table 5.4 show strong evidence of the significant positive influence of employee presences on the board to the breadth and depth of outreach, thereby supporting H1b.

Although the findings of this study are consistent with corporate governance literature (Fauver & Fuerst, 2006; Lin et al., 2018), they are inconsistent with existing microfinance literature (Hartarska, 2005; Hartarska & Mersland, 2012). There are a few reasons for such a positive influence. First, the microfinance operating environment in Bangladesh is different from the contexts examined by Hartarska (2005) and Hartarska and Mersland (2012). It is because the MFIs operating in Bangladesh generally work as NGOs. The ordinary shareholder directors are absent in these MFIs as they are yet to enter the capital market. In order to accumulate capital from social and commercial investors, these MFIs must demonstrate a reasonable amount of profit to external investors. Also, these MFIs must ensure the external investors that they will receive a return on their investment with sufficient expected profit. They also have to demonstrate adequate outreach performance to obtain funds from social investors. Hence, they have to focus on both the economic sustainability and social outreach of the firm. Second, the microfinance industry in Bangladesh is the most mature in the world. Hence, these MFIs can easily attract competent employees from the market. When a competent individual joins on the board, the possibility to have a positive outcome increases. Third, MFIs have different operational features including a relationship-based lending model, credit without collateral, and frequent collection of repayments, for which they are mostly dependent on their front line and mid-level employees. As employees have a close relationship with clients, employee representatives have a better understanding of market conditions such as

market demand and how to fulfill these demands. Hence, they can contribute to the board decision making process to achieve positive financial and social outcomes.

### 5.7.3.2 *Experienced Employees and MFI Performance*

Panel A of Table 5.5 reports the results for the association between experienced employee presence on the board and MFI financial performance. In Column (1), the coefficient between *EXEM\_P* and ROA is significant ( $p < 0.10$ ) and positive ( $= 0.020$ ). Further, in Column (2), the coefficient between *EXEM\_L* and ROA is significant ( $p < 0.05$ ) and positive ( $= 0.004$ ). These results indicate that employee directors' microfinance experience, as a human capital attribute, can have a positive effect on the financial outcomes of the MFI, thereby supporting H2a. Economically, for instance, the results in column (1) indicate that for one S.D. increase in the *EXEM\_P*, ROA increases by 5.48% relative to the mean. Similarly, Column (2) shows a 5.81% increase in the ROA relative to the mean for one S.D. increase in the *EXEM\_L*. These findings are consistent with previous research (Chowdhury et al., 2014; Soriano & Castrogiovanni, 2012). Although the other financial performance variables (such as ROE and OSS) have an insignificant correlation with experienced employee presence on board, the direction of the relationship is positive, similar to Column (1) and (2).

With respect to social performance, Column (7) in Panel B of Table 5.5 shows that the coefficient between *EXEM\_P* and NAB is strongly significant ( $p < 0.01$ ) and positive ( $= 0.337$ ). Likewise, in Column (8), the coefficient of *EXEM\_L* is positive ( $= 0.061$ ) and strongly significant ( $p < 0.01$ ) with NAB. These results indicate that the more significant the proportion of experienced employees on the board, the greater potential the firm has to reach more borrowers, thereby increasing the breadth of outreach (supporting H2b). For instance, the results in column (7) show that for one standard deviation increase in the *EXEM\_P*, the NAB increases by 2.12% relative to the mean, which equals an increase of 722 borrowers. Also, Column (9) in Panel B, shows that *EXEM\_P* is significantly ( $p < 0.05$ ) and negatively ( $= -0.268$ ) related to ALB. Further, *EXEM\_L* is negatively ( $= -0.048$ ) associated with the ALB, at 5% (Column 10). This negative association between experienced employee presence on the board and ALB indicates that experienced employee presence on the board has a significant and negative impact on the depth of outreach, thereby supporting H2b. For instance, Column (9) shows that for one S.D. increase in the *EXEM\_P*, ALB decreases by 1.69% (BDT 147.51) relative to the mean. Such a decrease in the ALB enables the MFI to reach out to the poorer borrowers with a smaller credit size. Therefore, all of the regressions in Panel B of Table 5.5 indicate a significant and positive relationship between experienced employee presence on the board and the breadth and depth of outreach (H2b).

### 5.7.3.3 Employee Education and MFI Performance

Regarding employee directors' advanced education, Column (2) in Panel C of Table 5.6 shows that the coefficient between ROA and *GREM\_L* is negative (= -0.004) and weakly significant ( $p < 0.10$ ). Similarly, in Column (4), the association between *GREM\_L* and ROE is significant ( $p < 0.05$ ) and negative (= -0.039). Therefore, the findings of this study are unable to support H3a.

However, Panel B of Table 5.6 shows that the coefficient for both the *GREM\_P* (= 0.997) and *GREM\_L* (= 0.261) are strongly significant ( $p < 0.01$ ) and positive with NAB as shown in Column (7). Therefore, the results in Panel B show that graduate employee presence on the board can positively contribute to the breadth of outreach, thereby supporting H3b. For instance, the results in Column (7) indicate that for one standard deviation increase in the *GREM\_P*, NAB increases by 8.97% (i.e., 3,051 borrowers) relative to the mean. Further, for one standard deviation increase in the *GREM\_L*, NAB increases by 3,532 (10.39%) relative to the mean. Similarly, Column (9) and (10) show that the coefficient for ALB has a strong, significant ( $p < 0.01$ ) and negative relationship with both the *GREM\_P* (= -1.015) and *GREM\_L* (= -0.263). These results suggest that graduate employee presence on the board has a negative association with the ALB. Economically, for instance, column (9) indicates that for one standard deviation increase in the *GREM\_P*, the ALB decreases by BDT 798.08 (9.14%) relative to the mean. Likewise, column (10) shows a 10.47% decrease in the ALB for one S.D. increase in the *GREM\_L*. Therefore, a smaller average loan size per borrower indicates the potential to reach poorer borrowers at the bottom of the period as the results indicate that graduate employee presence on the board has a positive and significant impact on the depth of outreach. Therefore, in supporting H3b, the results in the baseline model suggest that employee presence on the board has the potential to achieve better social outcomes for the MFI by enabling it to reach the poorer borrowers and a larger number of the borrowers at the bottom of the pyramid when the employee directors have an advanced level of general education.

### 5.7.4 Endogeneity Test

In this study, the baseline results show strong evidence of the influence of board employee presence on the board on MFI financial and social performance. Furthermore, the baseline regressions show a positive influence of experienced employee presence on the board on MFI financial and social performance. Likewise, the study shows strong evidence of the positive association between employee directors' general education and MFI social performance. However, the direction, magnitude, and significance of these relationships can be biased if endogeneity is present in the estimation techniques (Hermalin & Weisbach, 1998). However, the possibility of reverse causality should be minimal in this study due to the

following reason. The employee directors in this study have generally worked in the organization for an extended period. The board selects an employee who has already served in the firm and therefore has firm-specific tacit knowledge and skills, a satisfactory employment record and has an acceptance to the board members. The employee director is not attracted to the board by observing firm performance. Although the firm performance may attract prospective employees, they are less likely to join the board.

However, the baseline model has not answered the question of whether high performing MFIs are better able to attract employee directors with such human capital attributes. In order to examine this problem, the study uses an instrumental variable (IV) regression approach by applying a two-stage least square (2SLS) method similar to Fauver and Fuerst (2006) and Campa and Kedia (2002). In this method, we have to use the exogenous instrument(s) of the endogenous explanatory variable(s) in the first stage. The instrument(s) has to satisfy the orthogonality condition, has a meaningful correlation with the endogenous variable, and has an indirect effect on the dependent variable (Lewbel, 2012). This study uses CEO-director tie as an exogenous instrument (*CEOD\_TIE*),<sup>54</sup> a dummy variable (=1) for the presence of CEO-director ties. The use of this instrument is because the top management has more power and authority than their subordinates. However, when employees are present on the board, they are considered as a potential threat to the top management (Hammer, Currall, & Stern, 1991) because they take a superior position over the CEO, which changes the formal authority structure of the organization (Hammer et al., 1991). As employee representatives have the same voting rights and the decision making power as general shareholder directors (Hammer & Stern, 1986), the CEO may feel that their power and authority within the organization is challenged or diluted (Dahrendorf, 1959). In order to overcome this, the CEO tries to characterise the employee representatives as “shopfloor experts” only (Hammer et al., 1991).<sup>55</sup> In addition, employees on the board monitor management (Hermalin & Weisbach, 1998; Lin et al., 2018). Hence, top management tries to resist employee power unless it is required by law (Hammer et al., 1991). Hence, when the CEO has an informal relationship or professional tie with any of the general board members, the CEO tries to convince the board member to limit employee presence on the board. Therefore, this study expects that the relationship between employee presence on the board and *CEOD\_TIE* should be negative and significant. This idea could be the same for experienced employee directors and graduate employee directors. However, such an association is expected to have an insignificant

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<sup>54</sup> The CEO is considered to have a tie with the director if the CEO has any sort of personal or professional relationship with any of the directors except for the employee directors.

<sup>55</sup> The CEO tries to convince the other directors that the employee board members have limited expertise and knowledge.

association with MFI double bottom line performance. It is because the CEO does not need such a tie to set the board agenda and to provide internal information of the firm to the board; the CEO can do this when they act as the board secretary, which enables the CEO to play a direct role.

Table 5.7, Table 5.8, and Table 5.9 report the results of the IV 2SLS regressions. As expected above, the first stage regressions contained in Table 5.7 show that *CEOD\_TIE* has a strong, significant ( $p < 0.01$ ) and negative association with *EMPL\_P* and *EMPL\_L*. Likewise, *CEOD\_TIE* has a strong, significant ( $p < 0.01$ ) and negative association with *EXEM\_P* and *EXEM\_L*, as shown in Table 5.8. A similar result is uncovered for *GREM\_P* and *GREM\_L* in Table 5.9. The second stage regression results also show that, in all of the panels, the Kleibergen-Paap's under-identification test results are strongly significant ( $p < 0.01$ ). Furthermore, in all of the models, the Kleibergen-Paap's Wald F statistics are higher than those achieved by the Stock and Yogo (2005) weak identification test critical values at 10%. Overall, the test statistics in all of the three tables support the validity of the instruments used to test for endogeneity.<sup>56</sup>

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<sup>56</sup> As the equations are exactly identified in the second stage due to the use of a single instrument for each of the endogenous variables, the Hansen J statistics of the over identification tests are not reported here.

**Table 5.7 Endogeneity Test: Employee Directors and MFI Financial and Social Performance**

VARIABLES	First Stage		Second Stage									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	EMPL_P	EMPL_L	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
CEOD_TIE	-0.034*** (0.004)	-0.137*** (0.011)										
EMPL_P			0.110*** (0.041)		-0.223 (0.367)		0.021 (0.375)		1.065*** (0.406)		-1.019*** (0.384)	
EMPL_L				0.027*** (0.010)		-0.055 (0.090)		0.005 (0.092)		0.262*** (0.098)		-0.251*** (0.093)
Board Size	-0.091*** (0.012)	0.303*** (0.039)	0.015** (0.006)	-0.003 (0.005)	-0.100** (0.048)	-0.063 (0.047)	0.043 (0.053)	0.040 (0.051)	0.248*** (0.058)	0.071 (0.052)	-0.231*** (0.055)	-0.063 (0.049)
CEO Power	0.020 (0.022)	0.068 (0.083)	-0.002 (0.011)	-0.001 (0.011)	-0.049* (0.029)	-0.050* (0.029)	0.020 (0.055)	0.020 (0.055)	-0.214* (0.109)	-0.210* (0.113)	0.173* (0.102)	0.169 (0.105)
Firm Size	0.014*** (0.001)	0.042*** (0.003)	0.000 (0.001)	0.001 (0.001)	0.022*** (0.007)	0.021*** (0.006)	0.016** (0.007)	0.016*** (0.006)	0.835*** (0.008)	0.839*** (0.007)	0.162*** (0.008)	0.158*** (0.007)
Debt-Equity	-0.000*** (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	-0.002 (0.004)	-0.016 (0.014)	0.013*** (0.002)	0.013*** (0.002)	0.056*** (0.017)	0.056*** (0.017)	0.043** (0.018)	0.043** (0.018)	-0.190*** (0.022)	-0.187*** (0.022)	0.148*** (0.017)	0.145*** (0.017)
Provision	-0.060 (0.075)	-0.232 (0.236)	-0.418*** (0.057)	-0.419*** (0.056)	-2.699*** (0.674)	-2.699*** (0.673)	-1.866*** (0.304)	-1.866*** (0.304)	0.391 (0.337)	0.388 (0.337)	-0.330 (0.292)	-0.327 (0.292)
Constant	0.080*** (0.027)	-0.662*** (0.087)	-0.019* (0.010)	0.009 (0.014)	0.138 (0.085)	0.083 (0.127)	0.143 (0.095)	0.148 (0.130)	-7.406*** (0.102)	-7.144*** (0.135)	7.424*** (0.096)	7.173*** (0.129)
Year Dummy	Yes											
Observations	4,192	4,192	3,808	3,808	4,192	4,192	3,535	3,535	4,191	4,191	4,191	4,191
R-squared	0.102	0.139	0.046	0.085	0.062	0.064	0.357	0.357	0.931	0.933	0.392	0.411
K-P LM Under id			73.077	142.219	79.819	154.352	64.928	126.963	79.926	154.503	79.926	154.503

p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F	75.102	149.916	82.048	162.644	66.585	133.377	82.164	162.824	82.164	162.824	162.824
Stock-Yogo (2005) 10% Max	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38

**Note:** Instrumented variable: EMPL\_P and EMPL\_L. Excluded instrument: CEOD\_TIE (A dummy variable equals to one if the CEO has any sort of relationship or tie with any of the directors). Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.8 Endogeneity Test: Employee Directors' Experience and MFI Performance**

VARIABLES	First Stage		Second Stage									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	EXEM_P	EXEM_L	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
CEOD_TIE	-0.012*** (0.002)	-0.062*** (0.010)										
EXEM_P			0.320** (0.125)		-0.619 (1.015)		0.064 (1.150)		2.950** (1.164)		-2.821** (1.111)	
EXEM_L				0.062** (0.024)		-0.120 (0.197)		0.012 (0.223)		0.574** (0.227)		-0.548** (0.217)
Board Size	-0.023*** (0.006)	0.170*** (0.034)	0.013** (0.006)	-0.006 (0.006)	-0.094** (0.042)	-0.059 (0.052)	0.043 (0.048)	0.039 (0.058)	0.219*** (0.053)	0.053 (0.059)	-0.204*** (0.050)	-0.045 (0.056)
CEO Power	0.031** (0.013)	0.132* (0.070)	-0.011 (0.012)	-0.009 (0.011)	-0.034 (0.044)	-0.037 (0.040)	0.018 (0.068)	0.018 (0.065)	-0.283** (0.142)	-0.268* (0.137)	0.239* (0.130)	0.224* (0.125)
Firm Size	0.016*** (0.001)	0.087*** (0.003)	-0.003 (0.002)	-0.004 (0.002)	0.029 (0.018)	0.029 (0.019)	0.015 (0.020)	0.015 (0.021)	0.802*** (0.020)	0.800*** (0.021)	0.193*** (0.020)	0.195*** (0.021)
Debt-Equity	-0.000 (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Loan Growth	-0.003 (0.002)	-0.021** (0.010)	0.013*** (0.002)	0.014*** (0.002)	0.054*** (0.017)	0.054*** (0.017)	0.043** (0.019)	0.043** (0.019)	-0.182*** (0.022)	-0.180*** (0.022)	0.140*** (0.018)	0.138*** (0.018)
Provision	0.027 (0.035)	0.139 (0.179)	-0.434*** (0.057)	-0.434*** (0.057)	-2.669*** (0.674)	-2.669*** (0.674)	-1.867*** (0.305)	-1.867*** (0.305)	0.248 (0.355)	0.248 (0.355)	-0.193 (0.312)	-0.193 (0.313)
Constant	-0.205***	-1.701***	0.058*	0.100**	-0.012	-0.090	0.158	0.166	-6.694***	-6.322***	6.742***	6.387***

	(0.015)	(0.082)	(0.031)	(0.047)	(0.263)	(0.387)	(0.291)	(0.431)	(0.291)	(0.432)	(0.281)	(0.416)
Year Dummy	Yes											
Observations	4,192	4,192	3,808	3,808	4,192	4,192	3,535	3,535	4,191	4,191	4,191	4,191
R-squared	0.255	0.279	-0.038	-0.041	0.063	0.062	0.357	0.357	0.926	0.925	0.339	0.335
K-P LM Under id			34.347	33.296	40.817	39.7	27.923	27.255	40.964	39.901	40.964	39.901
p-value			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F			34.697	33.621	41.313	40.165	28.143	27.464	41.464	40.373	41.464	40.373
Stock-Yogo (2005) 10% Max			16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38

**Note:** Instrumented variable: EXEM\_P and EXEM\_L. Excluded instrument: CEOD\_TIE (A dummy variable equals to one if the CEO has any sort of relationship or tie with any of the directors). Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.9 Endogeneity Test: Employee Directors' Advanced Education and MFI Performance**

VARIABLES	First Stage		Second Stage									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	GREM_P	GREM_L	ROA	ROA	ROE	ROE	OSS	OSS	NAB	NAB	ALB	ALB
CEOD_TIE	-0.017*** (0.002)	-0.070*** (0.010)										
GREM_P			0.224** (0.087)		-0.438 (0.717)		0.042 (0.760)		2.089*** (0.782)		-1.998*** (0.737)	
GREM_L				0.054** (0.021)		-0.107 (0.175)		0.010 (0.182)		0.511*** (0.191)		-0.488*** (0.180)
Board Size	-0.060*** (0.008)	0.027 (0.035)	0.018** (0.007)	0.002 (0.005)	-0.105* (0.054)	-0.076** (0.037)	0.044 (0.060)	0.041 (0.043)	0.275*** (0.064)	0.137*** (0.044)	-0.257*** (0.061)	-0.125*** (0.042)
CEO Power	0.004 (0.016)	0.014 (0.079)	-0.001 (0.012)	-0.001 (0.012)	-0.052** (0.026)	-0.052** (0.026)	0.020 (0.055)	0.020 (0.055)	-0.201* (0.113)	-0.200* (0.111)	0.161 (0.103)	0.159 (0.101)
Firm Size	0.030*** (0.001)	0.140*** (0.003)	-0.005* (0.003)	-0.006* (0.003)	0.032 (0.023)	0.034 (0.026)	0.015 (0.024)	0.015 (0.027)	0.788*** (0.025)	0.778*** (0.028)	0.207*** (0.024)	0.216*** (0.027)
Debt-Equity	-0.000 (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.004*** (0.001)	-0.004*** (0.001)	-0.001*** (0.000)	-0.001*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)

Loan Growth	-0.011*** (0.003)	-0.052*** (0.012)	0.015*** (0.002)	0.016*** (0.003)	0.052*** (0.018)	0.051*** (0.019)	0.043** (0.020)	0.043** (0.021)	-0.169*** (0.023)	-0.165*** (0.023)	0.128*** (0.018)	0.124*** (0.019)
	(0.003)	(0.012)	(0.003)	(0.003)	(0.024)	(0.025)	(0.024)	(0.025)	(0.026)	(0.028)	(0.025)	(0.026)
Provision	0.063 (0.050)	0.379* (0.211)	-0.437*** (0.058)	-0.443*** (0.058)	-2.658*** (0.679)	-2.645*** (0.682)	-1.869*** (0.310)	-1.870*** (0.314)	0.195 (0.332)	0.134 (0.332)	-0.143 (0.288)	-0.084 (0.291)
Constant	-0.401*** (0.018)	-2.491*** (0.084)	0.084** (0.041)	0.131** (0.059)	-0.061 (0.340)	-0.154 (0.488)	0.162 (0.353)	0.170 (0.501)	-6.459*** (0.364)	-6.017*** (0.522)	6.518*** (0.345)	6.096*** (0.494)
Year Dummy	Yes	Yes	Yes									
Observations	4,192	4,192	3,808	3,808	4,192	4,192	3,535	3,535	4,191	4,191	4,191	4,191
R-squared	0.432	0.489	-0.033	-0.042	0.067	0.068	0.357	0.357	0.933	0.934	0.417	0.422
K-P LM Under id			47.041	44.276	54.988	50.563	42.335	40.642	55.156	50.8	55.156	50.8
p-value			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
K-P Wald F			47.553	44.737	55.639	51.115	42.77	41.055	55.814	51.36	55.814	51.36
Stock-Yogo (2005) 10% Max			16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38	16.38

**Note:** Instrumented variable: GREM\_P and GREM\_L. Excluded instrument: CEOD\_TIE (A dummy variable equals to one if the CEO has any sort of relationship or tie with any of the directors). Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.10 Reverse Causality Test: Employee Directors and MFI performance**

**Panel A:** Explanatory variables: Financial Performance (lag).

VARIABLES	EMPL_P	EMPL_L	VARIABLES	EMPL_P	EMPL_L	VARIABLES	EMPL_P	EMPL_L
ROA <sub>t-1</sub>	0.092 (0.067)	0.284 (0.229)	ROE <sub>t-1</sub>	0.014* (0.007)	0.040* (0.023)	OSS <sub>t-1</sub>	0.013* (0.007)	0.035 (0.024)
ROA <sub>t-2</sub>	0.001 (0.075)	0.118 (0.231)	ROE <sub>t-2</sub>	0.016** (0.008)	0.046* (0.023)	OSS <sub>t-2</sub>	0.008 (0.010)	0.035 (0.031)
ROA <sub>t-3</sub>	-0.089 (0.072)	-0.052 (0.215)	ROE <sub>t-3</sub>	0.008 (0.008)	0.019 (0.023)	OSS <sub>t-3</sub>	-0.009 (0.010)	-0.019 (0.030)
Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes
Year Dummy	Yes	Yes	Year Dummy	Yes	Yes	Year Dummy	Yes	Yes
Observations	1,596	1,596	Observations	2,075	2,075	Observations	1,472	1,472

R-squared            0.110            0.129            R-squared            0.101            0.119            R-squared            0.118            0.132

**Panel B:** Explanatory variables: Social Performance (lag).

VARIABLES	EMPL_P	EMPL_L	VARIABLES	EMPL_P	EMPL_L
NAB <sub>t-1</sub>	0.008 (0.011)	0.046 (0.033)	ALB <sub>t-1</sub>	-0.010 (0.019)	-0.055 (0.052)
NAB <sub>t-2</sub>	0.003 (0.015)	0.020 (0.041)	ALB <sub>t-2</sub>	0.002 (0.026)	-0.012 (0.070)
NAB <sub>t-3</sub>	0.009 (0.013)	0.019 (0.039)	ALB <sub>t-3</sub>	-0.013 (0.019)	-0.021 (0.053)
Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes
Year Dummy	Yes	Yes	Year Dummy	Yes	Yes
Observations	2,075	2,075	Observations	2,075	2,075
R-squared	0.100	0.122	R-squared	0.100	0.122

**Note:** Financial performance variables and the social performance variables (1, 2, and 3 years lag) are the explanatory variables. All the control variables are also taken as 1 to 3 years lag. Dependent variable: EMPL\_P and EMPL\_L. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.11 Reverse Causality Test: Experienced Employee Directors and MFI performance**

**Panel A:** Explanatory variables: Financial Performance (lag).

VARIABLES	EXEM_P	EXEM_L	VARIABLES	EXEM_P	EXEM_L	VARIABLES	EXEM_P	EXEM_L
ROA <sub>t-1</sub>	0.012 (0.037)	0.100 (0.192)	ROE <sub>t-1</sub>	0.003 (0.003)	0.012 (0.015)	OSS <sub>t-1</sub>	0.004 (0.004)	0.021 (0.022)
ROA <sub>t-2</sub>	-0.001 (0.037)	0.049 (0.194)	ROE <sub>t-2</sub>	-0.001 (0.003)	-0.002 (0.015)	OSS <sub>t-2</sub>	-0.004 (0.005)	-0.013 (0.028)
ROA <sub>t-3</sub>	0.037 (0.036)	0.219 (0.190)	ROE <sub>t-3</sub>	-0.002 (0.003)	-0.008 (0.014)	OSS <sub>t-3</sub>	-0.006 (0.005)	-0.022 (0.028)
Constant	-0.171*** (0.046)	-1.604*** (0.252)	Constant	-0.167*** (0.038)	-1.544*** (0.207)	Constant	-0.170*** (0.049)	-1.567*** (0.262)
Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes

Year Dummy	Yes	Yes	Year Dummy	Yes	Yes	Year Dummy	Yes	Yes
Observations	1,596	1,596	Observations	2,075	2,075	Observations	1,472	1,472
R-squared	0.286	0.308	R-squared	0.262	0.283	R-squared	0.280	0.302

**Panel B:** Explanatory variables: Social Performance (lag).

VARIABLES	EXEM_P	EXEM_L	VARIABLES	EXEM_P	EXEM_L
NAB <sub>t-1</sub>	0.013** (0.006)	0.072** (0.029)	ALB <sub>t-1</sub>	-0.009 (0.008)	-0.048 (0.043)
NAB <sub>t-2</sub>	0.006 (0.006)	0.034 (0.031)	ALB <sub>t-2</sub>	-0.011 (0.009)	-0.062 (0.049)
NAB <sub>t-3</sub>	-0.012** (0.006)	-0.077*** (0.029)	ALB <sub>t-3</sub>	0.012* (0.007)	0.078** (0.039)
Constant	-0.122*** (0.045)	-1.352*** (0.241)	Constant	-0.119*** (0.045)	-1.332*** (0.241)
Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes
Year Dummy	Yes	Yes	Year Dummy	Yes	Yes
Observations	2,075	2,075	Observations	2,075	2,075
R-squared	0.266	0.287	R-squared	0.265	0.286

**Note:** Explanatory variables are the same as in Table 5.8. Dependent variable: EXEM\_P and EXEM\_L. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

**Table 5.12 Reverse Causality Test: Employee Education and MFI performance**

**Panel A:** Explanatory variables: Financial Performance (lag).

VARIABLES	GREM_P	GREM_L	VARIABLES	GREM_P	GREM_L	VARIABLES	GREM_P	GREM_L
ROA <sub>t-1</sub>	-0.016 (0.047)	-0.134 (0.193)	ROE <sub>t-1</sub>	-0.003 (0.003)	-0.013 (0.014)	OSS <sub>t-1</sub>	-0.005 (0.005)	-0.025 (0.020)
ROA <sub>t-2</sub>	-0.024 (0.047)	-0.181 (0.191)	ROE <sub>t-2</sub>	0.003 (0.004)	0.006 (0.017)	OSS <sub>t-2</sub>	-0.006 (0.007)	-0.035 (0.027)
ROA <sub>t-3</sub>	-0.043	-0.218	ROE <sub>t-3</sub>	-0.001	-0.015	OSS <sub>t-3</sub>	-0.013**	-0.062**

	(0.044)	(0.179)		(0.004)	(0.016)		(0.006)	(0.027)
Constant	-0.576***	-3.447***	Constant	-0.542***	-3.214***	Constant	-0.555***	-3.369***
	(0.051)	(0.216)		(0.043)	(0.186)		(0.054)	(0.238)
Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes
Year Dummy	Yes	Yes	Year Dummy	Yes	Yes	Year Dummy	Yes	Yes
Observations	1,596	1,596	Observations	2,075	2,075	Observations	1,472	1,472
R-squared	0.458	0.529	R-squared	0.448	0.513	R-squared	0.455	0.525

**Panel B:** Explanatory variables: Social Performance (lag).

VARIABLES	GREM_P	GREM_L	VARIABLES	GREM_P	GREM_L
NAB <sub>t-1</sub>	-0.003 (0.005)	-0.012 (0.022)	ALB <sub>t-1</sub>	-0.005 (0.008)	-0.023 (0.033)
NAB <sub>t-2</sub>	0.003 (0.006)	0.009 (0.027)	ALB <sub>t-2</sub>	-0.000 (0.008)	-0.008 (0.039)
NAB <sub>t-3</sub>	0.033*** (0.007)	0.149*** (0.030)	ALB <sub>t-3</sub>	-0.031*** (0.008)	-0.131*** (0.037)
Constant	-0.301*** (0.055)	-2.140*** (0.228)	Constant	-0.272*** (0.056)	-2.023*** (0.230)
Controls (lags)	Yes	Yes	Controls (lags)	Yes	Yes
Year Dummy	Yes	Yes	Year Dummy	Yes	Yes
Observations	2,075	2,075	Observations	2,075	2,075
R-squared	0.465	0.530	R-squared	0.467	0.532

**Note:** Explanatory variables are the same as in Table 5.8. Dependent variable: GREM\_P and GREM\_L. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively.

The second stage regression results contained in Table 5.7 show that ROA has a strong, significant ( $p < 0.01$ ) and positive association with *EMPL\_P* (= 0.110) as shown in Column (3). Similarly, in Column (4), the relationship between ROA and *EMPL\_L* is positive and strongly significant (= 0.027,  $p < 0.01$ ). Hence, these results support H1a. In the case of social performance, Column (9) shows that NAB has a strong, significant ( $p < 0.01$ ) and positive association with *EMPL\_P* (= 1.065). Equally, in Column (10), *EMPL\_L* (= 0.262) also has a strong and significant ( $p < 0.01$ ) association with NAB, thereby supporting H1b. Further, as shown in Column (11), *EMPL\_P* has a significant ( $p < 0.01$ ) and negative (= -1.019) relationship with ALB. A similar result is found for *EMPL\_L* (= -0.251;  $p < 0.01$ ), thereby supporting H2. Therefore, similar to the baseline results (Table 5.4), these results show that there is a strong and positive relationship between the presence of employee directors and the financial and social performance of MFIs, even after accounting for endogeneity.

For experienced employee directors, the second stage regression results in Column (3) of Table 5.8 show that the relationship between *EXEM\_P* and ROA is significant ( $p < 0.05$ ) and positive (= 0.320). Similarly, as shown in Column (4), ROA is significantly ( $p < 0.05$ ) and positively (= 0.062) associated with *EXEM\_L*. These results support the baseline results of the positive influence of experienced employee directors on MFI financial performance. In addition, Column (9) and Column (10) show that the coefficient of NAB is significant ( $p < 0.05$ ) and positive for both *EXEM\_P* (= 2.950) and *EXEM\_L* (= 0.574). Although the ALB is not significant in the baseline regressions, after accounting for endogeneity, a significant ( $p < 0.05$ ) and negative association (= -2.821) between ALB and *EXEM\_P* is shown in Column (11). A similar result is found between *EXEM\_L* (= -0.548) and ALB as shown in Column (12). Therefore, the endogeneity test results suggest that experienced employee presence on the board has a significant and positive influence not only on financial performance but also on the breadth and depth of outreach, thereby supporting H2a and H2b. Even after accounting for endogeneity, the significance of the relationships is stronger in the study.

Concerning employee directors' advanced education, Column (3) and Column (4) of Table 5.9 show that both *GREM\_P* (= 0.224) and *GREM\_L* (= 0.054) are significantly ( $p < 0.05$ ) and positively associated with ROA. Therefore, the endogeneity test results suggest that the presence of graduate employees on the board has a significant and positive influence on MFI financial performance, thereby supporting H3a, although the baseline regressions identify an insignificant relationship. Further, similar to the baseline models, NAB has a strong, significant ( $p < 0.01$ ) and positive association with both *GREM\_P* (= 2.089) and *GREM\_L* (= 0.511) as shown in Column (9) and Column (10) respectively. Furthermore, ALB has a strong, significant ( $p < 0.01$ ) and negative association with both *GREM\_P* (= -1.998) and *GREM\_L* (= -0.488), similar to the baseline results. Therefore, even after accounting for

endogeneity, this study shows consistent evidence of the positive relationship between employee directors' advanced education and MFI double bottom line performance, thereby supporting H3a and H3b.

In summary, the results of the endogeneity tests suggest that for all of the hypotheses, the predicted relationship is not violated after accounting for endogeneity. Moreover, for most of the explanatory variables, the significance of the relationships is stronger after accounting for endogeneity, showing strong support for the hypotheses.

In addition to the instrumental variable regressions, in following Hillman (2005), this study applies another reverse causality test using prior financial and social performance as the explanatory variables and using the hypothesized explanatory variables as the dependent variables. For this examination, the study uses one to three-year lags of the financial and social performance variables as the explanatory variables and uses similar lags for all of the control variables used in the baseline model. Table 5.10 to Table 5.12 reports the regression results of the reverse causality tests for employee presence, their experience, and advanced education respectively. In Panel A of Table 5.10, both *EMPL\_P* and *EMPL\_L* are insignificant for all of the lags of the financial performance variables. Similarly, the lags of the social performance variables are also insignificant, as shown in Panel B. Further, Table 5.11 shows that the financial performance variables are insignificant for *EXEM\_P* and *EXEM\_L*. Although the first and third lag of the NAB is significant for experienced employees, they are insignificant for ALB. However, when the study uses further lags, the significance level is eliminated. Further, as shown in Table 5.12, none of the lags of the financial and social performance variables are significant for *GREM\_P* and *GREM\_L*. Therefore, all of the results in the reverse quality tests suggest that prior financial and social performance are not significant predictors of the presence of employee directors on the board and their human capital attributes.

#### **5.7.5 Robustness Tests**

An important issue in studying the association between employee presence on the board and MFI performance is the sensitivity of the results. In order to investigate the robustness of the baseline findings, the study uses alternative proxies of the dependent variables as well as alternative models. First, the study uses a one-year lead of the dependent variables (lead-lag model) with the expectation that it takes time (usually the next reporting year) to translate the employee directors' activity for the current year. Second, the study uses alternative proxies to measure financial and social performance as the outcome of the explanatory variables. Third, this study applies a lag-independent model using a one-year lag for all of the explanatory variables. Fourth, using alternative measures of the dependent

variables and a one year lag of the explanatory variables, the study conducts the regressions again.

#### 5.7.5.1 One-year Lag of the Dependent Variables (Lead-lag Model)

The first robustness test uses a one-year lead of the dependent variables with the expectation that the actions in the board take time to manifest through the firm's performance. Column (3) of Panel A in Table 5.13 shows that  $ROE_{t+1}$  has a strong, significant ( $p < 0.01$ ) and positive ( $= 0.191$ ) association with **EMPL\_P**. Further, as shown in Column (4), the coefficient between  $ROE_{t+1}$  and **EMPL\_L** is strongly significant ( $p < 0.01$ ) and positive ( $= 0.057$ ). Further, as shown in Column (5), the relationship between **EMPL\_P** and  $OSS_{t+1}$  is positive ( $= 0.095$ ), although the significance of the relationship is weak ( $p < 0.10$ ). A similar relationship ( $= 0.031$ ) is found between **EMPL\_L** and  $OSS_{t+1}$ , with the same significance level. However,  $ROA_{t+1}$  does not have a significant relationship with employee director presence. Overall, the results in Panel A of Table 5.13 suggest the robustness of the relationship between employee presence on the board and the MFI financial performance, thereby supporting H1a. Further, Column (7) of Panel B shows that the coefficient between **EMPL\_P** and  $NAB_{t+1}$  is strongly significant ( $P < 0.01$ ) and positive ( $= 0.294$ ). Likewise, as shown in Column (8), the coefficient between **EMPL\_L** ( $= 0.116$ ) and  $NAB_{t+1}$  is positive and strongly significant ( $p < 0.01$ ). In addition, Column (9) reports strong evidence ( $p < 0.01$ ) of the negative association ( $= - 0.177$ ) between **EMPL\_P** and  $ALB_{t+1}$ . Likewise, the result in Column (10) shows that **EMPL\_L** has a highly significant ( $p < 0.01$ ) and negative ( $= - 0.083$ ) association with  $ALB_{t+1}$ . These results provide further support for H1b.

Furthermore, concerning the presence of experienced employees on the board, Column (2) in Panel B of Table 5.13 shows that the regression coefficient between **EXEM\_L** and  $ROA_{t+1}$  is positive ( $= 0.006$ ) and strongly significant ( $p < 0.01$ ). Further, as shown in Column (1), the coefficient between **EXEM\_P** and  $ROA_{t+1}$  is significant ( $p < 0.05$ ) and positive ( $= 0.028$ ). These results support H2a. Nevertheless, Column (7) in Panel B of Table 5.13 shows that the coefficient between **EXEM\_P** and  $NAB_{t+1}$  is strongly significant ( $p < 0.01$ ) and positive ( $= 0.562$ ). Likewise, as shown in Column (8), **EXEM\_L** has a strongly significant ( $p < 0.01$ ) and positive ( $= 0.103$ ) association with  $NAB_{t+1}$ . These results indicate the consistency of the positive influence of experienced employee presence on the board to the breadth of outreach (H2b).

**Table 5.13 Robustness Tests with the Lead-lag Model**

Panel A: Employee directors and MFI double bottom line performance.

VARIABLES	Financial Performance						Social Performance			
	(1) ROA <sub>t+1</sub>	(2) ROA <sub>t+1</sub>	(3) ROE <sub>t+1</sub>	(4) ROE <sub>t+1</sub>	(5) OSS <sub>t+1</sub>	(6) OSS <sub>t+1</sub>	(7) NAB <sub>t+1</sub>	(8) NAB <sub>t+1</sub>	(9) ALB <sub>t+1</sub>	(10) ALB <sub>t+1</sub>
EMPL_P	0.006 (0.006)		0.191*** (0.061)		0.095* (0.054)		0.294*** (0.067)		-0.177*** (0.062)	
EMPL_L		0.003 (0.002)		0.057*** (0.020)		0.031* (0.018)		0.116*** (0.021)		-0.083*** (0.020)
Board Size	0.008* (0.005)	0.006 (0.005)	0.038 (0.040)	0.003 (0.039)	0.068 (0.043)	0.050 (0.043)	0.213*** (0.050)	0.150*** (0.050)	-0.154*** (0.045)	-0.112** (0.046)
CEO Power	-0.003 (0.012)	-0.003 (0.012)	-0.021 (0.031)	-0.021 (0.031)	-0.020 (0.060)	-0.020 (0.060)	-0.198 (0.133)	-0.201 (0.133)	0.146 (0.135)	0.148 (0.134)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.018*** (0.004)	0.018*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.859*** (0.005)	0.858*** (0.005)	0.147*** (0.005)	0.148*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.034** (0.017)	0.034** (0.017)	-0.126*** (0.030)	-0.125*** (0.030)	0.106*** (0.017)	0.106*** (0.017)
Provision Expense	-0.051 (0.044)	-0.051 (0.044)	0.593 (0.550)	0.597 (0.550)	-0.031 (0.293)	-0.030 (0.293)	-0.154 (0.317)	-0.144 (0.316)	0.031 (0.321)	0.023 (0.320)
Constant	-0.031*** (0.011)	-0.028** (0.012)	-0.287*** (0.103)	-0.231** (0.104)	0.590*** (0.105)	0.621*** (0.107)	-6.760*** (0.124)	-6.647*** (0.125)	6.629*** (0.108)	6.548*** (0.109)
Year Dummy	Yes									
Observations	3,179	3,179	3,433	3,433	3,190	3,190	3,517	3,517	3,502	3,502
R-squared	0.077	0.077	0.077	0.077	0.366	0.366	0.923	0.923	0.359	0.360

**Panel B:** Employee directors' microfinance-specific experience and MFI double bottom line performance.

VARIABLES	Financial Performance						Social Performance			
	(1) ROA <sub>t+1</sub>	(2) ROA <sub>t+1</sub>	(3) ROE <sub>t+1</sub>	(4) ROE <sub>t+1</sub>	(5) OSS <sub>t+1</sub>	(6) OSS <sub>t+1</sub>	(7) NAB <sub>t+1</sub>	(8) NAB <sub>t+1</sub>	(9) ALB <sub>t+1</sub>	(10) ALB <sub>t+1</sub>
EXEM_P	0.028** (0.011)		0.075 (0.102)		0.139 (0.111)		0.562*** (0.140)		-0.114 (0.126)	
EXEM_L		0.006*** (0.002)		0.016 (0.019)		0.029 (0.021)		0.103*** (0.027)		-0.020 (0.024)
Board Size	0.008* (0.005)	0.006 (0.005)	0.023 (0.039)	0.018 (0.039)	0.063 (0.043)	0.055 (0.043)	0.200*** (0.050)	0.169*** (0.050)	-0.141*** (0.045)	-0.135*** (0.045)
CEO Power	-0.004 (0.012)	-0.004 (0.012)	-0.017 (0.031)	-0.017 (0.031)	-0.022 (0.061)	-0.022 (0.061)	-0.206 (0.140)	-0.202 (0.139)	0.146 (0.137)	0.145 (0.137)
Firm Size	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.019*** (0.004)	0.016*** (0.004)	0.015*** (0.004)	0.855*** (0.006)	0.855*** (0.006)	0.146*** (0.005)	0.146*** (0.005)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Loan Growth	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.035** (0.017)	0.035** (0.017)	-0.125*** (0.030)	-0.125*** (0.030)	0.106*** (0.017)	0.106*** (0.017)
Provision	-0.052 (0.044)	-0.052 (0.044)	0.584 (0.549)	0.584 (0.549)	-0.037 (0.293)	-0.037 (0.293)	-0.187 (0.321)	-0.185 (0.321)	0.041 (0.322)	0.040 (0.322)
Constant	-0.024** (0.012)	-0.020 (0.012)	-0.268*** (0.102)	-0.256** (0.105)	0.623*** (0.108)	0.645*** (0.112)	-6.628*** (0.129)	-6.569*** (0.134)	6.601*** (0.112)	6.590*** (0.117)
Year Dummy	Yes									
Observations	3,179	3,179	3,433	3,433	3,190	3,190	3,517	3,517	3,502	3,502
R-squared	0.078	0.078	0.074	0.074	0.366	0.366	0.923	0.923	0.357	0.357

**Panel C: Employee directors' advanced education and MFI double bottom line performance.**

VARIABLES	Financial Performance						Social Performance			
	(1) ROA <sub>t+1</sub>	(2) ROA <sub>t+1</sub>	(3) ROE <sub>t+1</sub>	(4) ROE <sub>t+1</sub>	(5) OSS <sub>t+1</sub>	(6) OSS <sub>t+1</sub>	(7) NAB <sub>t+1</sub>	(8) NAB <sub>t+1</sub>	(9) ALB <sub>t+1</sub>	(10) ALB <sub>t+1</sub>
GREM_P	-0.007 (0.009)		-0.027 (0.081)		-0.106 (0.089)		0.901*** (0.120)		-0.907*** (0.111)	
GREM_L		-0.002 (0.002)		-0.015 (0.020)		-0.032 (0.021)		0.236*** (0.028)		-0.239*** (0.024)
Board Size	0.007 (0.005)	0.007 (0.005)	0.019 (0.040)	0.022 (0.039)	0.053 (0.043)	0.061 (0.043)	0.240*** (0.051)	0.179*** (0.049)	-0.191*** (0.046)	-0.129*** (0.045)
CEO Power	-0.003 (0.012)	-0.003 (0.012)	-0.015 (0.031)	-0.015 (0.031)	-0.018 (0.061)	-0.018 (0.061)	-0.192 (0.134)	-0.191 (0.133)	0.145 (0.135)	0.145 (0.134)
Firm Size	0.003*** (0.001)	0.003*** (0.001)	0.022*** (0.005)	0.023*** (0.005)	0.022*** (0.005)	0.023*** (0.005)	0.835*** (0.006)	0.829*** (0.007)	0.173*** (0.006)	0.180*** (0.006)
Debt-Equity	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth	0.010*** (0.002)	0.010*** (0.002)	0.082*** (0.018)	0.082*** (0.018)	0.033* (0.017)	0.033* (0.017)	-0.119*** (0.029)	-0.117*** (0.029)	0.099*** (0.017)	0.097*** (0.017)
Provision	-0.051 (0.045)	-0.050 (0.045)	0.589 (0.549)	0.593 (0.549)	-0.027 (0.294)	-0.022 (0.294)	-0.220 (0.312)	-0.243 (0.311)	0.096 (0.314)	0.120 (0.313)
Constant	-0.034*** (0.012)	-0.037*** (0.013)	-0.297*** (0.109)	-0.327*** (0.117)	0.543*** (0.113)	0.503*** (0.121)	-6.355*** (0.131)	-6.123*** (0.141)	6.221*** (0.115)	5.982*** (0.122)
Year Dummy	Yes									
Observations	3,179	3,179	3,433	3,433	3,190	3,190	3,517	3,517	3,502	3,502
R-squared	0.076	0.077	0.074	0.074	0.366	0.366	0.924	0.924	0.373	0.376

**Note:** One year lead of the financial and social performance variables are used as the dependent variables. For instance, financial performance variables are ROA<sub>t+1</sub>, ROE<sub>t+1</sub>, and OSS<sub>t+1</sub>. Similarly, the social performance variables are NAB<sub>t+1</sub> and ALB<sub>t+1</sub>. All the explanatory and control variables are the same as in Table 5.5, 5.6, and 5.7 in Panel A, B, and C respectively. Robust standard errors are in parentheses. \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level.

Regarding employee directors' advanced education, Panel C of Table 5.13 does not identify any significant association between *GREM\_P* and *GREM\_L* with the financial performance variables. Hence, this study cannot confirm any association between graduate employee presence on the board on MFI financial performance, although the baseline model identifies a negative impact. However, Panel C of Table 5.13, shows that the coefficient between *GREM\_P* and  $NAB_{t+1}$  is strongly significant ( $p < 0.01$ ) and positive ( $= 0.901$ ) as shown in Column (7). Likewise, as shown in Column (8), the coefficient between *GREM\_L* and  $NAB_{t+1}$  is also significant ( $p < 0.01$ ) and positive ( $= 0.236$ ). Further, Column (3) and (4) in Panel B show that both *GREM\_P* ( $= -0.907$ ) and *GREM\_L* ( $= -0.239$ ) have a significant ( $p < 0.01$ ) and negative association with  $ALB_{t+1}$ . Therefore, these results support the consistency of H3b.

#### 5.7.5.2 *Alternative Proxies to Measure the Dependent Variables*

As another robustness test, the study creates a factor variable (FIN) from the financial performance variables (ROA, ROE, and OSS) using Principal Component Analysis (PCA). Through PCA, the study transforms the original set of variables to a linear combination of the variables through dimension reduction (Hotelling, 1933). This dimension reduction reduces the correlation between the variables and also reduces the redundancy of the variables. Furthermore, as an alternative proxy to measure the breadth of outreach, the study uses the log of the number of savers (NSV). Likewise, as the proxy to measure the depth of outreach, the study uses the log of the average savings balance per client (ASB). The log transformation of NSV and ASB reduces their skewness, making them symmetric, and reduces the influence of outliers. Similar to the measures of NAB and ALB, the study anticipates that the poor borrowers have limited access to the banking channels to save their small income (Collins et al., 2009). These savings are generally used to overcome future unforeseen hazards or are used as collateral to access credit. Hence, the smaller the savings amount (ASB), the higher potential there is to reach poorer borrowers, and the larger the number of savers (NSV) at the bottom of the pyramid. Similar to the above robustness test, this study uses a one-year lead of all of the dependent variables as the outcome of the explanatory variables.

Table 5.14 reports the regression results using the same explanatory variables and the alternative proxies used to measure the dependent variables. Column (1) and (2) in Panel A show that  $FIN_{t+1}$  is significant ( $p < 0.05$ ) and positive for both *EMPL\_P* ( $= 0.281$ ) and *EMPL\_L* ( $= 0.097$ ). Therefore, consistent with the baseline finding, these results also support H1a. With respect to the breadth of outreach, Column (3) and (4) in Panel B show that  $NSAV_{t+1}$  has a strong, significant ( $p < 0.01$ ) and positive association with *EMPL\_P* ( $= 0.286$ ) and *EMPL\_L* ( $= 0.107$ ). Further,  $ASB_{t+1}$  has a strong, significant and negative association with *EMPL\_P* ( $= -0.312$ ,  $p < 0.01$ ) and *EMPL\_L* ( $= -0.120$ ;  $p < 0.01$ ). These results again support H1b.

Regarding employee experience, Panel B of Table 5.14 shows that the relationship between  $FIN_{t+1}$  and  $EXEM\_L$  is significant ( $p < 0.05$ ) and positive ( $= 0.111$ ). As shown in Column (1), a similar result is found for  $EXEM\_P$  ( $= 0.510$ ,  $p < 0.10$ ) and  $FIN_{t+1}$ . Therefore, these results also support H2a. Furthermore, Column (3) and (4) show that the breadth of outreach ( $NSAV_{t+1}$ ) has a positive and significant ( $p < 0.05$ ) association with both  $EXEM\_P$  ( $= 0.274$ ) and  $EXEM\_L$  ( $= 0.048$ ) respectively. Nevertheless, as shown in Column (5) and (6),  $ASB_{t+1}$  has a significant ( $p < 0.05$ ) and negative association with both  $EXEM\_P$  ( $= -0.337$ ) and  $EXEM\_L$  ( $= -0.063$ ). Therefore, these results provide further support for H2b.

Concerning employee directors' advanced education, Panel B of Table 5.14 shows that  $FIN_{t+1}$  has a weak significance ( $p < 0.10$ ) to  $GREM\_L$ . Hence, this study cannot confirm H3a. However, as shown in Column (3) and (4),  $NSAV_{t+1}$  has a strong, significant ( $p < 0.01$ ) and positive association with both  $GREM\_P$  ( $= 0.674$ ) and  $GREM\_L$  ( $= 0.176$ ). As shown in Column (5) and (6),  $ASB_{t+1}$  also has a strong, significant ( $p < 0.01$ ) and negative association with  $GREM\_P$  ( $= -1.178$ ) and  $GREM\_L$  ( $= -0.298$ ). Therefore, these results indicate that the presence of employee directors with advanced education has a positive contribution to MFI social outcomes, thereby supporting H3b.

**Table 5.14 Robustness Tests using Alternative Proxies for Financial and Social Performance**

**Panel A: Employee Directors and MFI Financial and Social Performance.**

VARIABLES	Financial Performance		Social Performance			
	(1) $FIN_{t+1}$	(2) $FIN_{t+1}$	(3) $NSAV_{t+1}$	(4) $NSAV_{t+1}$	(5) $ASB_{t+1}$	(6) $ASB_{t+1}$
EMPL_P	0.281** (0.129)		0.286*** (0.069)		-0.312*** (0.076)	
EMPL_L		0.097** (0.043)		0.107*** (0.022)		-0.120*** (0.026)
Board Size	0.195* (0.104)	0.139 (0.103)	0.185*** (0.051)	0.126** (0.050)	-0.038 (0.061)	0.027 (0.061)
CEO Power	-0.081 (0.203)	-0.082 (0.203)	-0.274*** (0.095)	-0.276*** (0.095)	0.186 (0.147)	0.188 (0.149)
Firm Size	0.064*** (0.010)	0.063*** (0.010)	0.856*** (0.005)	0.855*** (0.005)	0.126*** (0.006)	0.127*** (0.006)
Debt-Equity	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth	0.218*** (0.041)	0.219*** (0.041)	-0.136*** (0.028)	-0.135*** (0.028)	0.060*** (0.022)	0.059*** (0.022)
Provision Expense	-0.088 (0.809)	-0.082 (0.809)	-0.841** (0.347)	-0.832** (0.346)	-1.068*** (0.393)	-1.078*** (0.393)
Constant	-1.360*** (0.253)	-1.262*** (0.256)	-6.324*** (0.122)	-6.218*** (0.124)	5.800*** (0.141)	5.682*** (0.143)

Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,140	3,140	3,493	3,493	3,485	3,485
R-squared	0.223	0.223	0.923	0.923	0.209	0.211

**Panel B: Employee Directors' Experience and MFI Financial and Social Performance.**

VARIABLES	Financial Performance		Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)
	FIN <sub>t+1</sub>	FIN <sub>t+1</sub>	NSAV <sub>t+1</sub>	NSAV <sub>t+1</sub>	ASB <sub>t+1</sub>	ASB <sub>t+1</sub>
EXEM_P	0.510*		0.274**		-0.337**	
	(0.261)		(0.138)		(0.167)	
EXEM_L		0.111**		0.048*		-0.063*
		(0.050)		(0.026)		(0.033)
Board Size	0.182*	0.151	0.166***	0.152***	-0.018	-0.000
	(0.103)	(0.103)	(0.050)	(0.050)	(0.061)	(0.060)
CEO Power	-0.089	-0.088	-0.273***	-0.271***	0.186	0.184
	(0.202)	(0.202)	(0.101)	(0.101)	(0.146)	(0.146)
Firm Size	0.060***	0.058***	0.856***	0.856***	0.127***	0.127***
	(0.011)	(0.011)	(0.006)	(0.006)	(0.007)	(0.007)
Debt-Equity	0.001	0.001	-0.001	-0.001	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Loan Growth	0.220***	0.220***	-0.135***	-0.135***	0.059***	0.059***
	(0.041)	(0.041)	(0.028)	(0.028)	(0.022)	(0.022)
Provision	-0.108	-0.109	-0.863**	-0.861**	-1.042***	-1.043***
	(0.806)	(0.806)	(0.352)	(0.352)	(0.394)	(0.394)
Constant	-1.242***	-1.154***	-6.259***	-6.234***	5.720***	5.683***
	(0.257)	(0.266)	(0.128)	(0.133)	(0.146)	(0.154)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,140	3,140	3,493	3,493	3,485	3,485
R-squared	0.223	0.223	0.922	0.922	0.207	0.207

**Panel C: Employee Education and MFI Financial and Social Performance.**

VARIABLES	Financial Performance		Social Performance			
	(1)	(2)	(3)	(4)	(5)	(6)
	FIN <sub>t+1</sub>	FIN <sub>t+1</sub>	NSAV <sub>t+1</sub>	NSAV <sub>t+1</sub>	ASB <sub>t+1</sub>	ASB <sub>t+1</sub>
GREM_P	-0.295		0.674***		-1.178***	
	(0.207)		(0.125)		(0.129)	
GREM_L		-0.096*		0.176***		-0.298***
		(0.050)		(0.029)		(0.031)
Board Size	0.152	0.174*	0.199***	0.154***	-0.079	0.000
	(0.104)	(0.102)	(0.052)	(0.050)	(0.061)	(0.060)
CEO Power	-0.073	-0.073	-0.267***	-0.267***	0.179	0.179
	(0.202)	(0.202)	(0.100)	(0.100)	(0.135)	(0.131)
Firm Size	0.078***	0.083***	0.839***	0.834***	0.159***	0.165***
	(0.012)	(0.012)	(0.007)	(0.007)	(0.007)	(0.007)
Debt-Equity	0.001	0.001	-0.001	-0.001	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Loan Growth	0.216*** (0.041)	0.215*** (0.041)	-0.130*** (0.028)	-0.129*** (0.028)	0.050** (0.022)	0.048** (0.022)
Provision	-0.074 (0.809)	-0.057 (0.810)	-0.891*** (0.345)	-0.906*** (0.345)	-0.988** (0.390)	-0.964** (0.389)
Constant	-1.491*** (0.265)	-1.620*** (0.280)	-6.020*** (0.131)	-5.847*** (0.142)	5.269*** (0.149)	4.992*** (0.163)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,140	3,140	3,493	3,493	3,485	3,485
R-squared	0.222	0.223	0.923	0.923	0.225	0.228

**Note:** The alternative measure of financial performance variable (FIN) is obtained as the factor variable of ROA, ROE, and OSS. The dependent variable (NSV) represents the number of active savers (in logarithmic form) as a measure of the breadth of outreach. The depth of outreach is measured as the (log of the) average savings balance (in BDT) per saver (ASB). Similar to the first robustness test, one year lead of all the dependent variables ( $FIN_{t+1}$ ,  $NSV_{t+1}$ , and  $ASB_{t+1}$ ) are used in the regressions.

### 5.7.5.3 Lag Independent Variables

As an alternative specification of the baseline models, in following Xu et al. (2015), this study uses a one-year lag of all of the explanatory variables used in the baseline regressions. Use of the lag independent variables is based on the same idea used in the first robustness test that their role on the board may take time to manifest in firm performance. Table 5.15 reports the regression results of the lag independent variables.

Column (3) and (4) in Panel A of Table 5.15 show that ROE has a strong, significant ( $p < 0.01$ ) and positive association with both  $EMPL\_P_{t-1}$  ( $= 0.191$ ) and  $EMPL\_L_{t-1}$  ( $= 0.057$ ) respectively. Further, OSS has a significant ( $p < 0.10$ ) and positive association with  $EMPL\_P_{t-1}$  ( $= 0.094$ ) and  $EMPL\_L_{t-1}$  ( $= 0.030$ ) as shown in Column (5) and (6) respectively. Furthermore, similar to the baseline model, Column (7) and (8) in Panel B show that NAB has a strong, significant ( $p < 0.01$ ) and positive association with both  $EMPL\_P_{t-1}$  ( $= 0.294$ ) and  $EMPL\_L_{t-1}$  ( $= 0.116$ ) respectively. Further, ALB has a highly significant ( $p < 0.01$ ) and negative association with  $EMPL\_P_{t-1}$  ( $= -0.177$ ) and  $EMPL\_L_{t-1}$  ( $= -0.083$ ) as shown in Column (9) and (10) respectively. Therefore, all of these results support the consistency of H1a and H1b.

With respect to experienced employee presence on the board, Column (1) and (2) in Panel B of Table 5.15 show that ROA has a strong, significant and positive association with both  $EXEM\_L_{t-1}$  ( $= 0.006$ ;  $p < 0.01$ ) and  $EXEM\_P_{t-1}$  ( $= 0.028$ ;  $p < 0.05$ ), thereby supporting the positive association between experienced employee directors and MFI financial performance. Furthermore, NAB has a strong, significant and positive association with both  $EXEM\_P_{t-1}$  ( $= 0.562$ ;  $p < 0.01$ ) and  $EXEM\_L_{t-1}$  ( $= 0.103$ ;  $p < 0.01$ ) as shown in Column (7) and (8) respectively. These results also support the consistency of the baseline findings although Column (9) and (10) show that ALB is insignificant and the direction is negative, similar to the baseline model. Therefore, these results also support H2a and H2b.

**Table 5.15 Lag Independent Model****Panel A: Employee Directors and MFI performance.**

VARIABLES	Financial Performance						Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
EMPL_P <sub>t-1</sub>	0.006 (0.006)		0.191*** (0.061)		0.094* (0.054)		0.294*** (0.067)		-0.177*** (0.062)	
EMPL_L <sub>t-1</sub>		0.003 (0.002)		0.057*** (0.020)		0.030* (0.018)		0.116*** (0.021)		-0.083*** (0.020)
Board Size <sub>t-1</sub>	0.008 (0.005)	0.006 (0.005)	0.038 (0.040)	0.003 (0.039)	0.067 (0.043)	0.049 (0.043)	0.212*** (0.050)	0.149*** (0.050)	-0.154*** (0.045)	-0.112** (0.046)
CEO Power <sub>t-1</sub>	-0.003 (0.012)	-0.003 (0.012)	-0.021 (0.031)	-0.021 (0.031)	-0.020 (0.060)	-0.020 (0.060)	-0.199 (0.133)	-0.201 (0.133)	0.146 (0.135)	0.148 (0.134)
Firm Size <sub>t-1</sub>	0.002*** (0.000)	0.002*** (0.000)	0.018*** (0.004)	0.018*** (0.004)	0.017*** (0.004)	0.017*** (0.004)	0.859*** (0.005)	0.858*** (0.005)	0.147*** (0.005)	0.148*** (0.005)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.035** (0.017)	0.035** (0.017)	-0.127*** (0.030)	-0.126*** (0.030)	0.106*** (0.017)	0.106*** (0.017)
Provision <sub>t-1</sub>	-0.051 (0.044)	-0.051 (0.044)	0.593 (0.550)	0.597 (0.550)	-0.032 (0.293)	-0.031 (0.293)	-0.158 (0.317)	-0.148 (0.316)	0.031 (0.321)	0.023 (0.320)
Constant	-0.031*** (0.011)	-0.028** (0.012)	-0.287*** (0.103)	-0.231** (0.104)	0.590*** (0.105)	0.620*** (0.107)	-6.757*** (0.124)	-6.644*** (0.125)	6.629*** (0.108)	6.548*** (0.109)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,176	3,176	3,433	3,433	3,187	3,187	3,516	3,516	3,502	3,502
R-squared	0.077	0.077	0.077	0.077	0.367	0.367	0.923	0.923	0.359	0.360

**Panel B:** Employee Directors' Experience and MFI performance.

VARIABLES	Financial Performance						Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
EXEM_P <sub>t-1</sub>	0.028** (0.011)		0.075 (0.102)		0.138 (0.111)		0.562*** (0.140)		-0.114 (0.126)	
EXEM_L <sub>t-1</sub>		0.006*** (0.002)		0.016 (0.019)		0.029 (0.021)		0.103*** (0.027)		-0.020 (0.024)
Board Size <sub>t-1</sub>	0.008* (0.005)	0.006 (0.005)	0.023 (0.039)	0.018 (0.039)	0.062 (0.043)	0.054 (0.043)	0.199*** (0.050)	0.168*** (0.050)	-0.141*** (0.045)	-0.135*** (0.045)
CEO Power <sub>t-1</sub>	-0.004 (0.012)	-0.004 (0.012)	-0.017 (0.031)	-0.017 (0.031)	-0.022 (0.061)	-0.021 (0.061)	-0.206 (0.140)	-0.202 (0.139)	0.146 (0.137)	0.145 (0.137)
Firm Size <sub>t-1</sub>	0.002*** (0.000)	0.002*** (0.000)	0.020*** (0.004)	0.019*** (0.004)	0.016*** (0.004)	0.016*** (0.004)	0.854*** (0.006)	0.855*** (0.006)	0.146*** (0.005)	0.146*** (0.005)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.001 (0.000)	0.001 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.083*** (0.018)	0.083*** (0.018)	0.035** (0.017)	0.035** (0.017)	-0.126*** (0.030)	-0.126*** (0.030)	0.106*** (0.017)	0.106*** (0.017)
Provision <sub>t-1</sub>	-0.052 (0.044)	-0.052 (0.044)	0.584 (0.549)	0.584 (0.549)	-0.038 (0.293)	-0.038 (0.293)	-0.191 (0.321)	-0.189 (0.321)	0.041 (0.322)	0.040 (0.322)
Constant	-0.024** (0.012)	-0.020 (0.012)	-0.268*** (0.102)	-0.256** (0.105)	0.622*** (0.108)	0.644*** (0.112)	-6.625*** (0.129)	-6.566*** (0.134)	6.601*** (0.112)	6.590*** (0.117)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,176	3,176	3,433	3,433	3,187	3,187	3,516	3,516	3,502	3,502
R-squared	0.078	0.078	0.074	0.074	0.366	0.366	0.923	0.923	0.357	0.357

**Panel C: Employee Directors' Advanced Education and MFI performance.**

VARIABLES	Financial Performance						Social Performance			
	(1) ROA	(2) ROA	(3) ROE	(4) ROE	(5) OSS	(6) OSS	(7) NAB	(8) NAB	(9) ALB	(10) ALB
GREM_P <sub>t-1</sub>	-0.007 (0.009)		-0.027 (0.081)		-0.109 (0.089)		0.900*** (0.120)		-0.907*** (0.111)	
GREM_L <sub>t-1</sub>		-0.002 (0.002)		-0.015 (0.020)		-0.033 (0.021)		0.236*** (0.028)		-0.239*** (0.024)
Board Size <sub>t-1</sub>	0.007 (0.005)	0.007 (0.005)	0.019 (0.040)	0.022 (0.039)	0.052 (0.043)	0.060 (0.043)	0.239*** (0.051)	0.178*** (0.049)	-0.191*** (0.046)	-0.129*** (0.045)
CEO Power <sub>t-1</sub>	-0.003 (0.012)	-0.003 (0.012)	-0.015 (0.031)	-0.015 (0.031)	-0.017 (0.061)	-0.017 (0.061)	-0.192 (0.134)	-0.191 (0.133)	0.145 (0.135)	0.145 (0.134)
Firm Size <sub>t-1</sub>	0.003*** (0.001)	0.003*** (0.001)	0.022*** (0.005)	0.023*** (0.005)	0.022*** (0.005)	0.023*** (0.005)	0.835*** (0.006)	0.829*** (0.007)	0.173*** (0.006)	0.180*** (0.006)
Debt-Equity <sub>t-1</sub>	-0.000*** (0.000)	-0.000*** (0.000)	0.005*** (0.001)	0.005*** (0.001)	-0.001** (0.000)	-0.001** (0.000)	-0.001 (0.000)	-0.001 (0.000)	0.000 (0.000)	0.000 (0.000)
Loan Growth <sub>t-1</sub>	0.010*** (0.002)	0.010*** (0.002)	0.082*** (0.018)	0.082*** (0.018)	0.034* (0.017)	0.033* (0.017)	-0.120*** (0.029)	-0.118*** (0.029)	0.099*** (0.017)	0.097*** (0.017)
Provision <sub>t-1</sub>	-0.051 (0.045)	-0.050 (0.045)	0.589 (0.549)	0.593 (0.549)	-0.027 (0.294)	-0.023 (0.294)	-0.224 (0.313)	-0.247 (0.311)	0.096 (0.314)	0.120 (0.313)
Constant	-0.034*** (0.012)	-0.037*** (0.013)	-0.297*** (0.109)	-0.327*** (0.117)	0.541*** (0.113)	0.500*** (0.121)	-6.352*** (0.131)	-6.120*** (0.142)	6.221*** (0.115)	5.982*** (0.122)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,176	3,176	3,433	3,433	3,187	3,187	3,516	3,516	3,502	3,502
R-squared	0.077	0.077	0.074	0.074	0.366	0.367	0.924	0.924	0.373	0.376

**Note:** One year lag of all the independent variables are taken here (i.e. EMPL\_P<sub>t-1</sub>, EMPL\_L<sub>t-1</sub>). \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. Robust standard errors are in parentheses.

Concerning employee directors' education, the financial performance variables are insignificant as shown in Panel C of Table 5.15. However, with respect to social performance, Column (7) and (8) in Panel C show that NAB has a strong, significant and positive association with both  $GREM\_P_{t-1}$  (=0.900;  $p<0.01$ ) and  $GREM\_L_{t-1}$  (=0.236;  $p<0.01$ ). Further, ALB has a significant ( $p<0.01$ ) and negative association with both  $GREM\_P_{t-1}$  (= -0.907) and  $GREM\_L_{t-1}$  (= -0.239), similar to the baseline results. These results again support H3b.

#### 5.7.5.4 *Alternative Measures of the Dependent Variables and Lag Independent Variables*

This study conducts regression tests by combining the above two alternative methods in one model. For this, the dependent variables are the alternative proxies used to measure financial and social performance, and the independent variables are the one-year lag values of all of the explanatory and control variables used in Table 5.165. The results of this test are laid out in Table 5.16.

Column (1) and (2) in Panel A of Table 5.16 show that FIN has a significant ( $p<0.05$ ) and positive association with  $EMPL\_P_{t-1}$  (= 0.281) and  $EMPL\_L_{t-1}$  (= 0.097). Furthermore, both  $EMPL\_P_{t-1}$  (= 0.286) and  $EMPL\_L_{t-1}$  (= 0.107) have a significant ( $p<0.01$ ) and positive association with NSV as shown in Column (3) and (4) respectively. Likewise, ASB has a highly significant ( $p<0.01$ ) and negative association with both  $EMPL\_P_{t-1}$  (= -0.312) and  $EMPL\_L_{t-1}$  (= -0.012) as shown in Column (5) and (6) respectively. These results support the robustness of H1a and H1b.

Similarly, Column (1) and (2) in Panel B of Table 5.16 show that FIN has a significant and positive association with  $EXEM\_P_{t-1}$  (= 0.510;  $p<0.10$ ) and  $EXEM\_L_{t-1}$  (= 0.111;  $p<0.05$ ). Furthermore, NSV has a significant and positive association with  $EXEM\_P_{t-1}$  (= 0.274;  $p<0.05$ ) and  $EXEM\_L_{t-1}$  (= 0.084;  $p<0.10$ ) as shown in Column (3) and (4) respectively. Further, similar to the baseline regressions,  $EXEM\_P_{t-1}$  (= -0.337;  $p<0.05$ ) and  $EXEM\_L_{t-1}$  (= -0.063;  $p<0.10$ ) have a significant and negative association with ASB as shown in Column (5) and (6) respectively. Therefore, following the baseline findings, these results indicate the robustness of the positive association between experienced employee presence on the board and MFI double bottom line performance.

Lastly, concerning employee directors' advanced education, Column (2) in Panel C of Table 5.16 demonstrates a negative (= -0.096) and weak ( $p<0.10$ ) relationship with  $GREM\_L_{t-1}$ . However, as shown in Column (3) and (4), NSV has a significant and positive association with  $GREM\_P_{t-1}$  (=0.674;  $p<0.01$ ) and  $GREM\_L_{t-1}$  (=0.176;  $p<0.01$ ), similar to the baseline findings. Furthermore, ASB has a significant ( $p<0.01$ ) and negative association with both  $GREM\_P_{t-1}$  (= -1.178) and  $GREM\_L_{t-1}$  (= -0.298). These results suggest that the consistency of the baseline results with other robustness tests, suggesting that graduate

employee presence on the board has a positive association with MFI social performance (H3b).

**Table 5.16 Lag Independent Model with Alternative Proxies of Dependent Variables**

**Panel A:** Employee directors and MFI performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
EMPL_P <sub>t-1</sub>	0.281** (0.129)		0.286*** (0.069)		-0.312*** (0.076)	
EMPL_L <sub>t-1</sub>		0.097** (0.043)		0.107*** (0.022)		-0.120*** (0.026)
Board Size <sub>t-1</sub>	0.195* (0.104)	0.139 (0.103)	0.185*** (0.051)	0.126** (0.050)	-0.038 (0.061)	0.027 (0.061)
CEO Power <sub>t-1</sub>	-0.081 (0.203)	-0.082 (0.203)	-0.274*** (0.095)	-0.276*** (0.095)	0.186 (0.147)	0.188 (0.149)
Firm Size <sub>t-1</sub>	0.064** * (0.010)	0.063*** (0.010)	0.856*** (0.005)	0.855*** (0.005)	0.126*** (0.006)	0.127*** (0.006)
Debt-Equity <sub>t-1</sub>	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth <sub>t-1</sub>	0.218** * (0.041)	0.219*** (0.041)	-0.136*** (0.028)	-0.135*** (0.028)	0.060*** (0.022)	0.059*** (0.022)
Provision <sub>t-1</sub>	-0.088 (0.809)	-0.082 (0.809)	-0.841** (0.347)	-0.832** (0.346)	-1.068*** (0.393)	-1.078*** (0.393)
Constant	- 1.360** * (0.253)	-1.262*** (0.256)	-6.324*** (0.122)	-6.218*** (0.124)	5.800*** (0.141)	5.682*** (0.143)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,140	3,140	3,493	3,493	3,485	3,485
R-squared	0.223	0.223	0.923	0.923	0.209	0.211

**Panel B:** Employee Experience and MFI Performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
EXEM_P <sub>t-1</sub>	0.510* (0.261)		0.274** (0.138)		-0.337** (0.167)	
EXEM_L <sub>t-1</sub>		0.111** (0.050)		0.048* (0.026)		-0.063* (0.033)
Board Size <sub>t-1</sub>	0.182* (0.103)	0.151 (0.103)	0.166*** (0.050)	0.152*** (0.050)	-0.018 (0.061)	-0.000 (0.060)
CEO Power <sub>t-1</sub>	-0.089 (0.202)	-0.088 (0.202)	-0.273*** (0.101)	-0.271*** (0.101)	0.186 (0.146)	0.184 (0.146)

Firm Size $t-1$	0.060** *	0.058***	0.856***	0.856***	0.127***	0.127***
	(0.011)	(0.011)	(0.006)	(0.006)	(0.007)	(0.007)
Debt-Equity $t-1$	0.001	0.001	-0.001	-0.001	-0.002***	-0.002***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Loan Growth $t-1$	0.220** *	0.220***	-0.135***	-0.135***	0.059***	0.059***
	(0.041)	(0.041)	(0.028)	(0.028)	(0.022)	(0.022)
Provision $t-1$	-0.108	-0.109	-0.863**	-0.861**	-1.042***	-1.043***
	(0.806)	(0.806)	(0.352)	(0.352)	(0.394)	(0.394)
Constant	- 1.242** *	-1.154***	-6.259***	-6.234***	5.720***	5.683***
	(0.257)	(0.266)	(0.128)	(0.133)	(0.146)	(0.154)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,140	3,140	3,493	3,493	3,485	3,485
R-squared	0.223	0.223	0.922	0.922	0.207	0.207

**Panel C:** Employee Directors' Advanced Education and MFI Performance.

VARIABLES	Financial Performance		Social Performance			
	(1) FIN	(2) FIN	(3) NSV	(4) NSV	(5) ASB	(6) ASB
GREM_P $t-1$	-0.295 (0.207)		0.674*** (0.125)		-1.178*** (0.129)	
GREM_L $t-1$		-0.096* (0.050)		0.176*** (0.029)		-0.298*** (0.031)
Board Size $t-1$	0.152 (0.104)	0.174* (0.102)	0.199*** (0.052)	0.154*** (0.050)	-0.079 (0.061)	0.000 (0.060)
CEO Power $t-1$	-0.073 (0.202)	-0.073 (0.202)	-0.267*** (0.100)	-0.267*** (0.100)	0.179 (0.135)	0.179 (0.131)
Firm Size $t-1$	0.078*** (0.012)	0.083*** (0.012)	0.839*** (0.007)	0.834*** (0.007)	0.159*** (0.007)	0.165*** (0.007)
Debt-Equity $t-1$	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.002*** (0.001)	-0.002*** (0.001)
Loan Growth $t-1$	0.216*** (0.041)	0.215*** (0.041)	-0.130*** (0.028)	-0.129*** (0.028)	0.050** (0.022)	0.048** (0.022)
Provision $t-1$	-0.074 (0.809)	-0.057 (0.810)	-0.891*** (0.345)	-0.906*** (0.345)	-0.988** (0.390)	-0.964** (0.389)
Constant	-1.491*** (0.265)	-1.620*** (0.280)	-6.020*** (0.131)	-5.847*** (0.142)	5.269*** (0.149)	4.992*** (0.163)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,140	3,140	3,493	3,493	3,485	3,485
R-squared	0.222	0.223	0.923	0.923	0.225	0.228

**Note:** \*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level respectively. Robust standard errors are in parentheses.

Taken together, the results of the different robustness tests suggest that the predicted

relationships between MFI financial and social performance variables and employee presence on board, as well as with their experience, do not violate what is predicted in the hypothesis and what is found in the baseline regressions. Rather, the robustness tests show that the results are, generally, more strongly significant than the baseline results when different measures of the dependent and explanatory variables are used. However, the study does not identify a consistent association between employee directors' advanced education and MFI financial performance, although the association with social performance is positive.

## **5.8 Discussions and Conclusions**

### **5.8.1 Discussion**

This study investigates the relationship between employee presence on the board and MFI performance. Furthermore, the study investigates whether employee directors' human capital attributes have any influence on MFI financial and social performance. For this, the study uses the employee directors' experience in the microfinance industry as the specific human capital attribute. Furthermore, as a general human capital attribute, the study uses the employee directors' advanced education as the predictor of MFI performance. The study uses the data from Bangladesh which is considered to be the pioneer of the modern version of the microfinance movement and the most mature microfinance market in the world.

The findings of the study suggest that employee presence on the board is vital for both the economic sustainability and social performance of MFIs. Although the findings are consistent with corporate governance literature (Fauver & Fuerst, 2006; Lin et al., 2018), this evidence is contradictory with existing microfinance literature (Hartarska, 2005; Hartarska & Mersland, 2012). It may be due to variations in the context of the study, in particular, a difference in socio-economic background, historical antecedents, culture, and social bonding, demographic conditions, and legislative frameworks (Ahlin et al., 2011; Lerpold, 2012). Besides, the MFIs operating in Bangladesh generally work as NGOs, which are mostly dependent on external financiers, to whom they must show satisfactory profits and a strong social mission. Further, MFIs have different operational features such as relationship-based lending practices, credit provided without collateral, and frequent collection of repayments, for which they are mostly dependent on their front line and mid-level employees. Hence, employees tend to have better ideas to share with the board. Therefore, they can contribute to the board's decision making process, thereby having a positive impact on the firm's financial and social performance.

Furthermore, in accordance with the mainstream literature (e.g., Dyke et al., 1992; Soriano & Castrogiovanni, 2012), the findings of this study suggest that employee presence on the board has a positive effect on MFI financial and outreach performance, particularly

when the employee director has microfinance specific knowledge and skills. The positive outcome may be due to the following reasons. Experience in similar activities and similar firms enable an individual to deal with different and complex situations more efficiently, as they better understand firm-specific and task-specific processes and systems (Chowdhury et al., 2014) and they are able to identify the best possible way to perform complex tasks. Further, they have a greater understanding of the issues faced by the firm. Hence, when including employees on the board, they can share their experience with the other board members which may enhance the MFI's performance.

Lastly, although the baseline findings and the robustness tests report a negative association between employee directors' advanced education and MFI financial performance, the evidence of the relationship is weak. After accounting for endogeneity, the study identifies a significant ( $p < 0.05$ ) positive association between ROA and both the log and ratio measures of the presence of graduate employees on the board. However, with respect to social performance, this study identifies strong evidence of the positive impact of graduate employee presence on the board on the breadth and depth of outreach (H3b). A possible explanation for such influence is, as stated earlier, the fact that higher education aids intellectual development (Singh, 2007) and enables greater development of an individual's cognitive ability (Dalziel et al., 2011). It improves their capacity for innovation and flexibility, as well as their ability to adapt the firm to changing environments (Haber & Reichel, 2007). Hence, they can quickly apprehend client characteristics and needs. The board can use this skill to better understand their stakeholders, in particular, their clients and the market. It improves their relationships with clients and enables them to reach more clients at the bottom of the pyramid. In this way, the presence of graduate employee directors improves the social outreach of the firm.

## **5.8.2 Implications/Contributions**

The findings of the study contribute to the literature relating to the impact of employee presence on the board on firm performance. Although the existing microfinance literature is not in favour of employee presence on the board, the findings of this study suggest that employee presence on the board cannot be ignored. Another significant contribution lies in the fact that this study is perhaps the first to explore the influence of employee directors' microfinance experience, as a specific human capital attribute, on MFI performance. Likewise, this study is the first to explore the influence of employee directors' advanced education, as a general human capital attribute, on MFI double bottom line performance. Further contributions will be discussed below.

### *5.8.2.1 Theoretical Implications*

The study contributes to the literature on the theory of corporate governance. In

responding to the literature (e.g., Buck & Shahrim, 2005), the study tests the theory of corporate governance from a new perspective. The study proposes that in the context of microfinance, the performance of the firm can be better explained by the integration of three corporate governance theories: agency theory, stakeholder theory, and resource dependence theory. Primarily, agency theory acts as a guiding framework for examining the relationship between employee directors on the board and firm performance. According to agency theory (Fama & Jensen, 1983b; Jensen & Meckling, 1976), the primary function of the board is to monitor management to ensure positive firm outcomes. Based on this theory, following Lin et al. (2018) and Fauver and Fuerst (2006), this study favours employee presence on the board for effective monitoring.

Furthermore, the study suggests that agency theory alone is not sufficient to explain the relationship between employee presence on the board and firm performance. By using outreach performance as the measurement of the second bottom line mission, the study extends the existing governance mechanism to a stakeholder-based structure, considering the clients as the critical stakeholders. Contrary to the negative view (Hartarska, 2005; Hartarska & Mersland, 2012), this study suggests that employee directors are essential to achieving maximum outreach to underprivileged clients. This positive outcome stems from the idea that employee presence on the board serves the interests of the relevant stakeholders. As the employees are at the frontline of the MFI-client relationship, they have a better understanding of the issues of the clients (Agier & Szafarz, 2013b; Canales & Greenberg, 2015). When such employees are present on the board, they provide better input of knowledge to the board. In addition, employee presence on the board demonstrates to the other employees that they are not undermined and that their views are respected by the board (Deci & Ryan, 1985). Hence, they develop an intrinsic motivation to work for the firm (Frey, 1997). Therefore, their inclusion in the board could play a positive role in board effectiveness and firm performance. Nevertheless, the study also considers a resource-based view of the firm, suggesting that employee directors are beneficial for MFI performance, particularly when they bring specific human capital to the board.

Furthermore, as employees have similar interests to the external fund providers, employee presence on the board improves the MFIs access to these funds. In addition, experienced employees have a better understanding of firm-specific internal information when compared to external and minority shareholders. Hence, such a human capital attribute provides a better input of ideas into the board. Using such skills, they can develop ways to better serve clients and to reach more clients. In this way, employee directors can also reduce the costs of operations and increase firm productivity. Further, the study suggests that employee directors' advanced education is beneficial for the social outcomes of the firm.

Therefore, this study suggests that employee directors are beneficial for MFI performance, particularly when they bring specific human capital to the board. Hence, the study suggests that, in addition to the agency and stakeholder view, it is essential to consider a resource-based view of corporate governance. By integrating the theoretical perspectives of agency theory, stakeholder theory, and the resource dependence theory, this study is the first to examine employee presence on the board, combined with their experience and general education as human capital resources, on microfinance double bottom line performance.

#### *5.8.2.2 Methodological Implications*

This study questions and refines the generalized assumptions of the association between corporate governance and firm performance, thereby responding to calls for research on governance issues from a specific contextual setting (e.g., Heyden et al., 2015; Jackson & Deeg, 2008). For this, the study investigates governance in microfinance using the context of Bangladesh, the pioneer of the modern microfinance movement. As the role of employee directors has not yet been explored in this market through a contextual study, the present study examines this issue. For instance, although the existing microfinance literature suggests a negative relationship, this study identifies a positive relationship between employee directors and firm financial and social performance. The present study mitigates the concerns related to cross-country studies, such as endogeneity arising from country-specific variables and omitted variables issues (Bona-Sánchez et al., 2014). Further, by using a specific context, this study is the first to explore the influence of employee directors' microfinance experience and advanced education, as critical human capital attributes, as predictors of MFI performance. The corporate governance systems in MFIs in Bangladesh are well established, although governance practices in commercial corporations and banks remain weak, the rule of law in Bangladesh tends not to be enforced at a high level. As MFIs in Bangladesh generally operate as NGOs or private firms, they lack the presence of general shareholders, and they are significantly dependent on external funds. Therefore, MFIs must firmly adhere to governance practices and satisfy the interests of critical stakeholders. Further, as employees are the key stakeholders who have close interactions with clients, their representation on the board is essential for MFI double bottom line performance. Based on this, through the contextual study, the present study suggests that the relationship between board governance, such as employee presence, and firm performance varies between different economic and operational environments.

Similarly, this study uses a unique and perhaps the largest microfinance dataset from a single country. Although Hartarska (2005) uses data from Central and Eastern European markets, and Hartarska and Mersland (2012) use cross-country data, the data in these studies

are small and cover only a few years of observations.<sup>57</sup> This study uses a full dataset from all NGO MFIs operating in Bangladesh between 2007 and 2015. Access to the data allows the researcher to investigate the employee directors' human capital attributes as the predictors of MFI performance. Therefore, as no previous studies use data from Bangladesh, this study provides a unique methodological contribution.<sup>58</sup>

### 5.8.2.3 Policy Implications

The findings of this study also have implications for policy and practice. Primarily, the study implies that, in order to increase the social outreach and economic sustainability of a firm, the regulators and the policy-making bodies must think about the role of employees on the board before developing corporate governance guidelines for MFIs. The regulatory authority can make it obligatory to include employees on MFI boards. The results of this study demonstrate that employee presence on the board is vital for MFI performance. Due to their financial interest in the firm, they monitor management and their peers and bring critical internal information (Fauver & Fuerst, 2006), client demand and other customer related issues to the board, which can reduce information asymmetry and agency costs.

Similarly, this study suggests that regulatory authorities need to develop a guideline to align employee directors' human capital attributes with the firm's strategic needs. It is because not all of the human capital attributes are essential for MFI double bottom line performance. The MFI supervisory authority needs to identify which bottom line objective has priority and what human capital attributes can fulfil that objective.

### 5.8.3 Limitations and Future Research Directions

Although this study identifies that employee presence on the board has a significant impact on MFI double bottom line performance, the study is not free from limitations. First, the study explores the influence of employee presence on the board to MFI performance. Further, the study explores the impact of employee directors' on firm performance when the employee directors bring specific and general human capital attributes to the board. However, the study does not examine how employee directors and their human capital attributes

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<sup>57</sup> Hartsrska (2005) uses two years' (2001 and 2002) survey dataset and covers only 110 observations from 34 MFIs. Hartarska and Mersland (2012) cover 155 MFIs from 45 countries (2000-2007); Mori and Mersland (2014) use the data from the same source (379 MFIs operating in 73 countries).

<sup>58</sup> The contribution is unique because the MFIs generally do not publish the director related detailed data to the public. Thanks to the MRA officials for providing access to the archival records to hand collect the employee board data. Without detailed access to the director related information, it is difficult to explore the hypothesized relationship between the employee presence as well as their human capital attributes and MFI double bottom line performance.

influence corporate governance? Further research may wish to address this issue.

Second, this study only considers the general education of employee directors in predicting MFI firm performance. The study does not consider specific forms of education that the firm may require. Further research may wish to examine the impact of employee directors' specific education on firm performance. Furthermore, the study identifies an inconsistent association between employee directors' general education and financial performance. Further research may explore the cause of such an inconsistent finding.

Third, the data used in this study reports a small proportion of employee presence on the board only. By using this data, the optimum proportion of employee presence on board is left unanswered, and the impact of an employee director presence beyond that specific limit on financial and social performance is unknown. This possibility also applies to the other two explanatory variables: employee directors' microfinance experience and advanced education. Further research may explore such a possibility of using a detailed dataset.

Finally, this study uses data from a single country: Bangladesh. Further, the study focuses on a specific industry context. The influence of employee presence on the board and their human capital attributes on firm performance may be different in other institutional settings and other operating environments. Hence, the usual caveat applies before generalizing the findings: the results of this study may not be replicable in other industries or countries. Further research may benefit from refining the corporate governance theory by exploring these issues in different institutional and macro-environmental contexts.

#### **5.8.4 Conclusion**

This study empirically examines the relationship between employee presence on the board and MFI double bottom line performance using the context of Bangladesh, the most mature and one of the largest microfinance markets in the world. The study suggests that employee representation on the board has a positive association with MFI financial and social performance. Furthermore, this study investigates the relationship between employee directors' microfinance experience and MFI double bottom line performance. The study reports a positive association of those human capital attributes with MFI financial and social performance. Equally, the study reports a positive relationship between employee directors' advanced education and MFI social performance. However, the study finds inconsistent evidence on the association between employee directors' advanced education and MFI financial performance. Therefore, this study suggests that employee presence on the board is important for the MFI to ensure its double bottom line performance. However, it is essential to consider what human capital attributes the employee directors bring to the board before they are included on the board.

## Appendix

**Table A5. Descriptions and Measurement of the Variables used in the Model**

Variable	Description and Measurement
<i>Dependent Variables:</i>	
ROA	Return on Assets = (Net Operating Income – Taxes)/Average Total Assets
ROE	Return on Equity = Net Income/Total Equity. It measures the income attributable to the equity holders after payment of all current obligations.
OSS	Operational Self-sufficiency = Operating Revenue/ (Operating expenses + Financial expenses + Loan loss Provisions). Measures the ability of the MFI to cover its costs from the operating revenues.
NAB	The breadth of outreach performance. Measured as the number of active borrowers (logarithmic) who have an outstanding loan balance at the MFI or is yet paying the unpaid portion of the credit to the MFI. The larger (more) the NAB, the more is the breadth of outreach.
ALB	The depth of outreach performance. Measured as the average loan balance per borrower (logarithm). The smaller the average loan size, the deeper is the outreach to the poor borrowers.
<i>Explanatory Variables:</i>	
EMPL_L	Employee representation on the board. Measured as log (1 + Total employee directors on the board).
EMPL_P	The proportion of employee directors to total directors.
EXEM_L	Employee directors who have at least two years of experience in the same MFI or similar other MFI. Measured as log (1 + Total experienced employee directors).
EXEM_P	The proportion of experienced employee directors to total directors on the board.
GREM_L	Employee directors who have at least graduation from a reputed university or college. Measured as log (1 + Total employee directors with graduation).
GREM_P	The proportion of employee directors having at least graduation to total directors.
<i>Controls:</i>	
Board Size	Total number of board of directors (logarithmic)
CEO-Chair	Dummy (equals one) if the CEO and Chair is the same person, zero otherwise.
Firm Size	Size of the firm, measured as the amount of loan portfolio (logarithmic)
Debt-Equity	Total debt to total equity. Equity represents the residual interest of the assets after the payment of all the obligations. Debt represents both the short term and long term debts.
Loan Growth	Growth of the gross loan portfolio = (Loan Size <sub>t</sub> - Loan Size <sub>t-1</sub> )/ Loan Size <sub>t-1</sub>
Provision	The percentage of the loan portfolio set aside as the allowance for the loan losses due to the difficulty to recover the defaulted loan.

# **Chapter 6                      Competition in Microfinance and Microfinance Institutions' Double Bottom Line Performance**

## **6.1            Chapter Summary**

With unprecedented growth, competition in the microfinance sector has intensified in recent years. However, little is known about the impact of competition on MFI performance. This paper empirically investigates the impact of competition on the double bottom line performance of MFIs by first empirically estimating the Boone indicator, as the proxy to measure competition, and using it as the determinant of MFI performance. Contrary to neo-classical competition literature, this study anticipates that rather than improving firm performance, competition will deteriorate the economic sustainability of MFIs and reduce their breadth and depth of outreach to poor clients. Consistent with this idea, using a global dataset of 1,118 MFIs operating in 59 countries (between 2005 and 2014), this study concludes that competition has an adverse effect on the economic sustainability and social performance of MFIs. These findings are robust when the study uses the Lerner index as an alternative proxy to measure competition, and when the sample is restricted to commercial MFIs. Moreover, the robustness tests suggest that competition pushes the MFIs to search for alternative market segments, such as female clients.

## **6.2            Introduction**

Microfinance is now widely recognized as an alternative financing mechanism for serving people who lack access to formal financial services (Armendáriz & Morduch, 2010; Collins et al., 2009; Morduch, 1999; Yunus, 2013). MFIs have shown considerable success in achieving financial sustainability as well as serving poor people (Cull et al., 2009; Galema & Lensink, 2009; Lopatta & Tchikov, 2016). With this success, the sector has experienced a substantial change in the number of participants, competitors, client outreach and product offerings in last three decades (D'Espallier et al., 2017; Dowla & Alamgir, 2003; Robinson, 2001). Many MFIs are now commercialized their practice and are working as profit-oriented financial institutions, even though the program was initially established with non-profit motives (Brière & Szafarz, 2015; Jia et al., 2016). Moreover, several commercial banks have now entered the microfinance market by providing funds to MFIs or by downscaling their operations to serve poor people at the bottom of the pyramid (D'Espallier et al., 2017; Vanroose & D'espallier, 2013). Furthermore, many social investors, development organizations and commercial investors are providing financial support to MFIs in the form of concessional funding, subsidies, or commercial investments (Morduch, 1999; Robinson, 2001). All of this results in a massive influx of funds and the entrance of many new players into this fast-growing market (Assefa et al., 2013).

Despite the surge in the competition, research on the effect of such competition on both the economic sustainability and social performance of MFIs is scarce. This study investigates this issue using a cross-country dataset.

This issue is vital for microfinance players, policy makers and academics due to the following reasons. **First**, MFIs generally provide financial services to poor and low-income earners without formal collateral and operate in an informal economic environment (Bourjade & Schindele, 2012; Shapiro, 2015; Vanroose & D'espallier, 2013). Their borrowers' income is typically small and irregular and mostly seasonal (Collins et al., 2009). Hence, in the absence of formal collateral, it is difficult for the MFIs to recover credit from their clients as the risk and the cost of collection are high, particularly if the borrowers cannot repay the credit on time (Agier, 2012; Bos & Millone, 2015; Labie, Laureti, & Szafarz, 2017; Stiglitz & Weiss, 1986). **Second**, MFIs provide a small amount of credit to poor clients; the repayments are frequent and by way of small installments (Armendariz & Labie, 2011; Armendáriz & Morduch, 2010; Morduch, 1999). The credit officers have to collect the repayments from the clients, which requires increased staff involvement (Agier, 2012; Fuentes, 1996). The MFI managers and credit officers are always cautious about credit collection and put more effort into collecting repayments (Armendáriz & Morduch, 2010; Garmaise & Natividad, 2010; Godquin, 2004). Therefore, the industry is very labour intensive, and the operating cost per dollar of a loan is high. **Third**, the capital and liability structure of the MFIs is different from other commercial corporations and banks (Cull et al., 2009; Khachatryan, Hartarska, & Grigoryan, 2017; Robinson, 2001). This difference is because, except for commercial MFIs which have entered the capital market and COOPs, most MFIs are dependent on external funds (Ashta & Hudon, 2012; Mersland, 2009). They, therefore, have to fulfill the fund providers' requirements and have to ensure the timely repayment of external funds. **Fourth**, with unprecedented growth in market participants and the growth of loan portfolios, many MFIs follow aggressive lending techniques, which results in borrower over-indebtedness (Guha & Chowdhury, 2013; Sriram, 2010; Vogelgesang, 2003). As a result, the reaction from the borrowers has increased in some countries. The "no-pago" movement in Nicaragua (De Quidt et al., 2012) and over-indebtedness and rate of farmer suicide in the Andhra Pradesh of India (Guha & Chowdhury, 2013; Hossain, 2013b) are a few examples of borrower reactions, which increase the risk of microfinance sustainability.

**Fifth**, the regulatory environment for the microfinance industry in most countries remains underdeveloped (Labie & Mersland, 2011). With an increase in competition and borrower reactions, many countries have attempted to develop regulatory requirements for the microfinance industry, in which the MFIs have to operate. **Finally**, MFIs have a dual mission: providing financial services to poor people at the bottom of the pyramid and self-sustainability (Armendáriz & Morduch, 2010; Cull et al., 2007; Morduch, 1999). Focusing on the social

mission only places pressure on the financial sustainability of MFIs. Changes in focus from 'poverty lending' to financial sustainability only is not a feasible solution to poverty finance. The MFIs have to balance between these two competing objectives (Morduch, 1999; Quayes, 2012). In order to achieve these objectives, microfinance participants and policymakers need to understand the extent of competition in the microfinance market and the influence of such competition on the economic sustainability and social mission of MFIs.

Neo-classical competition literature (Aghion & Howitt, 1992; Hart, 1983; Machlup, 1967; Nickell, 1996; Schmidt & Tyrell, 1997) suggests that when the market is not competitive, managers are more likely to enjoy monopoly rent through managerial slack and minimum effort. They advocate the importance of competition to improve firm productivity and efficiency. For instance, the literature (e.g., Hart, 1983; Winter, 1971) suggests that competition is a source of discipline for managers to reduce managerial slack and to minimize the cost of operations. In these circumstances, competition acts a natural selection mechanism for the firms through which the firms using inefficient technologies either search for an efficient technology to survive or exit the market when competition inhibits their ability to earn monopoly rents (Winter, 1971). Based on this idea, traditional competition literature (e. g., Hart, 1983; Nickell, 1996) suggests that competition has a positive association with firm performance by placing increased pressure on managers to decrease costs, reduce production slack, ensure efficient use of limited resources and even find ways to develop efficient lending technologies. Also, traditional competition literature (Nickell, Nicolitsas, & Dryden, 1997; Spence, 1984) suggests that competition has a positive benefit for clients by reducing production costs, improving firm efficiency and reducing the price of goods and services.

A similar impact also occurs in the case of the microfinance market. However, the theoretical and empirical literature on the impact of competition on MFI performance is scarce. The few studies that do exist have mixed and conflicting evidence on the impact of competition. Although Besley and Ghatak (2005) suggest that competition increases overall efficiency in mission-driven organizations, and Mersland and Strøm (2009) suggest that competition improves MFI performance through a positive impact on portfolio yield, Assefa et al. (2013) suggest that competition is responsible for deteriorating portfolio return of MFIs. Likewise, while Navajas et al. (2003) argue that competition improves outreach performance, Assefa et al. (2013), and McIntosh et al. (2005) suggest that competition deteriorates MFI outreach. Further, in opposition to traditional competition literature and Navajas et al. (2003), microfinance literature (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005; Vogelgesang, 2003) suggests that competition adversely affects microfinance borrowers by enabling them to take out multiple loans thereby making them over-indebted. However, previous studies predominantly cover MFI social outreach performance from the supply (institutional) side (Assefa et al., 2013;

Navajas et al., 2003) and theoretically on the demand (borrower or client) side (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005). Although Assefa et al. (2013) empirically investigate the impact of competition on the repayment of loans, no current research directly measure the impact of competition on MFI economic sustainability. Hence, little is known about the impact of competition on firm performance.

Moreover, the proxies of competition which are used in previous literature are not entirely appropriate for MFIs due to the distinctive characteristics of MFIs in comparison to traditional commercial corporations and banks. For instance, Mersland and Strøm (2009) use a self-constructed measure of the competitive environment in the economy, not competition in the microfinance industry. Assefa et al. (2013) use the Lerner index based on the price-cost margin, which has limited applicability to microfinance as all MFIs are not -profit oriented. Other studies have not used any other measures of competition although they investigate the impact of competition on client outreach or repayment performance. Hence, previous studies neglected to measure economic sustainability as the outcome of the competition. Against this backdrop, the present study empirically investigates the impact of product market competition in the microfinance industry on MFI double bottom line performance. In order to examine its impact on MFI financial and social performance, the study uses a more recent and appropriate measure of competition for the microfinance industry.

As opposed to the neo-classical competition literature, the first hypothesis proposes that competition has a negative association with the economic sustainability of MFIs. This hypothesis stems from the idea that when competition in the microfinance market increases due to an influx of funds and the entrance of new participants, the MFIs follow aggressive lending practices to reach more borrowers and retain their existing market share. It relaxes the MFIs' restrictive lending methodology, and borrowers take this opportunity to obtain multiple loans from different players (Guha & Chowdhury, 2013; McIntosh & Wydick, 2005) which often leads to them becoming over-indebted. Over-indebted clients fail to repay loans when they cannot match their income with the required repayment schedules (Jia et al., 2016). In the absence of formal collateral, and due to the problem of information asymmetry and moral hazard, the possibility of loan default increases (Hoff & Stiglitz, 1997). In these circumstances, the enforcement costs for collecting default loans increases and portfolio quality deteriorates as the risk of portfolio loss increases (Assefa et al., 2013). The MFIs' operating costs, then increase as they experience higher enforcement costs to recover defaulted loans (Hoff & Stiglitz, 1997). Also, MFI field level staff, as well as managers, have to use more effort to monitor existing credit clients and to evaluate new credit applicants (Agier, 2012; Guha & Chowdhury, 2013). Therefore, the cost per dollar of the loan increases (Garmaise & Natividad, 2010). Further, increased competition reduces the MFIs' interest rate margin (as the costs of funds increases) (Ashta & Hudon, 2012; Bogan, 2012)

and the lending rate to the borrower decreases. Such an increase in the cost of funds is due to the increasing demand for funds. Further, the decrease in lending rate is due to an increase in the number of participants offering a competitive rate to borrowers. It may adversely affect MFI financial performance.

Likewise, when competition increases, the self-enforcement mechanism to repay the loan decreases, and the repayment risk increases (Dixon, Ritchie, & Siwale, 2007; Hossain, 2013b; Labie et al., 2017; Mader, 2015; Vogelgesang, 2003). This change is due to weak client screening mechanisms (Guha & Chowdhury, 2013), the presence of information asymmetry (Armendáriz & Morduch, 2010) and the shift in the lending methodology from group-based lending to individual lending (Navajas et al., 2003). In order to overcome this problem, MFIs try to lend to wealthier borrowers by providing large loans according to the borrowers' requirements (Agier, 2012; Dixon et al., 2007). Further, the MFIs try to reduce operating costs per dollar of the loan. On this backdrop, this study also hypothesizes that competition decreases the depth of outreach of the MFI by shifting their focus from the less profitable poorer borrowers to wealthier borrowers. Also, the pressure on the MFI to reduce operating costs and to improve the portfolio quality and firm performance pushes the MFI to monitor clients more carefully. It may result in a decline in the number of poor clients in the MFI portfolio. Based on this, this study also anticipates that competition adversely influences the MFIs' breadth of outreach performance.

In order to empirically test the hypotheses, the study used a dataset from the MIX MARKET that consists of 1,118 MFIs operating in 59 countries across ten years (2005 to 2014). The study first develops the Boone indicator (Boone, 2008), a recently improved proxy to measure the degree of competition, and uses it as the determinant of MFI double bottom line performance.

The results of the panel data analysis demonstrate strong evidence of the impact of competition on microfinance double bottom line performance. The study highlights that when the degree of competition increases, operational self-sustainability (OSS) and financial self-sustainability (FSS) both decrease. Further, the robustness tests suggest that with an increase in the level of competition, the profitability of the MFIs (such as ROA and portfolio yield) decreases, and results in less financial stability (z-score). The findings of this study contradict neo-classical competition literature, as this study suggests that, rather than increasing firm financial performance, competition in the microfinance market places more pressure on economic sustainability. The findings also suggest that an increase in the degree of competition has a negative association with the breadth of outreach, and in some cases, the depth of outreach. Further, the sensitivity tests suggest that, due to the negative impact of competition on outreach performance, the MFIs try to reach alternative client segments. Hence, the results suggest that competition deteriorates MFIs' social performance by minimizing their ability to serve poorer

borrowers at the bottom of the pyramid. Additionally, the impact on the breadth of outreach performance indicates that competition results in a loss to some of the poor borrowers.

This study contributes to the current debate in competition literature in several ways. First, the study goes beyond the demand side to the supply side. Although the literature (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005) measures the impact of competition on the borrowers (demand side), this study covers both the economic sustainability and social performance of MFIs (from the institutional side) as the outcome of the competition. Second, to measure the impact of competition on economic sustainability, this study is the first to use OSS, FSS, and ROA, the commonly used measures of MFI outcomes, in other microfinance and corporate governance studies. This study goes beyond the research of Assefa et al. (2013) and adds these variables as the measure of MFI economic sustainability. Also, this study first uses the Z-score to evaluate the solvency of the MFIs, a commonly used measure of solvency in the banking industry. Similar to the banks, most MFIs work as a financial intermediary by accepting clients' deposits and using the deposits to providing loans (Armendáriz & Morduch, 2010; Dowla & Alamgir, 2003). The solvency of the financial intermediaries is essential to overcome the problem of "bank run".

Third, this study is the first to use the Boone indicator as the proxy to measure competition. Although Assefa et al. (2013) use the Lerner index, that index can be misleading for MFIs, which are non-profit oriented, because the Lerner index is based on a price-cost margin, which is only suitable for profit-oriented and commercial MFIs. Hence, the sample of their study is limited to commercial MFIs. Although Kar (2016) uses ROA to measure the Boone indicator, his measure is also unsuitable for non-profit MFIs. In order to overcome this problem, in following Tabak et al. (2012), this study improves the original Boone indicator by considering the market share and marginal costs in its estimation as MFIs, particularly non-profit MFIs, prioritize increasing market share or outreach targets rather than increasing their profit margin. In the estimation of the Boone indicator, the literature (Tabak et al., 2012; van Leuvensteijn, Bikker, van Rixtel, & Sørensen, 2011) assumes that an increase in competition will cause the MFIs to increase their efficiency, which the firms can transfer to their clients either through decreasing prices or increasing market shares. Fourth, by using market share in the Boone indicator estimation, this study covers all MFIs in the sample. Therefore, this study uses perhaps the largest and most recent dataset to measure the degree of competition and its association with microfinance performance.

The structure of this chapter is as follows. Section 6.3 reviews the literature and develops the hypotheses; section 6.4 outlines the research methodology; section 6.5 presents the empirical results and section 6.6 concludes the study.

## **6.3 Literature Review and Hypothesis Development**

### **6.3.1 Competition in the Microfinance Market**

During the 1970s and 1980s, the microfinance market was a pure monopoly. However, the market has experienced unprecedented growth in the last three decades (Vanroose & D'espallier, 2013). The primary driver of this growth is the support from development agencies and social investors to finance poor and low-income earners (Ahlin et al., 2011; Ghosh & Van Tassel, 2011). As MFIs promote their mission of serving poor people to eradicate poverty, social investors and donors find this mission appropriate to fulfill their purpose (Ghosh & Van Tassel, 2011; Hudon & Sandberg, 2013). MFIs also focus on institutional sustainability (Amersdorffer, Buchenrieder, Bokusheva, & Wolz, 2015; Hermes et al., 2011; Schreiner, 2002). Due to the appeal of the microfinance program as a way to fight against poverty, many social investors, development organizations and donor agencies provide financial support to MFIs in the form of donations, grants, concessional funding and subsidies (Cull et al., 2009; D'Espallier et al., 2017; Ghosh & Van Tassel, 2011). Further, some MFIs receive support from government organizations and policymakers to establish themselves and expand their operation to serve poor people. Simultaneous patronization from development agencies and the government has motivated many incumbents to enter the microfinance market (Assefa et al., 2013).

As MFIs work in an informal economic environment (Armendariz & Labie, 2011; Armendáriz & Morduch, 2010), their operating costs are high due to higher operating costs per dollar of loan and savings facilities provided to their clients (Amersdorffer et al., 2015; McIntosh et al., 2005). These make it difficult for some MFIs to sustain their organization without ongoing subsidies (Hudon, 2010). However, in the last few years, subsidized funding to MFIs has decreased as the government and development agencies continuously reduce their funding (Cull et al., 2009; Galema & Lensink, 2009; Hudon & Sandberg, 2013). Further, there is an argument that long-term support to MFIs in the form of grants or subsidies is not suitable for the long-term sustainability of MFIs (Hudon & Traca, 2011). Hence, MFIs must find their own source of financing from the capital market or institutional investors. Access to these types of funding requires the MFIs to show consistent financial sustainability and generous profits to the investors (Ashta & Hudon, 2012; Cobb et al., 2016; Khachatryan et al., 2017). In recent years, many MFIs have shown success in achieving financial sustainability and high repayment performance by offering a competitive rate of return to commercial investors. Due to the attraction of these successful participants, many commercial investors are now interested in offering funds to MFIs.

Simultaneously, many non-profit MFIs have been transformed into commercial MFIs and have thus entered the capital market to grow their asset base and loan portfolio (Brière & Szafarz, 2015). Hence, a great deal of funding has been fuelled into this industry. Moreover,

some commercial banks have entered the microfinance market by either providing funds to MFIs or by downscaling their operations to serve people at the bottom of the pyramid (Assefa et al., 2013; Cull, Demirgüç-Kunt, & Morduch, 2014; D'Espallier, Hudon, & Szafarz, 2013). This results in a massive influx of funds to the market, and the entrance of new participants (Assefa et al., 2013). Although the market was initially a monopoly, with the growth of the market and loan portfolios of participants, the degree of competition in the microfinance market has intensified in recent years (Ahlin et al., 2011; Assefa et al., 2013; Ghosh & Van Tassel, 2011).

The MIX Market global outreach and financial performance benchmark report (2015) acknowledges that in some developing countries in South Asia (such as, India, Bangladesh, Vietnam and Cambodia), Latin America (Mexico, Peru, Colombia, and Bolivia) and Africa (Kenya, Uganda and Morocco), microfinance penetration is high. However, empirical research on competition in the microfinance sector is scarce. In the case of the banking industry, many indirect approaches have been used to measure competition (Kar, 2016), similar to the microfinance industry. In the manufacturing industry, the Herfindahl-Hirschman Index (HHI) (Herfindahl, 1950; Hirschman, 1980) is widely used to investigate the degree of competition. The HHI is based on the structure-conduct-performance (SCP) paradigm and considers the relative size and distribution of all firms in the economy. The SCP establishes a causal relationship between the structures of the market and the performance of the industry (Berger & Hannan, 1998; Lloyd-Williams, Molyneux, & Thornton, 1994). The larger share a firm has in an economy, the lower the degree of competition is, and the more weight the HHI carries (Berger & Hannan, 1998). In the microfinance industry, Olivares-Polanco (2005) uses the HHI as the outcome of microfinance commercialization by 28 Latin American MFIs. However, the HHI lack proper support from macroeconomic theoretical perspectives (Bikker & Haaf, 2002a, 2002b; Claessens & Laeven, 2004; Delis, Staikouras, & Varlagas, 2008). This lack of support is because the association between concentration and competition is not straightforward; a higher concentration does not always indicate a lack of competition (Bikker & Haaf, 2002a).

Also, the non-structural approach follows the neo-empirical industrial organization (NEIO) framework under which competition is measured as the by-product of price and output determination equations (Tabak et al., 2012). Using the NEIO approach, Panzar and Rosse (1987) H statistics (P-R H) measures competition as the extent to which changes in the factor input prices influence the equilibrium revenue of the firms (Xu, Rixtel, & Leuvensteijn, 2014). A more variation in cost affects the prices, the more competitive the market is. In the case of microfinance, Kar and Bali Swain (2017) use Panzar-Rosse H (P-R H) statistics to measure microfinance competition in five countries (India, Indonesia, Philippines, Peru, and Ecuador) and find that the microfinance market in these countries is monopolistic. However, the P-R H statistics are not free from limitations, particularly in the microfinance market (Koetter, Kolari,

& Spierdijk, 2012). The P-R H statistics do not vary over time. Hence, the evolution of competition over time cannot easily be estimated using the P-R H. Further, the P-R H measures competition at an industry level, making it difficult to measure competition at the individual firm level (Koetter et al., 2012). The Lerner Index is another proxy to measure competition at the firm level. It is calculated using the difference between output price and marginal costs of production scaled by the output price (Assefa et al., 2013; Maudos & de Guevara, 2007). The Lerner index covers both market concentration and demand elasticity (Maudos & de Guevara, 2007), and measures the degree of competition at the MFI level (Ariss, 2010) and considers the timely evolution of competition. In the case of microfinance, Assefa et al. (2013) developed the Lerner Index using a data set of 362 MFIs from 73 countries to identify the prevalence of competition in the market. However, the Lerner index does not consider product substitutes, and the index is calculated following a profit maximization assumption (Boone, 2008; van Leuvensteijn et al., 2011), which is not entirely suitable for the microfinance market. Therefore, the use of these measures may be misleading in the case of microfinance.

The Boone indicator (Boone, 2008) is a recently developed approach for measuring competition. This index follows the efficiency structure hypothesis (Demsetz, 1973) and considers the reality that more efficient firms, with lower marginal costs, have an increased market share, or profit, or both (Boone, 2008; van Leuvensteijn et al., 2011). The increase in market share or profits is stronger with increased competition. Firms with lower marginal costs are considered to be more efficient, and achieve superior performance by reducing marginal costs and can therefore achieve higher profits or a higher market share at the expense of their less efficient counterparts (Schaeck & Cihák, 2014; Tabak et al., 2012; van Leuvensteijn et al., 2011). Performance is weaker for inefficient firms when the competition in the market is strong. Efficient banks, in this case, can translate the lower costs or higher profits into lower output prices to expand their market share and can transfer part of their efficiency gains to their clients (Tabak et al., 2012; van Leuvensteijn et al., 2011). As efficient MFIs already have a dominant position in the market, they can use this opportunity to gain further market share. In accordance with Tabak et al. (2012), this study anticipates that the MFIs' pass on their lower marginal costs to their clients to gain market share (indicating  $\beta_t < 0$ ). The primary assumption of Boone (2008) is that the products of the firm are close substitutes and the entry barrier is low, which is an advantage of using this measure, over the other measures, to calculate competition. When product substitutability increases as a result of competition, clients prefer an MFI that provides loans and services at a reduced cost (Tabak et al., 2012). Efficient MFIs can take this opportunity to gain market share. Moreover, they can charge higher prices for their loan products and lead the market by reducing their marginal costs more quickly.

Based on this discussion, the Boone indicator overcomes several limitations of the HHI,

P-R H statistics, and the Lerner index. The literature (see Berger, Demirguc-Kunt, Levine, & Haubrich, 2004) suggests that with an increase in competition, where products of different firms are close substitutes for one another, the HHI will increase rather than decrease due to the inversely proportional relationship between price and marginal cost. Hence, competition measured based on the HHI may be misleading in the case of MFIs. The Boone indicator overcomes this shortcoming as it considers market conduct (Schaeck & Cihák, 2014). Furthermore, the Panzar-Rosse (P-R H) statistics assumes that a long-run equilibrium exists in the market and the Lerner index does not capture product substitutability (Schaeck & Cihák, 2014; Vives, 2008). The Boone indicator does not require a long-term market equilibrium condition and does not suffer from product substitutability requirements in its estimation (Vives, 2008). Further, the Lerner index and the P-R H statistics are adopted from the profit maximization concept, which may be misleading in the case of the microfinance industry because all MFIs are not profit oriented; some MFIs operate as non-profit organizations (NGOs) even though their second bottom line objective is economic sustainability. Therefore, estimating competition in the microfinance market using the Boone indicator is methodologically more appropriate. Third, rather than profit or revenue, the use of market share in estimating the Boone indicator is more appropriate for the microfinance market due to the social outreach objective of MFIs.

Furthermore, using the Boone indicator makes it easier to measure the degree of competition separately for each country and compare them for different product markets (e.g., van Leuvensteijn et al., 2011 measured market power for different types of banks). In microfinance, Kar (2016) first uses this measure on a sample of 521 MFIs operating in 10 countries and identifies a prevalence of competition in these countries. However, Kar (2016) research is not entirely appropriate for the microfinance market as he uses ROA in estimating the Boone indicator. A large percentage of MFIs do not follow the profit maximization objective in its entirety. Instead, non-profit MFIs emphasize an increase in market share by passing on the part of their efficiency gains to their clients. Hence, the measure of competition using profit (ROA) may be misleading. Further, Kar (2016) only examines ten countries; competition in other countries has not yet been explored using such a measure. This study overcomes these shortcomings in the following ways.

First, rather than using the average variable costs, this study uses marginal costs in the Tran-slog cost function (TCF). Second, this study uses the market share of loan products as the dependent variable rather than the profit margin (ROA) in the TCF for estimating the Beta (e.g., Kar, 2016 uses return on assets). The use of market share eliminates the problem of multicollinearity in using the Boone indicator as the explanatory variable to estimate MFI double bottom line performance. Theoretically, it is established that efficiency gains lead to lower output prices and increased market share (van Leuvensteijn et al., 2011). Such an increase in efficiency

and market share increases with higher levels of competition in the market. Further, market share is always positive. However, profit can sometimes be negative, particularly when the MFI cannot cover its costs from its revenue. As the log-linear model eliminates negative profits, the results may be distorted if profit or ROA is used rather than market share as the dependent variable. Third, the degree of competition may vary over time and among different countries, which is considered in this study by interacting the Boone indicator with time dummies and estimating the Boone indicator separately for each country.

### **6.3.2 Competition and Microfinance Double Bottom Line Performance**

With an increase in microfinance competition, an important question arises: what impact does competition have on the economic sustainability and social outreach of MFIs? The neo-classical competition theory (see, Aghion & Howitt, 1992; Hart, 1983; Nickell, 1996; Nickell et al., 1997; Schmidt & Tyrell, 1997) advocates that competition is essential to improve firm performance. The literature (e.g., Hart, 1983; Machlup, 1967; Nickell, 1996) suggests that a low level of competition or a lack of competition creates a monopoly environment within the market and enables managers and employees to take advantage of the monopoly through managerial slack or minimum effort. When the ownership and control are separate in a firm, managers try to use these opportunities to achieve their own benefit. For instance, Hart (1983) suggests that competition is a source of managerial discipline by reducing slack to minimize the cost of operation. It is widely accepted that there is a conflict of interest between managers and owners. While the owners (entrepreneurs) prioritize the maximization of profits or maximum managerial effort, the managers try to use minimum effort (Kato, 2009).

In managerial firms (firms operated by the managers), managers tend to have better information than the owners. Owners or shareholders in these firms cannot directly observe the efforts of the managers. Instead, they can observe the outcome of the firm as shown in their performance. Owners or shareholders assume that the cause of low performance is inefficiency or mismanagement of the resources of the firm or the high cost of operations. Therefore, to ensure firm performance remains an acceptable level, the owners introduce incentive schemes for managers by directly linking their compensation to firm performance (Hart, 1983; Hay & Liu, 1997), which encourages managers to increase firm performance through increased managerial effort. Hence, when competition in an industry intensifies, this encourages the managers to improve firm productivity (Kato, 2009). If there is a common component of costs, when the cost of one firm is low, the cost of other firms should also be low (Hart, 1983). Also, it is assumed that the total costs and marginal costs have a positive correlation. In these circumstances, the firms, which are operated by the owners or entrepreneurs, will expand. In that case, to reach an equilibrium, the aggregate supply in the market will increase, and the price of the products or service will decrease. Managers of managerial firms will, therefore, find less opportunity to

engage in discretionary behaviour. If there is a reduction in both the cost of operations and prices, the managers may have little opportunity to enjoy managerial slack when cost components are not shared or when the product market is not competitive (Hart, 1983). Also, Winter (1971) suggests that competition acts as a natural selection mechanism for firms based on the idea that those firms that use inefficient technologies will incur losses when the monopoly rent is lower. In the long-run, these firms must either search for efficient technology to survive or exit the market. Therefore, competition places increased pressure on the managers to decrease operating costs, reduce production slack, ensure efficient use of firm resources, and even find ways to develop efficient technologies to improve productivity (Hart, 1983; Nickell, 1996). Competition, in this way, has a positive influence on firm performance.

The empirical evidence also supports this neo-classical idea of the relationship between competition and firm performance. For instance, Nickell (1996) identified a positive association between competition and firm performance among 670 UK firms. Nickell reports that competition, as specified by the increase in the number of rival corporations or by the decrease in rent, results in a higher level of total factor productivity growth. Subsequently, based on a study of 580 manufacturing companies in the UK, Nickell et al. (1997) report that competition in the market and pressure from the financial market is also associated with improved firm productivity. Kato (2009) (on Indian corporations), also states that a higher level of competition, measured by market share, has a positive association with a higher level of firm productivity. Hay and Liu (1997) study (on 19 UK manufacturing sectors in the 1970s and 80s) identifies that when a firm operates within a competitive market, the managerial incentive is higher, and the relative efficiency of the firm is higher. They posit that the most efficient firms can only survive when the market is highly competitive; and in less competitive markets (when the market is more collusive, and have differentiated products), the relationship between efficiency and market share is weaker, as less efficient firms can maintain a substantial market share due to the protected market segments.

However, the relationship between competition and firm performance in the context of the microfinance market is not yet clear, although the above stated neo-classical literature favours competition for better firm performance. The context and the operating characteristics of MFIs are different from conventional corporations and banks (Battilana & Dorado, 2010; Cobb et al., 2016; Varottil, 2014). Some of the MFIs operate as NGOs with non-profit motive, while some others, such as microfinance banks, NBFIs, and commercial MFIs, work as profit-oriented organizations (D'Espallier et al., 2017; Muriu, 2011). The non-profit and socially oriented organizations are mission-driven (Cobb et al., 2016; Muriu, 2011; Robinson, 2001). The market price of the products offered by those types of organizations does not purely reflect the benefits and costs they generate (Besley & Ghatak, 2005). Although competition literature suggests that

competition enhances the performance of the firm by reducing managerial slack, financial or monetary incentives may not work in the same way. However, according to Besley and Ghatak (2005), there may be non-pecuniary interests among the managers and workers who are known as “motivated agents”. Besley and Ghatak (2005) suggest that these motivated agents need fewer incentives to pay, unlike the payments for agents in the typical “principal-agent” relationship in commercial organizations. For motivated agents, competition may increase the overall efficiency of the firms, particularly the mission-driven organizations. Therefore, it is reasonable to assume that competition in the microfinance sector may increase the efficiency of MFIs and provide easier access to microfinance by poor and un-bankable borrowers by making credit contracts more favourable for their clients.

However, the impact of competition on microfinance is mixed and inconclusive. For instance, Navajas et al. (2003) study on two Bolivian MFIs (Casa Los Andes and Bancosol) suggests that the entry of a new participant in the market leads to innovation in microfinance lending methodologies and attracts different client segments. That study investigates how the entry of Casa Los Andes influences the lending behaviour of BancoSol. The results show that competition enables the MFIs to apply an innovative lending methodology to expand their outreach. Vogelgesang (2003), at the same time, investigates the impact of competition on the borrowers’ behaviour in these two MFIs, finding that competition has a two-fold effect: a substantial delivery of credit adversely affects MFI borrowers by enabling them to take multiple loans at a time, leading to their over-indebtedness. These clients are found to be more punctual in repayment of the loans in the regions where competition and the supply of credit are high. However, providing multiple loans to risky borrowers may adversely affect MFI financial performance, as the collection of repayments from these clients require increased efforts by the credit officers. Further, this study provides no clear evidence of the extent of competition in the microfinance market, although they assume that the entrance of new participants increases the product market competition. Hence, these studies have not measured any direct impact of competition on MFI economic sustainability and outreach performance.

Furthermore, although Navajas et al. (2003) suggest that competition increases MFI outreach, McIntosh et al. (2005) do not identify any evidence of the increase in outreach performance in Uganda. Instead, McIntosh et al. (2005) and McIntosh and Wydick (2005) suggest that competition exacerbates the problem of information asymmetry and moral hazard among MFIs and results in low information exchange among MFIs, as well as between clients and MFIs. As a consequence, poor and impatient borrowers take out multiple loans from different MFIs, known as “double dipping”, which leads to client over-indebtedness. As MFI credits are mostly without collateral, and as the double dipping clients fall into over-indebtedness, default rates increase and credit officers must use more effort in collecting repayments of the loans. It

decreases the MFI portfolio quality and increases enforcement costs. Due to this, some researchers (McIntosh et al., 2005; McIntosh & Wydick, 2005) argue that intense competition diminishes the capacity of the MFIs to cross-subsidize poorer borrowers and results in their exit from the MFI portfolio. According to McIntosh and Wydick (2005), competition, therefore, generates negative externality in credit contracts and ultimately affect all borrowers. However, both studies examine the impact of competition on the client only, and not on the institution. Also, McIntosh et al. (2005) use client level data from one Ugandan MFI only (FINCA-Uganda), and McIntosh and Wydick (2005) only theoretically explain the impact of competition on borrowers. The overall picture of the impact of competition in the microfinance market is therefore not reflected adequately in their study. Similar to McIntosh and Wydick (2005), Guha and Chowdhury (2013) have also developed a theoretical model of microfinance competition and identify that, with an increase in competition among profit-oriented MFIs, borrowers obtain multiple loans from different MFIs which often leads to credit default. As MFIs often experience information asymmetry, and as borrowers cannot provide physical collateral, the risk of default is high when double dipping occurs. Hence, the possibility of default increases when competition increases.

From the supply side, Assefa et al. (2013) use the Lerner index as the proxy to competition to measure its impact on MFI performance using a global dataset of 362 MFIs operating in 73 countries. They find that competition results in the reduction of loan repayment and poses a potential threat to the economic sustainability of MFIs. Although they identify a decrease in outreach performance, the evidence of this is weak. Cull et al. (2014) further state that competition in the formal banking system places pressure on MFI social performance by reducing the breadth of outreach while causing an increase in the depth of outreach. They suggest that competition helps to serve more female borrowers and provides access to smaller loans to poor borrowers. However, they use bank penetration in these economies, by the total bank branches per capita and per square kilometers, as the proxy to competition. They do not use any direct measure of competition in the microfinance market.

It is suggested from the above-stated literature that the impact of competition on microfinance financial and social performance is not yet clear - the results are mixed and inconclusive. Although some studies (e.g., Navajas et al., 2003) suggest that competition is beneficial for microfinance clients by enabling them to obtain credit easily, others (McIntosh et al., 2005; McIntosh & Wydick, 2005) suggest an adverse effect of competition on clients. Likewise, although Assefa et al. (2013) suggest a negative impact of competition on MFI portfolio quality when using the Lerner index, they do not investigate the impact of competition on any direct measure of MFI financial performance. Furthermore, the above-stated studies have other limitations. First, there remains a question about the method of estimating competition.

None of the previous studies use an appropriate measure of microfinance competition. Although Assefa et al. (2013) use the Lerner index, the Lerner index is not suitable for the microfinance market as some non-profit MFIs do not have a strict profit objective. In estimating the Lerner index, a Translog Cost Function (TCF) is used as an aggregate level for all countries together, rather than measuring it separately for each country. There may be some variations in the economic conditions and microfinance operating environments among the countries. The Boone indicator, which is considered the most appropriate and valid measure of competition, has not yet been used in predicting the impact of competition on MFI performance. Second, the context of the above-stated studies are different, and therefore it is not possible to generalize the findings to the microfinance sector as a whole. For instance, Navajas et al. (2003) are in Bolivia only, and McIntosh et al. (2005) examines the Ugandan market. Third, the above-stated literature does not cover some critical measures of financial and social performance. Most of the studies (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005; Navajas et al., 2003; Vogelgesang, 2003) investigate the impact of competition on the borrowers, while few of them (Guha & Chowdhury, 2013; McIntosh et al., 2005; McIntosh & Wydick, 2005) examine the impact of competition on outreach performance. Further, Cull et al. (2014) investigate competition in the banking sector, not the microfinance sector. Hence, none of the studies investigate the impact of competition on microfinance financial performance (such as OSS, ROA, ROE, and portfolio yield).

Similarly, research by Guha and Chowdhury (2013) is theoretical, based on the Indian context, and does not examine financial and social performance. Further, Assefa et al. (2013) covers loan repayment performance only and does not consider OSS, FSS, and ROA. Moreover, although the financial stability of the firms is vital for the sustainability of financial institutions, no previous study examines financial stability (Z-score) of the firm as the outcome of the competition. Therefore, there is an opportunity to investigate the impact of competition on MFI performance, with an appropriate measure of competition, using a recent data set. Against this backdrop, this study is perhaps the first to investigate this issue using the Boone indicator.

### **6.3.3 Hypothesis Development**

#### *6.3.3.1 Competition and Economic Sustainability*

In opposition to neoclassical literature and research by Besley and Ghatak (2005), this study assumes that competition has an adverse impact on the economic performance of MFIs. The main problem for MFIs in providing credit to poor borrowers is information asymmetry (Hoff & Stiglitz, 1997; Karlan & Zinman, 2009). Poor borrowers cannot provide adequate physical collateral to prove their creditworthiness (Collins et al., 2009; Morduch, 1999). Also, there is no credit bureau to share information about clients. The competitive MFIs also show little

interest in sharing information about their clients with other MFIs. Therefore, MFIs cannot cross-check with rival MFIs as to whether a prospective client has obtained multiple loans from other MFIs. It increases the moral hazard (Cason, Gangadharan, & Maitra, 2012; Guha & Chowdhury, 2013). In this situation, some borrowers obtain multiple loans (Guha & Chowdhury, 2013; McIntosh et al., 2005) which increases their debt burden and, as a result, increases the possibility of loan default (Hoff & Stiglitz, 1997). It results in the deterioration of MFI portfolio quality (Assefa et al., 2013). When loan default increases, MFIs experience higher enforcement costs to ensure timely recovery of the loan (Cull et al., 2011b; Hoff & Stiglitz, 1997). Hence, it is difficult to recover the loan from default clients (Armendáriz & Morduch, 2010; Collins et al., 2009). Even in some cases, MFIs have to write off a part of their loan portfolio when they are unable to recover the defaulted loan from their clients. This situation reduces the ability of the MFI to use dynamic incentives<sup>59</sup> to encourage the borrowers to obtain further loans (McIntosh et al., 2005). Ultimately, the increase in the costs of operation and decreases their ability to generate sufficient revenue and returns.

As poor borrowers cannot provide adequate collateral, joint liability acts as a safeguard to ensure the timely recovery of the loan (Bourjade & Schindele, 2012; Cason et al., 2012). In this case, the members in the borrower or savings group monitor their peers and guarantee the other member(s) in the group (Armendáriz & Morduch, 2010; Besley & Coate, 1995; Cason et al., 2012; Wydick, 1999). When the borrower member fails to repay their loan, the other members place pressure on them to ensure timely repayment (Bourjade & Schindele, 2012; Sharma & Zeller, 1997). If payment is not made, the loan officer will not grant any loan to the other members until the loan is repaid. Joint liability, therefore, acts as an alternative to physical collateral (Besley & Coate, 1995; De Quidt et al., 2012). However, with an increase in competition, some MFIs change their lending methodology and shift from joint liability based group lending to individual lending to attract more borrowers (Mia et al., 2017). It is because borrowers prefer individual lending when obtaining credit. Hence, the benefit of joint liability as a mechanism for group enforcement to repay the loan is eliminated by changes in lending methodology (Besley & Coate, 1995; Navajas et al., 2003; Shapiro, 2015). With the presence of information asymmetry and moral hazard (Cason et al., 2012; Garmaise & Natividad, 2010), a change in lending technology provides an opportunity to individual borrowers to obtain multiple loans (double dipping) from different providers (Cason et al., 2012). It increases their debt burden which also increases the probability of default. This situation increases the overall costs of the MFI (Assefa et al., 2013).

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<sup>59</sup> Providing a larger loan amount to the existing clients when their existing or previous loan is repaid satisfactorily (Shapiro, 2015).

Notwithstanding, when MFIs shift from joint liability lending to individual lending to retain their market share, the MFIs cannot correctly ascertain the quality of the loan applicant (Canales & Greenberg, 2015; Cason et al., 2012; Dixon et al., 2007). The non-existence of information sharing exacerbates this situation as it allows impatient borrowers to take multiple loans (repaying the existing loan by taking another loan from the other MFI) (Hossain, 2013b). Ultimately, borrowers become over-indebted and find it difficult to repay their loans (Vogelgesang, 2003). It exacerbates the market situation by transmitting the problem to other MFIs from which the borrowers have taken loans (Rhyne, 1998). Hence, both the financial and social performance of these MFIs deteriorate.

Furthermore, when a large number of participants enter the market, the dependency on subsidies declines (D'Espallier et al., 2013). It places pressure on the MFI management to search for alternative sources of funding (Bogan, 2012). Except for shareholder-owned commercial MFIs, the majority of MFIs are dependent on external funds (Cobb et al., 2016; D'Espallier et al., 2013), particularly commercial sources of funding.<sup>60</sup> Increases in the number of market participants and commercialization also increase demand for commercial funds (Ghosh & Van Tassel, 2011). It increases the interest rate on commercial borrowing (Rosenberg, Gonzalez, & Narain, 2009), which increases the cost of funds for MFIs. One benefit for microfinance clients is that competition places pressure on the MFIs to reduce interest rates (Chakravarty & Pylypiv, 2015; McIntosh & Wydick, 2005). When credit supply is substantial, MFIs must reduce their interest rates to attract new customers and retain existing customers (Hossain, 2013b). However, the increased supply of credit results in the reduction of interest margins for MFIs (Cuéllar-Fernández et al., 2016). It adversely affects their portfolio yield. Besides, when competition increases, the new participants often offer incentive packages to attract experienced employees from existing MFIs (Rosenberg et al., 2009). Hence, the existing MFIs must increase their staff salaries to retain their experienced employees. It also increases the costs of operations.

On the other hand, commercial investors' interest to generate profit places more pressure on MFI management and loan officers to retain existing customers and attract new ones (Chakravarty & Pylypiv, 2015). For this, MFI management arranges an incentive mechanism for the loan officers based on the level of outreach achieved. This motivation to attract more clients encourages credit officers to follow a liberal lending mechanism without adequately investigating

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<sup>60</sup> This is due to the success stories of a few profit oriented MFIs in providing a handsome rate of profit and good repayment histories, many commercial investors are showing their interests in investing the MFIs (D'Espallier et al., 2017; Ghosh & Van Tassel, 2011). It stimulates some socially oriented MFIs to transform into commercial MFIs by raising funds from the commercial investors or entering the capital market (D'Espallier et al., 2017). With this evolution and commercialization, and the entrance of many new players, competition increases.

client characteristics (Schicks, 2013). It simplifies the client screening mechanism and reduces the monitoring of borrowers; some borrowers take this opportunity to obtain multiple loans (Chakravarty & Pylypiv, 2015; Schicks, 2013) and later on, they fail to repay their loan. Hence, competition results in loan juggling and double dipping (Sriram, 2010; Vogelgesang, 2003)<sup>61</sup>, and increases the risk of loan default and increases pressure on credit officers and management. Also, it increases the enforcement and collection costs and, in some cases, some debts are not recovered at all. This affects MFI outreach performance and financial performance. In summary, competition results in a decline in interest rates and an increase in the cost of funds. Further, flexible lending policies, repayment problems, reduction in portfolio quality, increased follow up of borrowers and increased monitoring and enforcement to collect defaulted loans increases the costs of operation for the MFIs. All of this results in the deterioration of MFI financial health. Therefore, the study hypothesizes that:

**H1:** Increase in competition adversely affects MFI economic performance.

### 6.3.3.2 *Competition and Social Performance*

Although it is possible that a decrease in monopoly rent and increase in the loan portfolio as the result of competition may enable MFIs to reach more borrowers, this study anticipates that competition may have an adverse effect in the following way. Due to the problem of information asymmetry (Stiglitz & Weiss, 1981), MFIs cannot assess the characteristics of the loan applicant (Karlan & Zinman, 2009; Stiglitz & Weiss, 1981). With the pressure to increase or retain outreach levels, credit officers seek to simplify the client screening process (Guha & Chowdhury, 2013). MFI borrowers use this opportunity to obtain multiple loans from different providers (McIntosh & Wydick, 2005). When the borrowers cannot match their income with their repayment schedules, they fall into a debt trap. Hence, MFI clients become over-indebted, which generates a negative externality in credit contracts (McIntosh & Wydick, 2005). The credit officers, therefore, use more effort to monitor and follow up existing borrowers (Dixon et al., 2007). It increases the cost of operations (McIntosh & Wydick, 2005; Navajas et al., 2003). To reduce these costs, the MFIs offer a larger average loan size to their borrowers and target wealthy borrowers (Jia et al., 2016).<sup>62</sup> Therefore, competition diminishes the capacity of the MFI to cross-subsidize less profitable poorer borrowers. It ultimately affects the depth of outreach.

Further, MFIs also seek to change its lending strategy from group lending to individual lending. Hence, group pressure on the borrowers to ensure the timely repayment of loans

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<sup>61</sup> Taking multiple loans from one MFI, and/or use the loan to repay to the other loan at the other MFI.

<sup>62</sup> Navajas et al. (2003) report this experience in Bolivia where clients shifted from Bancosol (a socially oriented MFI) to Caja Los Andes (a profit-oriented MFI).

(Bourjade & Schindele, 2012) no longer exists. In the absence of physical collateral, the group members use group commitment and group enforcement to enforce regular and timely repayments (Armendáriz & Morduch, 2010; Besley & Coate, 1995; Cason et al., 2012; Morduch, 1999; Wydick, 1999). When the MFIs shift from group lending to individual lending, the probability of moral hazard and repayment problems increase due to the absence of the self-enforcement mechanism (Cason et al., 2012; Karlan & Zinman, 2009). Hence, the likelihood of repayment problems increases (Karlan & Zinman, 2009). In order to overcome these problems, the MFIs must follow cautious lending technique so that risky borrowers are not provided any credit. The credit officers must spend more time and effort to obtain information about new credit applicants to select less risky borrowers (Aubert et al., 2009; Dixon et al., 2007). It reduces the number of clients reached by MFI.

Furthermore, credit officers try to provide credit only to wealthy borrowers, to minimize the risk of non-repayment (Quayes, 2012; Woller, 2007). In this way, the MFIs shift their focus from reaching poorer borrowers to serving wealthy borrowers (McIntosh & Wydick, 2005; Navajas et al., 2003). Hence, more cautious lending places pressure on the MFIs to reduce the number of poorer borrowers, which adversely affects the breadth and depth of outreach.

Another problem is the withdrawal of dynamic incentives from group members when the MFIs shift from group lending to individual lending (Shapiro, 2015). Without dynamic incentives, current borrowers are unable to obtain larger loans and tend to move from their current MFI to another one which offers larger loans (Armendáriz & Morduch, 2010; McIntosh et al., 2005; McIntosh & Wydick, 2005). When more participants are involved in the market, the possibility of this occurring is higher. It adversely affects the breadth of outreach. In this situation, to retain their existing customers, MFIs need to offer larger loan sizes to their clients, which may have an adverse effect on the depth of outreach (Quayes, 2012).

Furthermore, the entrance of a large number of participants in the market places pressure on MFIs to reduce the interest rate provided to their borrowers.<sup>63</sup> Simultaneously, reducing the dependency on subsidies (D'Espallier et al., 2013) and increasing dependency on commercial capital increases the cost of funds for MFIs that places additional pressure on managers to generate sufficient profit so that they can provide a consistent profit to their investors (Bogan, 2012; Brière & Szafarz, 2015; Ghosh & Van Tassel, 2011). Pressure from fund providers to increase investment return (Ghosh & Van Tassel, 2011) and the regulator to reduce interest rates place a burden on managers to decrease operating costs (Chakravarty & Pylypiv, 2015; Galema & Lensink, 2009; Garmaise & Natividad, 2010; Ghosh & Van Tassel, 2011). In these

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<sup>63</sup> This may also come from the regulatory authority by introducing interest rate caps (Hartarska & Nadolnyak, 2007).

circumstances, MFI managers emphasize serving wealthier borrowers (Guha & Chowdhury, 2013; McIntosh & Wydick, 2005). All these, in turn, result in clients dropping out from the MFIs loan portfolio, thereby making a negative influence on the breadth of outreach performance. It adversely affects the depth of outreach.

However, as competition decreases the opportunity for monopoly rent (Hart, 1983; Nickell et al., 1997), MFIs explore new market segments to maintain their market share (Vanroose & D'espallier, 2013). However, it is difficult to find an alternative client segment when competition is fierce (McIntosh et al., 2005). In these circumstances, MFIs diversify their outreach focus by serving female clients and attracting wealthy borrowers (Assefa et al., 2013; Khandker, Koolwal, & Badruddoza, 2013; Olsen, 2010). Based on this, the study proposes that:

**H2:** The stronger the degree of competition, the weaker the breadth and depth of outreach are, and the higher female outreach is.

## **6.4 Empirical Design**

### **6.4.1 Data**

This study collects and merges the data from different sources. The researcher collected the microfinance specific data from the MIX Market; the World Bank sponsored self-reporting database for microfinance. The MIX database is more reliable and extensive and covers different types of MFIs operating in different countries (Cull et al., 2011a; Vanroose, 2008). The data is collected across ten years (2005 to 2014). The data on country and macro economy specific control variables are obtained from the World Bank. The data on the index of economic freedom is obtained from the Heritage Development Foundation (See Appendix, Table A6). Although the initial MIX Market data corresponds to a total of 13,193 firm-year observations for 120 countries, the study excludes some MFIs and countries from the dataset based on specific criteria. First, the MFIs in some countries are missing some values as not all MFIs regularly report their data to the MIX Market. The countries that do not have an adequate observation to measure the Boone indicator have also been excluded. Second, some MFIs report their data to the MIX Market monthly, semi-annually, and quarterly. For easy comparison, the researcher considers the annual data only. Third, the MIX Market reports MFI data on five diamond categories, as one to five diamonds, based on the reliability and quality of information and the extent of disclosure. In order to ensure the quality, reliability, and comparability of the data, the MFIs which have at least three diamonds are considered for inclusion in the analysis. Based on the exclusion criteria, the data to run the frontier analysis to estimate the Boone indicator consists of 1,619 MFIs operating in 63 countries with 6,776 firm-year observations. However, the country and the macro-economy data of some of the countries (such as Haiti, Azerbaijan, Romania, and East Timor) is not readily available. These countries are excluded from the analysis, which results in

a further loss of observations. Therefore, based on the above exclusion criteria, the final dataset consists of 1,118 MFIs with a total of 4,510 firm-year observations. This database is perhaps the largest to measure the impact of competition on microfinance double bottom line performance.

#### 6.4.2 Empirical Method

In order to measure the association between competition and microfinance double bottom line performance, this study follows two stages. In the first stage, the study estimates the Boone indicator, and in the second stage, the study uses the Boone indicator as the main explanatory variable to measure the impact of competition on MFI financial and social performance. In following governance literature (Ahlin et al., 2011; Hartarska, 2005; Mersland & Strøm, 2009), the study also includes a set of MFI specific and macro economic specific control variables in the model. The model for the panel data is expressed as follows:

$$P_{ijt} = \alpha + \beta_c COM_{ijt} + \beta_M CMF_{ijt} + \beta_E CME_{jt} + \mu_{it} + \varepsilon_{ijt} \quad (1)$$

Where the dependent variable  $P_{ijt}$  is a set of financial and social performance variables of MFI  $i$  located in the country  $j$  at year  $t$ , the variable of interest  $COM_{ijt}$  is the measure of competition (Boone) for MFI  $i$  in the country  $j$  at year  $t$ ,  $CMF_{ijt}$  is the firm-specific control variables of MFI  $i$  in country  $j$  at time  $t$ ,  $CME_{jt}$  is the vector of the country and macro economic specific control variables of country  $j$  at time  $t$ ,  $\alpha$  is the constant term,  $\mu_{it}$  is the firm-specific effect that captures the unobserved firm-specific heterogeneity, and  $\varepsilon_{ijt}$  is the error term that covers the remaining firm-year heterogeneity. In line with the literature (Hartarska, 2005; Mersland & Strøm, 2009; Strøm et al., 2014), this study uses a random effect generalized least-square (GLS) model to estimate the coefficients. The selection of GLS is due to the following reasons. First, the random effect model is better equipped to handle the time-invariant nature of the explanatory variables by the first differentiating them, than for instance, if a fixed effect model was used (Mersland & Strøm, 2009; Stock & Watson, 2007). Second, the random effect model reduces the potential for omitted variable bias as the model takes into account all unobserved firm-specific residual variations in MFI performance through  $\mu_{it}$  (Stock & Watson, 2007; Vanroose & D'espallier, 2013). Moreover, although the panel data spans across ten years, the data is highly unbalanced and has a large number of missing observations. Hence, the random effect model provides more degrees of freedom with observations of a few average years, rather than that of the fixed effect estimation.

##### 6.4.2.1 Measurement of Competition: Boone Indicator

Following Boone (2008) and further development by van Leuvensteijn et al. (2011) and Tabak et al. (2012), the study first estimates the Boone indicator for MFI  $i$  based on the following equation:

$$\ln MS_{it} = \alpha_i + \sum_{t=1}^T \beta_t d_t \ln(MC_{it}) + \sum_{t=1}^{T-1} \alpha_t d_t + u_{it} \quad (2)$$

Where  $MS_{it}$  denotes the market share of MFI  $i$  at time  $t$ ,  $MC_{it}$  corresponds the marginal cost of MFI  $i$  at time  $t$ ,  $\beta_t$  indicates the Boone indicator (known as Beta) at time  $t$ ,  $d_t$  corresponds to the time dummies, and,  $u_{it}$  is the error term. Market share ( $MS_{it}$ ) of the MFI is defined as the proportion of the MFI's gross loan portfolio to the aggregate of the gross loan portfolios in the market in a particular year. The initial estimation of the Boone indicator is improved here to account for microfinance specific characteristics in several ways. First, this study uses marginal costs rather than the average variable cost as the explanatory variable. Second, the study uses market share of the loan products as the dependent variable rather than the profit margin (e.g., Kar, 2016 uses ROA). It eliminates the problem of multicollinearity when we use Beta to estimate MFI double bottom line performance. The market share is always positive, however, profit is sometimes negative in some MFIs. As the log-linear model eliminates negative profits, the results may be distorted if ROA is used as the dependent variable rather than market share. Finally, in the estimation equation, this study interacts the Boone indicator with time dummies to cover the timely evolution of competition. Furthermore, this study estimates the Beta (Boone indicator) separately for each country to cover the market heterogeneity. A negative beta indicates stronger competition in the microfinance market.<sup>64</sup>

As there is a possibility of endogeneity in the estimation of equation (2) due to the joint determination of performance and costs (Schaeck & Cihák, 2014; Tabak et al., 2012; van Leuvensteijn et al., 2011), the study first tests the endogeneity (the difference between two Sargan-Hansen statistics) by applying the instrumental variable (IV) regression approach through a two-stage least squares regression (2SLS). In the first equation, the study treats the log of the marginal costs (MC) as an endogenous variable, and in the second equation, the study treats the first lag of the log of MC as an exogenous regressor. This endogeneity test statistics is numerically equal to the Hausman test statistics under the conditional homoscedasticity (Hayashi, 2000). Based on that test, if the study identifies the presence of endogeneity, the study applies a two-step generalized method of moments (GMM) considering the first lag of the marginal cost ( $MC_{t-1}$ ) as the exogenous instrument. Alternatively, the study uses the fixed effect OLS (within estimator) to estimate the Beta. Further, to test for the over-identification bias of the

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<sup>64</sup> However, as evidenced by van Leuvensteijn et al. (2011), Boone indicator can also take a positive value when the marginal cost is higher and the MFI covers more market share. This is possible when the market has an extreme level of the collision, or the MFIs compete for quality by increasing their costs to increase the demand for their products and services. However, this may create an entry barrier in the market (Dick, 2007).

instruments, the study applies the Hansen J-test following Hayashi (2000). The study uses 2SLS instead of GMM in findings that the instruments are over-identified. In both methods, the study uses kernel-based heteroscedasticity and autocorrelation adjusted (HAC) variance estimation to control both the heteroscedasticity and autocorrelation problems in the estimation (Newey & West, 1987; Tabak et al., 2012). This study then uses the Boone indicator (Beta) to predict MFI double bottom line performance.

As part of estimating the Boone indicator, this study first estimates the marginal costs. Although some studies (e.g., Schaeck & Cihák, 2014) estimate the marginal cost by the ratio of average variable costs to total income, this study uses the translog cost function (TCF) separately for each country using a number of variables following Maudos and de Guevara (2007), van Leuvensteijn et al. (2011) and Tabak et al. (2012). TCF offers the possibility of calculating marginal costs for any of the outputs when their costs are not directly available (Tabak et al., 2012). Equation (3) estimates the total costs as follows:

$$\begin{aligned}
 \ln TC_{it} = & \alpha_i + \alpha_1 \ln Y_{it} + \frac{1}{2} \alpha_2 (\ln Y_{it})^2 + \sum_{j=1}^2 \beta_j \ln W_{jit} \\
 & + \frac{1}{2} \sum_{j=1}^2 \beta_j (\ln W_{jit})^2 + \sum_{j=1}^2 \gamma_j \ln Y_{it} \ln W_{ijt} + \sum_{j < k} \gamma_{jk} \ln W_{ijt} \ln W_{ikt} \\
 & + \delta_1 \ln PAR30 + \delta_2 d_t + \varepsilon_i
 \end{aligned} \tag{3}$$

Where  $TC_{it}$  represents the total production cost of MFI  $i$  at time  $t$ ,  $Y_{it}$  indicates the output,  $W_{jit}$  represents different input prices included in the TCF function, and  $\varepsilon_i$  is the stochastic error term. The study estimates the total production costs and the unit costs in following Hartarska, Shen, and Mersland (2013). The total production cost is the ratio of the sum of operating expenses and financial expenses to total assets. As lending is the main objective of MFIs, this study uses the loan portfolio as the output in the TCF equation.

Similarly, in following Hartarska et al. (2013), this study uses three input prices to estimate the total cost: the price of labour,<sup>65</sup> the price of financial capital,<sup>66</sup> and the price of

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<sup>65</sup> The price of labour is calculated as the ratio of the personnel expenses to total employees. Personnel expenses include the wages, salaries, bonus, and any type of social contribution to the MFI employees during the year.

<sup>66</sup> The price of financial capital is the ratio of total financial expenses to total liabilities. Financial capital includes all the external funds including the deposits.

physical capital.<sup>67</sup> A description of the variables is contained in Appendix (Table A6, Panel D). The descriptive statistics are contained in Panel B with their correlation matrix in Panel C of Table 6.1. Their mean values adjust all of the variables. In order to ensure the linear homogeneity of all of the variables, the input prices and the output variables are normalized by the price of physical capital. Further, the TCF includes the portfolio at risk for more than 30 days (PAR30) to capture the differences in risk-taking behaviour of MFIs. In addition, to capture the MFI specific fixed effects to deal with unobserved heterogeneity, and to capture the effect of technological changes, this study includes time dummies in the TCF equation. In line with Tabak et al. (2012) and Hartarska et al. (2013), this study applies a stochastic cost frontier model to estimate the TCF. A TCF is proven as a flexible and efficient tool for financial institutions offering multiple products (van Leuvensteijn et al., 2011).<sup>68</sup> For this, the study transforms all of the variables into a logarithmic form and runs the TCF separately for each country.

After estimating the cost function, the study obtains the cost elasticity from the estimated coefficients (as the first derivative of the dependent variable) of the TCF. The study then obtains the marginal cost of the loan portfolio, substituting the cost elasticity in the following equation (4):

$$MC_{it} = \frac{\partial TC_{it}}{\partial Y_{it}} = \frac{TC_{it}}{Y_{it}} \left( \alpha_1 + \alpha_2 \ln Y_{it} + \sum_{j=1}^2 \gamma_j \ln W_{jit} \right) \quad (4)$$

Finally, this marginal cost from equation (4) is substituted in equation (2) to estimate the Boone indicator.

### 6.4.3 Variables

The description of the variables included in the empirical model is presented in Table A6 of the Appendix. The dependent variables are the measures of MFI economic sustainability and social performance. In line with the literature, the measure of economic sustainability includes operational self-sufficiency (OSS) (Cull et al., 2007; Mersland & Strøm, 2009; Strøm et al., 2014), financial self-sufficiency (FSS) (Hartarska, 2005; Mersland, 2009; Morduch, 1999; Strøm et al., 2014), return on assets (ROA) (Mersland & Strøm, 2009; Mori et al., 2015; Mori &

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<sup>67</sup> The price of physical capital is the ratio of operating expenses except the personnel expenses to total assets less the non-earning liquid assets. Due to the missing data and the lack of data on physical assets, non-earning liquid assets are deducted from total assets to calculate the value of physical assets.

<sup>68</sup> Applying the ordinary least squares (OLS) to estimate the parameters of the cost function may produce a biased estimation of the parameters, and may result in multicollinearity problem among the explanatory variables (Kar, 2016).

Mersland, 2014), and portfolio yield (Mersland & Strøm, 2009) and Z-score (Ariss, 2010; Tabak et al., 2012). OSS demonstrates whether the MFI generates enough revenue to cover its operating costs. FSS shows how well an MFI can cover its costs from its' revenue and expand its market share if its operations lack ongoing subsidies or soft loans; and whether the MFI can use funds at the market price (Armendáriz & Morduch, 2010; Cull et al., 2007). ROA measures the overall performance of the MFI and indicates how well an MFI can use its assets to generate returns (Armendáriz & Morduch, 2010; Hartarska, 2005). Further, this study includes the Z-score (Z-SCR) in following the literature on banking stability (Ariss, 2010; Berger, Klapper, & Turk-Ariss, 2009). It shows how distant an MFI is from insolvency. For deposit-taking commercial MFIs, this score is essential although this variable has not yet been used in microfinance research.

The study uses the breadth of outreach as a measure of social performance, which is calculated as the log of the number of active borrowers (NAB) (Gohar & Batool, 2015; Mersland & Strøm, 2009; Schreiner, 2002; Strøm et al., 2014). The more the number of clients the MFI serves, the higher the breadth of outreach is. Again, the log of the average loan size per borrower (ALB) measures the depth of outreach to poor people (Cull et al., 2007; Cull et al., 2014; Hartarska, 2005; Mersland & Strøm, 2009). The smaller the loan size, the higher the potential for the MFIs to reach out to more impoverished people. Additionally, the proportion of female borrowers (F\_BOR) is also used as the measure of social performance because women in many developing countries are excluded from the mainstream financial system (Cuéllar-Fernández et al., 2016; Cull et al., 2014; Mersland & Strøm, 2009). As it is difficult to measure the social benefits of providing credit, these variables are commonly accepted indicators of MFI social performance (Schreiner, 2002).

The key explanatory variable in this study is the Boone indicator (known as Beta). The hypothesis in this study states that the coefficient of the Boone indicator has a positive association with the financial performance variables and NAB, and a negative association with ALB. Furthermore, as the determinants of MFI performance, some MFI-specific control variables ( $MF_{ijt}$ ) are included in the model. In following the literature (Mersland & Strøm, 2009; Strøm et al., 2014), this study includes firm size as the log of total assets (ln\_TA), as firm size is a matter for the possible scale economies (Li & Srinivasan, 2011; Randøy & Goel, 2003). Similarly, the ratio of capital to total assets reflects the degree of risk aversion and the dependency of the MFI on external funds (CAP\_A) (Li & Srinivasan, 2011; Maudos & De Guevara, 2004; Tabak et al., 2012), which may have an influence on MFI performance (Cuéllar-Fernández et al., 2016). Likewise, the ratio of operating expenses to total assets (OE\_AS) (Cuéllar-Fernández et al., 2016), portfolios at risk for more than 30 days (PAR30) (Ahlin et al., 2011; Mersland & Strøm, 2009; Strøm et al., 2014), write off ratio (WOR) (Chowdhury et al., 2014; Mersland & Strøm, 2009), and the proportion of client deposits used to finance the loan

portfolio (DEPS) (Cuéllar-Fernández et al., 2016) are all included in the model. The operating expenses ratio, portfolio at risk and write off ratio are expected to have a negative influence on MFI performance.

Nevertheless, the differences in the macroeconomic conditions and institutional variations across the countries are also controlled in the model ( $ME_{jt}$ ). These variables are the size of the economy (ln\_GDP) as the log of the national income (Ahlin et al., 2011; Hartarska & Nadolnyak, 2007; Vanroose & D'espallier, 2013), GDP growth rate (GDP\_G) (Ahlin et al., 2011; Cull et al., 2014), and per capita income (logarithmic) (ln\_PCI) (Ahlin et al., 2011; Schaeck & Cihák, 2014; Vanroose & D'espallier, 2013). Further, the study includes the level of inflation in the economy (INFL) (Ahlin et al., 2011; Assefa et al., 2013; Hartarska, 2005), domestic credit to GDP (D\_CR) (Ahlin et al., 2011; Assefa et al., 2013; Vanroose & D'espallier, 2013), and the lending rate in the economy (LEND\_R) (Ahlin et al., 2011; Assefa et al., 2013; Vanroose & D'espallier, 2013) in the model. The study also includes the (log of) population density per square kilometre (PDEN) (Hartarska & Mersland, 2012; Vanroose & D'espallier, 2013) and the percentage of rural population (PRUR) (Ahlin et al., 2011; Cull et al., 2014) as the demographic variables, which may influence the MFIs' operating environment. Moreover, in line with Hartarska and Nadolnyak (2007), the index of economic freedom (EC\_FR), and in line with Ahlin et al. (2011), the ease of doing business indicator (EAS\_B), are also included in the model to measure MFI performance.

## **6.5 Results**

### **6.5.1 Descriptive Statistics**

Panel B of Table 6.1 presents the descriptive statistics of the variables used in the frontier analysis for estimating the Boone indicator, along with their correlation matrix (contained in Panel C). The panel shows that the average total cost is US\$10.37 million, the average gross loan portfolio (output) is US\$48.38 million, the unit price of labour is US\$117.64 per year, the price of the financial capital is US\$0.20 per dollar of funds, and the price of physical capital is US\$0.09 per dollar value of physical capital. The univariate test statistics show that the total cost and the input prices show significant variation. The gross loan portfolio also varies among MFIs. It is because the MFIs do not have the same organizational structures. Some MFIs operate as a bank or non-bank financial institutions, while other NGOs or cooperatives (see Panel A of Table 6.1).<sup>69</sup> Hence, the variation in the cost components and the loan portfolio is possible. Further, the correlation matrix in Panel C shows that the explanatory variables do not suffer from any

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<sup>69</sup> The total sample is not equal to the sample under this study because some MFIs are not classified clearly according to their legal status.

collinearity problems as the correlations of the explanatory variables are below 0.50. The significance level in the correlation matrix also shows evidence of the significance of the explanatory variables in estimating the total costs.

**Table 6.1 Descriptive Statistics and Correlation Matrix of the Variables used in TCF for Estimating Competition**

<b>Panel A: Current legal status of the MFI</b>		Frequency	Percent
Bank		678	10.05
Credit Union / Cooperative		965	14.3
NBFI		2,363	35.03
NGO		2,317	34.35
Other		68	1.01
Rural Bank		355	5.26
Total		6,746	100

<b>Panel B: Descriptive statistics of the variables</b>						
Variable	Obs.	Mean	S.D.	0.25	Median	0.75
TC	6776	10.37	36.79	0.57	1.84	6.82
GLP	6776	48.38	176.42	1.94	6.40	26.33
PL	6776	117.64	2282.32	35.07	76.24	124.53
PFC	6776	0.20	9.37	0.05	0.07	0.10
PPC	6776	0.09	0.09	0.04	0.07	0.11
PAR30	6776	0.07	0.15	0.01	0.04	0.07

<b>Panel C: Pearson's pairwise correlation matrix</b>						
	TC	GLP	PL	PFC	PPC	PAR30
1. TC	1.00					
2. GLP	0.80*	1.00				
3. PL	0.53*	0.05*	1.00			
4. PFC	-0.00	-0.00	0.00	1.00		
5. PPC	-0.05*	-0.12*	0.04*	-0.01	1.00	
6. PAR30	-0.01	-0.01	-0.01	-0.00	0.04*	1.00

Note: \* significant at 5%

Table 6.2 presents the summary statistics for the variables included in the empirical model. Except for the main explanatory variables (i.e., the Boone indicator and the Lerner index), all of the variables are winsorized at the 1st and 99th percentile to adjust for outliers. The mean and median of the dependent variables are within the expected range. For instance, the mean OSS is 1.18, the mean FSS is 1.17, and the first quintile of OSS and FSS are above one, which indicates the overall adequacy of operating and financial self-sufficiency of the sample MFIs. However, the average ROA is very low (2 percent), indicating overall low profitability of the MFIs. It may be due to differences in their legal structure as many MFIs still operate as non-profit organizations (34.35 percent), and only a few (10.05 percent) operate as banks (Panel A of Table 6.1). The Z-SCR also shows that the sample MFIs generally have stability in income, although some have trouble securing stable income. Regarding social performance, the MFIs have a high level of variation in serving their clients. The average loan balance per borrowers is also low,

which is indicative of the MFIs' social mission of serving poor people with small credit. Moreover, the majority (68 percent) of their clients are women.

**Table 6.2 Descriptive Statistics of the Variables to Measure Microfinance Performance**

Variable	Obs.	Mean	S.D.	0.25	Mdn	0.75
OSS	4510	1.18	0.32	1.03	1.14	1.29
FSS	4499	1.17	0.30	1.03	1.14	1.29
ROA	4509	0.02	0.08	0.00	0.02	0.05
Yield	4508	0.25	0.17	0.13	0.21	0.33
Z-SCR	4506	5.62	5.84	1.97	3.86	7.34
NAB (total)	4483	68444	150000	3974	14720	54318
NAB	4483	9.57	1.98	8.29	9.60	10.90
ALB (total)	4482	0.55	0.95	0.11	0.24	0.60
ALB	4482	-1.35	1.21	-2.24	-1.42	-0.52
F_BOR	4046	0.68	0.25	0.48	0.67	0.96
Boone	4510	-4.79	1.41	-5.85	-4.63	-3.82
Lerner	3862	0.33	0.19	0.19	0.30	0.42
TA (\$ mill)	4510	59	150	2.8	8.7	35
ln_TA	4510	16.15	1.85	14.84	15.98	17.38
CAP_A	4510	0.30	0.22	0.14	0.23	0.40
OE_AS	4510	0.18	0.12	0.09	0.14	0.22
PAR30	4510	0.06	0.09	0.01	0.04	0.08
WOR	4510	0.02	0.03	0.00	0.01	0.02
DEPS	4510	0.31	0.44	0.00	0.07	0.53
ln_GDP	4510	25.39	2.00	23.61	25.52	27.52
GDP_G	4510	5.22	3.06	3.89	5.43	6.80
ln_PCI	4510	8.68	0.69	8.27	8.75	9.19
D_CR	4510	46.79	22.58	27.05	48.25	60.87
INFL	4510	7.01	4.19	3.90	6.22	9.31
LNDR	4510	14.60	7.67	10.03	12.80	17.44
PDEN	4510	4.39	1.26	3.56	4.23	5.67
PRUR	4510	47.38	20.43	26.40	47.68	68.37
EC_FR	4510	58.47	5.86	54.10	57.40	62.70
EAS_B	4510	102.18	47.20	52.00	114.00	135.00

Table 6.3 shows the mean values of the Boone indicator, the primary explanatory variable, by country (Panel A), by year, and by region (Panel B).<sup>70</sup> The mean value of the Boone indicator shows a high degree of competition (on average -4.79) in the microfinance market worldwide. These results also suggest that the level of competition in the microfinance market

<sup>70</sup> Among the 63 countries, four countries (Azerbaijan, Chile, Haiti, and Romania) have insufficient observations to run the RE GLS regressions; hence these countries are dropped from the Boone indicator estimation. Therefore, the Boone indicator is estimated for 59 countries finally.

varies among the countries and regions even though it remains almost stable over the years.<sup>71</sup> The same can be said for the Lerner index (0.33),<sup>72</sup> an alternative measure of competition used in the robustness tests. Although there is no benchmark study for the degree of competition, Kar (2016) is used to compare the Boone indicator results. However, Kar (2016) uses ROA as the dependent variable in estimating Beta, and examines only ten countries, while the sample in this study covers 59 countries. Although the methodology and the measurement of the magnitude differ from Kar (2016), this study also uncovers similar evidence on the degree of competition in the sample countries. However, the estimation of the Lerner index shows a higher degree of competition compared to research by Assefa et al. (2013), as Assefa et al. (2013) only examines commercial MFIs.

Among the control variables (Table 6.2), *ln\_TA* indicates that the sample MFIs significantly vary in size, ranging from very small to large. The average ratio of operating expenses to total assets is 18 percent, and the average ratio of capital to total assets is 0.30 percent. Further, the ratio of deposit to gross loan portfolio is 31 percent. However, the age of the MFIs indicates that a majority of the MFIs are still in their infancy. Further, both the portfolio at risk (PAR30) and the write off ratios (WOR) indicate that a significant portion (6 percent) of the MFI portfolio has been in arrears for more than 30 days, and 2 percent of the loan portfolio has already been written off. The macro economy and the demographic variables in the descriptive statistics also show a significant variation among the different countries. Ultimately, the descriptive statistics shown in Table 6.2 demonstrate a significant level of variation among the MFIs, supporting the suitability of using the robust regression.

**Table 6.3 Estimation Results of the Level of Competition in Microfinance Industry**

<b>Panel A: Boone Indicator (Beta) and Lerner Index by country</b>					
<b>Country</b>	<b>Boone<sup>b</sup></b>	<b>Lerner<sup>b</sup></b>	<b>Country</b>	<b>Boone</b>	<b>Lerner</b>
Afghanistan	-3.16	0.28	Kazakhstan	-3.15	0.41
Albania	-2.43	0.20	Kenya	-4.26	0.24

<sup>71</sup> The degree of competition is high in some countries such as in Indonesia, Vietnam, India, Russia, Mexico, Bulgaria, Uzbekistan, and in Peru. For some other countries such as in Paraguay, Congo, Jordan, Albania, and Madagascar, the level of competition is low. The regional statistics of the Boone indicator also show that the degree of competition is high in the East Asia and the Pacific region (-5.51) and in the South Asian region (-5.01), and is low in the Middle East and North African region (-2.91). It indicates that the level of competition varies among the regions.

<sup>72</sup> As very few observations have a Lerner index outside the range of 0 to 1, these observations are excluded in the model considering them as outliers. Lerner index can be zero if the marginal costs are higher than marginal return, and the MFI make losses. However, in the case of microfinance, this is not always true, because some MFIs obtain subsidies or other forms of grants that cover the costs. On the other hand, Lerner index can be more than one if either the price or the marginal costs are negative, which make it unrealistic. Hence, the estimation of Lerner index with such price or cost margin is unreliable; therefore, excluded in the model.

Argentina	-3.41	0.41	Kosovo	-3.68	0.23
Armenia	-3.59	0.31	Kyrgyzstan	-3.72	0.33
Azerbaijan <sup>a</sup>	--	0.56	Macedonia	-2.55	0.21
Bangladesh	-4.70	0.19	Madagascar	-2.31	0.43
Benin	-3.39	0.31	Mali	-2.44	0.22
Bolivia	-4.18	0.31	Mexico	-5.75	0.33
Bosnia and Herzegovina	-3.09	0.49	Mongolia	-3.20	0.33
Brazil	-4.62	0.37	Morocco	-3.59	0.31
Bulgaria	-5.56	0.69	Nepal	-3.83	0.30
Burkina Faso	-4.23	0.28	Nicaragua	-3.91	0.24
Burundi	-3.49	0.51	Niger	-2.47	0.32
Cambodia	-4.07	0.23	Nigeria	-3.32	0.62
Cameroon	-3.10	0.41	Pakistan	-4.21	0.41
Chile <sup>a</sup>	--	0.59	Palestine	-2.45	0.59
Colombia	-5.09	0.16	Paraguay	-2.25	0.37
Congo, Democratic	-2.50	0.58	Peru	-5.36	0.27
Costa Rica	-3.35	0.47	Philippines	-4.63	0.33
Dominican Republic	-3.48	0.23	Romania <sup>a</sup>	--	0.96
Ecuador	-5.10	0.28	Russia	-5.79	0.21
Egypt	-2.90	0.44	Rwanda	-2.72	0.67
El Salvador	-3.95	0.20	Senegal	-3.67	0.30
Ethiopia	-4.07	0.38	Serbia	-2.77	0.24
Georgia	-3.96	0.31	Sri Lanka	-4.34	0.16
Ghana	-4.29	0.26	Tajikistan	-4.47	0.47
Guatemala	-3.54	0.31	Tanzania	-3.38	0.25
Haiti <sup>a</sup>	--	0.55	Togo	-3.38	0.52
Honduras	-3.68	0.31	Uganda	-4.09	0.44
India	-5.97	0.25	Uzbekistan	-5.31	0.38
Indonesia	-7.92	0.27	Vietnam	-7.33	0.37
Jordan	-2.25	0.66	Overall Mean	-4.55	0.33

**Panel B:** Boone Indicator and Lerner Index by year and by region of operation

Year	Boone	Lerner	Region	Boone	Lerner
2005	-4.50	0.33	Africa	-3.58	0.37
2006	-4.50	0.34	East Asia and the Pacific	-5.51	0.30
2007	-4.71	0.33	Eastern Europe and Central Asia	-4.25	0.40
2008	-4.74	0.33	Latin America and The Caribbean	-4.64	0.30
2009	-4.66	0.32	Middle East and North Africa	-2.91	0.48
2010	-4.63	0.33	South Asia	-5.01	0.27
2011	-4.58	0.32			
2012	-4.39	0.33			
2013	-4.44	0.34			
2014	-3.47	0.35			
Average	-4.55	0.33			

<sup>a</sup> Due to the insufficient sample size to run the regression, four countries (Azerbaijan, Chile, Romania, and Haiti) are dropped in the Boone indicator estimation though we measured elasticity and marginal costs using TCF.

<sup>b</sup> Larger negative Beta (Boone indicator) and smaller Lerner index indicate more degree of competition.

### **6.5.2 Correlation Matrix**

Table 6.4 presents the correlation matrix of the variables used in the empirical model. Among the dependent variables, OSS and FSS have the most significant ( $p < 0.05$ ) and the highest level of correlation (0.98). As per the researcher's expectation, ROA is significantly correlated with both OSS (0.76) and FSS (0.78) respectively. Z-SCR is also significantly ( $p < 0.05$ ) correlated with OSS, FSS, and ROA, with a correlation coefficient of 0.30, 0.31 and 0.27 respectively. The literature on microfinance performance (e.g., Morduch, 1999) argues that MFIs adopt a social mission of serving poor people while ensuring their financial sustainability. If there is a higher and negative correlation between financial performance and outreach performance, this could reflect a problem in the estimation. In this data, however, the correlation between NAB and each of the financial performance variables (OSS, FSS, ROA) is minimal (0.01, 0.01 and 0.05 respectively) and positive, which indicates the independence of the MFIs' double bottom line objectives. Although the correlation between Z-SCR and NAB is negative, the coefficient is small. The primary explanatory variable, the Boone indicator, is significantly ( $p < 0.01$ ) correlated with the dependent variables, thereby validating the hypothesized relationship between competition and MFI performance. Kennedy (2008) suggests that multicollinearity is a problem in the regression model if the correlation coefficient of any of the explanatory variables is above 0.70. However, none of the explanatory variables in this study are invalid. Further, as suggested by Hsiao (2014), the multicollinearity problem is further reduced as the panel data model provides more data points. Overall, the correlation matrix indicates the appropriateness of the variables for the regression.

**Table 6.4 Pearson's Pairwise Correlation Matrix of the Variables used in the Empirical Model**

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1 OSS	1.00																								
2 FSS	<b>0.98*</b>	1.00																							
3 ROA	<b>0.76*</b>	<b>0.78*</b>	1.00																						
4 Yield	-0.03	-0.02	<b>0.09*</b>	1.00																					
5 Z-SCR	<b>0.30*</b>	<b>0.31*</b>	<b>0.27*</b>	-0.01	1.00																				
6 NAB	0.01	0.01	<b>0.05*</b>	-0.03*	<b>-0.21*</b>	1.00																			
7 ALB	<b>0.14*</b>	<b>0.13*</b>	<b>0.05*</b>	<b>-0.44*</b>	<b>0.05*</b>	<b>-0.25*</b>	1.00																		
8 F_BOR	<b>-0.08*</b>	<b>-0.08*</b>	-0.02	<b>0.12*</b>	<b>-0.11*</b>	<b>0.39*</b>	<b>-0.62*</b>	1.00																	
9 BOONE	<b>0.12*</b>	<b>0.12*</b>	<b>0.12*</b>	<b>-0.14*</b>	<b>0.19*</b>	<b>0.07*</b>	<b>0.37*</b>	<b>-0.26*</b>	1.00																
10 ln_TA	<b>0.07*</b>	<b>0.08*</b>	<b>0.08*</b>	<b>-0.13*</b>	<b>-0.14*</b>	<b>0.77*</b>	<b>0.24*</b>	<b>-0.07*</b>	<b>0.24*</b>	1.00															
11 CAP_A	<b>0.24*</b>	<b>0.25*</b>	<b>0.18*</b>	<b>0.19*</b>	<b>0.67*</b>	<b>-0.27*</b>	<b>-0.12*</b>	-0.04*	<b>0.07*</b>	<b>-0.28*</b>	1.00														
12 OE_AS	<b>-0.33*</b>	<b>-0.343*</b>	<b>-0.33*</b>	<b>0.77*</b>	<b>-0.05*</b>	<b>-0.08*</b>	<b>-0.43*</b>	<b>0.14*</b>	<b>-0.15*</b>	<b>-0.25*</b>	<b>0.20*</b>	1.00													
13 PAR30	<b>-0.20*</b>	<b>-0.21*</b>	<b>-0.25*</b>	-0.03*	<b>-0.05*</b>	<b>-0.08*</b>	0.02	<b>-0.11*</b>	-0.02	<b>-0.06*</b>	-0.03	0.02	1.00												
14 WOR	<b>-0.20*</b>	<b>-0.21*</b>	<b>-0.22*</b>	<b>0.32*</b>	-0.03	0.02	<b>-0.15*</b>	-0.04*	<b>-0.04*</b>	0.04*	<b>0.11*</b>	<b>0.35*</b>	<b>0.21*</b>	1.00											
15 DEPS	-0.03	-0.03*	-0.03*	<b>-0.11*</b>	<b>-0.24*</b>	0.03*	<b>0.28*</b>	<b>-0.19*</b>	0.04*	<b>0.24*</b>	<b>-0.36*</b>	<b>-0.19*</b>	<b>0.09*</b>	<b>-0.06*</b>	1.00										
16 ln_GDP	<b>-0.07*</b>	<b>-0.07*</b>	-0.03*	<b>0.13*</b>	<b>-0.25*</b>	<b>0.13*</b>	<b>-0.55*</b>	<b>0.34*</b>	<b>-0.59*</b>	-0.03*	<b>-0.10*</b>	<b>0.05*</b>	0.02	<b>0.04*</b>	0.00	1.00									
17 GDP_G	<b>0.10*</b>	<b>0.12*</b>	<b>0.07*</b>	<b>-0.20*</b>	<b>-0.05*</b>	<b>0.15*</b>	0.04*	<b>0.13*</b>	<b>-0.12*</b>	0.02	<b>-0.08*</b>	<b>-0.17*</b>	<b>-0.12*</b>	<b>-0.15*</b>	0.01	<b>0.09*</b>	1.00								
18 ln_PCI	0.00	0.00	0.04*	<b>0.29*</b>	<b>0.12*</b>	<b>-0.23*</b>	<b>-0.32*</b>	<b>-0.12*</b>	<b>-0.19*</b>	0.02	<b>0.12*</b>	<b>0.15*</b>	0.03	<b>0.15*</b>	-0.02	<b>0.42*</b>	<b>-0.28*</b>	1.00							
19 D_CR	0.00	0.00	-0.01	<b>-0.23*</b>	<b>0.07*</b>	<b>0.17*</b>	<b>-0.30*</b>	<b>0.30*</b>	<b>-0.09*</b>	-0.02	<b>0.06*</b>	<b>-0.13*</b>	-0.02	<b>-0.04*</b>	<b>-0.25*</b>	<b>0.32*</b>	<b>-0.04*</b>	<b>0.08*</b>	1.00						
20 INFL	<b>0.05*</b>	<b>0.05*</b>	0.01	<b>-0.36*</b>	<b>-0.09*</b>	-0.03	<b>0.13*</b>	<b>0.05*</b>	-0.03	<b>-0.13*</b>	<b>-0.06*</b>	<b>-0.15*</b>	<b>-0.04*</b>	<b>-0.15*</b>	0.00	0.00	<b>0.24*</b>	<b>-0.34*</b>	<b>0.07*</b>	1.00					
21 LNDR	<b>0.04*</b>	<b>0.05*</b>	<b>0.05*</b>	0.01	-0.01	<b>-0.13*</b>	<b>0.26*</b>	<b>-0.31*</b>	<b>0.21*</b>	0.02	<b>0.12*</b>	<b>0.04*</b>	0.00	0.03	-0.01	<b>-0.16*</b>	-0.02	<b>-0.12*</b>	<b>-0.22*</b>	0.01	1.00				
22 PDEN	-0.03*	-0.03	<b>-0.04*</b>	<b>-0.15*</b>	<b>-0.09*</b>	<b>0.33*</b>	<b>-0.33*</b>	<b>0.47*</b>	<b>-0.14*</b>	<b>-0.08*</b>	<b>-0.10*</b>	<b>-0.10*</b>	0.02	<b>-0.11*</b>	<b>-0.07*</b>	<b>0.21*</b>	<b>0.16*</b>	<b>-0.36*</b>	<b>0.41*</b>	<b>0.09*</b>	<b>-0.36*</b>	1.00			
23 PRUR	-0.01	-0.01	-0.05*	<b>-0.34*</b>	<b>-0.13*</b>	<b>0.25*</b>	<b>0.08*</b>	<b>0.29*</b>	<b>0.04*</b>	<b>-0.10*</b>	<b>-0.16*</b>	<b>-0.21*</b>	-0.02	<b>-0.20*</b>	0.03	<b>-0.14*</b>	<b>0.29*</b>	<b>-0.81*</b>	<b>0.11*</b>	<b>0.43*</b>	<b>-0.12*</b>	<b>0.67*</b>	1.00		
24 EC_FR	0.02	0.03	0.03*	<b>0.33*</b>	<b>0.13*</b>	<b>-0.08*</b>	-0.03	<b>-0.23*</b>	<b>0.16*</b>	<b>0.15*</b>	<b>0.17*</b>	<b>0.20*</b>	0.00	<b>0.23*</b>	<b>-0.15*</b>	<b>-0.15*</b>	<b>-0.214*</b>	<b>0.42*</b>	<b>-0.20*</b>	<b>-0.38*</b>	<b>0.08*</b>	<b>-0.27*</b>	<b>-0.53*</b>	1.00	
25 EAS_B	0.03*	0.03*	0.02	<b>-0.14*</b>	0.00	0.00	0.02	0.03*	<b>-0.07*</b>	-0.03*	-0.04*	<b>-0.12*</b>	-0.03*	<b>-0.14*</b>	<b>-0.06*</b>	<b>0.07*</b>	<b>0.11*</b>	<b>-0.05*</b>	<b>0.05*</b>	<b>0.09*</b>	-0.03	<b>0.09*</b>	<b>0.11*</b>	<b>-0.12*</b>	1.00

**Note:** \* significant at 5%, bold values are significant at 1%.

### 6.5.3 Empirical Results

#### 6.5.3.1 Market Power and MFI Financial Performance

Table 6.5 presents the results of the random effect GLS regression of the association between competition and microfinance performance. Column (1) in Panel A of Table 6.5 shows that the coefficient between the Boone and OSS is significant ( $p < 0.05$ ) and positive ( $= 0.012$ ). This positive coefficient indicates that the degree of competition has a negative association with MFI operational sustainability. The larger the negative value of the Boone indicator is, the stronger is the competition in the microfinance industry, and the weaker the operational self-sufficiency of the MFIs. Economically, for instance, this result shows that for one standard deviation (S.D.) increase in Boone (i.e., a decrease in competition) OSS increases by 1.13 percent relative to the mean. This result indicates that when the degree of competition increases, MFIs are unable to cover their costs from their revenues. Further, in the second column (Panel A), Boone has a significant ( $p < 0.05$ ) and positive ( $= 0.012$ ) association with FSS. Economically, this means that there is a 1.45 percent increase in FSS relative to the mean for one S.D. increase in the Boone (decrease in competition). This result indicates that when the degree of competition increases, (the Boone has a more significant negative value), the MFI is unable to sustain itself without ongoing subsidies or in-kind donations. Hence, increasing the degree of competition reduces the capacity of MFIs to become financially self-sufficient. As predicted in H1, this negative influence of competition stems from the possibility of a reduction of subsidized funds and soft loans with an increase in the number of microfinance participants. Column (3) in Panel A of Table 6.5 also shows a positive association ( $= 0.00247$ ) between Boone and ROA, although the significance of the association is weak ( $p < 0.10$ ). This result also supports H1. Together, the baseline results (Panel A of Table 6.5) demonstrates the negative influence of competition on MFI economic self-sufficiency and financial performance, thereby supporting H1.

Although Mersland and Strøm (2009) suggest a positive association between competition and portfolio yield, the findings of this study suggest a negative association between the degree of competition and MFI financial performance. Hence, the proposition of Besley and Ghatak (2005) and the arguments of the neo-classical, institutional economists are not entirely appropriate for the microfinance industry. Instead, the findings of this study support the findings of Assefa et al. (2013), although that study measures the impact of competition on repayment performance only. The negative impact of competition on MFI financial performance is due to the following reasons. An increase in competition means that MFI employees must be more careful when selecting clients; the MFIs follow a cautious lending technique as their clients find an opportunity to take multiple loans if rival MFIs follow aggressive lending methods. The credit officers must exercise caution and use more effort and time to collect information from the prospective client before lending to them, and use more time to monitor and follow-up existing clients to ensure timely repayment of the credit. Hence, the number of clients per employee (particularly credit officers) reduces, and the costs per amount of credit increases. Ultimately, the cost of operations increases and aggressive lending reduces interest rates.

**Table 6.5 Random Effect GLS Results of Competition and Microfinance Performance**

Variables	Panel A: Financial Performance					Panel B: Social Performance		
	(1) OSS	(2) FSS	(3) ROA	(4) Yield	(5) Z-SCR	(6) NAB	(7) ALB	(8) F_BOR
Boone	0.012** (0.006)	0.012** (0.006)	0.003* (0.001)	-0.001 (0.002)	-0.007 (0.076)	0.053*** (0.015)	-0.021* (0.013)	0.000 (0.003)
ln_TA	0.014*** (0.005)	0.015*** (0.005)	0.002* (0.001)	0.004 (0.002)	-0.011 (0.049)	0.847*** (0.035)	0.129*** (0.037)	-0.001 (0.003)
CAP_A	0.353*** (0.048)	0.338*** (0.047)	0.078*** (0.014)	0.041*** (0.015)	16.627*** (0.557)	-0.208** (0.089)	-0.008 (0.076)	-0.035** (0.014)
OE_AS	-1.049*** (0.074)	-1.015*** (0.073)	-0.363*** (0.035)	0.653*** (0.045)	-7.068*** (0.799)	1.543*** (0.268)	-1.445*** (0.248)	0.121** (0.047)
PAR30	-0.605*** (0.079)	-0.618*** (0.074)	-0.187*** (0.025)	-0.095*** (0.020)	-2.097*** (0.715)	0.108 (0.132)	0.028 (0.103)	-0.089*** (0.031)
WOR	-0.581*** (0.164)	-0.613*** (0.156)	-0.158*** (0.060)	0.069 (0.063)	-5.612** (2.436)	-0.102 (0.296)	-0.595** (0.263)	0.048 (0.069)
DEPS	-0.017 (0.017)	-0.017 (0.017)	-0.004 (0.005)	0.003 (0.006)	-0.291* (0.174)	-0.433*** (0.051)	0.194*** (0.056)	-0.057*** (0.015)
ln_GDP	-0.003 (0.006)	-0.002 (0.006)	0.002 (0.001)	0.015*** (0.002)	-1.012*** (0.103)	0.170*** (0.019)	-0.209*** (0.021)	0.033*** (0.004)
GDP_G	0.004** (0.002)	0.004** (0.002)	0.001* (0.000)	-0.001 (0.000)	0.166*** (0.021)	-0.004 (0.003)	0.007*** (0.003)	0.000 (0.001)
ln_PCI	0.026 (0.026)	0.030 (0.026)	-0.004 (0.005)	-0.010 (0.008)	1.698*** (0.354)	-0.464*** (0.078)	-0.378*** (0.076)	-0.034* (0.019)
D_CR	-0.001 (0.000)	-0.000 (0.000)	-0.000*** (0.000)	-0.001*** (0.000)	0.007* (0.004)	0.004*** (0.001)	-0.003*** (0.001)	0.001*** (0.000)
INFL	0.004** (0.001)	0.003** (0.001)	0.000 (0.000)	-0.009*** (0.000)	0.003 (0.017)	0.005** (0.002)	0.003 (0.002)	0.001 (0.001)
LNDR	0.002* (0.001)	0.002** (0.001)	0.000 (0.000)	0.000 (0.000)	-0.036*** (0.001)	-0.006** (0.002)	0.007** (0.002)	-0.004*** (0.001)

	(0.001)	(0.001)	(0.000)	(0.000)	(0.012)	(0.003)	(0.003)	(0.001)
PDEN	0.015	0.013	0.007***	0.003	0.524***	0.371***	-0.318***	0.048***
	(0.011)	(0.011)	(0.002)	(0.004)	(0.122)	(0.036)	(0.035)	(0.008)
PRUR	-0.001	-0.000	-0.001***	-0.001**	-0.029**	0.009***	0.000	0.001
	(0.001)	(0.001)	(0.000)	(0.000)	(0.012)	(0.003)	(0.003)	(0.001)
EC_FR	0.003**	0.004***	0.001**	0.003***	-0.082***	-0.005	-0.004	-0.003***
	(0.002)	(0.001)	(0.000)	(0.000)	(0.023)	(0.004)	(0.003)	(0.001)
EAS_B	-0.000	-0.000	-0.000	-0.000	0.003	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)
Constant	0.771***	0.631**	0.008	-0.237**	15.441***	-6.044***	6.869***	0.079
	(0.275)	(0.275)	(0.064)	(0.097)	(3.442)	(1.091)	(1.141)	(0.191)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,510	4,499	4,509	4,508	4,506	4,483	4,482	4,046
Number of id	1,118	1,117	1,118	1,118	1,118	1,115	1,115	1,070

**Note:** Robust standard errors are in parentheses. \*\*\*, \*\* and \* indicate significance level at 1%, 5% and 10% respectively.

As a consequence of this, competition in this market has an adverse effect on the return on assets of the MFIs. Furthermore, when a large number of MFIs enter the market, and the existing MFIs want to increase the scale of their operations, they must obtain commercial funds from different sources such as commercial banks, MIVs, and private investors. The cost of these funds is higher compared to subsidized funds. Although a few commercial and profitable MFIs have entered the capital market, non-profit MFIs, village banks, and COOPs are not able to do so. Hence, the cost of funds increases and the competition to attract new clients and retain existing clients increase the cost of operations. Ultimately, this has a negative impact on the financial self-sufficiency of the MFI.

#### *6.5.3.2 Competition and MFI Social Performance*

Panel B of Table 6.5 presents the results of the association between competition and MFI social performance. Column (6) in Panel B shows that the coefficient between Boone and NAB is strongly significant ( $P < 0.01$ ) and positive ( $= 0.053$ ). It indicates that the stronger the degree of competition is (i.e., the higher the negative Boone is), the less is the number of clients the MFIs can reach out. The less number of clients the MFIs serve, the lower their breadth of outreach is and, hence, the lower their social performance is. For instance, for one S.D. increase in Boone (decrease in competition) the number of active borrowers increases by 7.47 percent relative to the mean. These findings support the findings of McIntosh and Wydick (2005), McIntosh et al. (2005) and Assefa et al. (2013).

There are several reasons for this negative relationship between competition and MFI social performance. When the number of microfinance participants increases, some MFIs must find either an alternative market segment or retain their existing clients by offering them different incentives and by softening their lending formalities. MFI clients use this opportunity to obtain multiple loans from different MFIs. Hence, they accumulate large amounts of debt and are often unable to generate adequate income to meet their repayments. As the MFIs provide credit to poor clients without formal collateral, it is difficult to recover the defaulted loan from over-indebted clients. It adversely affects the MFIs' loan portfolio. In order to overcome this problem, MFIs adopt cautious lending techniques. The borrowers in this situation move to other MFIs that use aggressive lending techniques and simplify their lending formalities. In such a situation, the MFIs that use a strict lending methodology are at risk of losing their clients. In addition, when the competition continues to increase, the aggressive MFIs also suffer a decline in their loan portfolio due to the increasing amount of defaulted loans. As a consequence, the MFIs must restrict their lending procedures to recover their portfolio. Ultimately, all of the MFIs

in the market lose their clients in this way when competition increases.

Furthermore, Column (7) in Panel B shows that Boone has a negative ( $= -0.021$ ) association with ALB, although the relationship is weak ( $p < 0.10$ ). This result indicates that the stronger the degree of competition (negative Boone), the larger the average loan balance per borrower is. As poor borrowers have limited means to obtain and use larger loans, they are typically underserved as the MFI focuses on wealthy borrowers to provide larger loans and reduce the cost per dollar of the loan. Hence, competition in the microfinance market forces the MFIs to recover the cost of serving poor borrowers by offering larger loans to wealthier borrowers. It pushes the more impoverished borrowers out of the outreach target, as the literature suggests that poorer borrowers cannot obtain larger loans due to their inability to repay them. Hence, competition has an adverse effect on the depth of outreach. Serving wealthy borrowers in this way is inconsistent with the social mission of MFIs. This finding supports the proposition by McIntosh and Wydick (2005) that increased competition may result in a loss of poorer borrowers. The findings of this study are inconsistent with the findings of Cull et al. (2014) who posit that potential competition from the formal financial sector pushes MFIs into deeper outreach towards poorer borrowers. Overall, this study suggests that competition deteriorates MFI social performance through an adverse effect on both the breadth and depth of outreach, thereby supporting H2.

The results of this study also demonstrate the importance of the inclusion of firm-specific and macroeconomic specific control variables in the model. Among the firm-specific control variables, as expected by the literature (Chakrabarty & Bass, 2014; Mersland & Strøm, 2009; Strøm et al., 2014), size of the MFI ( $\ln TA$ ) has a significant and positive association with all of the financial and social performance variables. Likewise, as expected by the literature (Hartarska, 2009), the capital adequacy of the MFIs, and in line with Cuéllar-Fernández et al. (2016), the ratio of operating expenses to total assets, also have a significant and positive association with the financial and social performance variables. Portfolio at risk (PAR30) and write off ratio (WOR) also have a significant and negative association with the financial and some of the outreach performance measures (Ahlin et al., 2011; Mersland & Strøm, 2009; Strøm et al., 2014). Further, as suggested by Cuéllar-Fernández et al. (2016), deposit ratio has an adverse influence on outreach performance.

Furthermore, in line with the literature (Ahlin et al., 2011; Schaeck & Cihák, 2014; Vanroose & D'espallier, 2013), the size of the economy ( $\ln\_GDP$ ) and per capita income both have a positive association with the breadth of outreach but a negative association with the depth of outreach, and a mixed association with the financial performance variables. Meanwhile, GDP growth has a positive impact on financial performance and a negative impact on social performance. Further, the inflation rate, lending rate and the domestic credit provided by

financial institutions are also important for MFI performance (Ahlin et al., 2011; Assefa et al., 2013; Vanroose & D'espallier, 2013). Besides, the index of economic freedom, the density of the population, and the percentage of the rural population also have a significant association with MFI financial and social performance.

#### 6.5.4 Robustness Tests

As a robustness test, this study uses the Lerner index as an alternative proxy to competition in measuring the impact of competition on MFI performance. Further, the study conducts separate regressions for the sample of commercial MFIs using both the Boone indicator (Table 6.7) and Lerner index (Table 6.8).

##### 6.5.4.1 Lerner Index, Full Sample

As a check for robustness, in following Assefa et al. (2013), this study first uses the Lerner index. Similar to the Boone indicator, this is a direct measure of competition at the firm level. It measures the difference between output price and the marginal cost of production, scaled by output price at the firm level (Assefa et al., 2013; Maudos & de Guevara, 2007), and is shown in equation (5) as follows:

$$Li = \frac{P_i - MC_i}{P_i} \quad (5)$$

Where ( $P_i$ ) is the output price, and  $MC_i$  is the marginal cost of MFI  $i$ . This study uses the marginal cost from equation (3) and (4) to calculate the Boone indicator. The output price ( $P_i$ ) is the yield on the gross loan portfolio, a simple measure because all of the MFIs do not accept deposits. In a perfectly competitive market, the price is equal to marginal costs; hence, the value of the Lerner index is equal to zero. Where the firm sets prices above marginal costs, the index will be close to zero (Assefa et al., 2013; Fernández de Guevara, Maudos, & Pérez, 2007).

Table 6.6 shows the results of the full sample of all of the MFIs. In Panel A, all of the measures of financial performance have significant ( $p < 0.01$ ) and positive Lerner index. Even though the Boone indicator is insignificant for both portfolio yield and the Z-score in the baseline model, the robustness tests in Column (4) and (5) in Panel A of Table 6.6 show that the relationship with the Lerner index is strong, significant ( $p < 0.01$ ) and positive with the Yield (= 0.142) and Z-SCR (= 1.892). Hence, controlling for macro-economic and firm-specific variables, when using the Lerner index instead of the Boone indicator, the results show strong evidence of the negative association between competition and all of the measures of financial performance (OSS, FSS, ROA, Portfolio Yield, and Z-score). This table supports H1.

**Table 6.6 Robustness Tests with Financial and Social Performance Variables when used Lerner Index for the Full Sample**

Variables	Panel A: Financial Performance					Panel B: Social Performance		
	(1) OSS	(2) FSS	(3) ROA	(4) Yield	(5) Z-SCR	(6) NAB	(7) ALB	(8) F_BOR
Lerner	0.664*** (0.046)	0.643*** (0.042)	0.099*** (0.010)	0.142*** (0.012)	1.892*** (0.460)	0.277*** (0.076)	0.033 (0.061)	-0.034** (0.017)
ln_TA	0.007 (0.005)	0.009* (0.005)	0.001 (0.001)	-0.001 (0.002)	0.003 (0.052)	0.871*** (0.019)	0.087*** (0.016)	0.001 (0.004)
CAP_A	0.289*** (0.048)	0.277*** (0.048)	0.045*** (0.012)	0.001 (0.013)	16.573*** (0.622)	-0.098 (0.085)	-0.059 (0.071)	-0.029* (0.015)
OE_AS	-0.732*** (0.081)	-0.685*** (0.082)	-0.113*** (0.032)	0.974*** (0.038)	-4.663*** (0.905)	2.297*** (0.223)	-2.090*** (0.217)	0.263*** (0.047)
PAR30	-0.474*** (0.090)	-0.494*** (0.084)	-0.143*** (0.026)	-0.050*** (0.018)	-1.594* (0.868)	0.114 (0.133)	0.070 (0.103)	-0.103*** (0.038)
WOR	-0.629*** (0.167)	-0.642*** (0.159)	-0.168*** (0.042)	0.109** (0.054)	-7.698** (3.081)	-0.123 (0.242)	-0.055 (0.242)	-0.045 (0.080)
DEPS	0.005 (0.017)	0.003 (0.016)	-0.000 (0.003)	0.015** (0.006)	-0.211 (0.190)	-0.401*** (0.064)	0.249*** (0.071)	-0.069*** (0.016)
ln_GDP	0.003 (0.005)	0.004 (0.005)	0.002* (0.001)	0.017*** (0.002)	-0.946*** (0.100)	0.177*** (0.019)	-0.226*** (0.020)	0.040*** (0.004)
GDP_G	0.003* (0.002)	0.003** (0.001)	0.001** (0.000)	-0.000 (0.000)	0.138*** (0.020)	0.000 (0.002)	0.006** (0.002)	-0.001 (0.001)
ln_PCI	0.046** (0.023)	0.047** (0.022)	0.006 (0.004)	-0.003 (0.007)	1.486*** (0.333)	-0.572*** (0.073)	-0.330*** (0.077)	-0.083*** (0.018)
D_CR	-0.001 (0.000)	-0.001 (0.000)	-0.000* (0.000)	-0.001*** (0.000)	0.018*** (0.004)	0.004*** (0.001)	-0.003*** (0.001)	0.001*** (0.000)
INFL	0.002* (0.001)	0.002** (0.001)	0.000 (0.000)	-0.009*** (0.000)	-0.032* (0.018)	0.001 (0.002)	0.006*** (0.002)	0.001 (0.001)
LNDR	0.001	0.002*	0.000	-0.000	-0.065***	-0.009***	0.009***	-0.005***

	(0.001)	(0.001)	(0.000)	(0.000)	(0.012)	(0.003)	(0.003)	(0.001)
PDEN	-0.001	0.000	0.000	-0.006*	0.193	0.340***	-0.286***	0.043***
	(0.010)	(0.010)	(0.002)	(0.003)	(0.122)	(0.036)	(0.035)	(0.008)
PRUR	0.001	0.001	-0.000	0.000	-0.017	0.009***	-0.001	-0.000
	(0.001)	(0.001)	(0.000)	(0.000)	(0.012)	(0.003)	(0.003)	(0.001)
EC_FR	0.003*	0.003**	0.000	0.003***	-0.078***	0.001	-0.009**	-0.002**
	(0.001)	(0.001)	(0.000)	(0.000)	(0.023)	(0.003)	(0.003)	(0.001)
EAS_B	0.000	0.000	0.000	-0.000	0.003	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)
Constant	0.301	0.217	-0.115**	-0.343***	15.560***	-6.311***	7.829***	0.292
	(0.240)	(0.238)	(0.056)	(0.089)	(3.213)	(0.819)	(0.886)	(0.182)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,862	3,854	3,861	3,862	3,858	3,841	3,840	3,480
Number of id	1,026	1,025	1,026	1,026	1,026	1,025	1,025	980

**Note:** <sup>a</sup> Lerner index outside the range of 0 to 1 are not included in the sample, due to which the firm-year observation decreased, and the numbers of MFIs dropped from 1,115 to 1,025. Robust standard errors are in parentheses. \*\*\*, \*\* and \* indicate significance level at 1%, 5% and 10% respectively.

**Table 6.7 Robustness Check with Financial and Social Performance Variables when used Boone Indicator for the Commercial MFIs**

Variables	Panel A: Financial Performance					Panel B: Social Performance		
	(1) OSS	(2) FSS	(3) ROA	(4) Yield	(5) Z-SCR	(6) NAB	(7) ALB	(8) F_BOR
Boone	0.018**	0.015*	0.004	-0.001	0.225**	0.049**	-0.030	0.001
	(0.009)	(0.008)	(0.003)	(0.004)	(0.099)	(0.021)	(0.020)	(0.005)
ln_TA	0.011	0.012	-0.001	-0.003	0.012	0.880***	0.071***	0.005
	(0.007)	(0.007)	(0.002)	(0.003)	(0.060)	(0.024)	(0.020)	(0.005)
CAP_A	0.421***	0.399***	0.109***	0.057**	14.629***	-0.184	0.022	-0.032
	(0.068)	(0.064)	(0.022)	(0.028)	(0.757)	(0.138)	(0.113)	(0.025)
OE_AS	-1.119***	-1.081***	-0.464***	0.569***	-5.702***	1.282***	-1.560***	0.078
	(0.107)	(0.103)	(0.051)	(0.074)	(0.938)	(0.322)	(0.293)	(0.075)
PAR30	-0.525***	-0.569***	-0.198***	-0.086***	-1.084	0.281*	-0.027	-0.099*

	(0.123)	(0.110)	(0.036)	(0.030)	(0.726)	(0.161)	(0.123)	(0.052)
WOR	-0.450**	-0.417**	-0.094	0.142	1.473	0.832*	-1.349***	0.133
	(0.216)	(0.208)	(0.105)	(0.111)	(2.682)	(0.494)	(0.495)	(0.098)
DEPS	-0.007	-0.006	0.002	0.009	-0.176	-0.471***	0.204***	-0.051***
	(0.022)	(0.022)	(0.008)	(0.009)	(0.182)	(0.063)	(0.074)	(0.018)
ln_GDP	0.014	0.012	0.007***	0.023***	-0.587***	0.181***	-0.245***	0.040***
	(0.009)	(0.009)	(0.002)	(0.004)	(0.104)	(0.034)	(0.036)	(0.007)
GDP_G	0.004*	0.005**	0.001	-0.000	0.165***	-0.005	0.007*	0.001
	(0.002)	(0.002)	(0.001)	(0.001)	(0.025)	(0.004)	(0.004)	(0.001)
ln_PCI	-0.009	-0.004	0.007	-0.011	1.546***	-0.190	-0.631***	-0.019
	(0.035)	(0.035)	(0.008)	(0.013)	(0.341)	(0.124)	(0.123)	(0.032)
D_CR	-0.002***	-0.001**	-0.001***	-0.001***	0.007	0.007***	-0.005**	0.002***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.007)	(0.002)	(0.002)	(0.000)
INFL	0.001	0.001	-0.000	-0.008***	-0.018	0.003	0.003	0.002
	(0.002)	(0.002)	(0.000)	(0.001)	(0.020)	(0.003)	(0.003)	(0.001)
LNDR	0.002	0.002	-0.000	-0.001	-0.021	-0.004	0.005	-0.003***
	(0.002)	(0.002)	(0.000)	(0.001)	(0.016)	(0.005)	(0.005)	(0.001)
PDEN	-0.002	-0.001	-0.003	-0.002	-0.068	0.273***	-0.219***	0.034**
	(0.025)	(0.025)	(0.006)	(0.009)	(0.201)	(0.083)	(0.081)	(0.016)
PRUR	-0.002	-0.002	-0.000	-0.001**	0.011	0.017***	-0.009	0.002
	(0.002)	(0.002)	(0.000)	(0.001)	(0.016)	(0.006)	(0.006)	(0.001)
EC_FR	0.003	0.003	0.001	0.004***	-0.084***	-0.001	-0.008	0.000
	(0.002)	(0.002)	(0.001)	(0.001)	(0.029)	(0.006)	(0.006)	(0.002)
EAS_B	0.000	0.000	0.000	-0.000	0.001	0.000	0.001	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.001)	(0.001)	(0.000)
Constant	0.951**	0.864**	-0.111	-0.283*	7.289*	-9.614***	11.177***	-0.517
	(0.386)	(0.380)	(0.101)	(0.145)	(4.148)	(1.347)	(1.387)	(0.320)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,977	1,975	1,977	1,977	1,976	1,964	1,964	1,692
Number of id	459	459	459	459	459	457	457	435

Note: Robust standard errors are in parentheses. \*\*\*, \*\* and \* indicate significance level at 1%, 5% and 10% respectively.

**Table 6.8 Robustness Check with Financial and Social Performance Variables when used Lerner Index for the Commercial MFIs**

Variables	Panel A: Financial Performance					Panel B: Social Performance		
	(1) OSS	(2) FSS	(3) ROA	(4) Yield	(5) Z-SCR	(6) NAB	(7) ALB	(8) F_BOR
Lerner	0.591*** (0.061)	0.605*** (0.061)	0.103*** (0.015)	0.182*** (0.018)	1.463*** (0.530)	0.441*** (0.112)	-0.095 (0.093)	-0.017 (0.025)
ln_TA	0.007 (0.007)	0.009 (0.007)	-0.002 (0.001)	-0.004* (0.002)	0.054 (0.066)	0.871*** (0.026)	0.076*** (0.022)	0.008 (0.006)
CAP_A	0.436*** (0.075)	0.418*** (0.073)	0.080*** (0.018)	0.021 (0.019)	14.635*** (0.764)	-0.136 (0.130)	-0.029 (0.110)	-0.016 (0.026)
OE_AS	-0.780*** (0.093)	-0.743*** (0.091)	-0.166*** (0.031)	0.963*** (0.043)	-2.639*** (0.897)	2.037*** (0.323)	-2.057*** (0.323)	0.217*** (0.077)
PAR30	-0.435*** (0.123)	-0.486*** (0.108)	-0.141*** (0.035)	-0.062*** (0.024)	-0.828 (0.843)	0.077 (0.188)	0.132 (0.138)	-0.092 (0.057)
WOR	-0.857*** (0.235)	-0.788*** (0.227)	-0.216*** (0.059)	0.144* (0.080)	-1.301 (2.769)	0.443 (0.431)	-0.674 (0.419)	0.016 (0.112)
DEPS	0.003 (0.021)	-0.001 (0.020)	-0.003 (0.004)	0.020** (0.008)	-0.069 (0.202)	-0.458*** (0.083)	0.256*** (0.095)	-0.066*** (0.021)
ln_GDP	0.004 (0.007)	0.003 (0.007)	0.003* (0.002)	0.021*** (0.003)	-0.706*** (0.086)	0.191*** (0.034)	-0.261*** (0.036)	0.047*** (0.008)
GDP_G	0.003 (0.002)	0.003* (0.002)	0.000 (0.000)	-0.000 (0.001)	0.141*** (0.022)	-0.002 (0.004)	0.006* (0.003)	-0.001 (0.001)
ln_PCI	0.018 (0.032)	0.024 (0.031)	0.007 (0.006)	-0.009 (0.010)	1.339*** (0.307)	-0.353*** (0.116)	-0.471*** (0.125)	-0.057* (0.029)
D_CR	-0.001 (0.001)	-0.001 (0.001)	-0.000*** (0.000)	-0.001*** (0.000)	0.021*** (0.008)	0.006*** (0.002)	-0.004** (0.002)	0.002*** (0.000)
INFL	-0.001 (0.002)	-0.001 (0.002)	0.000 (0.000)	-0.009*** (0.001)	-0.029 (0.020)	-0.001 (0.003)	0.007** (0.003)	0.002* (0.001)

LNDR	0.001 (0.001)	0.001 (0.001)	0.000 (0.000)	0.000 (0.001)	-0.019 (0.018)	-0.016*** (0.005)	0.015*** (0.005)	-0.005*** (0.001)
PDEN	-0.027 (0.019)	-0.020 (0.019)	-0.005 (0.004)	-0.010 (0.007)	-0.260 (0.166)	0.218*** (0.078)	-0.177** (0.080)	0.020 (0.017)
PRUR	0.000 (0.001)	0.000 (0.001)	-0.000 (0.000)	-0.000 (0.000)	0.017 (0.013)	0.017*** (0.006)	-0.008 (0.006)	0.001 (0.001)
EC_FR	0.003 (0.002)	0.003 (0.002)	0.000 (0.000)	0.004*** (0.001)	-0.087*** (0.027)	0.006 (0.006)	-0.017** (0.007)	0.002 (0.002)
EAS_B	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.001 (0.002)	0.000 (0.001)	0.000 (0.000)	-0.000 (0.000)
Constant	0.694** (0.335)	0.586* (0.326)	-0.065 (0.077)	-0.363*** (0.119)	9.838*** (3.641)	-8.758*** (1.318)	10.404*** (1.537)	-0.409 (0.314)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,728	1,727	1,728	1,728	1,727	1,719	1,719	1,508
Number of id	441	440	441	441	441	440	440	419

**Note:** Robust standard errors are in parentheses. \*\*\*, \*\* and \* indicate significance level at 1%, 5% and 10% respectively.

Furthermore, Column (6) in Panel B of Table 6.6 shows that the Lerner index has a significant ( $p < 0.01$ ) and positive ( $=0.277$ ) association with NAB, showing strong evidence for the adverse impact of competition on MFI breadth of outreach. Moreover, Column (8) in Panel B of Table 6.6 shows that the Lerner index has a significant ( $p < 0.05$ ) and negative ( $= -0.034$ ) association with the outreach to female clients (F\_BOR), although it is insignificant for the Boone indicator in the baseline model. This result indicates that when the degree of competition increases in the market, the MFIs struggle to retain their existing market share. As a result, they try to reach new clients, such as females, to retain their market share. Hence, the possibility of finding an alternative market or client segment increases when competition intensifies. These findings also supported by research of Navajas et al. (2003) and the prediction in the second hypothesis of this study.

#### 6.5.4.2 *Boone Indicator, Commercial MFIs Only*

This study conducts the regression for the sample of commercial MFIs only, which are profit oriented. With this sample, similar to the baseline results, Panel A of Table 6.7 shows that Boone has a significant and positive association with OSS ( $= 0.018$ ;  $p < 0.05$ ) and FSS ( $= 0.015$ ;  $P < 0.10$ ). Further, Column (5) in Panel A reveals that Z-SCR has a significant ( $p < 0.05$ ) and positive association with the Boone for the sample (profit oriented) MFIs, although the results are not significant in the baseline regression. Similar to the results for the full sample using the Lerner index, these results indicate that when the degree of competition is low, the MFIs become financially stable.

Regarding social performance, similar to the baseline results, Column 6 in Panel B of Table 6.7 also shows that Boone has a significant ( $p < 0.05$ ) and positive ( $= 0.049$ ) association with NAB. This again supports the hypothesized negative influence of competition on MFI breadth of outreach.

#### 6.5.4.3 *Lerner Index, Commercial MFIs Only*

Furthermore, in following Assefa et al. (2013), this study uses the Lerner index for the sample of the profit-oriented and commercial MFIs only. Table 6.8 presents the results of this test. Similar to the first robustness test for the full sample of MFIs, this analysis again reports strong evidence ( $p < 0.01$ ) of the positive association between the Lerner index and all of the financial performance variables (including Yield, and Z-SCR) for the sample of commercial MFIs. Hence, these results are more robust to support the hypothesized negative impact of competition on MFI financial performance.

Nevertheless, Column 6 in Panel B of Table 6.8 shows that the Lerner index has a strong, significant ( $p < 0.01$ ) and positive association with NAB, in the same direction of the association as the Boone indicator (in all the alternative specifications). Together, the results in

Table 6.8 show that when alternative specification (such as Lerner index) is used on a sample of commercial MFIs only, the results are robust to support the hypotheses (H1 and H2).

### **6.5.5 Do the Results hold for a Single Country?**

In addition to the above robustness tests, this study again investigates whether the results are the same for a single economy. This analysis follows the argument within the literature that, due to the differences in the socio-economic and regulatory environment of different countries, the degree of competition and its impact on MFI performance may vary. For this, the study uses the Boone indicator and the MFI specific control variables used in the baseline model as the predictors of MFI performance and conducts the regressions tests a second time. Table 6.9 presents the results of the random effect GLS regressions using the context of Peru, a Latin American country where microfinance has experienced unprecedented growth. Column (1) and (2) in Panel B show that both OSS (=0.066) and FSS (= 0.066) have a strong, significant ( $p<0.01$ ) and positive association with Boone. These variables again show a significant negative influence of competition on the MFI financial performance. However, the Yield has a significant ( $p<0.01$ ) and a negative association with Boone. This association may be due to the large amount of funding support provided by social investors and donor agencies at a relatively low cost.

With respect to social performance, Column (6) in Panel B shows a significant ( $p<0.05$ ) and a negative association between Boone and NAB, which is indicative of a negative relationship between competition and the breadth of outreach. Furthermore, Column (8) shows a negative association between Boone and F\_BOR which suggests that competition forces the MFI to reach out to female borrowers as an alternative client segment. These results also support the robustness of H2.

Furthermore, this study applies the same regression, using the Lerner index instead of using the Boone indicator controlling the same MFI-specific variables. The results also show a significant positive association between the Lerner index and all of the financial performance variables. Even the negative association with the Yield turns into a positive association (= 0.164;  $p<0.01$ ) when using the Lerner index. Nevertheless, when the study uses both the Boone indicator and Lerner index separately on the sample MFIs of India, Philippine, Mexico, Ecuador, and Bangladesh, similar results are found regarding both the financial and social performance variables (the results are unreported).

**Table 6.9 Robustness Check with Financial and Social Performance Variables when used Boone Indicator for a Single Country (Peru)**

Variables	Panel A: Financial Performance					Panel B: Social Performance		
	(1) OSS	(2) FSS	(3) ROA	(4) Yield	(5) Z-SCR	(6) NAB	(7) ALB	(8) F_BOR
Boone	0.066*** (0.018)	0.066*** (0.018)	0.003 (0.007)	-0.028*** (0.006)	-0.135 (0.146)	0.067** (0.032)	0.005 (0.033)	-0.018** (0.008)
ln_TA	0.019 (0.020)	0.018 (0.018)	-0.003 (0.004)	0.002 (0.005)	0.068 (0.057)	0.817*** (0.048)	0.189*** (0.044)	-0.010 (0.013)
CAP_A	0.410** (0.188)	0.396** (0.170)	0.095*** (0.025)	0.043 (0.038)	20.565*** (0.515)	-0.023 (0.314)	-0.048 (0.283)	0.012 (0.055)
OE_AS	-0.893*** (0.316)	-0.857*** (0.291)	-0.457*** (0.174)	0.144* (0.087)	-6.985** (2.802)	4.129*** (0.567)	-3.130*** (0.585)	0.248 (0.200)
PAR30	-0.239 (0.806)	-0.289 (0.735)	-0.230*** (0.071)	0.089 (0.095)	-3.368 (2.138)	-0.761 (0.558)	0.845** (0.353)	-0.227* (0.131)
WOR	-0.780 (0.670)	-0.767 (0.652)	-0.003 (0.269)	0.045 (0.087)	-4.723 (4.307)	0.301 (0.834)	-1.127 (0.762)	-0.203 (0.207)
DEPS	-0.150** (0.071)	-0.141** (0.063)	-0.023** (0.011)	-0.068*** (0.013)	-0.203 (0.212)	-0.127 (0.116)	-0.012 (0.108)	-0.108*** (0.035)
Constant	1.464*** (0.418)	1.484*** (0.380)	0.177** (0.076)	0.142 (0.114)	-1.002 (1.277)	-4.189*** (0.898)	-3.788*** (0.843)	0.662*** (0.237)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	432	431	432	432	432	422	422	281
Number of id	71	71	71	71	71	70	70	60

**Note:** Robust standard errors are in parentheses. \*\*\*, \*\* and \* indicate significance level at 1%, 5% and 10% respectively.

## 6.6 Conclusion

Although the modern version of the microfinance program started its journey in the 1970s as an alternative financial mechanism, the industry has experienced unprecedented growth in the last three decades. With such a growth in the number of industry participants, loan portfolios, and client outreach, competition in the market has intensified in recent years even though the microfinance market was initially a pure monopoly. With such evolution, the industry has also experienced a substantial change with respect to institutional transformation, market participants, product diversification, and funding structures. Though the neo-classical competition literature (see, Aghion & Howitt, 1992; Hart, 1983; Nickell, 1996; Nickell et al., 1997; Schmidt & Tyrell, 1997) suggests that competition is a source of discipline, working as a natural selection mechanism to bring about a positive outcome for firms by increasing efficiency and reducing managerial slack, this has not been empirically tested in the microfinance market. Unlike traditional commercial corporations and banks, MFIs operate in an informal economic environment (Armendáriz & Morduch, 2010; Morduch, 1999). MFIs have a double bottom line objective, and their operating mechanisms are not identical to commercial corporations and banks (Cull et al., 2009). Therefore, the influence of competition in this industry follows a different path than that of traditional corporations or banks. The main research question of the study focuses on the impact of competition in the industry on the economic sustainability and social performance of MFIs. In order to examine this, the study uses a cross-country dataset of 1,118 MFIs operating in 59 countries collected from the MIX Market across ten years (2005 to 2014). Before investigating the impact of competition, this study also develops the Boone indicator as the proxy to measure competition in the microfinance market. For this, in following Tabak et al. (2012), this study improves the original Boone indicator estimation by using the MFI's market share rather than their profit margin (ROA), considering the unique characteristics of the microfinance industry. This study then regresses the Boone indicator on the measures of economic sustainability and social performance of the MFIs to investigate the impact of competition.

The panel data estimates in this study demonstrate strong evidence for the effect of competition on microfinance performance. The study concludes that when competition increases, operational self-sustainability (OSS) and financial self-sustainability (FSS) both decrease. Further, the robustness tests suggest that an increase in competition, causes the profitability of the MFIs (such as ROA and portfolio yield) to decrease and results in less financial stability (Z-score). The findings of this study are inconsistent with the neo-classical competition literature. The study also concludes that an increase in competition has a negative association with the breadth of outreach, and in some cases, with the depth of outreach of MFIs. In addition, the study suggests that, due to the negative impact of competition on the

breadth and depth of outreach, MFIs try to reach different client segments (such as female borrowers) to recover their outreach performance.

The results of this study contribute to the debate in the theory of competition. In opposition to the classical theory of competition, the findings of this study suggest the opposite direction of the impact of competition in the context of microfinance. Although the neo-classical literature argues that competition improves firm performance, the results of this study show that competition in the microfinance market hinders firm financial sustainability and their social mission. Therefore, although competition is considered an external governance mechanism that can be used to ensure the sustainability of the firm, the present study suggests that such an argument is context specific, and is not entirely applicable to the microfinance market. Further, the findings of this study are unable to confirm the agency based argument that competition improves the efficiency of a firm and reduces agency costs. Instead, the evidence in the study shows that competition deteriorates the efficiency of the firm. Besides, with the inclusion of the social objective as the outcome of competition as external governance, this study contributes to governance literature, using stakeholder theory in addition to agency theory.

The findings of this study also have implications for practitioners, policymakers, and regulatory authorities. The managers and policy-making bodies must be aware of the possible adverse effect of competition on MFIs. The managers must be aware of the competition within the market. Regulators must develop proper guidelines for market participants to minimize the adverse impact of competition and to control unhealthy competition. It is because the evidence from the panel data demonstrates that competition adversely affects MFI performance. The possible cause of this decrease in financial performance is the fact that existing clients find it easy to obtain loans from different providers when competition increases. It may result in a debt burden among the borrowers. In this situation, the MFI loan officers must follow a cautious lending technique, undertaking a more thorough investigation of the loan applicant and undertaking increased follow up of existing borrowers to ensure timely repayment. This formality necessarily increases the operating costs of the MFIs. Moreover, increased competition causes MFIs harder to obtain funds from external sources which further increases the cost of funds, and reduce the interest rates provided to borrowers. It may also adversely affect the profitability of the MFI and place more pressure on the stability of their earnings.

Nevertheless, this study suggests that an increase in the degree of competition place more pressure on the outreach of the MFIs. Due to the cautious lending practices and the increase in the supply of credit in the market, MFI clients use the opportunity to obtain multiple loans from various MFIs where the conditions to obtain a loan are easy (Guha & Chowdhury, 2013). It results in borrowers leaving their existing loan portfolio, which adversely affects MFI

outreach performance. Also, increased competition has a positive association with the average loan size per borrower. It implies that when competition increases, MFIs try to cover the increased cost of operations by serving wealthier borrowers and providing them with larger loans to reduce the operating cost per dollar of credit. In this way, increased competition in the market places pressure on the economic sustainability of the MFIs and has an adverse effect on their mission to serve poor people.

Overall, this study encourages practitioners, policy-makers, and regulators to be aware of competition in the microfinance market and to find ways to minimize the adverse effect of competition on financial and social performance of MFIs to protect the sustainability of the microfinance industry.

However, the findings of this study are not free from limitations. The data used from the MIX Market is self-reported. However, not all MFIs report their annual data to the MIX Market; the MFIs that generally use external funds are more likely to provide their data to the MIX Market. Hence, the data may not be reliable and may be biased to self-reporting MFIs only. Further research can overcome this limitation by covering all MFIs operating in the sample countries. Further, the use of the Boone indicator or the Lerner index as the proxy measure of competition means the degree of the impact of competition may not be as exact as the study suggests.

## Appendix

**Table A6. Variable Description and Data Sources**

Notation	Variable Name	Description	Source
<b>Panel A:</b> Dependent Variables used in estimating financial and social performance			
OSS	Operational Self-sufficiency	Operating Revenue/ (Operating expenses + Financial expenses + Loan loss provision expenses). It measures the ability of the MFI to cover its costs from the operating revenues.	MIX Market
FSS	Financial Self-sufficiency	Adjusted Operating Income/(Operating Expenses + Financial Expenses + Loan loss Provision Expenses + Expense Adjustments)	MIX Market
ROA	Return on assets	(Net Operating Income –Taxes)/Average Total Assets	MIX Market
Yield	Real yield on loan portfolio	Interest Income / Average Loan Outstanding	MIX Market
Z-SCR	Financial Stability	Z-score = [(ROA + Capital Ratio)/ $\sigma_{ROA}$	Authors' calculation
NAB	Breadth of outreach	Number of active borrowers (natural logarithm)	MIX Market
ALB	Depth of outreach	Average loan balance per borrower/GNI per capita in US\$ (natural logarithm)	MIX Market
F_BOR	Female outreach	The fraction of female borrowers to total borrowers	MIX Market
Explanatory Variables:			
Boone	Degree of competition	Boone Indicator (larger negative Beta indicates more competition)	Author's calculation
Lerner	Degree of competition	Lerner Index (0 to 1 from high to low level of competition)	Author's calculation
<b>Panel B:</b> MFI specific control variables			
In_TA	Firm size	Total assets of the MFI US\$ (natural logarithm)	MIX Market
CAP_A	Capital ratio	Capital to total Assets ratio	MIX Market
OE_AS	Expenses ratio	Operating expenses to total assets ratio	MIX Market
PAR30	Portfolio at Risk>30 days	The total principal value of loan outstanding that have at least one repayment overdue for more than 30 days.	MIX Market
WOR	Write off ratio	Loans that have been removed from the portfolio that is highly unlikely to be repaid.	MIX Market

DEPS	Deposit ratio	Total client deposits to the gross loan portfolio	MIX Market
<b>Panel C:</b> Country and macro-economy specific control variables			
ln_GDP	Size of economy	National income measured as the (logarithm of) current Gross domestic products (GDP) of the country in US\$	World Bank
GDP_G	GDP growth	Annual growth rate at market prices based on constant local currency	World Bank
ln_PCI	Per capita income	Per capita GNI based on purchasing power parity (natural logarithm)	World Bank
D_CR	Credit to GDP	Domestic credit provided by the financial sector to GDP ratio	IMF/ World Bank
INFL	Inflation	Measured by the consumer price index	IMF/ World Bank
LNDR	Lending rate	Lending rate in the economy	IMF/ World Bank
PDEN	Population density	Per square kilometer (in natural logarithm)	World Bank
PRUR	Rural population	As the percentage of total population	World Bank
EC_FR	Index of economic freedom	Individual's freedom of economic choice based on 12 criteria. From 0 to 100. A higher value indicates more economic freedom.	Heritage Development Foundation
EAS_B	Doing business indicator	Ease of doing business index (1 to 189, the best to the worst)	World Bank
<b>Panel D:</b> Variables used in translog cost function to estimate Marginal costs for Boone indicator and Lerner index			
TC	Total Costs	Total expenditure on total assets (in million US\$)	MIX Market
GLP	Output	Gross Loan Portfolio (in million US\$)	MIX Market
PL	Price of labour	Personnel expenses = (Total personnel expenses/Total number of staff) (Unit price in US\$)	MIX Market
PFC	Price of financial capital	Total financial expenses/total external funds (Unit price of the borrowed funds in US\$)	MIX Market
PPC	Price of physical capital	(Operating expenses – personnel expenses)/(Total assets – Non-earning liquid assets) (Unit price of the physical assets in US\$)	MIX Market
PAR30	Portfolio at Risk>30 days	The total principal value of loan outstanding that have at least one payment overdue for more than 30 days.	MIX Market

# Chapter 7 Conclusion

## 7.1 Introduction

This thesis empirically examines the association between stakeholder-oriented governance issues and microfinance double bottom line performance (economic sustainability and social performance). The board governance issues investigated in this thesis are the inclusion of founding directors, independent directors and employee directors on the board, including their human and social capital attributes. In order to study these issues, the researcher uses data from Bangladesh which is considered to be the pioneer of the microfinance movement and the most mature, and one of the largest, microfinance markets in the world. The external governance issue examined in this thesis is competition in the microfinance market. In this respect, this study is perhaps the first to use the Boone indicator with a large cross-country dataset.

Instead of a single study on governance issues, the researcher investigates these issues in multiple studies for the following reasons. Compared to the corporate governance of commercial corporations, the corporate governance of MFIs is not based on a single theoretical background. The corporate governance in MFIs needs to address the interests of different shareholders. Such stakeholder-orientation in corporate governance is due to a few reasons. MFIs are generally not ordinary shareholder owned, except for shareholder firms. Non-profit and NGO MFIs are dependent on external fund providers. Further, in the absence of general shareholder presence, non-profit MFIs depend on the independent directors to access and connect to necessary resources. Also, the MFIs have a double bottom line objective of economic sustainability and social performance, unlike the single (economic) objective of their corporate counterparts. Hence, MFI governance should be stakeholder-orientated.

Based on a stakeholder orientation, the board is an internal governance mechanism that primarily focuses on founder presence, employee presence, and independent director presence on the board. Current microfinance literature does not provide a clear idea of the influence of these directors on MFI performance. Therefore, a gap in research exists on what these directors are expected to bring to the board. The human and social capital attributes of these directors are critical and have not yet been explored in this market. This thesis investigates these human and social capital issues. However, not all directors have the same human and social capital attributes. For instance, founding directors bring family resources and capital to the MFI, particularly during the inception of the firm. However, independent directors cannot bring such attributes. Instead, they bring external networks and connections to access the necessary resources for the firm. On the other hand, employee directors can bring internal issues of the firm and ideas to the board. Although all of the directors sit on the board, their roles are also

different. However, one single study cannot examine all of these issues. Hence, the issue of board governance requires a separate study for each type of director (founder, external and employee) and their different human and social capital attributes, although this thesis uses data from the same source.

Similarly, the literature suggests that studying internal governance issues from a specific country context will overcome the concerns related to cross-country studies, such as inadequate sample size, endogeneity issues of the country-specific variables and the omitted variable problem (Bona-Sánchez et al., 2014; Miller, 2004). Therefore, the researcher uses data from Bangladesh to study internal governance issues. Besides, stakeholder-oriented governance mechanisms also require the study of external governance issues. Competition is one such issue which is yet to be investigated in the microfinance literature. In studying competition, the thesis uses global data. Also, all of the dependent and control variables in the two datasets are not the same, due to the differences in the measurement of the variables. Hence, it is impossible to merge two datasets for a single study. Due to this, the thesis investigates the impact of competition on MFI performance in a separate study.

Furthermore, the researcher uses multiple dimensions of firm performance. In comparison to the single objective of firm financial performance, MFIs follow the double bottom line objective. Further, social performance covers two dimensions – the depth and breadth of outreach. Moreover, except for the profit-oriented MFIs, all MFIs do not prioritize the pure profit motive. Although some MFIs, notably the non-profit MFIs, prefer social outreach, they also struggle to become operationally self-sufficient. Hence, MFIs must also consider financial performance dimensions such as OSS, FSS, and ROA. This thesis investigates the influence of corporate governance issues on the multiple objectives of MFIs and the different dimensions of measurement in all four essays.

By examining all of these dimensions and issues, the thesis advances the debate on corporate governance and firm performance. Through four separate but relevant studies, the thesis examines the corporate governance issues in microfinance using a consolidated framework of agency theory, stakeholder theory, and the resource dependence theory. First, based on the agency theory, the thesis examines the presence of founding members on the board, board independence, and competition to reduce agency costs arising from managerial opportunism. Further, using the stakeholder theory, the thesis uses the double bottom line objective, by considering the borrowers (clients) as the primary stakeholders to whom the MFIs are established to serve. Also, founding directors, independent directors, and employee directors serve the interests of multiple stakeholders. The competition also includes competitors as another stakeholder who has an influence on the firm. Further, the study covers the human and social capital attributes of the board members, based on the resource-dependence role of the

directors. Therefore, through multiple but interconnected studies, this thesis integrates agency, stakeholder, and resource dependence perspectives in studying the role of internal and external governance issues on MFI performance. Below is the summary of the main findings, significant contributions and policy implications, limitations of the thesis and directions for future research.

## 7.2 Summary of the Findings

**Chapter Three** sheds light on the relationship between founding directors on the board and MFI double bottom line performance. Consistent with the extant literature on commercial corporations (Chen et al., 2012; Fahlenbrach, 2009; He, 2008; Villalonga & Amit, 2006), the findings of this study suggest that founder presence on the board has a significant, positive association with MFI financial performance. The study, however, also concludes that founder presence on the board has an adverse effect on both the breadth and depth of outreach. Therefore, this study suggests that founder presence on the board is beneficial for the financial outcome of MFIs, but is not beneficial for the social performance of MFIs. A possible explanation for the adverse effect on social outcomes may be that founding members emphasize financial return on their investment, thereby placing less emphasis on social outreach.

The study further investigates whether the family ties of the founding directors and their prior experience in microfinance influences the achievement of the MFI double bottom line objective. Consistent with the literature on family influence in commercial firms (Barontini & Caprio, 2006; González et al., 2012; Lee, 2006; Patel & Cooper, 2014), the study suggests that founders' family ties have a positive influence on MFI financial performance. However, this tie has a negative influence on MFI social performance. Furthermore, consistent with a resource view of firms (Greene et al., 2015; Hillman & Dalziel, 2003), the study concludes that founder members' microfinance experience, as a human capital attribute, is positively associated with MFI social performance. Therefore, this study suggests a deeper understanding of what attributes founding members bring to the board is needed, as studying the founding member in isolation is not sufficient to explain MFI performance.

**Chapter Four** initially explores the association between board independence and MFI double bottom line performance. Consistent with the literature, the study suggests that board independence is vital for the firm because it has a significant and positive association with MFI financial and social performance. Additionally, this study investigates whether the human and social capital attributes of independent directors have any influence on MFI performance. For this, the study uses independent directors' social experience, as a human and social capital attribute, their community affiliation, as a board social capital attribute, and their advanced education, as a general human capital attribute, to predict MFI performance. This study suggests that independent directors' social experience have a positive association with the breadth and depth of outreach. Regarding financial performance, the association is also positive although

the relationship is weak. Further, the community affiliations of independent directors has a positive influence on social performance. However, the association is negative with financial performance. Finally, the study suggests that independent directors' advanced education, as a human capital attribute, has a positive association with MFI double bottom line performance, suggesting that educated, independent directors have more to contribute on the board. Therefore, the findings of the second essay also suggest that it is important to consider what human and social capital attributes the independent directors bring to the board in order to ensure the MFI double bottom line performance.

**Chapter Five** investigates the influence of employee presence on the board on MFI performance. Contrary to existing microfinance literature (Hartarska, 2005; Hartarska & Mersland, 2012), but in accordance with mainstream corporate governance literature (Fauver & Fuerst, 2006; Lin et al., 2018), the empirical findings of this study suggest that employee representation on the board is positively associated with MFI economic and social performance. Further, this study investigates the relationship between employee directors' experience in microfinance and MFI performance. Similar to the mainstream literature (e.g., Dyke et al., 1992; Soriano & Castrogiovanni, 2012), the study reports a positive influence of this human capital attribute on MFI double bottom line performance. Also, this study investigates whether the advanced education of employee directors, as a general human capital attribute, has any influence on MFI performance. As opposed to existing literature (Dalziel et al., 2011; Singh, 2007; Soriano & Castrogiovanni, 2012), this study reports a negative association between employee directors' general education and MFI financial performance. However, these findings are consistent with the literature concerning social performance, identifying a positive association between employee directors' education and MFI social outreach. Therefore, the findings of this study suggest that it is important to consider what human capital attributes employee directors bring to the board before their inclusion in the board.

**Chapter Six** empirically investigates the impact of competition on MFI double bottom line performance using a cross-country dataset. In order to investigate this issue, the study first develops the Boone indicator (Boone, 2008), which is the more recent and suitable measure of competition in microfinance markets and uses it as the predictor of firm performance. Contrary to neo-classical competition literature, rather than improving firm productivity, the findings of this study suggest that competition deteriorates microfinance economic sustainability. Further, the study also concludes that competition decreases the MFIs' depth and breadth of outreach to poor clients. Besides, this study suggests that competition forces MFIs to search for alternative market segments, such as female borrowers.

## 7.3 Contributions

The findings of this thesis contribute to the existing literature. The specific contribution of each of the four studies, and the theoretical, methodological, and policy implications are detailed below.

### 7.3.1 Chapter-Specific Contributions

**Chapter Three** contributes to the debate on founding director specific corporate governance literature, particularly for firms with a double bottom line mission. Although a growing body of mainstream governance literature (Anderson et al., 2003; Barontini & Caprio, 2006; Patel & Cooper, 2014; Randøy & Goel, 2003) investigates the issue of founder presence on the board, this study appears to be one of the first, in the context of microfinance, that investigates the impact of founding directors on the board to MFI double bottom line performance. While the mainstream governance literature (Chowdhury et al., 2014; He, 2008; Kor & Sundaramurthy, 2009; Soriano & Castrogiovanni, 2012) investigates whether the directors' and managers' firm-specific and industry-specific experience are essential for the firm, these issues have not yet been investigated in microfinance literature. This study is perhaps the first study in the field of microfinance to investigate the impact of founder directors' family ties, as well as their experience specific to the microfinance industry, on MFI financial and social performance.

**Chapter Four** contributes to the literature on board independence and MFI performance. Although Hartarska (2005) identifies a positive association between board independence with ROA and the depth of outreach, this study extends that work and concludes that board independence not only has a positive influence on these measures, it has a positive influence on other measures of financial performance as well as the breadth of outreach. Further, this study appears to be one of the first in microfinance literature to investigate the influence of independent board members' human and social capital attributes on MFI double bottom line performance. This study uses independent directors' social experience, as an important human and social capital attribute, and their community affiliation, as a critical social capital attribute. Additionally, the study uses independent members' advanced education as a general human capital attribute. By contributing to the debate in the literature, the study suggests that it is crucial to consider what human and social capital attributes are essential for the firm, according to its' strategic priorities, on the bottom line objective.

**Chapter Five** extends the debate in the literature on employee board presence and firm performance. Although existing microfinance literature (Hartarska, 2005; Hartarska & Mersland, 2012) is not in favour of employee presence on the board, in contradiction to the literature, this study suggests that employee presence on the board is vital for MFI economic

sustainability and social performance. Another significant contribution of this study is that it is perhaps the first that explores the relationship between employee directors' experience in microfinance, as a specific human capital attribute and MFI performance. Likewise, this study is believed to be the first to use employee directors' advanced education, as a general human capital attribute, to predict MFI double bottom line performance.

**Chapter Six** contributes to competition and firm performance literature. This study extends research by Assefa et al. (2013) using important financial and social performance variables as the outcome of competitive behaviour and influence. Due to the methodological limitations of the Lerner Index, Assefa et al. (2013) were not able to investigate the impact of competition on important financial performance variables such as ROA, ROE, OSS, FSS, and Z-Score, except for portfolio yield. However, portfolio yield alone does not provide a comprehensive picture of MFI economic sustainability. This study attempts to overcome this problem by using the Boone indicator, which is a more appropriate measure of competition suitable for the characteristics of the microfinance industry. Although classical competition literature suggests that competition improves the performance of the firm, the findings of this study suggest that this might not be the case for the microfinance industry. Instead, the evidence in the fourth essay suggests that competition deteriorates MFI financial and social performance.

### **7.3.2 Theoretical Implications**

The findings of this thesis enable us to build upon and extend the debate of corporate governance issues from an extended theoretical context. This thesis is among the first in the field of microfinance literature that offers a consistent application of an integrated framework of agency theory, stakeholder theory, and resource dependence theory. MFIs have little opportunity to enter the capital market. Hence, founding members provide start-up funds to the MFIs and act as the block holders. They, therefore, have more interest in the firm's financial outcome (Chen et al., 2012). Due to this, following the view of agency theorists (Fama, 1980; Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976), founders are more motivated to monitor management for better financial outcomes. Similarly, when multiple founders with family connections are present on the board, they also tend to emphasize financial results.

In addition to the agency perspective, the findings of this study have implications for the stakeholder perspective by using the outreach mission as the outcome of founder presence on the board, as well as their family ties. This study suggests that the family ties of founding members compromise the outreach of the MFI's missions due to their increased focus on financial outcomes. However, the study also suggests that when the founders bring human and social capital attributes in the board by sharing their experience in the microfinance industry, this has a positive effect on MFI social outreach and financial outcomes. Therefore, through the inclusion of experienced founders on the board, the MFI can ensure its stakeholder orientation

by satisfying the financial (as well as social) interests of the founders. In this way, the first essay also supports the resource dependence theory, given the study argues that founders bring critical human and social capital to the board through their experience. Therefore, the founders' resource dependency role has a positive impact on social outreach. Therefore, the findings of this study suggest that relying on the agency or stakeholder theory is not sufficient to explain the interdependency and the complexities of the relationships in microfinance. It is important to consider what founder attributes are essential for the firm before their inclusion on the board.

Also, similar to agency based literature, the study argues that an insider-dominated board is not efficient in monitoring management (Fama, 1980). Instead, consistent with the extant literature (Dalton et al., 1998; Gillan & Starks, 2000; Schnatterly & Johnson, 2014), the second study advocates for the inclusion of independent directors. However, some skepticism exists concerning the independent directors' ability to monitor and control management (Dalton et al., 1998; Hermalin & Weisbach, 1998; Wade & et al., 1990). This argument is due to the further evidence suggested in this study that board independence alone is not sufficient to explain stakeholder-based MFI double bottom line performance. It is important to consider what attributes independent directors bring to the board, so that the firm may align its resources with the MFI double bottom line performance. Relying on the resource dependence theory (Pfeffer, 1972; Pfeffer & Salancik, 1978), this study is the first to use independent directors' social experience as the human and social capital attribute, their community connection as the social capital attribute, and their advanced education as the human capital attribute. In adopting a resource-dependence perspective, the second study concludes that, when independent directors bring their community and political connections to the board, this may have a negative influence on MFI financial performance and a positive effect on social performance. On the other hand, when independent directors with social experience and advanced education join the board, this may have a positive influence on both financial and social performance. Therefore, the second essay also explains the role of independent directors through an integrated framework of the agency, stakeholder, and resource-based views.

Similar to the above two studies, the third study also suggests the integration of those three theories. The study considers agency theory in examining the relationship between employee directors on the board and firm performance. Their presence on the board has a positive impact on the financial and social performance of the MFI. This argument stems from the idea that, in addition to supervision by external directors or the founding directors, employee directors provide peer supervision of management, as they have a better understanding of management activities. Also, their presence on the board motivates them to work better for the firm (Deci & Ryan, 1985; Frey, 1997). Further, employee directors have similar interests to external fund providers (Lin et al., 2018), and are therefore considered more reliable which is

important for MFI financial and social performance outcomes. However, it is essential to consider what resources the employees can bring to the board. For example, the study finds that employee directors' general education is not beneficial for the financial outcome of MFIs, although it is beneficial for social outreach. Therefore, the study demonstrates that general education does not provide an employee with firm-specific technical knowledge and skills to improve its' financial outcome. However, the inclusion of educated employees on the board increases the acceptance and legitimacy of the firm to the poor and underprivileged people. Furthermore, experienced employees provide better input of knowledge to the board as they have firm-specific internal information which exceeds that of external and minority shareholders. Therefore, this study is perhaps the first to consider the employee directors' human capital attributes as the source of board human capital in examining microfinance double bottom line performance.

Nevertheless, as an external governance mechanism, competition also plays a critical role in the firm. As opposed to the classical theory of competition, the fourth study suggests that, rather than increasing managerial efficiency and firm productivity, competition in the microfinance market hinders firm financial sustainability and social performance. Finally, in all four studies, with the inclusion of the social objective as the outcome of corporate governance, this thesis contributes to governance literature, using the stakeholder theory as the theoretical consideration in addition to agency theory and the resource dependence theory. Exploring the theories in this new setting allows us to understand their boundaries and the robustness (Vandenbroucke et al., 2016; Zahra & Newey, 2009).

### **7.3.3 Methodological Implications**

This thesis also has implications for the methodology. The literature (e.g., Choi et al., 2007; Kim & Lim, 2010) suggests that there may be variations in board governance and firm performance due to differences in the context and the nature of the market in which the firms operate. Further, the regulatory, economic and political environments in the different economies are not the same. Due to these differences, the literature (e.g., Bona-Sánchez et al., 2014; Miller, 2004) suggests that governance issues must be studied in a single country context. Hence, this thesis uses a unique dataset from Bangladesh, which is the breeding ground of the modern version of microfinance from which the microfinance movement spread to more than 100 countries around the world (Hollis & Sweetman, 1998; Mia et al., 2017). Bangladesh is one of the largest microfinance markets in the world. The corporate governance system used in MFIs in Bangladesh is well established, although governance practice in commercial corporations and banks remains weak, as the rule of law in Bangladesh is not typically enforced at a high level. The dataset used in the first three essays is perhaps the largest used from a single country context and is also unique and original. Unlike commercial corporations, MFIs do not generally

publish an audited annual report and director related detailed information to the public. Therefore, it was difficult to identify the external directors, employee directors, and founding directors on the board and their human and social capital attributes. Through access to the archival records from the Microfinance Regulatory Authority (MRA), this research is the first to explore such director attributes among MFIs. Studying the corporate governance issues with such a dataset avoids the concerns related to cross-country studies such as inadequate sample sizes, endogeneity issues from the country-specific variables, and omitted variable problems (Bona-Sánchez et al., 2014; Miller, 2004).

#### **7.3.4 Policy and Managerial Implications**

Overall, the findings of this thesis suggest that government and regulatory authorities and practitioners should consider taking into account a stakeholder perspective in developing rules and regulations for MFIs. In developing policies and guidelines, the policy-making bodies could consider which stakeholders are essential for MFIs and which resources MFI boards need in order to underpin their economic sustainability and social performance. To add specificity, the policy and practical implications of each of the studies presented in this thesis are briefly outlined below.

The findings of the first study suggest that founder directors appear to be important for the practice of corporate governance with respect to financial outcomes. However, founder directors were found to influence negatively MFI social performance. A negative influence on social performance also appears to be reflected when founder directors have family ties. Alternatively, founder directors who have experience in the microfinance industry were found to be positively associated with social performance. Hence, for policy makers and regulators, a key consideration is to what extent founder directors should be permitted to maintain family ties in the structure of corporate governance mechanisms, and they should advise that MFIs be founded and managed by individuals with microfinance experience. Similarly, for practitioners, MFIs should carefully consider the extent to which a founder director–family tie relationship should be permitted while ensuring that individuals who run the organisation have adequate microfinance experience.

The second study calls for the inclusion of independent directors on the board as a means to ensure economic sustainability and social performance of MFIs. However, the study suggests that considerable attention should be given to the selection of the independent members based on their human and social capital attributes. This thesis demonstrates that independent directors' social experience, advanced education, and community affiliations are important for the social performance of the firm. However, with respect to economic sustainability, the study finds that independent directors' community affiliations have a negative influence on MFI financial measures (ROE). For policy-making bodies, when crafting corporate governance

guidelines and best practice for the microfinance industry, careful consideration should be given to independent directors, and particularly their human and social capital. For practitioners, evidence is provided to better guide hiring criteria for independent directors in MFI recruitment.

Likewise, the findings of the third study suggest the regulators and policy-making bodies encourage MFIs, through guidelines or best practice benchmarks, to include employee representatives on the board. The findings in Chapter Five suggest that the inclusion of employee members on boards of MFIs could influence, positively, economic and social outcomes. Further, the findings suggest that in addition to their presence on the board, employees on the board of MFIs who have microfinance-specific experience is also beneficial. However, employees' levels of education should be considered, as this can have an adverse effect on financial outcomes (ROA, ROE). Hence, for practitioners, careful consideration should be given to which employee representatives should be chosen for board membership.

Lastly, the fourth essay suggests that managers and practitioners should be aware of the state of competition in the market and take all possible steps to overcome the adverse effect of competition when competition in the market is fierce. For example, careful consideration of lending policies and practices should be undertaken such that economic sustainability does not dominate at the expense of social outreach. For policy makers and regulatory authorities, they should consider what the optimal levels of competition should be in any one microfinance market. This could include 'strong' policies that actually restrict the number of market players and new entrants.

#### **7.4 Limitations and Directions for Future Research**

This thesis is not free from limitations. **First**, the first three studies examine MFI data from Bangladesh. The MFIs in the dataset are those that operate under a license from the Microfinance Regulatory Authority. The thesis does not include other MFIs such as small, fragmented, and non-licensed MFIs and banks, which also offer microfinance products. Further, except for a few NGO MFIs, almost all of the microfinance organizations in the country have a similar organizational structure. However, the MFIs operating in other developing countries have a variety of organizational structures and legal identities. Board composition and governance mechanisms also vary among them. Further, the regulatory requirements, socio-economic environment, and the cultural values differ among various countries, which may influence board governance behaviour. Therefore, the usual caveat applies: the results of this study cannot be generalized to other countries and other institutional contexts. Future research may benefit from refining the governance theory by exploring these issues in different institutional contexts and regulatory and economic environments, across different nations and industries.

**Second**, although the thesis investigates board members' human and social capital attributes, the thesis has not investigated other attributes which may influence the performance of the firm. For instance, independent members' professional ties and board interlocks are not examined in this study due to the data limitations. Similarly, employee directors' and the independent directors' general education is considered as one of the human capital attributes that predict firm performance. This thesis does not investigate the specific forms of education the firm might require. Besides, the study identifies a negative association between employee directors' general education and MFI performance. Exploring the cause of such a negative relationship is important. Furthermore, some of the MFIs do not publish the directors' curriculum vitae in the annual reports and do not provide such information to the regulatory authority. Therefore, this lack of available information inhibits the researcher's ability to investigate further relationships. Future research may explore such possibilities by collecting data on new director-related attributes.

Third, this study empirically demonstrates the impact of founder director, employee director and external director attributes on MFI performance. It does not explore how those attributes influence the functions of the board and how they influence MFI double bottom line performance. Future research may examine these issues through firm-specific qualitative research.

Fourth, the data used in the board-governance study reports a small proportion of employee presence on the board. By using this data, it is not easy to evaluate the optimum size of the board governance variables and their different attributes. For instance, the impact of employee presence on the board beyond a specific limit is not investigated. The same can be said for the other explanatory variables including founder directors and board independence. Future research may explore these possibilities.

Finally, in the study of competition and MFI performance, the fourth essay uses MIX Market data. However, the MIX Market data is self-reported. The MFIs that rely on external funds are more likely to provide data to the MIX Market. Hence, the data may not be reliable and may be biased to self-reported MFIs. Future research may examine data of all the MFIs operating in the sample countries.

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