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# Enhancing Financial Inclusion through Islamic Finance, Volume II

*Edited by*  
Abdelrahman Elzahi Saaid Ali  
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Mohamed Hassan Azrag

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## PREFACE

We are extremely pleased at the release of the second volume in this series that is the first in the market to address Islamic financial inclusion and to provide empirical evidence and modeling.

The main messages embedded in Part I of this volume include topics related to Islamic Financial Inclusion for Sustained Growth and Poverty Alleviation, while Part II revolves around Islamic Finance for Financial Inclusion: Countries Diagnostics. This volume focuses on financial intermediation, the impact of microfinance on women and the role of Qard Hassan. It also covers the enhancement of financial inclusion through participatory products' development, mobile microfinance and Fintech. The volume is designed to be a comprehensive, accessible, practical oriented follow-up to Volume I.

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Khartoum, Sudan

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We want to thank all workshop paper presenters, participants, session chairs, and paper reviewers for their timely and valuable contribution toward the realization of this international workshops. The inspiring engagement of scholars in the two international workshops generated ground-breaking ideas for enhancing the capability of the poor to achieve sustained economic growth and to reduce poverty.

The workshops were planned when Professor Dr. Azmi Omar was the Director General (DG) of IRTI. The book publishing was approved with Palgrave Macmillan by Dr. Sami Al Suwailem the acting DG of IRTI.

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Khalifa Mohamed Ali  
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PART I

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Islamic Financial Inclusion for  
Sustained Growth and Poverty  
Alleviation



## CHAPTER 1

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# Introduction

*Abdelrahman Elzahi Saaid Ali, Khalifa Mohamed Ali,  
and Mohamed Hassan Azrag*

Financial inclusion incorporates a range of initiatives that make financial services available, accessible, and affordable to all segments of the population, including women, youth and rural communities, and other disadvantaged groups (A Elzahi Saaid Ali (2019)). Recent initiatives from the international development institutions, United Nations, and G-20 showed that financial inclusion is an important element in the formulation of the Sustainable Development Goals (SDGs), the new development architecture that succeeds the Millennium Development Goals (MDGs), and The Millennium Development Goals Report (2015). Financial inclusion could play an important role in the fight against poverty and help in achieving inclusive development. Moreover, recently financial inclusion has become one of the main drivers in the reform and development agendas of

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multilateral institutions such as the World Bank, African Development Bank, and Islamic Development Bank (IsDB).

Providing access to finance has been challenging all over the world, particularly among the 57 member countries of the IsDB. The Arab Spring and political instability in parts of the Middle East and North Africa (MENA) region and other member countries exposed the IsDB member countries to the risk of poverty, hunger and inequality, and difficulty in accessing decent employment. There is also the urgent need for fostering economic growth, good health services, and well-being, as well as addressing gender equality issues. Financial inclusion is a very essential element that can mitigate the above-mentioned risks. These two books (Volumes I and II) explore financial inclusion from the Islamic perspective to promote inclusive growth in IsDB member countries and help in mitigating poverty, reducing inequality, and improving access to decent employment.

Unlike in the conventional perspective of financial inclusion, Islamic financial inclusion goes beyond access to finance. It encompasses enhanced access to savings and risk mitigation products, as well as social inclusion that allows individuals and companies to engage more actively in the real economy. It represents one of the important drivers of economic growth. Access to finance is one of the most formidable challenges confronting micro-entrepreneurs and the poor in IsDB member countries. Given the high poverty among low-income groups and the unavailability of collateralization mechanism, lending to these groups is normally associated with greater risk. Considering these challenges, the IsDB initiated and successfully implemented programs promoting Islamic microfinance in its member countries such as Sudan, Yemen, and Bangladesh. The two books are the first in the market to address Islamic financial inclusion and to provide empirical evidence and modeling. It is expected that the two volumes will be well received among university students and instructors, especially in the IsDB member countries and beyond.

In addition to the rising poverty and unemployment, most IsDB member countries are facing a huge gap in gender equality. The gender gap varies widely across economies and regions. Among the regions, South Asia and the Middle East and North Africa have the largest gender gaps. These regions comprise of about 40% of women who are less likely to have a formal account than men (The Global Findex Database 2013). Hence, financial inclusion is essential, and will be successful and effective if correctly used to find ways of harnessing the untapped potential of those disadvantaged individuals currently excluded from the formal financial

sector or not fully served by the available products and services. Innovation in women- and youth-specific Islamic financial inclusion products would be good enough to mitigate the gender gap.

Since the last quarter of the last century, Islamic economics and finance has contributed significantly to the development of financial sectors and, deepening financial services not only in Muslims countries, but also across their borders. In line with the remarkable developmental role that Islamic finance is expected to play in alleviating poverty and boosting the SDGs agenda, Volume II of this book attempts to address the role of Islamic financial inclusion in achieving sustained economic growth and poverty alleviation in IsDB member countries. Due to the political instability and civil wars that resulted in more refugees and fragility across member countries, particularly the MENA region, the availability and accessibility of financial services in an affordable manner to all segments of the population, including women, rural populations, the poor, persons with disabilities, and other disadvantaged groups have become more difficult. This book is an outcome of the thematic workshop organized jointly by the Islamic Research and Training Institute (IRTI), a member of IsDB, and the Ibn Sina University of Sudan. The main objective of the workshop is to explore the issues of Islamic financial inclusion for women empowerment, youth development, sustainable economic growth, and poverty alleviation, and the impact of digital services in Islamic financial inclusion and Islamic financial inclusion for agricultural development. Hence, Volume II of the book addresses how Islamic financial inclusion could be used to achieve sustainable economic growth and poverty alleviation, improve the life of disadvantaged people in the rural areas, and benefit from the recent revolution in financial technologies to overcome the basic infrastructure constraints. Volume II comprises 14 papers on various aspects of Islamic financial inclusion. Islamic financial inclusion together with its certain in-built features of Islamic social finance tools and the wide scope of Islamic financial services could contribute significantly in financial inclusion and financial capability of the poor, and hence help in eradicating poverty among IsDB member countries and might extend further to other nations. This is because Islamic financial inclusion encompasses social financial inclusion tools such as Zakat, Waqf, and Sadaqah (K Hassanain and A Elzahi Saaid (2016)) to empower the disadvantaged people through social inclusion, then move on to the next step of the financial inclusion after identifying the more productive poor and financially needy and finance them through the various modes of finance.



The volume is divided into two major parts. Part I, entitled ‘Islamic Finance for Financial Inclusion: Countries Diagnostics’, comprises six papers focusing on financial inclusion for sustainable growth and sustainable development. It addresses enhancing financial inclusion through Islamic microfinance, poverty alleviation from Islamic perspectives, and achieving sustainable development through mobile microfinance. This part consists of seven chapters that attempt to address financial inclusion based on the country’s diagnostics cases. Chapter 2 by M. Mizanur Rahman investigates the role of Islamic financial inclusion for poverty alleviation in Bangladesh. For him financial inclusion refers to the access to diverse financial products and services of quality. The author argues that those who have the most difficulty acquiring banking products and services are those who could benefit most from them. Despite its essential role in the progress of efficiency and equality in a society, 2.7 billion people (70% of the adult population) in emerging markets still have no access to basic financial services and a great part of them come from countries with predominantly Muslim populations. Financial inclusion has also become an integral part in promoting inclusive growth in Bangladesh. He claimed there is growing urgency in both the public and the private sectors to support and encourage financial inclusion in Bangladesh, although current inclusion is about 40%. Therefore, Chap. 2 reviews different activities of the financial sector, especially the banking sector, with special emphasis on the contribution of Islamic banks toward financial inclusion. Bangladesh is the third-largest Muslim populated country in the world, and Islamic banking is gaining popularity in the country over time. Since the establishment of the first Islamic bank in Bangladesh in 1983, these banks have grown consistently in the country. At present, there are 57 banks in the country, of which 8 are full-fledged Islamic banks and 15 are other commercial banks offering Islamic banking services through branches/windows. The collective market share of Islamic banking in the country is around 25%, with a remarkable contribution to the GDP and sustainable development of the country. Bangladesh is a pioneer in empowering the poor by broadening the base of financial access through several types of financial institutions. Along with the formal banking sector, there are non-banking financial institutions, micro-insurance companies, cooperatives, microfinance institutions (MFIs), and small- and medium-enterprises (SMEs) to enhance financial inclusion. Furthermore, there are other governmental and non-governmental financial institutions providing different financial services to the poor population, like microcredit account,

farmer's account, garments worker's account, and student's account, to enhance financial inclusion. All these activities contribute toward alleviating poverty in the country. However, the author has shown that the financial inclusion still stands at much less than 50%, therefore, there is plenty of scope for work as many markets are still untapped and a huge part of the population remains unbanked. If Bangladesh wishes to become a middle-income country by the year 2021, the country must explore all the markets that are still untapped and include more unbanked people.

In Chap. 3 Edib Smolo attempts to answer the question whether bank concentration and financial development contribute to economic growth. He studies the case of Organization of Islamic Cooperation (OIC) countries. He argues that numerous attempts have been made to study the impact of bank concentration and/or competition on economic growth. However, there is scarce literature covering this relationship within OIC member countries. In this chapter the author investigates whether bank concentration and financial development contribute to economic growth within the OIC countries. In addition, he wanted to see whether the same applies to its subcategories (high-income and low-income countries and the corrupt and less-corrupt countries). In his study, he employs the generalized method of moments (GMM) estimators as it fits the best sample. Overall, it seems that bank concentration has negative impact on economic growth and this relationship is non-linear. Interestingly, financial development also has a negative impact on economic growth, but values of the coefficients are so small that they can be ignored economically. Thus, the chapter concluded that economic conditions within OIC countries may not be improved only by additional financial services, but rather by reducing (or increasing) bank concentration (or competition), reducing corruption, and improving overall income levels.

In Chap. 4 Adamu Usman Abubakar investigates the prospects of Islamic banking in improving financial inclusion in some selected states of Northern Nigeria. He explains that previous research in the area of financial inclusion in Nigeria centered on the supply side analysis which might not reflect the true situation of financial inclusion in the country. Hence, he looked at the demand side financial inclusion by focusing on the availability, quality, accessibility, impact, and usage of Jaiz Bank products and services to the customers in terms of improving financial inclusion. To achieve the stated objective, he adopted the triangulation method in which both quantitative and qualitative data were collected. Factor analysis, reliability test, and linear regression were applied to analyze the data. The

findings of the study indicate that Jaiz Bank offers quality products and services to the customers, the products and services are available to all customers regardless of their religious beliefs, and the usage of the products and services by the customers is satisfactory as all these constructs are found to be significant and positively related to financial inclusion. Therefore, the author concludes that Jaiz Bank as the main Islamic bank in Nigeria contributes a lot in bringing to its fold those initially excluded from mainstream financial services due to their aversion to interest, and the bank impacts significantly in reducing financial exclusion within the study area. It recommended that Jaiz Bank and other stakeholders of Islamic finance in Nigeria intensify efforts to make people more aware about the advantages Islamic products and services offer.

Rahmawati, Hafiz-Majdi Ab. Rashid, Hairul Azlan Annuar, and Siti Alawiyah Siraj study financial inclusion disclosure in Islamic microfinance in Indonesia, in Chap. 5. They look at the case of Baitul Mal Wa Tamwil (BMT), which has full potential to promote financial inclusion among the unbanked poor people. The experience of Islamic microfinance institutions programs in the last decades reveals lack of transparency and financial infrastructure such as payment systems, credit reporting, and governance in Islamic microfinance. In this chapter the authors proposed an index on financial inclusion disclosure and examined the extent and quality of financial inclusion in Baitul Mal Wa Tamwil in Indonesia. They also examined the association between financial inclusion disclosure index and the financial performance in BMT financial inclusion activities. They used the content analysis technique to quantify financial inclusion disclosure from the BMT Annual Report in Indonesia in 2014 to 2015. The authors expect their findings might assist managers, regulators, and policymakers to develop laws to strengthen requirement on disclosure, financial consumer protection, and credit reporting, and enhance financial inclusion activities in BMT in Indonesia.

In Chap. 6 Salisu Hamisu and Rusni Hassan study public awareness and the role of Islamic deposit insurance in promoting financial inclusion. Deposit insurance scheme is one of the financial safety-net instruments used by governments to ensure stability of the banking systems and protect depositors in the event of bank failures. Islamic deposit insurance is a Shari'ah-compliant system, which provides protection to depositors against potential loss due to an Islamic bank's failure, and also reinforces the consumer protection aspects that are inherent in Islam. The inculcation of Islamic deposit insurance for Islamic banks will boost the potential

and value proposition of Islamic finance, thereby motivating non-users of financial services that were excluded due to religious and cultural reasons, or lack of trust in conventional services. This chapter examines the potentials on how extending deposit insurance scheme to Islamic banks can enhance confidence and facilitate participation in the financial system vis-à-vis increase in the house-hold savings. A sample of 412 depositors from both Islamic and conventional banks in Nigeria was used to determine the awareness level, knowledge, and understanding of the potential of the Islamic deposit insurance scheme. The results suggest that the scheme offers a great opportunity that can lead to increase in financial access. Similarly, although the awareness of the scheme influences depositors' confidence in the financial system, hence the potential of encouraging financial system participation, there was a general low level of understanding of the overall concept of the scheme. The findings therefore will help policymakers to acknowledge the essence of Islamic deposit insurance regarding the issues of low financial awareness, and plan for better financial literacy programs that can promote financial inclusion and economic growth.

In Chap. 7 Elkhidir Elamin Mohammed Abelrasoul explains Islamic financial inclusion for agriculture development in Sudan. He explains that Islamic microfinance institutions offer many types of services to individuals and communities to sustain economic development. Moreover, he added that clients would have access to a coordinated combination of microfinance and other financial inclusion services to improve their businesses, income and assets, health, nutrition, education of children and social support networks, hence without integration and adaptation of financial inclusion services agricultural projects can be defaulted. This chapter evaluates the role of adaptation and integration of Islamic financial inclusion services in improving and developing agricultural projects, a topic barely studied in the literature. The results is based on data gathered from the farmers live at White Nile State. The author used a data set consisting of more than ten observations based on both quantitative and qualitative information on the relationship between Islamic financial inclusion. The findings showed that Alfal Microfinance Institution adopted the Islamic financial models, Mudaraba, Murabaha, and Muqawala all together at the same time. Alfal also adapted the Islamic financial models to cope with the needs of farmers and projects which improved inclusion of farmers and helped in improving their field capabilities by benefitting from the outreach of mobile network services in coordination and management of

field enterprises. These results provided evidence and insight into the theoretical literature in that, in addition to Islamic financial inclusion, micro-lenders and employees in Alfal Islamic microfinance practices appear to substantially rely on relationship driven information to decrease default rates. The chapter recommends that Islamic microfinance institutions adapt, diversify, and adopt Islamic financial innovations and Islamic financial inclusion to develop and sustain agricultural projects. This would do well in identifying specific areas of concern where weaknesses arise that might limit the successful attainment of lower default rate of the institutions and farmers. In addition to that, the Alfal Microfinance Institution should update its financial inclusion systems rendered to its employees and clients so that they acquire the desirable skills to induce its performance toward perfection.

Part II of the book is entitled Islamic Financial Inclusion for Sustained Growth and Poverty Alleviation. It comprises eight chapters and provides an empirical analysis on the role of Islamic finance in promoting financial inclusion and the extent to which it helps in alleviating poverty and economic growth. This Volume II provides countries' diagnostics on Islamic financial inclusion, through practical cases on micro-entrepreneurship, microfinance, Islamic deposit insurance, and the case of the Islamic financial inclusion in agriculture. Chapter 8 by Muhammad Khaleequzzaman looks at enhancing financial inclusion through sustainable Islamic microfinance in Pakistan from the perspective of participatory products development.

This study is very essential as a significant number of people live under the poverty line in Pakistan, the incidence of poverty being two times higher in rural areas compared to that in urban areas. Lack of dedicated focus on development of the younger population of the country, on the other hand, has left about one-third of the country's population vulnerable to violence and conflict. Similarly, access of women to economic opportunities is quite low. Financial exclusion is also evidenced in the limiting inherent interest-based model of conventional microfinance institutions. These MFIs tend to offer lending products to financially disadvantaged borrowers at rather unaffordable pricing. At the same time, a very high demand for Islamic financial services exists in the country. However, only a handful of Islamic microfinance institutions (IMFIs) exist in the country. These IMFIs are also subjected to several sustainability challenges including product concentration in Murabahah-based financing, paucity of available funds, and absence of Shariah structuring capacity,

resulting in limited outreach, exclusion of the extremely poor, and absence of participatory modes of financing and market linkages. Unfortunately, for Islamic commercial banks, the microfinance sector does not fall into the acceptable risk matrix eligible for financing. This chapter concludes that there should be a gradual shift toward participatory modes of financing enabling transformation of finance into real assets, at the same time allowing microenterprises to share profits and losses with the microfinance institutions. Cheaper financing could be sourced from funds such as waqf. Solidarity groups through social collateral would safeguard against adverse selection and agency problems. The research has helped to a framework of offering participatory products by IMFIs.

Chapter 9 by Abdelrahman Elzahi Saaid Ali and Khalifa Mohamed Ali investigates how to enhance financial inclusion and poverty alleviation through mobile microfinance in Sudan. The authors attempt to identify the challenges and opportunities. Sudan is listed as a low-income and food-deficit country despite its rich endowment of natural resources. Nearly half of the country, more than 37 million people, lives under the poverty line. Ranked 171 based on the United Nations Development Programme (UNDP) Human Development Index implies a very low rank in term of life expectancy, education, and gross national per capita income. Despite the efforts by the government through the Central Bank of Sudan to contain poverty through the establishment of a microfinance unit and the issuance of a microfinance regulatory framework, the country is still far beyond mitigating poverty. The vast areas of the country and the unfavorable basic infrastructure were reported as major obstacles for financial inclusion through normal financial methods. The results show that more opportunities for adopting mobile microfinance in Sudan would help it overcome the challenges. These results should help the government and policymakers in Sudan to adopt mobile microfinance.

Chapter 10 by Syed Muhammad Abdul Rehman Shah discusses the role of Islamic finance in achieving economic growth in Pakistan. Based on the global development agenda, the UN recommends that Islamic finance should support the Sustainable Development Goals (SDGs). A chain of research papers about the dynamics of financial development and growth of an economy is found, yet, the same research agenda is less explored from the perspective of the impact of Islamic finance on the economic growth for the countries with concentration of Islamic finance. Moreover, Islamic finance might be the best source of financial inclusion for the interest-sensitive people due to religious beliefs. Islamic finance

plays a productive role by facilitating borrowing and lending for agents facing shortage or surplus of funds. Therefore, this chapter explores the linkages among Islamic financial arrangements and economic growth in Pakistan, by using time series data of Pakistan during 2005–2017. Islamic banks' financing is used as a proxy for Islamic financing—gross fixed capital formation (GFCF), labor force (LF), broad money (M), gross domestic product (GDP), and trade openness (TO)—to present the real sector of an economy. The unit root test, ordinary least square (OLS) method and Granger-causality test are applied for exploration. The results validate a substantial causal relationship between Islamic financing and economic growth but the antipodal is not more valid, that is consistent with the supply-leading view of Schumpeter. The findings indicate that Islamic finance has contributed toward economic growth, which is one of the 17 objectives of the SDGs. The chapter recommends policy interventions to unlock the potential of Islamic finance for sustainable growth and development in countries where people are interest-sensitive.

Chapter 11 by M. Abubakar Siddique and Memoona Rahim is entitled Impact of Islamic banking Industry on Economic Growth and Poverty Alleviation in Pakistan. The authors explain that in Pakistan, the banking sector was brought under the umbrella of the Islamic financial paradigm since 2004. They claimed many studies have proved that Islamic banking industry (IBI) is performing well with respect to efficiency, profitability, and growth in Pakistan. But few studies have focused on this industry's role in achieving the Sustainable Development Goals (SDGs) like poverty eradication and economic growth in Pakistan. The focus of the chapter is to explore the role of IBI in Pakistan in achieving the SDGs. The study used major Islamic banks' financing modes, like Salam, Murabaha, Diminishing Musharakah (DM), Ijarah, and Istisna, as dependent variables because they play an important role in the development and growth of the Islamic banking industry. Keeping in view of the available data, this study selected nine banks; four full-fledged Islamic banks and standalone Islamic branches of five conventional banks running Islamic banking operations separately from their conventional counterparts in Pakistan. The study included annual unbalanced panel data from 2004 to 2017. In the light of the findings obtained from Im, Pesaran and Shin panel unit root test, Breusch-Pagan LM test, and Hausman test, Random Effect (R.E) estimation technique was employed. The finding showed that Islamic bank-specific variables as well as macroeconomic variables had a significant impact on poverty reduction and economic growth in Pakistan. The study

concluded that Islamic banking industry has great potential to achieve the SDGs in Pakistan and it also suggested that the government of Pakistan needs to take more measures to promote Islamic banking because the contemporary steps being taken are inadequate.

Chapter 12 by Adhitya Ginanjar and Salina Kassim looks at alleviating poverty through Islamic microfinance. They checked factors and measures of financial performance, and the roles of Islamic values and financial policies. Based on their view, the microfinance sector has a strong presence in Indonesia, with the number of Islamic Microfinance Institutions (IMFIs) estimated to be around 5000 currently. Microfinance is an effective tool in alleviating poverty in Indonesia due to the limited access to financial services by the poor who account for approximately 96 million Indonesians (or 37% of the total population), living on less than USD 1.90 a day. In the absence of a collateral and steady income, the poor are considered too risky to be given credit facilities by the formal financial services providers, and also, those living in remote areas have limited their access to formal financial services. This chapter examines the poverty alleviation efforts from the perspective of the IMFIs because of their direct involvement in the process and because they are rich in information about the financial issues faced by the borrowers. The managers also understand the financial inclusion agenda as well as the financial guidelines and regulations issued by the relevant authorities. A total of 34 managers of Baitulmaal Wa Tamwil (BMT), registered under the Sharia Cooperative Centre (INKOPSYAH), are taken as respondents from the Jakarta, Bogor, Depok, Tangerang, and Bekasi areas. The first instrument was a survey questionnaire, and the second was an in-depth interview to collect data related to the model design. The findings elaborate on several dimensions of improving financial inclusion among the poor, including providing financial services, implementing Islamic principles, significant policies, a community-based framework concept, and training and financial education. The findings also highlight the need for a variety of strategies to warrant success of poverty alleviation efforts by BMT. These results are expected to contribute to better decision-making for the BMT to further enhance its role in alleviating poverty.

Chapter 13 by Elsadig Musa Ahmed and Anwar Ammar investigates achieving sustainable development in Sudan through mobile microfinance services. This chapter attempts to apply the most significant knowledge economy driver, Information and Communications Technology (ICT), to implement mobile banking (M-bank) to increase the outreach of Sudanese microfinance sector services. Access to financial service has become a key



phenomenon for economic development and poverty alleviation. Microfinance is one way of fighting poverty in Sudan, where a large segment of the population is in need of it. However, despite the initial results showing a positive impact of microfinance on the livelihood of the low-income population in Sudan, around eight million Sudanese poor people are excluded from microfinance services. One potential remedy for the limited outreach of microfinance in Sudan could be enhancing the utilization capacity of modern technology by microfinance services providers (MFPs). Recent innovation in providing financial services in a convenient and efficient way is the use of M-banking technology in microfinance. M-banking promises to increase the efficiency and outreach of microfinance services in developing countries. This chapter tries to examine the factors that influence the adoption of M-banking by the microfinance sector in Sudan. In this respect, hypotheses were developed based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and Technology-Organization-Environment (TOE) models. Primary data was collected from MFPs and microfinance customers in Sudan using questionnaires and interviews.

Chapter 14 by Mustafa Omar Mohammad investigates the success factors of the i-Taajir Micro-entrepreneurship Model and tries to draw lessons for Islamic banks and Muslim universities. He explains that there has been increasing interest in Islamic financial inclusion from scholars as well as from practitioners in the industry. Several models have been proposed for empowering the poor, mostly women. The recent FinTech revolution has created more opportunities for financial inclusion particularly among the youth. The roles of universities in the development of financial inclusion have largely been theoretical with few exceptions, like the University of Huston in Texas and the Gontor University in Indonesia. The former has a microfinance unit that offers zero interest loans and the latter creates businesses on the campus exclusively for its students and staff. This chapter focuses on the i-Taajir program, which began operation at the beginning of 2018. No work has so far been documented on the rich experience of this program. It is unique in several ways. First, it is a synergy between CIMB bank Islamic Corporate Social Responsibility (CSR) funding and expertise from the International Islamic University Malaysia (IIUM) Center for Islamic Economics. Second, it involves IIUM students as field trainers, monitors, and project evaluators. The students' participation is used as a cost-cutting measure and risk mitigating strategy. Third, i-Taajir offers four financing modes: Qard Hasan embedded with the Tabarru' Fund for sustainability, Murabahah to the purchase ordered and Musharakah Mutanaqisah working

capital. Fourth, its success factors are benchmarked against its grassroots approach; value-loaded training programs; over 95% repayment rate; cheap pricing on the asset side, which does not vary with time; clear graduation target; and bridging the gap between theory and practice.

Finally, Chap. 15 by Aliyu Dahiru Muhammad and Sa'adatu Aminu Ibrahim investigates the role of Islamic microfinance in financial inclusion in the Bauchi State of Nigeria. The authors explain that Islamic microfinance plays a vital role in financial inclusion and sustainable development in developing countries. The chapter examines the role of Islamic microfinance for enhancing financial inclusion. It was specifically focused on the customers of the pioneer Islamic microfinance bank in Nigeria, Tijarah Microfinance Bank, in Bauchi State. Thus, the study examined the level of customer awareness and assessed the level of use and quality of products/services offered by the bank among its customers. The study used primary data and deployed a questionnaire on a sample of 397, drawn based on convenience sampling. Descriptive and inferential statistics were employed to analyze the responses, interpret the relationship between the variables, and draw conclusions. The chapter concludes that the operation of Tijarah Microfinance Bank Ltd has enhanced financial inclusion among the respondents. Thus, the study indicated a positive role of Islamic microfinance in relation to enhancing financial inclusion which is its major contribution to knowledge. Therefore, the study recommends that the providers of financial services, particularly banks, need to explore the alternatives provided by Islamic microfinance to engender wider access to banking services among the populace. In addition, policymakers should ensure the competitiveness of Islamic microfinance banks within the context of the financial industry to enhance sustainable financial inclusion. It also recommends that further research on Islamic microfinance and financial inclusion should be undertaken in the future.

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# Financial Inclusion for Poverty Alleviation: The Role of Islamic Finance in Bangladesh

*M. Mizanur Rahman*

## 2.1 INTRODUCTION

Financial inclusion is one of the most important factors in ending global poverty. It refers to the access to diverse financial products and services of quality. Up to two billion people worldwide, however, are excluded from the financial system, especially in developing countries: rich adults are twice as likely to own a bank account than the poor.

Paradoxically, those who have most difficulty acquiring banking products and services are those who could most benefit from them, which is why financial inclusion is urged to play an important role in reducing poverty and inequality to fulfill the UN's 2030 Agenda for Sustainable Development Goals (SDGs).

Although a linkage between financial development and economic development exists, a high degree of the financial development in a country is not necessarily an indication of alleviation of poverty in a country. There is a growing realization that in addition to financial development,

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the emphasis should be on expanding the accessibility to finance and the financial services which can play a more positive role in eradicating poverty. Development economists are convinced that improving access to and making basic financial services available to all members of the society in order to build an inclusive financial system should be the goal. Enhancing the access to and the quality of basic financial services such as availability of credit, mobilization of savings, insurance, and risk management can facilitate sustainable growth and productivity, especially for small and medium scale enterprises.

People in many developing countries are excluded from the financial system, especially in African and Asian countries such as Bangladesh, Ghana, India, Indonesia, Kenya, Nigeria, Pakistan, Rwanda, Tanzania, and Uganda, among others. The Financial Inclusion Insights program says big progress is beginning to be made in different fields of action, but there is still a long way to go. Data shows that financial inclusion of developing countries of the world is challenged. Of them, 61% of Kenyans are active users of mobile money; 36% of Nigerians have an online bank account; 48% of Ghana's inhabitants already consider themselves included in the financial system; 79% of Bangladeshi men have a mobile phone compared to 48% of women; 42% of adult Indians are active users of a bank account; 73% of the Indonesian population say they have savings; 46% of Tanzanian adults use smartphones (World Bank and Financial Inclusion Insights, 2017).

Financial inclusion could empower women who could undertake labor activities unthinkable without economic aid; increase consumption and investment, and thus grow revenues; and increase spending on other social aspects, such as preventive health. Many of the worst problems presently endangering developing countries could be resolved through financial inclusion. It is also a catalyst for poverty reduction in line with Sustainable Development Goal (SDG)-1, to end global poverty. The 2030 Agenda seeks to guarantee human beings, especially those in vulnerable situations, the same rights, not only to financial services, including microfinancing, but also to economic resources, property, and new technologies.

Conventional finance has developed mechanisms such as microfinance, small and medium enterprises (SMEs), and micro-insurance to enhance financial inclusion. Conventional techniques have been partially successful in enhancing access but are not without challenges. Islamic finance addresses the issue of financial inclusion from two directions: one through promoting risk-sharing contracts which provide a viable alternative to

conventional debt-based financing, and the other through specific instruments of redistribution of wealth among the society. Both risk-sharing financing instruments and redistributive instruments complement each other to offer a comprehensive approach to enhance financial inclusion, eradicate poverty, and build a healthy and vibrant economy.

The financial sector of Bangladesh is dominated by the banking sector putting in remarkable contributions to the gross domestic product (GDP) and sustainable development of the country. Bangladesh is considered to be a very important market for Shariah banking as it is the third largest Muslim populated country in the world with around 140 million Muslims. After the establishment of the first Islamic bank in Bangladesh in 1983, Islamic banks have grown consistently in the country during a period of over 35 years. Presently, eight fully fledged Shariah-based banks are operating in Bangladesh including a new one. In addition to that, 15 other regular commercial banks and a couple of foreign banks are offering Islamic products through their Islamic banking branches/windows. By virtue of all these institutions, the collective market share of Islamic banking in the country is currently around 25% which is contributing remarkably toward the GDP and sustainable development of the country.

In the case of Bangladesh, experts and professionals in the sector believe that the central bank of the country should devise regulatory and supervisory framework dedicated for Islamic banks for achieving healthy growth of the sector. Although no comprehensive law had been enacted to regulate Islamic banking, a guideline for Islamic banking issued in 2009 and earlier some amendments in the application of existing laws had been made by the government. If an act can be passed, the Islamic banking system of the country will grow further and will bring more people into the banking system which will contribute to alleviating poverty in the country.

## 2.2 LITERATURE REVIEW

There is growing evidence of the beneficial impact of access to financial services on all aspects of social and economic outcomes at the household and firm levels. Development theory provides important clues about the impact of financial inclusion on economic development. Many models in development economics illustrate how financial exclusion, and in particular, lack of access to finance can lead to poverty traps and inequality (Aghion and Bolton 1997; Banerjee and Newman 1993).

Many studies show a variety of empirical findings. Of them, Panagariya criticized the opening of new branch banks as a step to reduce poverty, which is somewhat at odds with Ayyagari et al. that financial deepening contributed to poverty alleviation in rural areas by fostering entrepreneurship and inducing geographic sectoral migration, as well as Clarke and Zhou, Beck et al., Beck and Levkov, Hamrullah et al., Quy and Iyer.

Anwan et al. show that financial inclusion has a positive and significant effect on investment in Indonesia. Young Park et al. extended the existing literature on Financial Inclusion (FI) by focusing on developing Asian economies. The study tested the impact of FI, along with other control variables, on poverty and income inequality and found significant positive results.

Demirgüç-Kunt and Klapper identified barriers to FI and argued that well-functioning financial systems serve a vital purpose, offering savings, payment, credit, and risk management products to people with a range of needs. More-inclusive financial systems allow broad access to appropriate financial services to benefit poor people and other disadvantaged groups.

Allen et al. found that greater FI is associated with a better enabling environment to access financial services. Some studies tried to find out the barriers to wider financial inclusion. Beck et al.'s study developed new indicators of barriers to banking services around the world by collecting information from 209 banks in 62 countries.

Awojobi and Bein mentioned that there are a variety of Islamic products that can be adapted to microfinance in order to reduce the scourge of poverty in the country. In various countries in the Middle East where microfinance concepts have been implemented, microfinance has successfully opened economic opportunities improving the social economic condition of the poor, which attests to the fact that microfinance reduces poverty through accelerated employment rate and increase in real wages.

Hannig and Jansen argued that greater financial inclusion presents opportunities to enhance financial stability. Sarma and Pais, attempted to examine the relationship between financial inclusion and development by empirically identified specific factors that are associated with the level of FI. It finds that levels of human development and FI in a country are inter-related with each other.

Beck and Stiglitz mentioned that financial exclusion affects poor people disproportionately, since they initially lack collateral and resources to secure bank loans. Hence, the poor segments of the population benefit the most

from financial inclusion since it reduces collateral requirements as well as borrowing costs. Every population has a certain share of skilled entrepreneurs. Those individuals have the potential to use loans to grow small and medium sized companies. These companies enable not just employment opportunities for themselves but also for others.

Rahman mentioned that Bangladesh is a pioneer for financial inclusion of the poor and hosts some of the biggest microfinance institutions (MFIs) in the world: Grameen, ASA, BRAC, Buro, and others. Together, these institutions serve over 16 million clients all over the country and cover around 70% of all clients of the more than 600 formal microfinance institutions. However, these institutions have stopped to grow in client numbers since 2008, due to market saturation; instead, they have increased the loan amounts per client.

Islamic microfinance represents the confluence of two rapidly growing industries: microfinance and Islamic finance. It has addressed the unmet microcredit demands and also satisfies the Islamic social principle of caring for the less fortunate with the power of microfinance to provide financial access to the poor.

Hassan and Ashraf (2010) provide for the creation of a Zakah fund with which to cover the losses arising from the default by very small micro-enterprises. The fund also covers part of the project evaluation costs of commercial banks. Qardhasan loans are also provided for funding micro-insurance to reduce vulnerability of the non-poor from becoming poor due to external shocks. This is in addition to the creation of mutual guarantee funds to pay for accidents, losses of property. In addition, loans are also provided to build the productive capacity of the households as part of inclusive growth programs.

Different studies on financial inclusions in Bangladesh show that the country has achieved significant progress in financial inclusion. Rahman explained the status of financial inclusion in Bangladesh. Islam and Mamun studied the role of Bangladesh Bank (BB) in FI. Khalily et al. conducted a survey on "Access to financial services in Bangladesh". Mujeri prepared a report on how to improve the access of the poor to financial services in Bangladesh. Khalily et al. is a comprehensive follow up survey on FI in the country, with an attempt to cover information on all financial services and sectors. The Khalily et al. study dealt with the need for financial literacy and education for FI in the country. The Bangladesh country paper by

UNCTAD emphasized the impact of access to financial services for financial development and poverty reduction. The paper discusses various steps and initiatives taken by Bangladesh Bank and the Government of Bangladesh (GB) toward financial inclusions.

The literature reviewed shows that so far, there are some studies on financial inclusion and its effect on poverty alleviation at home and abroad; though in Bangladesh the studies are not many, thus narrowing the importance of financial inclusion. Therefore, the objective of this study is to know the present situation of financial inclusion, the contribution of Islamic finance, especially banking, toward financial inclusion through the agricultural sector, and microfinance, SME and CSR activities, and its potentials in Bangladesh.

### 2.3 OBJECTIVE OF THE STUDY

The objective of this paper is to study if banking and finance can contribute to financial inclusion of the poverty-stricken to achieve sustainable goal (SDGs) in Bangladesh. Also, this paper will assess if the financial system can serve as a tool to foster economic growth as well as human wellbeing and also to reduce poverty and inequity by providing microfinance, small and medium enterprise (SME), agricultural sector, financial inclusion, and corporate social responsibility (CSR) activities.

### 2.4 THEORETICAL UNDERPINNING OF FINANCIAL INCLUSION

#### 2.4.1 *Defining Financial Inclusion*

The Group of 20 (G20) association of major world economic powers added its imprimatur to financial inclusion by recognizing it as one of the four pillars in the financial sector reform structure of its Global Development Agenda, and given equal standing along with financial integrity, financial consumer protection, and financial stability. In so doing, the G20 defined financial inclusion as: "...a state in which all working age adults have effective access to credit, savings, payments, and insurance from formal service providers..."

Financial inclusion can be simply defined as universal access to and use of affordable, quality financial services, provided responsibly. The goal of financial inclusion is to bring the financially excluded under the umbrella of formal financial services, so as to protect and enhance welfare. Formal



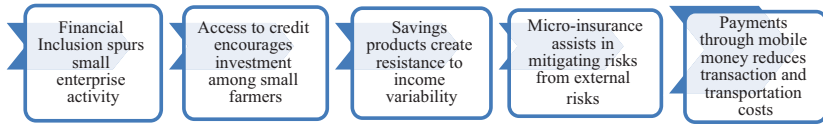


Fig. 2.1 Outcomes of financial inclusion

financial inclusion entails access to credit, savings products, micro-insurance, and payments. There are various beneficial outcomes to financial inclusion, as shown in Fig. 2.1.

### 2.4.2 *Islamic Concept of Financial Inclusion*

It is widely recognized that the central economic tenet of Islam is to develop a prosperous, just, and egalitarian economic and social structure in which all members of society can maximize their intellectual capacity, preserve and promote their health, and actively contribute to the economic and social development of society. Economic development and growth, along with social justice, are the foundational elements of an Islamic economic system. All members of an Islamic society must be given the same opportunities to advance themselves; in other words, a level playing field, including access to the natural resources provided by Allah. For those for whom there is no work and for those that cannot work (including the handicapped), society must afford the minimum requirements for a dignified life by providing shelter, food, healthcare, and education.

Islamic finance, the foundation of the belief that such a system facilitates real sector activity through risk-sharing, has its epistemological roots firmly in the Quran (2:275). This verse ordains that all economic and financial transactions are conducted via contracts of exchange (al-Bai) and not through interest-based debt contracts (al-riba). The Islamic system offers various advantages over the conventional system based on risk-sharing. Use of risk-sharing instruments could encourage investors to invest in sectors such as micro, small, and medium enterprises (MSME) which are perceived as high-risk sectors.

Redistributive instruments such as Zakah, Sadaqat, Waqf, and Qard-al-hassan complement risk-sharing instruments to target the poor sector of society to offer a comprehensive approach to eradicate poverty and to build a healthy and vibrant economy. The instruments offered by Islam have strong historical roots and have been applied throughout history in

various Muslim communities. Therefore, policy makers in Muslim countries who are serious about enhancing access to finance or “financial inclusion” should exploit the potential of Islamic instruments to achieve this goal and focus on improving the regulatory and financial infrastructure to promote an enabling environment.

## 2.5 WHERE DO WE STAND GLOBALLY?

According to Global Findex 2014, globally, 62% of adults reported having an account; this was 51% in 2011. This trend is driven by a 13-percentage-point rise in account ownership in developing countries as well as improved technology. In particular, mobile money accounts in developing countries are helping to rapidly expand and scale up access to financial services. Between 2011 and 2014, 700 million people became account holders at banks and other financial institutions or mobile money services providers. It has decreased the number of financially excluded individuals by 20% (from 2.5 to 2 billion adults). Table 2.1 presents global stands of financial

**Table 2.1** Number of accounts with financial institutions (% of age 15+) 2014

	<i>Bangladesh</i>	<i>South Asia</i>	<i>Low income</i>
Adult	31	46.4	27.5
Adult women	26.5	37.4	23.9
Adults belonging to the poorest 40%	23.1	38.1	19.4
Adults living in rural areas	25.6	43.5	24.8

Source: Global Findex, 2014 WB

**Table 2.2** Access to financial services in Bangladesh

	<i>Access to any financial services in any market</i>	<i>Access to quasi-formal finance</i>	<i>Access to formal financial services</i>	<i>Access to informal finance</i>
National	76.8	43.2	37.0	26.2
Non-poor	79.4	39.7	44.4	21.7
Poor	70.6	51.7	19.4	27.4
Rural	75.5	46.4	32.8	27.4
Urban	81.7	30.9	53.5	23.6

inclusion, which implies that Bangladesh fares very badly, even within South Asia.

## 2.6 ACCESS TO FINANCIAL SERVICES IN BANGLADESH

Table 2.2 shows the access to financial services in Bangladesh, which reveal that the national financial inclusion of the country is only 37%, though the non-poor percentage is around 45%.

## 2.7 METHODOLOGY

This study is a policy paper, has been written based on both primary and secondary quantitative and qualitative data. The data was collected from different published sources like, different books, journals, and internet and also from banks' primary data. Different relevant literatures collected from different books and journals are also reviewed and cited in the text of the paper. Results were presented in tables and graphs. The authors' own opinion based on the evidence is also expressed in this paper.

## 2.8 FINANCIAL SECTOR IN BANGLADESH

### 2.8.1 *Banking Sector of Bangladesh*

The banking sector comprises scheduled and non-scheduled banks. Scheduled banks are classified into four categories: 6 state-owned commercial banks (SCBs), 2 specialized development banks (SDBs), 39 private commercial banks (PCBs) and 9 foreign commercial banks (FCBs). Of the commercial Banks 8 are Islamic banks and 15 more conventional banks have Islamic banking windows/branches.

The banking sector of Bangladesh demonstrated considerable progress in reinforcing resilience. Till 2017, the total number of branches was 9753 while the total amount of deposits was Tk. 954,453 crores and advance was Tk. 745,845 crores. Bangladesh Bank (BB) continued to focus on strengthening the financial system of the country. A number of policy measures continued during the year emphasizing risk management, corporate governance, stress testing, enhanced CSR, and Green Banking activities in banks, as well as monitoring of fraud-forgeries through self-assessment of Anti-Fraud Internal Controls.

### 2.8.2 *Non-bank Financial Institutions*

There are currently 32 non-bank financial institutions (NBFIs) providing long-term financing, savings, and equity services. In comparison to the banking sector, NBFIs are small and relatively underdeveloped. The central bank regulates NBFIs under the Financial Institutions Act, 1993. Out of 32 NBFIs, 3 are Government-owned, 10 are joint ventures, and the remaining 19 are privately owned locally. NBFIs are investing in different sectors of the economy. NBFIs are also contributing to the SME sectors.

### 2.8.3 *Microfinance Institutions*

Microfinance services are provided by NGOs, Grameen Bank, state-owned commercial banks, private commercial banks, and specialized programs of GoB. In this sector, the MRA (Micro Credit Regulatory Authority) licensed NGO-MFIs have grown significantly over the last two decades and are serving over 25 million clients. As of 2014, 697 NGO-MFIs had been licensed to provide microfinance services with about 17,000 branches.

NGO-MFIs have become prominent players in the financial services market in Bangladesh. These institutions have reached such segments of the population and sectors of the economy that have little or no access to the commercial banks and other financial service providers. Some MFIs also provide voluntary savings and time deposits. These institutions also provide micro-insurance facilities for its clients. This micro-insurance schemes cover health, life, loans, livestock, and disaster.

## 2.9 ROLE OF AGRICULTURE IN ACHIEVING FINANCIAL INCLUSIONS IN BANGLADESH

To expand financial inclusion, it is essential to innovate and improvise financial products to broaden the outreach of financial services offered by institutions. The central bank has undertaken a comprehensive financial inclusion campaign along with moral suasion, a number of policy measures covering opening of bank branches, deposit and credit products, some of which are very innovative for the banking system.

The role of the agriculture sector is vital in achieving financial inclusion through employment generation, ensuring food security, export earnings, and distributive financial justice. During the last two decades, the Bangladesh economy has achieved significant progress in terms of GDP

growth, and remarkable transformation of changes in contribution of different sectors, especially the agriculture sector, to the economy. At present, the contribution of the agriculture sector to the GDP is 14.8% and this sector employs around 47% of the labor force. In addition, the sector also provides raw materials for micro, medium, and small industries. However, the agriculture sector plays a crucial role toward development to its inter-linkages sector with the rest of the economy.

Inclusive financing thrusts of Bangladesh Bank are on output initiatives in agriculture supporting food security and food price stability, SME financing, promoting output, employment and income generation, and green financing supporting environmental sustainability. Policy initiatives of ensuring adequate financing for agriculture include: (1) mandatory minimum 25% agricultural lending target for all banks, (2) government interest subsidy on loans for specified high value exotic crops and spices, (3) banks with inadequate rural branch presence can lend through local MFIs, (4) credit needs of tenant farmers supported by lending through a large reputed MFI, (5) bank accounts for farmers available at nominal deposits—10 million accounts opened so far. For the SME enterprises which accounts for 22.5% of the GDP and 40% of employment, financing is supported by refinance lines funded partly by development partners (International Development Association (IDA), Asian Development Bank (ADB), and Japan International Cooperation Agency (JICA)) and partly by Bangladesh Bank. BB disbursed Taka 3.45 billion from the refinance window and 21.9% of the SME credit is distributed to women entrepreneurs. For the purpose of helping SMEs, the ‘New Entrepreneurs Fund’ and ‘Jute Sector Fund’ have been launched in 2014.

### *2.9.1 Agricultural Credit Program Banks in Bangladesh in FY2017*

The implementation of some important initiatives of this program is as follows:

- Around 3.86 million farmers availed agricultural and rural credit of which 1.85 million women got BDT 62.41 billion from different banks.
- Around BDT 3.87 billion was disbursed among about 0.12 million farmers through 15,088 open credit disbursement programs arranged by different banks. Around 2.97 million small and marginal farmers got BDT 149.30 billion agricultural loans from different banks.

- About BDT 0.4 billion of agricultural and rural credit was disbursed among about 8731 farmers living in the less developed areas like haor, char, etc.
- Around 9.0 million bank accounts were opened by farmers in the state-owned commercial banks with an initial deposit of BDT 10 only.
- An amount of BDT 0.81 billion was disbursed at 4.0% concessional interest rate for the production of certain crops like pulse, oilseed, spices, and maize for which the country continuously relies on import.
- In the three Hill Tract districts, more than BDT 0.48 billion was disbursed among 19,023 tribal farmers at only 5.0% interest rate.

### 2.9.2 Credit Disbursement to Agriculture

In recent years, the agriculture and rural finance program seems to have boosted up as the private commercial banks (PCBs) and foreign commercial banks (FCBs) along with state-owned commercial banks (SCBs) came forward to disburse agricultural credit in the country. The actual disbursement of BDT 209.99 billion in FY17 against the disbursement target of 175.50 billion was 19.0% higher than the actual disbursement of BDT 176.5 billion in FY16. Table 2.9 shows the comparative position of overall disbursement and recovery of agricultural loan and Fig. 2.2 shows the targets and actual disbursement of agricultural loan, respectively, in FY17.

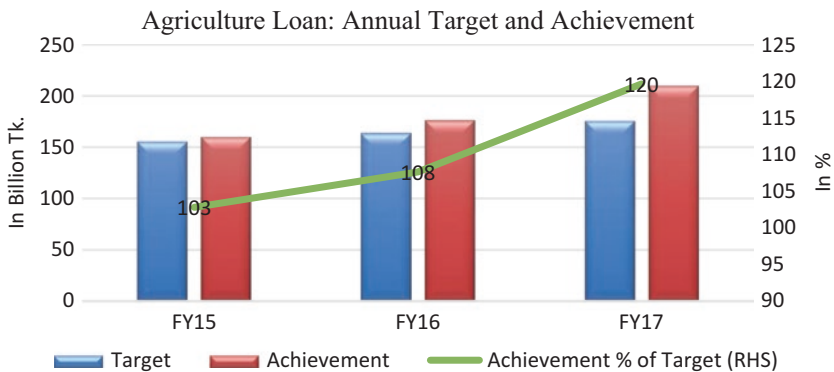


Fig. 2.2 Annual target and achievement of agricultural loan

### *2.9.3 Bangladesh Bank's Refinance Against Agricultural Loans*

During FY17 no bank and financial institution was provided refinance facilities against agricultural and rural credit from Bangladesh Bank. An amount of BDT 3.60 billion was recovered against refinance due from different banks and financial institutions leaving an outstanding balance of BDT 32.47 billion as of 30 June 2017 for future recovery. Besides the above refinance schemes, some other agriculture related refinance schemes/projects are operating through this department of BB. These have been discussed below:

#### *2.9.3.1 Special Refinance Scheme for Share-croppers*

BB has undertaken a special refinance scheme of BDT 6.00 billion to provide credit through BRAC to those share-croppers who have limited access to banks. In FY17, Bangladesh Bank has refinanced BDT 5.62 billion to BRAC for disbursing agricultural credit to about 0.15 million share-croppers under this special refinance scheme.

#### *2.9.3.2 Special Refinance Scheme for the Jute Sectors*

In FY15, BB undertook a special refinance scheme of BDT 2.0 billion to provide working capital to jute goods manufacturing companies and jute exporters. A total of 18 banks availed these refinance facilities of BDT 1.73 billion against their disbursement to purchase raw jute from jute producers.

#### *2.9.3.3 Special Refinance Scheme for Dairy Farming*

An amount of BDT 2.00 billion has been launched under the refinance scheme by BB for dairy milk production and artificial insemination. An amount of BDT 0.97 billion has been disbursed by the banks and financial institutions under this scheme in FY17. The interest rate at borrower level is 5.0% and the government provides 5.0% cash subsidy against the credit to the disbursing banks. In FY17, BB has refinanced BDT 1.02 billion to concerned banks and financial institutions under this scheme.

## 2.10 ROLE OF MICROFINANCE INSTITUTES (MFIs) IN ACHIEVING FINANCIAL INCLUSION IN BANGLADESH

The story of financial inclusion in Bangladesh began with microfinance institutions, the success of which led to large-scale emulation of home-grown models, in parts of Asia, Africa, and Latin America. Subsequently, the Bill and Melinda Gates Foundation began to make the case that financial inclusion would be better fostered through technological innovation, leading to the formation of the Alliance for Financial Inclusion (AFI) in 2008, recognized by the G20 as an implementing partner.

Microfinance is one of the most effective tools for ensuring financial inclusion. MFIs in Bangladesh provide a wider spectrum of financial services, which are created through a demand driven innovative process in meeting the poor's complex livelihood and heterogeneous needs. The industry provides different types of savings products so that the poor can save even for a day with very little amount. Although some of the products appear to be similar to those of the formal banking sector, their inherent characteristics such as terms and conditions, collateral requirements, size of installment, and period of repayment are in line with the economic conditions of the poor.

Since September 2011 they have initiated mobile financial services (MFS) as agents/partners of local banks. These mobile financial services include disbursement of inward foreign remittances; person to business payments such as utility bill payments and merchant payments; business to person payments such as salary disbursement, dividend and refund warrant payments, vendor payments, and so on; government to person payments such as elderly allowances, freedom fighter allowances, subsidies, and so on; person to government payments such as tax, levy payments;

**Table 2.3** MFIs' branch network (as of June 2016)

	<i>In number</i>				<i>In %</i>		
	<i>Rural</i>	<i>Urban</i>	<i>Total</i>		<i>Rural</i>	<i>Urban</i>	<i>Total</i>
BRAC	1991	97	2088	BRAC	11	1	11
GB	2568	–	2568	GB	14	–	14
ASA	2644	289	2933	ASA	14	2	16
Others	8402	2618	11,020	Others	45	14	59
Total	15,605	3004	18,609	Total	84	16	100



person to person payments. While other payments include microfinance, overdrawn facility, insurance premium, Data Processing Segment, and so on. Around 15 MFIs have been given permission by the Microcredit Regulatory Authority (MRA) to start mobile financial services under the Bank-led Agent Model where they have to sign an agreement with commercial banks for subsequent approval from the Central Bank. In a further move, Bangladesh Bank (BB) is going to expand mobile financial services by allowing loan disbursement and repayment activities under partnership agreement. All these pave the way toward achieving sustainable development goals in Bangladesh.

### 2.10.1 *Area Covered by MFIs*

During the financial year 2015–2016, Government of Bangladesh (GB), Bangladesh Rural Advancement Committee (BRAC), Association of Social Advancement (ASA), and the rest of the Micro finance Institutions (MFIs) have covered all the 64 administrative districts of Bangladesh. All of these have a presence in 491 Upazilas and the overwhelming number of villages (Table 2.3).

### 2.10.2 *Members of MFIs*

As of June 2016, the total number of members of microfinance sector was 38.62 million that includes active members of GB, BRAC, ASA, and also the rest of the Microfinance-NGOs (MF-NGOs). In the microfinance sector, most of the members are women. Many Microfinance Institutions (MFIs) have both women and men as members. There are also MFIs where 100% members are women. Looked at in terms of gender, of the total members 34.23 million (91%) are females and 6.94 million (9%) are males.

**Table 2.4** Members in MFIs (as of June 2016)

	<i>In number</i>			<i>In % of total</i>		
	<i>Female</i>	<i>Male</i>	<i>Total</i>	<i>Female</i>	<i>Male</i>	<i>Total</i>
Rural	30,198,694	2,909,211	33,107,905	80	8	88
Urban	4,032,458	517,099	4,549,557	11	1	12
Total	34,231,152	3,426,310	37,657,462	91	9	100

**Table 2.5** Microfinance in Bangladesh (as of June 2016)

<i>Microcredit provider</i>	<i>Net savings</i>		<i>Outstanding loan</i>		<i>Borrower</i>	
	<i>In crore Tk.</i>	<i>In %</i>	<i>In crore Tk.</i>	<i>In %</i>	<i>In lakh</i>	<i>In %</i>
MFI <sup>a</sup>	29,411	95.6	61,162	87.1	306	88.3
Banks <sup>b</sup>	799	2.6	7579	10.8	16.3	4.7
Government departments <sup>c</sup>	562	1.8	1460	2.1	24.1	7.0
Total	30,772	100	70,201	100	346	100

<sup>a</sup>Include wholesale lending of Palli Karmo Sahayak Foundation (PKSF) through 168 MFIs

<sup>b</sup>Include 6 state-owned commercial banks, 18 private commercial banks, and 3 specialized banks

<sup>c</sup>Include Bangladesh Rural Development Board-Thana Central Cooperative Associations (BRDB-TCCAs) and Jubo Unnayan Adhidaptar

Of the total members, 33.11 million (88%) are in the rural areas, while 4.55 million (12%) are in the urban areas. In the rural areas, the composition of rural female members is 30.20 million (91%), while that of male members is 2.91 million (9%). In the urban areas, there are 4.03 million (89%) female members and 0.52 million (11%) male members with a total of 4.55 million members. (Table 2.4). These figures show that the female composition in rural and urban areas is almost the same, that is about 90%.

The overall number of borrowers in the microfinance industry is 34,657,506. The MF-NGOs and GB together have 88.3% of the total borrowers, state-owned commercial banks and public institutions 9.12 per cent and private commercial and specialized banks 2.56%. Finally, with regard to the net savings, all clients have Tk. 307,720.52 million as net savings. Of these, the share of the GB and all MFIs including BRAC and ASA account for 95.58% which is quite enormous, while the specialized banks and Rural Development Scheme (RDS) of Islami Bank Bangladesh Limited (IBBL) have 2.56%, the state-owned banks 0.04%, and the public institutions have 1.83% of the total share of net savings (Table 2.5). Notably the private commercial banks have savers but in terms of percentage it is negligible.

### 2.10.3 Allocation of Microcredit by Economic Activities

From the supply side, microcredit in Bangladesh is mainly used to finance non-farm activities. However, there exists a strong demand of microcredit for agricultural activities, as food security is a major concern for the poor. Due to the landless character of the poor, only a small part of them is

**Table 2.6** Sector-wise microcredit disbursement (2015–2016)

<i>Sector</i>	<i>Amount</i>	<i>Share</i>
	<i>Million Tk.</i>	<i>%</i>
1. Agriculture	477,659	50.0
1.1 Crops	335,777	35.1
1.2 Livestock, dairy & poultry	107,642	11.3
1.3 Fisheries	34,240	3.6
2. Trade	295,417	30.9
3. Transport	35,600	3.7
4. Social sector	27,191	2.8
4.1 Housing	16,817	1.8
4.2 Healthcare	6866	0.7
4.3 Education	3508	0.4
5. Cottage industries & handicrafts	18,832	2.0
6. Others	101,073	10.6
Total	955,772	100

engaged in the agriculture sector as share-croppers/tenant farmers. All MFIs including GB, BRAC, and ASA have disbursed an amount of Tk. 955,772.18 million in ten identified sectors as shown in Table 2.6. The most important sectors where massive disbursement was made proposed by the borrowers include agriculture (35.13%), business (30.91%), livestock, dairy and poultry (11.26%), fisheries (3.58%), transport (3.72%), etc. In fact, broadly, the agriculture, livestock, and fisheries and poultry sectors account for 49.97%, that is 50%, of the total loan disbursed (Table 2.6). This indicates the massive contribution of these MFIs in the development of the rural economy in Bangladesh. More than 400 MFIs have disbursed loans to these four sectors. Other sectors, where MFIs have disbursed loans during the year to their member-borrowers include healthcare, education, housing, cottage industries and handicrafts, and others. About 15% of the total disbursement has gone to these aforesaid sectors. Significant numbers of MFIs have made disbursement to these small but important sectors.

#### 2.10.4 *Micro-enterprise Program of MFIs*

When the MFIs began their microfinance program, there were no ideas on micro-enterprise. The borrowers started working with small amounts of loans for their respective income-generating activities. MFIs gradually

**Table 2.7** Position of micro-enterprise (ME) loan (as of June 2016)

<i>Particular</i>	<i>June 2016</i>
Number of MFIs involved in financing ME loan	290
Number of ME borrowers	3,245,562
Disbursement of ME loan in 2015–2016 (Million Tk.)	277,884
ME loan disbursement per borrower (In Tk.)	85,620
Outstanding ME loan (Million Tk.)	183,066
ME loan outstanding per borrower (In Tk.)	56,405
% of ME loan to total loan outstanding	30

**Table 2.8** Microfinance loan to micro-enterprises

<i>Sl. No.</i>	<i>Type</i>	<i>Disbursement In 2015–2016</i>		<i>Outstanding As of June, 2016</i>	
		<i>Amount</i>	<i>In %</i>	<i>Amount</i>	<i>In %</i>
1	Small trade & business	131,986	47.5	85,605	46.8
2	Agriculture	35,074	12.6	20,933	11.4
3	Livestock, poultry & dairy	16,496	5.9	10,410	5.7
4	Garments & tailoring	7257	2.6	9065	5.0
5	Small industry & mills factory	12,770	4.6	8224	4.5
6	Fisheries	9951	3.6	6294	3.4
7	Cottage industries, handicrafts & pottery	9655	3.5	6131	3.3
8	Housing	7069	2.5	5371	2.9
9	Transportation	7025	2.5	4508	2.5
10	Food & food processing	6645	2.4	4475	2.4
11	Timber business/carpentry	2045	0.7	1475	0.8
12	Water, health, & sanitation	1890	0.7	1252	0.7
13	Others (Photocopy & Phone/fax, etc.)	30,023	10.8	19,323	10.6
	Total	277,884	100	183,066	100

increase the loan size of the borrowers to expand their business activity. Now usually a loan above Tk. 50,000 is termed as enterprise loan. According to the capacity of the MFIs they raise the enterprise loan size. PKSf has allowed its Partner Organizations called POs to lend up to Tk. 1.0 million loans. But very few MFIs have reached this limit. This loan now can be up to Tk. 500,000 or even more depending on the size of the MFI. The borrowers are not required to put in any matching equity. That is, the debt-equity ratio is still not in practice in MFI enterprise financing.

Enterprise loan proposals of the borrowers are meticulously evaluated by MFIs and the businesses are closely monitored.

In Bangladesh, micro-enterprises are playing quite a significant role in employment generation and earning livelihood of the marginal people. In the fiscal year 2015–2016, around 290 MFIs disbursed Tk. 277,884 million among 3.24 million borrowers across the country (Table 2.7).

### 2.10.5 MFIs Loan to Micro-enterprises

It has been found that the performance of micro-enterprise loans has been notable in 2015–2016 with regard to disbursement, recovery, outstanding, and borrowers. A total of Tk. 277,883.92 million was disbursed in 13 different sub-sectors of micro-enterprises. The highest disbursement was made in small trade and business (48%) followed by agriculture (13%), poultry and dairy farm (6%), fisheries (4%), cottage industries (4%), housing (3%), transportation (3%), and others (10%) (Table 2.8).

### 2.10.6 Micro-insurance for Clients of MFIs

MFIs in Bangladesh have six kinds of insurance practices for their clients, which are very short-term in nature. These practices have been devised by individual MFIs to ensure the welfare and wellbeing of the clients in distress situations. These insurance practices are loan insurance, livestock insurance, health insurance, accidental insurance, life insurance, and members' welfare fund. The MFI insurance practice is approved by the MRA law, which was enacted in the Parliament and is very much legal. The insurers have to pay a nominal fee. There are organizations that do not

**Table 2.9** MFIs micro-insurance activities (as of June 2016)

<i>Particular</i>	<i>No. of MFIs</i>	<i>No. of insured members</i>	<i>Balance of fund (million Tk.)</i>
Loan insurance	438	24,746,177	13,132.4
Members welfare	14	468,689	198.4
Livestock insurance	31	251,768	104.9
Life insurance	20	233,554	192.9
Health insurance	8	131,084	12.3
Accidental insurance	6	126,022	69.8
Total	466	25,957,294	13,711

**Table 2.10** Employment generation by MFIs (as of June 2016)

<i>MFI</i>					<i>Total</i>	
	<i>Number of males</i>	<i>In %</i>	<i>Number of females</i>	<i>In %</i>	<i>number</i>	<i>In %</i>
GB	18,679	11.2	2655	4.1	21,334	9.3
BRAC	30,204	18.2	9407	14.6	39,611	17.2
ASA	22,066	13.3	3354	5.2	25,420	11.0
Other MFIs	95,241	57.3	49,031	76.1	144,272	62.6
Total	166,190	100	64,447	100	230,637	100

even charge any fee at all. Such organizations have developed a welfare fund from their own earnings. The most common insurance practice is called loan insurance. Most MFIs have loan insurance. This insurance is applicable generally for the duration of the loan. In most cases of loan insurance, the spouses are covered. The number of claims and the amount involved is not significant. In fact, the claims are settled within a month. The MFIs have a policy in this regard. These claims may be in the process of settlement. The balance fund stands at Tk.13,710.61 million (Table 2.9).

### 2.10.7 *Employment Generation by MFIs*

The aggregate employment data shows that a total of 230,637 jobs have been created including 166,190 (72%) jobs for males and 64,447 (28%) jobs for females. In the credit sector, there are 140,245 (61%) jobs out of 230,637. Of the total percentage of jobs, GB has generated 9.25%, BRAC 16.12%, ASA 11.63%, and the rest of the 527 MFIs have generated 62.55%. In the microfinance sector, a total of 140,245 jobs have been created that include 111,404 (79%) jobs for males and 28,841 (21%) jobs for females. Of the total jobs in the microcredit sector, GB has created 15.21%, BRAC 13.75%, ASA 12.74%, while the rest of the MFIs have created 58.30%. A detailed picture on the employment status in the sector is shown in Table 2.10.

### 2.10.8 *Social Services by MFIs*

MFIs are committed to the overall socio-economic development of the communities they serve in the country. This is why, alongside microfinance activities, microfinance institutions (MFIs) have engaged themselves in various social development services including capacity development

**Table 2.11** Social services by microfinance institutions in Bangladesh

Sl. No.	Type of service	Total service receiver <sup>a</sup>	
		Number	In %
1	Health and medication	123,460,941	83.7
2	Educational and academic assistance	11,764,553	8.0
3	Water and sanitation	3,120,953	2.1
4	Women empowerment and development	2,762,882	1.9
5	Agricultural equipment assistance	983,174	0.7
6	Forestation	778,568	0.5
7	HIV/AIDS and family planning	747,660	0.5
8	Relief	724,727	0.5
9	Rehabilitation of the disabled, destitute, and unemployed	605,920	0.4
10	Good governance and legal assistance	570,368	0.4
11	Prevention of child marriage	529,743	0.4
12	Environment and disaster management	383,503	0.3
13	Prevention of women and children trafficking	287,235	0.2
14	Housing	60,154	0.0
15	Other (food & food processing, human rights, etc.)	658,150	0.4
	Total	147,438,531 <sup>b</sup>	100

<sup>a</sup>Includes members and non-member receivers

<sup>b</sup>The number looks exorbitant as both members and non-members have access to more than one service simultaneously from a single/many organizations

programs for the poor, very poor, near poor, and low-income people. They have not only included their members in such development programs but have also covered many other community members who are not their members but live in the same community. These people have benefitted equally from these development programs. In addition to the microcredit activities, these social services by MFIs have been further facilitating the attainment of ‘No Poverty’ and ‘Zero Hunger’ in Bangladesh (Table 2.11).

## 2.11 ROLE OF THE SME SECTOR IN ACHIEVING FINANCIAL INCLUSION IN BANGLADESH

In a developing country like Bangladesh, Small and Medium Enterprise (SME) finance has a huge potential to contribute to the overall sustainable economic development minimizing the gap between the rich and poor. Under the prudent regulation of Bangladesh Bank, the scheduled banks and Non-Bank Financial Institutions (NBFIs) have been playing a crucial role. A target-based SME lending program was initiated by Bangladesh Bank in 2010 under the “SME Credit Policies and Programs”. The target is not

**Table 2.12** SME refinance schemes (up to June 2017)

<i>Name of scheme/fund</i>	<i>Size of fund (billion Tk.)</i>	<i>No. of enterprises</i>	<i>Amount of refinance (billion Tk.)</i>	<i>Status</i>
Bangladesh Bank fund	8.50	30,985	31.61	Ongoing
JICA FSPDSME fund	3.77	698	5.72	Ongoing
Refinance scheme for agro-based product processing	4.50	2584	11.23	Ongoing
Refinance scheme for new entrepreneurs	0.50	340	0.18	Ongoing
Islamic Shariah-based refinance fund	3.75	553	3.59	Ongoing
Total	31.53	55,229	66.28	

JICA FSPDSME- Japan International Cooperation Agency Financial Sector Project for the Development of Small and Medium Sized Enterprises

imposed by the central bank, rather the banks and non-bank financial institutions (NBFIs) independently decided their target. A target of disbursing Bangladeshi Taka (BDT) 1135.0 billion was set for 2016 which was higher by BDT 89.2 billion than that of 2015. In 2016, BDT 1419.4 billion was disbursed against a target of BDT 1135.0 billion. In FY17, all banks and non-bank financial institutions disbursed a total amount of BDT 1439.7 billion among 697,000 cottage, micro, small, and medium sized enterprises (CMSMEs). Special emphasis has been given to bringing women entrepreneurs in the mainstream of development activities of the country. An amount of BDT 45.1 billion has been disbursed among 49,000 women-led SME enterprises in FY17.

Study shows that despite significant increase in SME credit, the growth in disbursement of agricultural credit has been very sluggish. Growth of rural deposits is much higher than rural credit. Despite greater proliferation of private sector banks, public banks still dominate the rural sub-districts. The southern part of the country has seen a noticeable increase in the number of accounts and amounts of deposits but not credits. Despite the initiatives of Bangladesh Bank (BB), Government, Non-government Organizations (NGOs) and the Private Sector Bangladesh still perform badly compared with the rest of the South Asian Countries.



### ***2.11.1 Bangladesh Bank Refinance for SMEs***

Bangladesh Bank, with the help of the government and different development partners, has been implementing eight different revolving refinance facilities for banks and NBFIs. At the end of June 2017, a total amount of BDT 66.3 billion was provided to different banks and NBFIs under refinance schemes against 55,229 enterprises. Table 2.12 shows the Bangladesh Bank's refinance facility to banks under different special programs for SME development up to FY17.

### ***2.11.2 Refinance Scheme for Agro-based Product Processing Industries***

In order to boost up agro product processing industries in the areas outside divisional headquarters and Narayanganj town, Bangladesh Bank launched a scheme of BDT 1.0 billion in November 2001 out of its own fund. Responding to the huge demand of this fund, the size of the fund was increased up to BDT 4.5 billion in 2015. Refinancing facilities are provided to banks and non-bank financial institutions at the bank rate under the scheme. Till the end of June 2017, BDT 11.2 billion was disbursed under this scheme against 2584 enterprises on a revolving basis.

### ***2.11.3 Refinance Fund for New Entrepreneurs Under Cottage, Micro, and Small Categories***

In order to provide start-up capital to new cottage, micro, and small enterprises, Bangladesh Bank has created a new fund amounting to BDT 1.0 billion from its own source. Under this fund, the prospective entrepreneurs selected and trained by recognized public and private training providers get financing facilities at 10% interest rate (bank rate+5%). At the end of June 2017, BDT 0.2 billion was refinanced to banks and non-bank financial institutions against their financing 340 new enterprises.

### ***2.11.4 Islamic Shariah-Based Refinance Scheme***

With the objective of increasing the involvement of Islamic banks and non-bank financial institutions in financing SMEs, a special refinance fund under the Islamic Sharia mode was created in Bangladesh Bank in

**Table 2.13** SME refinance schemes for women entrepreneurs (up to June 2017)

<i>Name of scheme/fund</i>	<i>No. of enterprises</i>	<i>Amount of refinance</i>
BB fund	18,268	19.35
SMESDP (ADB-1) fund	130	0.17
SMEDP (ADB-2) fund	453	0.48
JICA FSPDSME fund	16	0.16
Refinance scheme for new entrepreneurs	150	0.03
Islamic Shariah-based refinance fund	81	0.11
Total	19,098	20.30

SME&SPD- Small and Medium Enterprise and Sector Project for the Development

SMEDP- Small and Medium Enterprise Development Program

September 2014. Under this fund, Islamic banks and non-bank financial institutions get refinance against their financing to agro-based industries, small enterprises (including women led SMEs), and new entrepreneurs in the cottage, micro, and small industries sector. At the end of June 2017, BDT 3.6 billion was refinanced to banks and NBFIs against their financing to 553 enterprises.

### *2.11.5 Refinance for Women Entrepreneurs*

Bangladesh Bank is encouraging all banks and NBFIs to provide loan to women entrepreneurs at 9.0% (bank rate+4%) interest rate. A dedicated women entrepreneur's desk has been established in the SME and SPD of BB. All banks and NBFIs have been directed to do the same. They have also been instructed to reserve 15.0% of total SME funds exclusively for women entrepreneurs as well as provide credit to new women entrepreneurs under cottage, micro, and small industries sectors. In addition, all banks and NBFIs have been directed to sanction at least BDT 2.5 million in loans to women entrepreneurs with a personal guarantee but without collateral under refinance facilities provided by BB. A total amount of BDT 20.3 billion was refinanced to women entrepreneurs at the end of June 2017 against 19,098 enterprises (Table 2.13).

### *2.11.6 Urban Building Safety Project (UBSP)*

With the intention of creating a safe working environment in the Ready Made Garments (RMG) sector a project named "Urban Building Safety Project" has been established under the 36th Japanese Official Development

Assistance (ODA) package through a loan agreement signed on 13 December 2015 between the Government of Japan (represented by JICA) and Government of Bangladesh. Under this agreement, JICA will provide JPY 12,086 million; of which JPY 4129 million (equivalent BDT 2.7 billion) is earmarked for two step loan (TSL) purposes. The TSL component will be managed and implemented by SME and SPD of BB in accordance with approved operating guidelines of the project.

### *2.11.7 Financial Inclusion of Garment Workers*

In 1999 the Population Council commissioned a study called Credit and Economic Activities of NGOs with adolescents in Bangladesh. The objective was to understand whether there were existing underexploited opportunities for garment workers, as well as other adolescent girls, to safely save their earnings with NGOs involved with microfinance. It is important to understand what happens to girls' wages after they receive them; whether girls have control over the income they earned; achieve that bargaining power in life; and whether they have a safe place to keep their money.

Yet even among those garment workers old enough to take advantage of bank-based savings, few did. In a baseline study fielded at the beginning of this project, only 15% of garment workers in the adolescent sample reported ever having saved money at a bank. Several reasons were given. Most garment workers need to be working at a factory during normal banking hours. By the time they could get to a bank, it would be after hours. The study reported there is a perception among workers that banks are meant for the rich and are unwelcoming of anyone who is not rich. Formative research interviewing bankers revealed some reservation on their part to have large numbers of garment workers visiting their premises driven primarily by the concern that the presence of large hordes of poor women would damage the elite image that most banks cultivate so carefully.

## 2.12 CORPORATE SOCIAL RESPONSIBILITY IN ACHIEVING FINANCIAL INCLUSION IN BANGLADESH

There is no denying that being a part of the society at large, every corporate has social responsibility apart from just financial value creation. Here comes the spirit of 'People, Planet, and Profit'. Bearing this point in mind, in December 2014 BB issued an indicative guideline for allocation and

**Table 2.14** CSR expenditure of banks and NBFIs (In FY2016–2017)

<i>Sector</i>	<i>Million Tk.</i>	<i>Sectoral share %</i>
Education	1923	35.31
Health	569	10.45
Humanitarian & disaster relief	1844	33.86
Environment	102	1.88
Cultural welfare	289	5.31
Infrastructure development	7	0.13
Income-generating activities	3	0.05
Others	709	13.01
Total	5445	100

end use monitoring of CSR engagements of the financial sector. The guideline clearly states the administrative setup, budgetary allocation, expected range/coverage of CSR activities, and end-use monitoring process of CSR expenditures and activities.

### *2.12.1 CSR Activities of Banks and NBFIs*

The better organized CSR activities of these financial institutions in Bangladesh are accelerating the mission of ‘No Poverty’ and ‘Zero Hunger’ in a significant manner. The total amount of CSR expenditure by banks and NBFIs in FY17 stood at BDT 5.4 billion compared to BDT 5.6 billion in FY16. Banks continued to maintain a major share in education, health, and disaster management which was recorded as 35.4, 10.5, and 33.9%, respectively, of their total CSR activities. Expenditures on income-generating activities, environment, and infrastructural development in underprivileged areas were 5.3%, 1.8%, and 0.1%, respectively (Table 2.14). As income-generating activities for the poor is a relatively new concept, the banks’ expenditure in this area was not significant.

NBFIs reported CSR expenditure of BDT 31.6 million in FY17. The major share of CSR expenditure by NBFIs went to other sectors (25.6%) in FY17. However, they spent 22.8%, 10.1%, and 22.8% of their total CSR expenditure in the education, environment, and disaster management sectors, respectively, during this period. Health and cultural affairs got less priority as they spent only 8.9% and 7.6% on these sectors in FY17. NBFIs did not spend for infrastructural development in underprivileged areas but only 2.2% in income-generating activities for the poor in FY17.

**Table 2.15** Sector-wise CSR expenditure of IBBL

*(In million Tk.)*

<i>Sector</i>	<i>1983–2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>Total</i>
Humanitarian	303	88	140	190	324	426	1472
Education	409	84	135	161	175	161	1126
Health	964	40	72	90	226	17	1407
Sports	322	2	79	40	27	–	469
Arts & Culture	87	8	6	15	5	–	122
Environment	8	13	23	21	21	26	112
Others	124	75	22	7	22	41	291
Total	2217	309	476	525	800	671	4998

### *2.12.2 CSR activities of Islami Bank Bangladesh Limited*

Being the largest private bank in Bangladesh and the first Shariah-based bank in South and South-east Asia, the Islami Bank Bangladesh Limited (IBBL) has a huge contribution to the overall socio-economic development of Bangladesh. In order to popularize the concept of Islamic Banking, IBBL has started its charitable activities since inception through creation of “Sadaqah Tahbil”. Thereafter, it was done through the Islami Bank Foundation (IBF) converting the Sadaqah Tahbil into a full-fledged foundation since 20 May 1991. Further to its activities under IBF, IBBL established the Corporate Social Affairs Department (CSAD) in compliance with the instructions of the Central Bank. The CSR program of IBBL aims at the welfare and wellbeing of the people of the earth, the planet itself and all its stakeholders. Keeping that in view, this report focuses on the triple bottom line: People, Planet, and Profit. The purpose of this Sustainability Report is to provide in a single document an account of IBBL’s overall contribution to sustainable development in the country during the year 2016. Up to 2016 the total amount of CSR expenditure was Tk. 4998 million among 14.99 million beneficiaries. The amount of CSR expenditure in 2016 is Tk. 670.7 million among 1.19 million beneficiaries (Table 2.15).

### *2.12.3 ‘No Poverty’ and ‘Zero Hunger’ for Financial Inclusion*

Access to finance is one of the fundamental requirements of a sustainable financial market aiming at reaching ‘No Poverty’ and ‘Zero Hunger’. Supported by the government’s forward-looking Digital Bangladesh

agenda, a number of financial service providers have brought great efficiency in transferring money through mobile banking accounts. Bangladesh now has 51 million registered mobile banking clients. A study by the Institute of Microfinance in Bangladesh revealed that 77% of its population has accounts, while only 37% has access to financial services. Fifty-four percent has access to credit (including microcredit), and only 8% has access to formal credit. Slightly more than a half of the population (57%) has access to savings instruments; half of them use formal savings, while others use informal savings.

Financial inclusion emerges as one of the most effective tools among policy makers around the globe to ensure inclusive and sustainable economic development. Considering the importance of financial inclusion, BB has extended formal banking services to less privileged people in urban and rural areas. BB has identified the target group of people and advised the banks to open No-Frill Accounts (NFAs) for them.

**Table 2.16** No-frill accounts (NFAs) for farmers and the underprivileged group of the society

<i>Type of customer</i>	<i>No. of NFA</i>		<i>Amount of deposit</i>	
	<i>Number</i>	<i>Share %</i>	<i>Million Tk.</i>	<i>Share %</i>
Farmers	9,190,054	53.8	2640	20.2
Social safety net allowance	4,421,906	25.9	3530	26.9
Hardcore poor	2,287,179	13.4	2700	20.6
RMG workers	230,143	1.3	1030	7.9
Freedom fighters	201,113	1.2	1660	12.7
Physically challenged	160,176	0.9	150	1.1
Small life insurance program	98,932	0.6	70	0.5
Food & livelihood security	97,782	0.6	20	0.2
National service program	33,414	0.2	1120	8.5
City corporation workers	9734	0.1	10	0.1
Leather industry workers	4234	0.0	30	0.2
Poor rehabilitation under religion	1277	0.0	–	0.0
Others	338,500	2.0	140	1.1
Total	17,074,444	100	13,100	100.0

**Table 2.17** Total numbers and amounts of deposits in Banks in Bangladesh

<i>Type of bank</i>	<i>No. of NFA</i>		<i>Amount of deposit</i>	
	<i>Number</i>	<i>Share %</i>	<i>Million Tk.</i>	<i>Share %</i>
State-owned banks	16,396,889	96.0	10,720	81.8
Private commercial banks	677,378	4.0	2260	17.3
Foreign commercial banks	219	0.001	120	0.9
Total	17,074,486	100.0	13,100	100.0

### **2.12.4 No-Frill Accounts (NFAs) for Farmers and the Underprivileged Group of the Society**

To ensure banking services for the poor marginal farmers, BB instructed the SCBs and Development Finance Institutions (DFIs) to open NFAs for farmers in January 2010. Up to FY17, BB has gradually issued instructions to these banks for opening nine categories of NFAs other than farmer's account. BB has also instructed all the banks to open NFAs for RMG workers, workers of small footwear and leather product industries, and physically challenged persons.

The number of NFAs opened by the banks increased by the end of June 2017 compared to June 2016, due to continuous initiatives from the central bank. The number of farmers' accounts reached 9.2 million by the end of June 2017. As of end June 2016, sector-wise distribution of NFAs shows that the beneficiaries under the social safety net program opened 9,190,054 farmer's accounts, followed by the hard core poor (2,287,179), RMG workers (230,143), BDT 10 account (338,500) freedom fighters (201,113), physically challenged persons (160,176), small life insurance policy holder BDT 100 account (98,932), food and livelihood security (97,782), national service program (33,414), city corporation cleaning workers (9734) and distressed rehabilitation (1277) (Table 2.16).

Thus, the total number of all categories of accounts by the banks reached 17,074,454. The total balance of NFAs for farmers reached at BDT 2.6 billion as of end June 2017. On the other hand, the total balance of all categories of NFAs reached BDT 13.1 billion. Total numbers of NFAs and balance for farmers and non-farmers as of end June 2017 are reported in Tables 2.8 and 2.9, respectively (Table 2.17).

### 2.12.5 *School Banking*

In order to broaden and deepen the base of financial inclusion through including students under the age of 18, BB advised banks to introduce school banking activities in 2010. Since then, banks have started to provide banking services to students through savings accounts and deposit schemes. The main objective of school banking is to promote savings behavior among school goers and to introduce them to banking system and modern banking technology. To further extend the school banking services of the banks, BB has issued a comprehensive guideline in October 2013. Under this guideline, any school student aged 6–18 years can open a school bank account through their parents or legal guardians by depositing minimum BDT 100. Up to June 2017, the total balance of school banking reached BDT 11.3 billion against 1.3 million accounts.

### 2.12.6 *Banking for Working/Street Children*

BB advised all the banks on 9 March 2014 to open custodial accounts with NGOs with BDT 10 as the minimum opening balance and without any service charge/fee to bring the working/street children under institutional financial support. These initiatives help street children develop the habit of saving and eventually step ahead toward a better future. The NGOs concerned are fully responsible for the operation of the children's accounts and the wellbeing of the account holders. Up to June 2016, 16 banks signed bi-lateral agreements with different registered NGOs for offering these services. Up to June 2017, the number of accounts reached 4365 with a balance of BDT 2.6 million.

### 2.12.7 *Agent Banking*

Bangladesh is exploring and promoting innovative financial inclusion policy initiatives to bring the financially excluded marginal populace under the umbrella of financial inclusion with a view to ensuring inclusive and sustainable development in the economy.

Agent banking, among various initiatives of Bangladesh Bank (BB), is an emerging financial inclusion tool that facilitates the non-privileged, underserved, and poor segment of the population especially from geographically remote locations to unhindered access to the tailor-made



products that meet their financial needs at affordable cost within their vicinity.

‘Guidelines on Agent Banking for the Banks’ has been issued in December 2013 and subsequently, a ‘Guidance Note for Approved and Operation of Agent Banking Activities for banks’ has been issued in June 2014 to accelerate a safe, secured, and smooth alternative delivery channel of financial services for the unbanked people. Agents can offer a number of banking services, including deposit and withdrawal of cash, fund transfer, bill payment, payment of benefits and salaries in cash transactions only. Banks have been instructed to maintain the ratio of 2:1 for opening of rural and urban outlets to deepen inclusive growth.

As of June 2017, 17 banks have got approval for agent banking services and 13 banks started commercial operations. The number of agent outlets increased from 2601 to 3224 and the number of accounts increased from 0.54 million to 0.87 million during the period of December 2016 to June 2017. The total balance of these accounts was BDT 3.81 billion in December 2016 and reached BDT 6.51 billion in June 2017. As of June 2017, expatriates have remitted foreign currency equivalent of BDT 8.90 billion through these accounts.

### ***2.12.8 Bangladesh Bank Refinance Scheme for BDT 10 A/C Holders***

With a view to bringing the financially deprived grass roots population under formal financial services and to gearing up the banking activities of BDT 10 accounts, BB constructed a revolving refinance fund of BDT 2.0 billion in May 2014. The highest limit of refinance facility is BDT 50,000 under this scheme and participating banks provide interest subsidy under certain conditions. Up to June 2017, approximately BDT 538.2 million has been disbursed under this scheme. Presently, 39 commercial banks have signed participation agreement with BB to disburse loans under this scheme.

BB has taken various initiatives to bring a larger portion of the financially excluded population under formal financial services. BB has developed a web-link titled ‘Financial Literacy’ on the BB webpage to undertake diverse financial education initiatives since FY14. These include creation of a dynamic and interactive web portal, two television commercials and ten radio broadcasting commercials prepared already, and press layouts for creating awareness. This web-link contains story books, games, videos,

text, a financial calculator for computing information on different financial services, and products and delivery channels. BB is also working with the Ministry of Education to pace the financial literacy program (FLE) to school and college levels. To enhance financial literacy among the masses, BB has instructed commercial banks to launch slogans, jingles, pictures, and symbols about financial literacy that may be printed on ATMs, billboards, opposite sides of check books, deposit slips, and various publications of banks.

### 2.13 MOBILE FINANCIAL SERVICES (MFS)

MFS are to be the most effective conduit to reach the unbanked. Mobile phone penetration, which stood at 80% in the emerging markets in 2014, is expected to increase to 90% by 2020 (Global System for Mobile Association (GSMA) data). In Bangladesh, MFS have also had a noteworthy journey of growth thus far. Starting in 2011, with the establishment of a BRAC Bank subsidiary named bKash, a total of 18 banks are currently providing MFS services in Bangladesh while 28 are licensed to do so. BRAC Bank's 'bKash' and Dutch Bangla Bank's 'Rocket' are the leading players, although bKash accounts for more than 80% of total MFS transactions.

The successes of MFS in Bangladesh and of bKash in particular have generated global attention. Bangladesh's high mobile phone penetration (120.73 million) and low banking sector penetration (50 million) created the persuasive argument for DFS in order to close the inclusion gap. According to the Bangladesh Bank, as of August 2017, the average value of transactions per day reached BDT 1038 crore or US\$ 130 million. Of them around 42% is cash in transaction which is followed by cash out transaction.

### 2.14 CAUSES OF FINANCIAL EXCLUSION

The national financial inclusion rate of Bangladesh is only 37%, which is much lower than that of many developing countries. The causes of financial exclusion are enormous. Of them, the supply side constraints are: (i) inadequate financial institutions and their coverages, (ii) inadequate financial products, and (iii) non-affordability. While, the demand side constraints are: (i) low income; (ii) financial illiteracy, and (iii) religion, norms, behavioral rigidity. Additionally, there are some information constraints, such as: (i) the financial market does not work the way the product market

works; (ii) huge idle liquidity in the banking sector, the interest rate may not attract the clients to deposit their money in the bank, and (iii) this excludes a wide range of borrowers.

## 2.15 CONCLUSION AND RECOMMENDATIONS

Certainly, there are many reasons to believe that financial inclusion can support financial stability. In order to play this supporting role, however, it has to be the right kind of financial inclusion. By its very nature, financial inclusion is bringing in people who have no track record in the use of formal financial services. They have no formal credit history, may be unfamiliar with filling out forms, and may lack proper identification. Accordingly, products must be tailored carefully to their needs, at a reasonable cost, and they cannot be “overloaded” with financial services that they do not need or want. In some cases, financial literacy education may be required, so that the tools they are provided can be used properly. But, if these conditions are met, financial inclusion can open up worlds of opportunity for those who were previously excluded, expanding the customer base for a whole range of financial products, and, in so doing contribute mightily to a vibrant and stable financial sector.

Bangladesh Bank embarked on financial inclusion from a strategic vantage point to align itself with the national planned strategy of inclusive growth as reflected in both the sixth five-year plan and the perspective plan. In the process, it has been able to reach millions of unbanked people, which has helped Bangladesh economy maintain a 6% plus growth rate for years. The more diversified deposit and loan bases created through strategic financial inclusion have led to a desirable financial stability in Bangladesh despite prolonged global financial crises. The end results of this strategic option of Bangladesh may not be visible immediately. But, all indications are that the on-going financial inclusion drive of BB will certainly lay a solid foundation for an inclusive sustainable growth process in Bangladesh.

Financial sector operations over the next 15 years will be a key factor in the progress we can make toward a sustainable economy. Banks should work collaboratively to establish guidelines and minimum standards of environmental risk management at the national level. Although, these efforts are often voluntary, banking supervisors and regulators of Bangladesh should start to engage directly to issue clear requirements to assess system environmental risks and adopt practices to mitigate the

banking. Financial inclusion is not only the process of ensuring access to financial services, it must also be appropriate. Only higher access to deposit accounts, higher number of branches and greater numbers of ATMs cannot ensure greater access to finance. For attaining true objectives, supply side initiatives must complement financial literacy or awareness along with the demand side phenomena. The experience of Bangladesh shows that the government and the central bank have continued efforts to create a conducive and enabling environment for expanding financial services to marginal farmers, SMEs unbanked/underserved people, women and lower income groups by banks and non-bank financial institutions, co-operatives, MFIs, and other financial institutions.

In Bangladesh, around 25% of the country's adult population remains financially excluded. The overall state of financial inclusion shows that, although households still have more access to the microfinance market than informal one, resorting to informal finance is still high in Bangladesh.

Therefore, policies should continue to focus on further promoting the use of formal finance. Strengthening financial literacy programs and conducting surveys to understand the needs of the underserved and unbanked people considering their constraints and costs when using formal channels would also help in this regard. In order to formulate effective policies for further financial inclusion, it is important to examine the significance of different economic factors that significantly increase or decrease financial inclusion in the developing countries like Bangladesh.

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# Does Bank Concentration and Financial Development Contribute to Economic Growth? Evidence from OIC Countries

*Edib Smolo*

## 3.1 INTRODUCTION

Numerous attempts have been made to study the impact of bank concentration and/or competition on economic growth. This was especially the case after the recent global financial crisis, although this relationship has been investigated extensively even before the crisis.

In this study, we bring the issue to the Organization of Islamic Cooperation (OIC) member countries, which we view important for a number of reasons. First, the literature under review is primarily concerned with developed and developing countries. In particular they focus more on U.S. and EU banks. To our knowledge, the topic has not been sufficiently explored in the context of the OIC member countries.<sup>1</sup> Additionally, the OIC market is worth studying due to emergence of

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Islamic banking, which has shaped and changed the banking market structure in these countries. Take Malaysia as an example. After the Asian financial crisis, Malaysia consolidated its conventional banking sector and at the same time allowed for more players in the provisions of Islamic banking services. Other countries have also had a similar experience. Thus, it would be interesting to ascertain whether financial development and market concentration under the dual-banking system contribute to growth.

Second, it is evident from the above that banks play a crucial role in overall financial markets. In fact, it is argued that banks are the primary source of business finance in most countries (Deesomsak et al. 2004; Ito 2006; Lee and Hsieh 2013a, b; Mlachila et al. 2013; Moyo et al. 2014). The same applies to the OIC countries as their banking sector is more developed than the stock markets. However, the majority of studies are looking at the relationship between financial developments in general and various indicators of economic growth. Much less focus is on the banking industry in general and bank concentration in particular. Hence, this study will add on to the existing literature by analyzing linkages between bank concentration and economic growth within the OIC member countries. It will also explore effects of financial development in general on economic growth within these countries.

Third, given the nature of the OIC countries, it is worth looking at this relationship and seeing if the results will be similar to other studies covering different sets of countries. From an economic point of view, the majority of the OIC countries belong to the underdeveloped and poor country groups. At the same time, overall financial development is at very low levels and there is overwhelming corruption. All these may result in quite a different impact of bank concentration on economic growth.

Having said that, the following are the research objectives of our study:

1. To assess the impact of bank concentration on economic growth within the OIC member countries.
2. To investigate the impact of financial development, interacting with the level of bank concentration, on economic growth within the OIC countries.

Furthermore, as there is a discrepancy between the sample countries and their socio-economic and financial development, we will also study whether these relationships differ once we split the dataset into two

subcategories, namely: (i) high-income and low-income countries; and (ii) corrupted and less-corrupted countries.

In line with the above objectives, the study will focus on the following research questions:

1. What is the effect of bank concentration on economic growth within the OIC countries as a whole and its subcategories (high-income and low-income countries and corrupted and less-corrupted countries)?
2. Does the bank concentration contribute to the economic stability within the OIC countries as a whole and its subcategories or not?
3. What is the impact of financial development, interacting with the level of bank concentration, on economic growth within the OIC countries as a whole and its subcategories?

### 3.2 LITERATURE REVIEW

Although the well-functioning financial structure is in general key to long-term sustainable economic growth and overall stability, the debate on the relationship between financial development and economic growth remains non-fading. The theoretical literature provides startlingly different and sometimes conflicting views on the finance-growth nexus. In brief, there are three major views that prevail in the literature with regard to the causal relationship between the overall financial development and economic growth, namely: (1) *supply-leading*—where financial development affects economic growth; (2) *demand-following*—where financial development follows economic growth; and (3) *bidirectional* causal relationships between finance and economic growth.

In addition to this non-fading debate on the finance-growth nexus, the global trend of bank consolidation brings up another important dimension of the relation between the banking sector and economic growth, that is the relationship between bank market concentration and bank performance. In this regard, there are two major, but contradicting, views. On one side, there are those who support competitive banking structure as it promotes competitive market practices that lead to efficiency. A greater competition in the banking industry, among other things, benefits all borrowers by making credit more available and cheaper (di Patti and Dell’Ariccia 2004).

In contrast, a banking structure that is highly concentrated and with monopolistic power, in their view and according to economic theory, will be detrimental to economic growth. In general, monopoly is associated with inefficient resource allocation where optimal levels and prices of products and services are not reached. Banks with monopoly power tend to extract excessive rents from firms through higher loan rates and may reduce credit availability in general (Guzman 2000). Furthermore, this can represent a form of financial barrier to entry in product markets (Cetorelli and Strahan 2006) and finally lead to a moral hazard problem and credit rationing by banks.<sup>2</sup>

Nevertheless, there are also those who argue that banks with monopolistic power (bank concentration) may spur economic growth as they are more capable of information collection, screening and monitoring borrowers. Furthermore, they are able to sustain long-lasting relationships with their clients (di Patti and Dell’Ariccia 2004). It is also argued that bank power promotes financial stability since excessive competition between banks can result in a sort of financial instability. In brief, as pointed out by Deidda and Fattouh (2005), banking concentration exerts two opposite effects on growth as it induces economies of specialization that is beneficial to growth, on one side, and duplication of banks’ investment in fixed capital that is detrimental on growth, on the other. They find negative relationship between banking concentration and per capita income growth and industrial growth only in low-income countries (Deidda and Fattouh 2005).

In addition to the theoretical works described above, empirical studies have examined the relationship between banking concentration and economic development. Some researchers find that banking concentration has a negative correlation with economic growth. For example, Shaffer (1998) finds a positive association between household income growth and the number of banks in the market using U.S. cross-sectional data. Using cross-state U.S. data, Black and Strahan (2002) conclude that a more competitive banking sector is conducive to the creation and development of new firms while Cetorelli and Strahan (2006) conclude that a concentrated banking sector creates impediments for new firms in accessing credit. Similar findings were evidenced by Beck et al. (2003). They used cross-country data and found a positive relationship between banking concentration and financial impediments, especially for new and small firms. Cetorelli and Gambera (2001) also found empirical evidence showing negative effects of banking concentration on growth affecting all



sectors and all firms indiscriminately. The study by Carlin and Mayer (2003) that uses cross-country panel data suggests negative correlation between banking concentration and economic growth among Organization for Economic Co-operation and Development (OECD) countries. Nevertheless, they also found that banking concentration contributes to a faster economic growth at the early stages of industrial development. Findings by Claessens and Laeven (2005) show that financially dependent industries in a country will experience faster growth when there is greater competition within the banking sector.

In contrast, there are scholars that found a positive relationship between banking concentration and economic growth and growth of new firms. For instance, Jackson and Thomas (1995) find that the rates of birth and growth of new manufacturing firms are negatively related to average bank size and the presence of interest rate ceilings, and positively associated with the degree of local bank concentration in the U.S. market.

Similarly, Petersen and Rajan (1995) find that a more concentrated banking sector helps small business firms in the U.S.A. to alleviate credit constraints more effectively. Cetorelli and Gambera (2001) find evidence that bank concentration promotes the growth of those industrial sectors that are more in need of external finance by facilitating credit access to younger firms.<sup>3</sup> Similar findings are reported by Maudos and de Guevara (2006), that is that there is a positive effect of financial development on the economic growth of the sectors most dependent on external finance and that the exercise of bank market power promotes economic growth.

As mentioned by Law and Singh (2014), although there are evidences of positive impact of financial development on economic growth, too much of it can lead to negative results. The same is true for the banking sector. An overstretched, overleveraged and fragile banking system can cause market volatility that will ultimately result in major crises such as the recent global financial crisis (Beck et al. 2009). After the global financial crisis, steps have been taken to tackle issues within the banking sector in order to improve its overall stability. Prior to the crisis, we witnessed an oversized banking sector that attracted much debate. It was argued that an oversized structure of the financial sector could result in inefficient resource allocation and eventually lead to instability (Turner 2010). This means that the role of banking sector development on economic performance should be looked from the lens of the banking market structure shaped by the recent consolidation exercises in many parts of the world. In other words, additional analysis and discussion are necessary for

a better understanding of the relation between the banking sector—both banking sector development and banking sector concentration—and economic growth.

### 3.3 DATA AND METHODOLOGY

#### 3.3.1 *Baseline Empirical Models*

The first objective of this research is *to assess the impact of bank concentration on economic growth within the OIC member countries*. In order to do so we will use a variant of the models used by Berger et al. (2009), Alin and Bogdan (2011), Fu et al. (2014), Fernández and Garza-García (2015) and Abojeib (2017). For example, Abojeib (2017) used this model to investigate the relationship between competition and stability. Hence, our baseline model to empirically examine the impact of bank concentration on economic growth is as follows:

$$Gpc_{i,t} = \alpha Gpc_{i,t-1} + \beta CON_{i,t} + \delta B_{i,t} + \theta C_{i,t} + \nu_i + \epsilon_{i,t} \quad (3.1)$$

where,

---

$Gpc_{i,t}$	is the annual growth rate of real per capita GDP of country $i$ at time $t$ , and where $i$ denotes the cross-sectional dimension (i.e. country) and $t$ denotes the time dimension (i.e. year).
$Gpc_{i,t-1}$	the lagged dependent variable is included to account for persistency in growth rates.
$CON_{i,t}$	represents the concentration measure of country $i$ at time $t$ as measured by one of the concentration measures.
$B_{i,t}$	is a vector of bank-specific control variables.
$C_{i,t}$	is a vector of country-specific control variables.
$\nu_i$	is a dummy to control for time-invariant country-specific factors.
$\epsilon_{i,t}$	is a residual value.

---

Bank concentration increases economic growth only if:

$$\beta > 0 \quad (3.2)$$

The above model assumes that the relationship between concentration and economic growth is linear. However, a number of studies show that this relationship may be non-linear after all. For instance, see Cetorelli and

Gambera (2001), di Patti and Dell’Ariccia (2004), Berger et al. (2009), Fernández et al. (2010), Soedarmono (2010) and Ma and Song (2017).<sup>4</sup> Hence, to investigate this empirically we will use the following models for concentration-economic growth:

$$Gpc_{i,t} = \alpha Gpc_{i,t-1} + \beta_1 CON_{i,t} + \beta_2 CON_{i,t}^2 + \delta B_{i,t} + \theta C_{i,t} + v_i + \epsilon_{i,t} \quad (3.3)$$

Our second objective of this research is to investigate the effect of financial development, interacting with the level of bank concentration, on economic growth within the OIC countries. This will be accomplished by introduction of interaction terms into our baseline model. We follow instructions by Brambor et al. (2006) and whenever applying interaction terms we include all constitutive terms in our interaction model specifications. Interaction terms are used when we have a conditional hypothesis stating that a relationship between two or more variables depends on the value of one or more other variables. Similar models have been used by Fernández et al. (2010), Soedarmono (2010) and Abuzayed and Al-Fayoumi (2016).

$$Gpc_{i,t} = \alpha Gpc_{i,t-1} + \beta_1 CON_{i,t} + \beta_2 FIN_{i,t} + \beta_3 (CON_{i,t} \times FIN_{i,t}) + \delta B_{i,t} + \theta C_{i,t} + v_i + \epsilon_{i,t} \quad (3.4)$$

where,

---

$FIN_{i,t}$	represents a financial development variable measured as a ratio of private credit by deposit money banks and other financial institutions to GDP.
$CON_{i,t} \times$ $FD_{i,t}$	represents an interaction variable between bank concentration and financial development to see whether concentration promotes economic growth in the environment characterized by low financial development.

---

Finally, as there is a discrepancy between the sample countries and their socio-economic and financial development, we will also study whether these relationships differ once we split the dataset into two subcategories, namely: (i) high-income and low-income countries; and (ii) corrupted and less-corrupted countries (more on this in Sect. 3.3.1). For instance, Deidda and Fattouh (2005) find a negative impact of banking concentration on per capita income growth and industrial growth only in low-income countries. This negative effect of bank concentration on economic

growth is disappearing in countries with poor-quality institutional development as evidenced by Fernández et al. (2010) and Abuzayed and Al-Fayoumi (2016). In these countries, banks try to develop a long-term relationship with their borrowers in order to facilitate more credit. Consequently, reducing concentration is more likely to promote growth in low-income countries than in high-income ones.

In order to test this claim, we introduce a dummy variable that takes the value of 1 for low-income countries and 0 for high-income countries. Hence, we modify Eq. (3.1) by introducing interaction terms between the bank concentration and low-income country dummy ( $LOW_j$ ). Introducing the interaction term between the bank concentration and low-income country dummy would account for a potential difference in the competition-growth relationship between high-income and low-income countries within the OIC countries. A similar approach has been taken by Deidda and Fattouh (2005), Fernández et al. (2010) and Abuzayed and Al-Fayoumi (2016).<sup>5</sup> In particular, we get the following model:

$$Gpc_{i,t} = \alpha Gpc_{i,t-1} + \beta_1 CON_{i,t} + \beta_2 LOW_j + \beta_3 (CON_{i,t} \times LOW_j) + \delta B_{i,t} + \theta C_{i,t} + v_i + \epsilon_{i,t} \quad (3.5)$$

where  $j$  refers to high- and low-income countries, 0 for high-income country and 1 for low-income.

Bank concentration increases economic growth in high-income countries only if:

$$\beta_1 > 0 \quad (3.6)$$

Bank concentration increases economic growth in low-income countries only if:

$$\beta_1 + \beta_3 > 0 \quad (3.7)$$

The following model is for a competition-growth non-linear relationship:<sup>6</sup>

$$Gpc_{i,t} = \alpha Gpc_{i,t-1} + \beta_1 CON_{i,t} + \beta_2 LOW_j + \beta_3 CON_{i,t}^2 + \beta_4 (CON_{i,t} \times LOW_j) + \delta B_{i,t} + \theta C_{i,t} + v_i + \epsilon_{i,t} \quad (3.8)$$

### 3.3.2 *Estimation Method*

Based on the literature review, it is evident that majority of studies use pure cross-sectional analyses with one observation per country averaged over the study period. Contrary to this practice, we rely upon a large panel dataset to explore the long-term effect of bank concentration on economic growth.

A number of alternative estimation methods can be used. They differ on the extent to which they allow for parameter heterogeneity across countries. At one extreme, the conventional pooled (OLS) estimator imposes fully homogeneous coefficients in the model in a way that requires all slope and intercept parameters to be identical for each country.<sup>7</sup> In other words, if we are having exogenous<sup>8</sup> regressors, then simple OLS estimation would result in unbiased and consistent panel estimation. In contrast, if the regressors are endogenous then the OLS estimation would produce biased and inconsistent results. This is known as *endogeneity bias*.

Consequently, the existing literature suggests that OLS regression results in biased estimates due to the correlation between the explanatory variable and the disturbance terms (see Barajas et al. 2013; Beggs and Nerlove 1988). In case of panel datasets with a large number of cross-sections ( $N$ ) and a small number of time periods ( $T$ ), such is the case of our dataset, this bias becomes particularly severe. According to Barajas et al. (2013), the OLS method has two major shortcomings due to which the OLS estimation results are biased. First, “(unobserved) omitted variables that may be correlated with the included covariates and drive economic growth at the same time.”<sup>9</sup> Second, this method also fails to “control for other sources of endogeneity such as reverse causality.” Furthermore, applying common OLS methods to a panel data fail to capture the dynamic nature of the estimated relationship and economic behaviors are inherently dynamic (Hsiao 2007). Introducing the lagged values of the dependent variable(s) into the OLS method may partially address this issue of dynamic relationship. However, this practice has its own repercussions as pointed out by Nickell (1981), since such estimated coefficients may be seriously biased.

At the other extreme, the mean group (MG) estimator of Pesaran and Smith (1995) permits completely heterogeneous parameters in the model (imposing no cross-country coefficient restriction) which can be estimated on a country by country basis. As long as  $N$  (number of cross-section units) and  $T$  (time periods) are large enough, the mean of long-term

coefficients across countries can be consistently estimated by the unweighted average of the individual country parameter estimates. Somewhere between these two extremes, the pooled mean group (PMG) estimator restricts the long-term slope coefficients to be equal across countries but permits the short-term coefficients and regression intercepts to be country-specific. The PMG estimator was developed by Pesaran et al. (1999) and used by Yeh et al. (2013) in their study looking at effects of financial structure on growth and volatility.<sup>10</sup>

Since the OLS estimation has its shortcomings, as pointed out above, and knowing that our panel dataset does not meet the criteria of the MG and the PMG estimators, we look for alternative estimation methods. Having in mind the fact that we are talking about a dynamic panel dataset and following the existing literature on the topic, we will employ the generalized method of moments (GMM) estimators in our analysis.

The initial GMM method was formalized by Hansen (1982) and subsequently developed by Holtz-Eakin et al. (1988), Arellano and Bond (1991), Arellano and Bover (1995), Blundell and Bond (1998) and Bond et al. (2001) and became known in the literature as difference GMM and system GMM estimators. Both GMM estimators address the bias problems encountered by the OLS method and were developed for dynamic panel data models with a large number of cross-section units ( $N$ ) and a small number of time periods ( $T$ ). They allow for the endogeneity of regressors (meaning that one or more of the regressors can be correlated with the error term), fixed effects, heteroskedasticity and autocorrelation within individuals and can take care of unobserved country-specific effects (Roodman 2009a).

Both estimators fit our model using linear GMM. The difference GMM, also known as Arellano-Bond estimator, was operationalized by Arellano and Bond (1991) whereby the estimation is preceded by transforming all regressors, usually by differencing, in order to eliminate the fixed effect (Roodman 2009b). The estimator uses lags of the levels as instruments for the first difference to tackle the issue of potential endogeneity.

In general, the GMM requires a certain number of moment conditions which are functions of the model parameters and the data to be specified for the model. Zsohar (2012) provides a short introduction to the GMM. In short, he argues that the GMM estimator exploits information from the general form of population moment conditions. "When the number of moment conditions ( $q$ ) equals the number of unknown

parameters ( $p$ ) GMM = MM (the method of moments). When  $q > p$  then the GMM estimator is the value of  $\theta$  closest to solving the sample moment conditions and  $Q_n(\theta)$  is the measure of closeness to zero” (p. 157). Furthermore, he says that “it is important to emphasize that the efficiency result is valid only for a given set of moment conditions. That is, GMM is asymptotically efficient in the class of consistent and asymptotically normal estimators that do not use any additional information on top of that is contained in the moment conditions” (p. 162).

In addition, the Arellano-Bond estimators have one- and two-step variants. The former assumes the error terms to be both homoscedastic and independent over time and across entities. The latter relaxes these assumptions and uses the estimates of the variance-covariance matrix and performs a similar estimation to obtain final estimates of the residuals obtained in the first step to construct a consistent estimate of the variance-covariance matrix.<sup>11</sup> Although asymptotically more efficient, the two-step estimates of the standard errors tend to be severely downward biased (Arellano and Bond 1991; Blundell and Bond 1998). As a solution for this problem, Windmeijer (2005) proposes the form of finite-sample correction, which makes two-step GMM estimates more efficient than one-step estimates, especially for system GMM (Roodman 2009a).

Nevertheless, though the difference GMM estimator offers a solution to problems present when using other methods, such as the potential presence of unobserved individual effects, it may lead to poor results and a large sample bias when the dependent variable and the explanatory variables are to some degree persistent over time and when the number of time periods is small. Another weakness of the difference GMM estimator is loss of information on the cross-country variation in levels due to removal of the country-specific effect by differencing (Arellano and Bover 1995; Blundell and Bond 1998).

Hence, to address this issue, Arellano and Bover (1995) and Blundell and Bond (1998) modified the Arellano-Bond estimator by making an additional assumption that first differences of instrument variables, that is past changes in  $y$  (or other instrumenting variables), are uncorrelated with the current errors in levels, which include fixed effects (Roodman 2009b). This approach, known as the *system GMM*, combines in a system the regression in differences with the regression in levels, that is it combines two equations (the original and the transformed one) in a system. In other words, “where lagged variables in levels instrument the differenced

equation, lagged differences now instrument levels” (Roodman 2009b, p. 138). This can improve efficiency and allows the introduction of more instruments (Roodman 2009a).<sup>12</sup> Consequently, the system GMM method is much more consistent, asymptotically normally distributed and efficient in estimating the coefficients of the model and in solving the problems of endogeneity, heteroscedasticity, and autocorrelation (Arellano and Bover 1995; Hsiao 2007).

The consistency of the GMM estimator relies on two hypotheses. First, the assumption on validity (exogenous) of the instruments used. Second, the assumption that the differenced error terms do not exhibit second- or higher-order serial correlation. In order to ensure the GMM estimation validity and test the above hypotheses, we will run two specification tests suggested by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998).<sup>13</sup>

The first hypothesis, that is the validity of instruments, is tested using the Sargan and Hansen test of over-identifying restrictions.<sup>14</sup> It tests the overall validity of the instruments by analyzing the sample analog of the moment conditions used in the estimation procedure. The null hypothesis is that there is no correlation between the residuals and the instrumental variables (Beck and Levine 2004). The second hypothesis, that is no second-order serial correlation, is tested using Arellano-Bond tests for first-order autocorrelation (AR1) and second-order autocorrelation (AR2). Failure to reject the null hypotheses of both tests gives support to our model (Beck and Levine 2004; Boyd et al. 2001).

To sum up, dynamic panel techniques, such as GMM methods, fulfill the requirements of our proposed study since we have a relatively low number of years and a large number of cross-sections per year, that is unbalanced panel. It is for these reasons and following the existing literature that we choose the system GMM for our own estimation purposes.

### 3.3.2.1 Variables

Due to space limit, we will provide only the list of variables used in this study. Table 3.1 provides brief definitions and describes the main dependent, independent and control variables.

Finally, Table 3.2 shows the expected impact of independent and control variables on economic growth.



**Table 3.1** Summary of all variables

<i>Variables</i>	<i>Sign</i>	<i>Definition</i>	<i>Source</i>
Dependent variable(s)			
Growth rate	Gpc	The annual growth rate of real per capita GDP.	WDI <sup>a</sup>
Independent variable(s)			
<i>Measures of market structure concentration</i>			
Concentration ratio 5-bank	CR5	A measure of the degree of competitiveness of the banking sector, proxied by the total assets of the five largest commercial banks as a share of total commercial banking assets.	BankFocus
Concentration ratio 3-bank	CR3	A measure of the degree of competitiveness of the banking sector, proxied by the total assets of the three largest commercial banks as a share of total commercial banking assets.	BankFocus
Herfindahl-Hirschman Index	HHI	HHI is defined as the sum of the square of the market shares (based on total assets) of all the banks that compete in the market.	WITS <sup>b</sup>
<i>Measures of Market Power Concentration</i>			
Lerner index	LI	A measure of market power in the banking market. It is defined as the difference between output prices and marginal costs (relative to prices).	Bankscope
Boone indicator	BI	A measure of degree of competition, calculated as the elasticity of profits to marginal costs.	Bankscope
Control variable(s)			
<i>Bank-specific</i>			
Bank noninterest income (%)	BNI	Bank's income that has been generated by noninterest related activities as a percentage of total income.	GFD
Bank cost to income (%)	BCI	It measures overhead costs relative to gross revenues.	GFD <sup>c</sup>
Bank net interest margin (%)	BNIM	The difference between the interest income generated by the bank and the interest paid out to their lenders	WDI
<i>Country-Specific</i>			
Inflation (GDP deflator)	I	Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole.	IMF <sup>d</sup>
Trade openness	TO	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	WDI
Institutional development	ID	A world governance indicator proxied by the rule of law measure.	WGI <sup>f</sup>

*(continued)*

**Table 3.1** (continued)

<i>Variables</i>	<i>Sign</i>	<i>Definition</i>	<i>Source</i>
Human capital	HC	School enrollment, primary (% gross)	UNESCO <sup>c</sup>
Gross capital formation	GCF	It refers to the net increase in physical assets (investment minus disposals) within the measurement period and it can be measured as a ratio of GDP.	WDI
Government size	GS	The size of government is measured by the ratio of the government's final consumption expenditure to GDP.	WDI
Financial development P	FIN_p	A ratio of private credit by deposit money banks and other financial institutions to GDP.	IFS <sup>g</sup>
Financial development L	FIN_l	A ratio of liquid liabilities to GDP.	IFS
Financial crisis	C	A dummy variable to capture the effect of the recent global financial crisis.	GFD
Low-income countries	LOW	A dummy variable to capture the effect subcategory.	WDI
Corrupted countries	COR	A dummy variable to capture the effect subcategory.	WGI

<sup>a</sup>The World Development Indicators (WDI). The World Bank

<sup>b</sup>The World Integrated Trade Solution (WITS). The World Bank

<sup>c</sup>The Global Financial Development (GFD). The World Bank

<sup>d</sup>International Monetary Fund, International Financial Statistics and data files using World Bank data on the GDP deflator

<sup>e</sup>UNESCO Institute for Statistics

<sup>f</sup>World Governance Indicators (WGI). The World Bank

<sup>g</sup>International Financial Statistics (IFS), International Monetary Fund (IMF)

### 3.3.3 *Data*

In this section, we detail the sample selection and data collection procedures. We discuss briefly our filtering criteria used to reach the final data. Furthermore, we provide a short descriptive analysis of the data.

#### 3.3.3.1 *Sample Selection and Data Collection*

In order to assess the effects of bank concentration on economic growth, we choose the OIC countries as our sample. The existing literature focuses primarily on U.S. and EU markets in general and OECD countries in particular. Some OIC countries, falling in either the developing or the developed countries group, were in one way or the other covered in these studies. However, a full focus on this group of countries has not been

**Table 3.2** Expected impact of variables

<i>Variables</i>	<i>Sign</i>	<i>Expected impact on growth</i>
Dependent variable(s)		
GDP per capita growth rate	<i>Gpc</i>	
Independent variable(s)		
Concentration measures	<i>Measures of market structure concentration</i>	
Concentration ratio—5 top banks	<i>CR5</i>	+ –
Concentration ratio—3 top banks	<i>CR3</i>	+ –
Herfindahl-Hirschman index	<i>HHI</i>	+ –
	<i>Measures of market power concentration</i>	
Lerner index	<i>LI</i>	+ –
Boone indicator	<i>BI</i>	+ –
Control variable(s)		
	<i>Bank-specific</i>	
Bank noninterest income (%)	<i>BNI</i>	+ –
Bank cost to income ratio (%)	<i>BCI</i>	–
Bank net interest margin (%)	<i>BNIM</i>	+
	<i>Macroeconomic developments</i>	
Inflation (GDP deflator)	<i>I</i>	–
Financial crisis ‘08 & ‘09 (Dummy)	<i>C</i>	–
Trade openness	<i>TO</i>	+
	<i>General economic development</i>	
Human capital accumulation	<i>HC</i>	+
Gross capital formation	<i>GCF</i>	+
Government size	<i>GS</i>	+ –
	<i>Financial development</i>	
Private credit by banks to GDP (%)	<i>FIN_p</i>	+ –
Liquid liabilities to GDP (%)	<i>FIN_l</i>	+ –
	<i>Policy variables</i>	
Institutional development	<i>ID</i>	+
	<i>Subgrouping</i>	
Low-income countries (dummy)	<i>LOW</i>	+ –
Corrupted countries (dummy)	<i>COR</i>	–

recorded in the literature. Hence, this study adds to the existing literature by investigating bank concentration effects on economic growth within the OIC countries.

Initially, we wanted to include all 57 OIC member countries for the period between 2000 and 2015. However, after collecting the data we had to drop certain countries and years for which there were no sufficient data. The inclusion of a country into our sample is subject to certain criteria.

First, we include only those countries that have data for our dependent and independent variables, namely GDP growth and concentration measures. Those countries that are missing these data are excluded from our sample. Second, we include only those countries that have at least 3 years of continuous observations.<sup>15</sup> Since we are using the GMM method, it is a minimum requirement for data to be processed. Hence, we removed single and two-year observations from our sample. Finally, in order to reduce the effect of possibly spurious outliers we eliminate them in all variables by winsorizing at the 1st and 99th percentiles within each country (Beck et al. 2013). After applying these criteria, our final sample comes to a list of 48 countries and 738 observations. The full sample list of the countries is presented in Table 3.3.

Furthermore, a number of studies investigated whether the effect of bank concentration/competition on economic growth is different when applied to developed and developing countries. The OIC group of countries provides a mixture, consisting of majority of underdeveloped and developing countries with few countries belonging to the group of high-income countries. Thus, the sample offers a unique opportunity to investigate the hypothesis that bank concentration has different effects on economic growth due to different economic development. As a result, we

**Table 3.3** Selected OIC countries

<i>No.</i>	<i>Country name</i>	<i>No.</i>	<i>Country name</i>	<i>No.</i>	<i>Country name</i>
1	Afghanistan	17	Iraq	33	Qatar
2	Albania	18	Jordan	34	Saudi Arabia
3	Algeria	19	Kazakhstan	35	Senegal
4	Azerbaijan	20	Kuwait	36	Sierra Leone
5	Bahrain	21	Kyrgyz	37	Sudan
6	Bangladesh	22	Lebanon	38	Suriname
7	Benin	23	Libya	39	Syria
8	Burkina-Faso	24	Malaysia	40	Tajikistan
9	Cameroon	25	Mali	41	Togo
10	Cote D'Ivoire	26	Mauritania	42	Tunisia
11	Egypt	27	Morocco	43	Turkey
12	Gabon	28	Mozambique	44	Uganda
13	Gambia	29	Niger	45	United Arab Emirates
14	Guinea	30	Nigeria	46	Uzbekistan
15	Guyana	31	Oman	47	West Bank and Gaza / Palestine
16	Indonesia	32	Pakistan	48	Yemen

**Table 3.4** Low- and high-income OIC countries

<i>Low-income countries</i>		<i>High-income countries</i>	
<i>Low-income</i>	<i>Lower middle income</i>	<i>Upper middle income</i>	<i>High-income</i>
Afghanistan	Bangladesh	Albania	Bahrain
Benin	Cameroon	Algeria	Kuwait
Burkina-Faso	Cote D'Ivoire	Azerbaijan	Oman
Gambia	Egypt	Gabon	Qatar
Guinea	Indonesia	Guyana	Saudi Arabia
Mali	Kyrgyz	Iraq	United Arab Emirates
Mozambique	Mauritania	Jordan	
Niger	Morocco	Kazakhstan	
Senegal	Nigeria	Lebanon	
Sierra Leone	Pakistan	Libya	
Togo	Sudan	Malaysia	
Uganda	Syria	Suriname	
	Tajikistan	Turkey	
	Tunisia		
	Uzbekistan		
	Palestine / West Bank & Gaza		
	Yemen		

split our sample into two subcategories: low- and high-income countries. Based on the World Bank classifications, countries are classified into four income categories, namely: *low-income*, *lower middle income*, *upper middle income* and *high-income*. For the purpose of this study we combined *low* and *lower middle income* countries into *low-income group*. Similarly, we combined *upper middle income* and *high-income* countries into *high-income group*. The detailed classification, according to the World Bank methodology, is presented in Table 3.4. Out of 48 countries in our sample, 29 of them or 60.42% fall under the low-income countries group, while the remaining 19 or 39.58% countries fall under the high-income group.

We go a step further and divide our sample into corrupted and less-corrupted countries (see Table 3.5). As a proxy measure of a level of corruption we use *control of corruption (percentile)* data provided by the World Governance Indicator, the World Bank. According to the database, this “measure captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of

**Table 3.5** Corrupted and less-corrupted OIC countries

<i>Less-corrupted</i>		<i>Corrupted</i>	
<i>Albania</i>	<i>Mauritania</i>	<i>Afghanistan</i>	<i>Libya</i>
Algeria	Morocco	Azerbaijan	Niger
Bahrain	Mozambique	Bangladesh	Nigeria
Benin	Oman	Cameroon	Pakistan
Burkina-Faso	Qatar	Cote D'Ivoire	Sierra Leone
Egypt	Saudi Arabia	Gabon	Sudan
Gambia	Senegal	Guinea	Syria
Guyana	Suriname	Indonesia	Tajikistan
Jordan	Tunisia	Iraq	Togo
Kuwait	Turkey	Kazakhstan	Uganda
Malaysia	United Arab Emirates	Kyrgyz	Uzbekistan
Mali	Palestine / West Bank & Gaza	Lebanon	Yemen

corruption, as well as ‘capture’ of the state by elites and private interests. Percentile rank indicates the country’s rank among all countries covered by the aggregate indicator, with 0 corresponding to lowest rank, and 100 to highest rank. Percentile ranks have been adjusted to correct for changes over time in the composition of the countries covered by the WGI.” We first use these data in their original form. After that, we use a median value of the sample to split data into two groups, corrupted and less-corrupted countries. The median value for the corruption measure is 27.18. Hence, a country is assigned value 0 (less-corrupted) if its average median for the study period is above 27.18 and value 1 (corrupted) for a country whose average median for the study period is below 27.18.

In addition, if we look from a geographical point of view, OIC countries in our sample are spread over four continents with the majority being concentrated in Asia and Africa, 49% and 45%, respectively. This is shown in Table 3.6 below.

Finally, the data will be obtained from the Bankscope database of Bureau van Dijk’s company, International Monetary Fund, UNESCO Institute for Statistics and a number of World Bank’s databases, namely the World Development Indicators, the Global Financial Development and the World Governance Indicators.<sup>16</sup>

**Table 3.6** Distribution of countries by geographical location

<i>Africa</i>				
<i>Algeria</i>	<i>Benin</i>	<i>Burkina Faso</i>	<i>Cameroon</i>	<i>Egypt</i>
Gabon	Gambia	Guinea	Cote D'Ivoire	Libya
Mali	Mauritania	Morocco	Mozambique	Niger
Nigeria	Senegal	Sierra Leone	Sudan	Togo
Tunisia	Uganda			
<b>Asia</b>				
Afghanistan	Azerbaijan	Bahrain	Bangladesh	Indonesia
Iraq	Jordan	Kazakhstan	Kuwait	Kyrgyzstan
Lebanon	Malaysia	Oman	Pakistan	Palestine
Qatar	Saudi Arabia	Syria	Tajikistan	Turkey
UAE	Uzbekistan	Yemen		
<b>Europe</b>				
Albania				
<b>South America</b>				
Guyana	Suriname			

### 3.3.3.2 Descriptive Analysis: Overview

Table 3.7 presents the summary statistics of our sample.<sup>17</sup> The average GDP per capita (Gpc) growth rate is 2.26%, but there is wide cross-country variation in the sample with a low of around -12% to a high of around 18%. Surprisingly, the lowest (or rather the highest negative) GDP growth rate was recorded in 2009 by Kuwait, while the highest was recorded in 2013 by Sierra Leone.

In addition, the average concentration ratio measured by CR5 is about 83% with a low of about 37% and a high value of 1 (i.e. 100%). The lowest point was recorded by Bangladesh and Nigeria, while the highest was recorded by a number of countries. When measured by CR3, the average concentration ratio for our sample is about 73% with a low of about 30% and high values of 1 (i.e. 100%). The lowest concentration is found in case of Nigeria for the period 2001–2003. After that period, the concentration ratio in Nigeria was also on the rise, reaching the highest value of 71.09% in 2006. Similar to the CR5 case, the highest concentration point and hence the highest concentration was recorded by a number of the OIC member countries.<sup>18</sup> Consequently, it can be concluded from the data before us that the banking sector in OIC countries is highly concentrated and quite far from competition. Similar findings are evidenced from the other measures of bank concentration/competition as well.

**Table 3.7** Summary of descriptive statistics

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
Gpc	738	2.26	4.29	-12.57	18
CR5	538	83.71	14.36	36.93	100
CR3	686	73.17	18.15	30.31	100
HHI	605	0.13	0.09	0.04	0.5
LI	539	0.31	0.15	-0.35	0.61
BI	733	-0.04	0.18	-1.2	0.53
BNI	726	36.17	15.68	3.03	74.94
BCI	726	56.58	18.53	24.49	130.3
BNIM	728	5.06	2.66	0.97	14.38
I	738	2.26	4.29	-12.57	18
TO	497	6.06	9.97	-18.34	41.93
ID	653	33.97	20.12	0.95	74.88
HC	730	24.01	8.59	7.03	56.02
GCF	737	79.43	34.16	27.65	202.58
GS	734	7073.44	12,947.33	322.2	66,761.62
FIN_p	698	27.61	23.69	2.19	114.13
FIN_l	698	46.95	37.44	9.29	226.37

Notes: Gpc is the GDP per capita growth. CR5 is the 5-bank concentration ratio. CR3 is the 3-bank concentration ratio. HHI is the Herfindahl-Hirschman Index. LI is the Lerner index. BI is the Boone indicator. BNI is the bank noninterest income to total income ratio. BCI is the bank cost to income ratio. BNIM is the bank net interest margin. I is the inflation (GDP deflator). TO is the trade openness. ID is the institutional development. HC is the human capital accumulation. GCF is the gross capital formation. GS is the government size. FIN\_p is the ratio of private credit to GDP FIN\_l is the ratio of liquid liabilities to GDP

The presence of the overwhelming bank concentration within the OIC member countries should not come as a surprise as overall underdevelopment is also evident from a number of indicators. One of them is the financial development variables used in this study. Measured as a ratio of private credit by deposit money banks and other financial institutions to GDP, the average financial development is around 27%, with a minimum and maximum being 2.19% and 114.13%, respectively. When financial development is measured by liquid liabilities to GDP ratio, the average is around 37%, while the minimum and maximum are 9.29% and 227.37%, respectively. Another indicator that shows overall underdevelopment of our sample countries is the institutional development variable. Its average for our sample is around 33%, with a low value of 0.95% for Afghanistan and Iraq and a high value of 74.88% for Qatar and UAE. This means that financial and institutional developments in these countries need to be improved. Thus, given the very low levels of financial and institutional developments within the OIC countries, it is not surprise to see a high level of bank concentration.



Besides, in Tables 3.8 and 3.9 we provide a summary of descriptive statistics for two subgroupings, namely low- and high-income countries and corrupted and less-corrupted countries. Additional graphical illustrations of our main dependent and independent variables and their subsequent subgroupings are presented below.

Furthermore, Table 3.10 provides a correlation matrix among the main study variables, the economic growth on one side and the main independent variables, on the other. Statistics show that there are some important correlations among the variables. In line with theoretical arguments, there is a negative correlation between bank concentration as represented by concentration ratio (CR5 & CR3) measures and economic growth. This suggests that a decrease in bank concentration could encourage growth in OIC countries.

### 3.4 EMPIRICAL RESULTS

In order to get our results, we employ GMM for reasons explained in the previous chapter. We use the STATA software version 14.2 and Roodman's (2009a) *xtabond2* command due to its more flexible features over the built-in command. Given the models, we treat all explanatory variables to be weakly exogenous. When it comes to linear and non-linear models, we report both difference and system GMM side by side for comparison and robustness purposes. However, for all other models in this study we present and use only system GMM results. This is due to the structure of our dataset and overall superiority of the system GMM and for the consistency of our interpretation, it will be based primarily on the system GMM.

Before we proceed with discussion about estimation results given various models and combination of control variables, we would like to provide additional descriptions of our data. Our aim is to provide graphical illustration of the main dependent and independent variables. We will first provide these illustrations for full data sample. Later on, we will show these illustrations given our different subgroupings, namely low-income and high-income countries on one side and corrupted and less-corrupted countries on the other (see figures as follows).

#### 3.4.1 *Linear Model*

Figure 3.1 provides estimation results of Eq. (3.1) using the two-step robust system and difference GMM estimation methods. More specifically, this table presents the effect of bank concentration, measured by concentration ratio of top 5 banks (CR5) and Lerner index (LI), on

**Table 3.8** Summary of descriptive statistics—low-income countries

Variable	High-income countries				Low-income countries					
	Obs.	Mean	Std. Dev.	Min	Max	Obs.	Mean	Std. Dev.	Min	Max
Gpc	299	2.01	5.01	-12.57	18	439	2.42	3.73	-12.57	18
CR5	243	85.3	13.3	53.78	100	295	82.4	15.07	36.93	100
CR3	290	74.15	17.86	34.89	100	396	72.45	18.34	30.31	100
HHI	259	0.13	0.09	0.04	0.5	346	0.13	0.09	0.04	0.5
LI	209	0.36	0.17	-0.35	0.61	330	0.28	0.13	-0.35	0.61
BI	299	0.01	0.14	-1.02	0.53	434	-0.07	0.19	-1.2	0.53
BNI	299	30.69	13.35	3.03	74.94	427	40.01	16.07	3.03	74.94
BCI	299	47.22	15.58	24.49	130.3	427	63.13	17.61	24.49	130.3
BNIM	299	4.05	2	0.97	14.38	429	5.77	2.83	0.97	14.38
I	299	2.01	5.01	-12.57	18	439	2.42	3.73	-12.57	18
TO	221	4.77	11.66	-18.34	41.93	276	7.1	8.24	-18.34	33.52
ID	264	45.42	20.39	0.95	74.88	389	26.21	15.78	0.95	59.24
HC	291	26.61	8.45	9.34	56.02	439	22.29	8.24	7.03	56.02
GCF	298	99.76	36.76	42	202.58	439	65.64	23.92	27.65	146.11
GS	299	15,625.60	16,952.06	1,633.39	66,761.62	435	1195.07	882.59	322.2	4,271.33
FIN_p	290	39.18	28.19	2.19	114.13	408	19.38	15.27	2.19	72.91
FIN_J	290	64.44	47.3	12.06	226.37	408	34.51	20.94	9.29	108.76

Notes: Gpc is the GDP per capita growth, CR5 is the 5-bank concentration ratio, CR3 is the 3-bank concentration ratio, HHI is the Herfindahl-Hirschman Index, LI is the Lerner index, BI is the Boone indicator, BNI is the bank noninterest income to total income ratio, BCI is the bank cost to income ratio, BNIM is the bank net interest margin, I is the inflation (GDP deflator), TO is the trade openness, ID is the institutional development, HC is the human capital accumulation, GCF is the gross capital formation, GS is the government size, FIN\_p is the ratio of private credit to GDP, FIN\_J is the ratio of liquid liabilities to GDP

**Table 3.9** Summary of descriptive statistics—corrupted countries

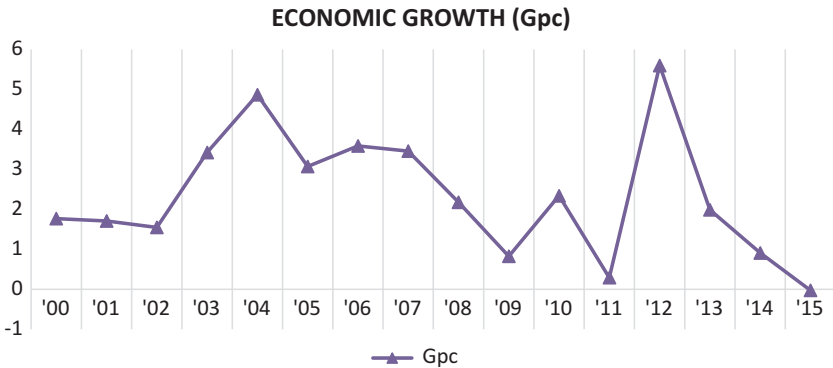
Variable	Less-corrupted countries				Corrupted countries					
	Obs.	Mean	Std. Dev.	Min	Max	Obs.	Mean	Std. Dev.	Min	Max
Gpc	378	1.75	3.8	-12.57	15.95	360	2.78	4.71	-12.57	18
CR5	289	86.14	11.83	59.76	100	249	80.89	16.4	36.93	100
CR3	351	73.41	16.6	38.78	100	335	72.91	19.66	30.31	100
HHI	360	0.13	0.08	0.04	0.5	245	0.14	0.1	0.04	0.5
LI	299	0.34	0.15	-0.35	0.61	240	0.27	0.14	-0.35	0.61
BI	378	-0.01	0.11	-1.02	0.53	355	-0.07	0.22	-1.2	0.53
BNI	376	32.91	13.01	3.03	74.94	350	39.67	17.48	3.03	74.94
BCI	376	52.84	17.38	24.49	130.3	350	60.59	18.92	24.49	130.3
BNIM	378	4.28	1.94	0.97	11.48	350	5.9	3.05	0.97	14.38
I	378	1.75	3.8	-12.57	15.95	360	2.78	4.71	-12.57	18
TO	261	5.18	9.65	-18.34	41.93	236	7.04	10.24	-18.34	41.93
ID	333	48.81	14.58	12.02	74.88	320	18.54	11.73	0.95	48.02
HC	377	26.41	8.91	7.03	56.02	353	21.45	7.43	7.03	56.02
GCF	377	89.74	37.84	30.73	202.58	360	68.64	25.76	27.65	146.11
GS	378	11,235.30	16,768.24	322.15	66,761.62	356	2654.40	3082.60	322.15	12,120.56
FIN_p	362	37.6	24.85	3.95	114.13	336	16.85	16.67	2.19	98.69
FIN_I	362	57.21	28.53	17.24	135.12	336	35.89	42.46	9.29	226.37

Notes: Gpc is the GDP per capita growth. CR5 is the 5-bank concentration ratio. CR3 is the 3-bank concentration ratio. HHI is the Herfindahl-Hirschman Index. LI is the Lerner index. BI is the Boone indicator. BNI is the bank noninterest income to total income ratio. BCI is the bank cost to income ratio. BNIM is the bank net interest margin. I is the inflation (GDP deflator). TO is the trade openness. ID is the institutional development. HC is the human capital accumulation. GCF is the gross capital formation. GS is the government size. FIN\_p is the ratio of private credit to GDP. FIN\_I is the ratio of liquid liabilities to GDP.

**Table 3.10** Correlation between main dependent and independent variables

	<i>Gpc</i>	<i>CR5</i>	<i>CR3</i>	<i>HHI</i>	<i>LI</i>	<i>BI</i>
<i>Gpc</i>	1.0000					
<i>CR5</i>	-0.0767	1.0000				
<i>CR3</i>	-0.0272	0.9092***	1.0000			
<i>HHI</i>	0.1311**	0.1820***	0.1531**	1.0000		
<i>LI</i>	-0.0107	0.1045*	-0.0280	0.1309**	1.0000	
<i>BI</i>	0.0148	0.1016*	0.0546	-0.2918***	-0.0043	1.0000

Notes: The table reports the correlation matrix of all regression variables. *Gpc* is the GDP per capita growth. *CR5* is the 5-bank concentration ratio. *CR3* is the 3-bank concentration ratio. *HHI* is the Herfindahl-Hirschman Index. *LI* is the Lerner index. *BI* is the Boone indicator

**Fig. 3.1** Annual mean values of economic growth (*Gpc*)—full sample

economic growth, measured by the annual growth rate of GDP per capita (*Gpc*). While doing so, we use sets of bank-specific and country-specific variables discussed earlier.<sup>19</sup> In Table 3.11 models (1)–(6) are using *CR5* as the main independent variable (Panel A), while models (7)–(12) are using *LI* as the main independent variable (Panel B).

Furthermore, as briefly mentioned when discussing financial development proxies under the section on control variables in the previous chapter, throughout this study we will use two proxies for financial development, namely private credit to GDP ratio (*FIN\_p*) and liquid liabilities to GDP ratio (*FIN\_l*). Hence, the results in each panel of the Table 3.11 are organized as follows: (i) models (1)–(3) and (7)–(9) are using *FIN\_p* and (ii) models (4)–(6) and (10)–(12) are using *FIN\_l* for *CR5* and *LI* models, respectively (Figs. 3.2–3.4).

**Table 3.11** Growth—concentration relationship—linear model

Variables	Panel B—LI												
	Panel A—CR5					Panel B—LI							
	<i>FIN_p</i>	<i>sGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>FIN_I</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>	(8)	(9)	(10)	(11)	(12)
Gpc <sub>t-1</sub>	0.626* [0.329]	0.802*** [0.175]	0.802*** [0.175]	0.516** [0.210]	0.808*** [0.167]	0.807*** [0.166]	0.205* [0.120]	0.873*** [0.150]	0.874*** [0.151]	0.874*** [0.151]	0.577 [0.382]	0.888*** [0.146]	0.888*** [0.146]
CR5	0.077* [0.045]	-0.020* [0.010]	-0.019* [0.011]	0.054 [0.042]	-0.019* [0.011]	-0.018* [0.010]							
LI							-3.415* [2.018]	-2.598* [1.381]	-2.575* [1.392]	-2.575* [1.392]	-3.955 [3.040]	-2.575* [1.478]	-2.549* [1.491]
BNI		0.006 [0.011]	0.006 [0.010]	0.024 [0.028]	0.008 [0.012]	0.008 [0.011]	0.038 [0.025]	0.018*** [0.007]	0.017*** [0.007]	0.017*** [0.007]	0.046 [0.029]	0.022*** [0.006]	0.022*** [0.006]
BCI	0.022 [0.026]	0.005 [0.008]	0.006 [0.008]	0.032 [0.032]	0.005 [0.008]	0.006 [0.008]	0.006 [0.023]	0.006 [0.009]	0.006 [0.009]	0.006 [0.009]	0.016 [0.030]	0.007 [0.010]	0.007 [0.010]
BNIM		0.012 [0.070]	0.017 [0.069]	-0.057 [0.313]	0.038 [0.077]	0.044 [0.075]		0.023 [0.069]	0.017 [0.070]	0.017 [0.070]		0.045 [0.075]	0.043 [0.075]
TO	0.052 [0.037]	0.009 [0.028]	0.009 [0.028]		0.006 [0.006]	0.006 [0.006]		0.036 [0.036]	0.036 [0.036]	0.036 [0.036]		0.034 [0.034]	0.034 [0.034]
ID	0.105 [0.086]	-0.008 [0.009]	-0.007 [0.010]	-0.011 [0.072]	-0.014* [0.008]	-0.013 [0.009]							
HC	0.047 [0.065]	0.013 [0.025]	0.014 [0.025]	0.047 [0.067]	0.018 [0.025]	0.020 [0.025]	0.120 [0.074]	0.066*** [0.015]	0.065*** [0.015]	0.065*** [0.015]	0.167* [0.094]	0.071*** [0.014]	0.070*** [0.014]
GCF		0.015*** [0.006]	0.015*** [0.006]	-0.028 [0.041]	0.011*** [0.004]	0.011*** [0.004]	-0.018 [0.029]	0.011*** [0.004]	0.011*** [0.004]	0.011*** [0.004]	-0.040 [0.047]	0.007** [0.003]	0.007** [0.003]
GS	0.001 [0.001]	-0.000 [0.000]	-0.000 [0.000]	0.001 [0.001]	-0.000 [0.000]	-0.000 [0.000]	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]

(continued)

**Table 3.11** (continued)

<i>Variables</i>	<i>Panel B—LI</i>											
	<i>Panel A—CR5</i>				<i>FIN_p</i>				<i>FIN_l</i>			
	<i>dGMM</i>	<i>sGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>	<i>sGMM</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
FIN_p	-0.186*** [0.069]	-0.018* [0.010]	-0.018 [0.011]				-0.219*** [0.044]	-0.015** [0.008]	-0.016** [0.008]			
FIN_l				-0.123* [0.065]	-0.005*** [0.002]	-0.005* [0.003]				-0.182*** [0.067]	-0.004* [0.002]	-0.004* [0.002]
C	-1.682 [1.481]	1.008	-0.277 [0.419]	-2.478* [1.499]	0.787	-0.381 [0.413]			0.278 [0.297]		0.181 [0.280]	
Constant			0.823 [1.524]		0.787 [1.651]	0.557 [1.671]		-2.242 [1.402]	-2.167 [1.417]		-2.635* [1.492]	-2.618* [1.491]
Observations	277	309	309	407	309	309	444	326	326	444	326	326
No. of instruments	20	20	21	22	20	21	9	18	19	9	18	19
No. of groups	30	30	30	39	30	30	37	30	30	37	30	30
Arellano-Arellano	0.079	0.006	0.006	0.030	0.005	0.005	0.000	0.014	0.014	0.102	0.014	0.014
Bond: AR(1)												
Arellano-Bond: AR(2)	0.227	0.119	0.119	0.163	0.117	0.116	0.193	0.235	0.237	0.263	0.233	0.234
Sargan test ( <i>p</i> -val)	0.583	0.432	0.429	0.226	0.422	0.420	0.015	0.759	0.759	0.080	0.747	0.747
Hansen test ( <i>p</i> -val)	0.304	0.218	0.215	0.438	0.221	0.218	0.094	0.815	0.811	0.214	0.815	0.811

Notes: (i) Standard errors in brackets, (ii) \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

### THE MARKET STRUCTURE MEASURES (CR5 & CR3)

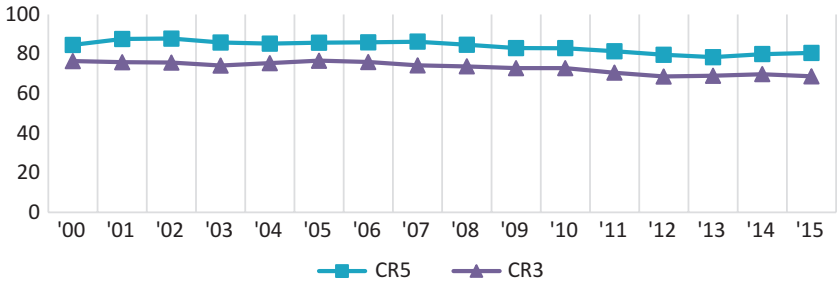


Fig. 3.2 Annual mean values of the market structure measures (CR5 and CR3)—full sample

### THE MARKET STRUCTURE MEASURE (HHI)

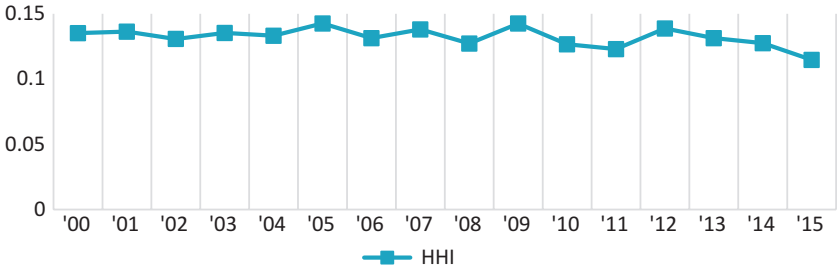


Fig. 3.3 Annual mean values of the market structure measure (HHI)—full sample

### THE MARKET POWER MEASURES (LI & BI)

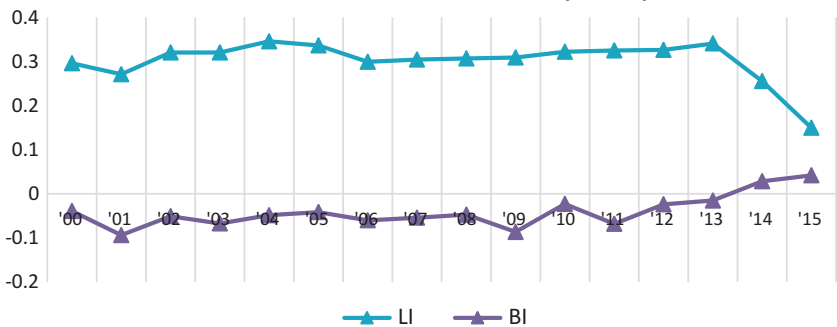


Fig. 3.4 Annual mean values of the market power measures (LI and BI)—full sample

Finally, models (1), (4), (7) and (10) report results using difference GMM, while the other ones are based on system GMM. Under the system GMM models, we incorporated crisis dummy (C) in the models (3), (6), (9) and (12) to investigate possible effects and significance of the global financial crisis 2008–2009 on economic growth. This format will be applied throughout all regression results tables where applicable.<sup>20</sup>

Bank concentration, measured by CR5 and LI, in Table 3.11 is found to be negatively significant in most of the estimations. Obviously, the results indicate a negative relationship between bank concentration and economic growth, regardless of whether we use market structure (CR5) or market power (LI) measure as proxies for bank concentration. Still, looking at the coefficients for both CR5 and LI, we can see that these coefficients are much higher in case of LI. To quantify the relationship, an increase in bank concentration by one percentage point reduces economic growth (Gpc) on average by about 0.02 percentage points as measured by CR5 and 2.6 as measured by LI. The findings support the competitive banking structure view and are consistent with the results found by Black and Strahan (2002), Beck et al. (2003), Carlin and Mayer (2003), Cetorelli and Strahan (2006), Fernández et al. (2010), Ferreira (2012), Ghasemi and Abdolshah (2014), and Diallo and Koch (2017).

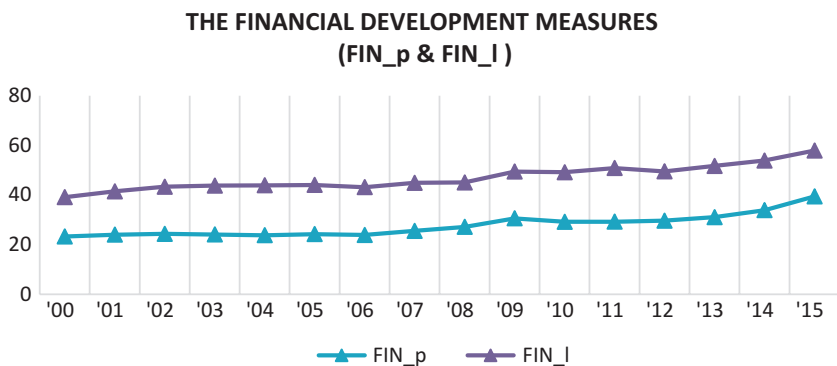
These findings are also partially in line with Carbó et al. (2009) who claim that in cross-country analysis different concentration measures tend to give conflicting predictions because they measure different things and are affected by cross-country differences (p. 115). In our case, the results although similar in sign and significance are not similar in nature, as an increase in market power (LI) within the OIC countries will have a stronger negative effect on Gpc. The results, however, are in contrast to Petersen and Rajan (1995), Maudos and de Guevara (2006), and Abuzayed and Al-Fayoumi (2016), among others, who found a positive relationship between bank concentration and economic growth.

Diagnostic statistics, reported at the bottom of every table, imply adequacy of GMM estimations. More specifically, the autoregressive coefficients indicate significant persistence required for using GMM. Furthermore, the autocorrelation tests of the first-differenced residuals suggest the presence of autocorrelation of order 1 (AR1) in all cases but fail to reject the null of no autocorrelation of order 2 (AR2). These results indicate that the residuals in Eq. (3.1) are free from the autocorrelation problem. Finally, the Hansen test statistics confirms the validity of instruments used in our estimation models.



As for the control variables, the results are somehow mixed. By looking at the bank-specific control variables, most of them are found to be insignificant in all models. Bank noninterest income (BNI) is the only bank-specific control variable that is found to have a positively significant effect on Gpc. However, this is the case only when we use it in the model where LI is used as proxy for bank concentration (Panel B), as BNI is also insignificant in Panel A where CR5 is used. Similar results are found in case of country-specific or macro-economic control variables. Gross capital formation (GCF) is the only control variable that is found to have a positively significant effect on Gpc when system GMM method is applied, as difference GMM produces insignificant results. Apart from GCF, human capital (HC) also has a positively significant effect on Gpc, but only when LI is used (Panel B).

On the other hand, since we are interested in financial development as well, it is worth noting that financial development proxies, FIN\_p and FIN\_l, have a significantly negative effect on Gpc in almost all cases (Fig. 3.5 shows similar patterns of both proxies). Although this might be counterintuitive, given the overall (under)development of the OIC countries, these results are in line with findings reported by Demirgüç-Kunt and Huizinga (1999).<sup>21</sup> This implies that an increase in the overall financial development (whether we use FIN\_p or FIN\_l as proxies) has a negative impact on overall economic growth. Nevertheless, analyzing the values of the coefficients of FIN\_p and FIN\_l indicates that the effect of



**Fig. 3.5** Annual mean values of the financial development indicators (FIN\_p & FIN\_l)—full sample

financial development on Gpc is so small for both types of bank concentration measures. In other words, although there are some statistical evidences of negative effect of financial development on economic growth, the effect is too marginal and hence it can be ignored economically.

Finally, the results in Table 3.11 show that the financial crisis (C) is highly insignificant in all cases but model (4) where it indicates a significantly negative effect on Gpc as expected.

### 3.4.2 *Non-Linear Model*

By investigating non-linearity of the relationship between bank concentration and economic growth, we are simply testing whether the effect of bank concentration on economic growth depends on the level of the bank concentration. Looking from a bank's perspective, experiencing some sort of bank power and/or concentration has its advantages and disadvantages as well. On one side, a bank may become more careful in credit analysis and investment opportunities and at the same time as its power increases its ability to cope with losses improves. On the other hand, as its market power increases, it may induce bank's managers to take on riskier projects thus increasing its probability of default and bad loans.

Having said that, our original model presented in the previous section is modified by including a quadratic term of bank concentration ratios, namely CR5SQR and LISQR as explained in the methodology chapter. Introduction of the quadratic term would allow having a "U-shaped" or "inverted U-shaped" relationship between bank concentration indicators and economic growth. A positive quadratic term would indicate that the relationship is "U-shaped" while a negative one would indicate that this relationship has in fact an "inverted U-shaped."

Tables 3.12 and 3.13 represent various estimations of non-linear models using CR5 and LI as concentration measures, respectively. In each table, models with odd numbers represent estimation with bank-specific control variables only, while models with even numbers present various combinations of bank- and country-specific control variables.<sup>22</sup> In line with findings in the previous subsection, that is linear model estimation results, both bank concentration measures (CR5 and LI) are found to have a significantly negative effect on economic growth in most cases. When it comes to the quadratic terms of bank concentration measures, then the results are somehow different. While the quadratic term of market structure (CR5SQR) is found to be positively significant in most models

presented in Table 3.12, the quadratic term of market power (LISQR) is found to be insignificant in most cases, as shown in Table 3.13. Hence the results using CR5 indicate the existence of a threshold and that the relationship is “U-shaped.” However, the values of the square term coefficients in all models are very marginal and can be ignored economically. These findings are similar to those reported by di Patti and Dell’Ariccia (2004) and Fernández et al. (2010). At the same time, although De Guevara and Maudos (2011) found a non-linear relationship between market power and economic growth, their findings show an “inverted U-shaped” relationship.

### 3.4.3 *Interaction Term Model*

Table 3.14 provides empirical results for the interaction term model. Note that we have four interaction terms since we have two concentration measures and two proxies for financial development. Models with odd numbers consider linear model relationships interacting with financial development proxies, while models with even numbers investigate non-linear relationships. We will first discuss results from linear models and then we will follow with discussion on non-linear models interacting with financial development proxies.

Looking at linear models and interaction terms from Table 3.14 (odd model numbers), we can see conflicting results. In case of model (1) in Panel A, we see that CR5 and FIN\_p have a significantly negative impact on economic growth, while the interaction term  $CR5 \times FIN\_p$ , although significant as well, has a positive impact on economic growth. The significance of the interaction term indicates a different impact of bank concentration on economic growth when interacted with FIN\_p. In contrast, when using FIN\_l as the financial development proxy, the above mentioned coefficients turn out to be insignificant together with all other control variables. The diagnostic statistics table also provides additional information indicating that there is a problem with autocorrelation of order 2 (AR2) as the null hypothesis of no autocorrelation is rejected (the value of AR2 is 0.094). On the other hand, when LI is used, as in Panel B models, it turns out that LI and both FIN\_p and FIN\_l are significant with negative impact on economic growth. However, in both cases, the interaction terms ( $LI \times FIN\_p$  and  $LI \times FIN\_l$ ) are insignificant.

However, the significance or insignificance of the interaction term should not be directly interpreted before looking into the marginal effect

equations and testing the significance of bank concentration and interaction term coefficients jointly. As pointed out by Brambor et al. (2006), when it comes to interaction terms models, the sign of the interaction term can be interpreted when the coefficients are jointly significant, even if the interaction term coefficient alone is found to be insignificant. Thus, testing whether  $\beta_1 + \beta_3 = 0$  is more crucial than looking at the significance/insignificance of  $\beta_3$  itself, as it is the significance or insignificance of  $\beta_1 + \beta_3$  that reveals the relevant beta that should be looked for in determining the effect of CR5 and LI on Gpc. Consequently, although the coefficient of the interaction terms (LI  $\times$  FIN\_p and LI  $\times$  FIN\_l) are insignificant in estimation models (5) and (7), it does not mean that the interaction terms should not be included in the models and that they have no impact on economic growth (Brambor et al. 2006).

Having said this, Table 3.14 provides a joint significance test for  $\beta_1 + \beta_3$ . Based on the *P*-values for  $\beta_1 + \beta_3$ , it can be concluded that  $\beta_1 + \beta_3$  is statistically not equal to zero for almost all estimations (except model (3)). As a result, we can interpret the marginal effect of financial development on economic growth. The impact of the interaction terms is very marginal when CR5 is used as can be seen from Panel A.

Now, looking at the non-linear models presented in Table 3.14, the results are quite straightforward. All the terms in Panel A, including square and interaction terms, are found to be significant. In Panel B, however, square terms are insignificant, although the interaction terms are significant. Finally, the joint significance test of  $\beta_1 + \beta_3$  is confirmed in all models indicating validity of the interaction term inclusion in the models and interpretation of marginal effects. For instance, based on the results of estimation (6), the marginal effect of LI on Gpc without the interaction term is  $\partial \text{Gpc} / \partial \text{LI} = \beta_1 = -6.966$ , while the marginal effect with the interaction term is  $\partial \text{Gpc} / \partial \text{LI} = \beta_1 + \beta_3 = -6.966 + 0.064 = -6.932$ . This suggests that an increase in the market power (LI) by 1 point would cause a negative impact on Gpc by  $-6.966$  without the interaction term, while its impact would also be negative but with a slightly decreased impact when interacted with the financial development variable (i.e. its impact would be decreased by 0.064).

The results from Table 3.14 suggest that increasing the market structure (CR5) or the market power (LI) would have a negative impact on economic growth, but this impact is to some extent decreased when interacting with financial development variables. Again, after careful analysis of the values of the coefficients we can see that the impact of CR5 on

**Table 3.12** Growth—concentration relationship—non-linear model—CR5

Variables	CR5							
	FIN_p				FIN_I			
	dGMM	sGMM	dGMM	sGMM	dGMM	sGMM	dGMM	sGMM
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Gpc <sub>t-1</sub>	0.589*** [0.137]	0.920** [0.413]	0.560*** [0.128]	0.798*** [0.136]	0.237 [0.299]	1.136** [0.489]	0.644*** [0.211]	0.725*** [0.215]
CR5	-0.154 [0.113]	-1.072* [0.564]	-0.134** [0.063]	-0.225*** [0.081]	-0.053 [0.411]	-1.344* [0.714]	-0.134* [0.075]	-0.157* [0.080]
CR5SQR	0.001 [0.001]	0.007** [0.004]	0.001* [0.000]	0.001*** [0.001]	0.000 [0.003]	0.009* [0.005]	0.001 [0.001]	0.001* [0.001]
BNI	0.015 [0.016]	0.021 [0.031]	0.027*** [0.010]	0.015 [0.011]	0.024 [0.024]	0.022 [0.040]	0.028* [0.014]	0.013 [0.013]
BCI	-0.008 [0.020]	0.044 [0.034]	-0.002 [0.008]	0.002 [0.007]	0.013 [0.026]	0.044 [0.041]	0.001 [0.009]	
BNIM	0.000 [0.243]		0.034 [0.069]	0.022 [0.085]	-0.368* [0.204]	-0.280 [0.376]	0.081 [0.082]	
TO		0.050 [0.043]		0.006 [0.021]		0.034 [0.052]		
ID		0.172 [0.113]				0.186 [0.133]		
HC		0.033 [0.084]		0.028 [0.022]		0.023 [0.093]		0.024 [0.021]
GCF		-0.010 [0.041]		0.007 [0.005]		-0.008 [0.046]		0.005 [0.004]

(continued)

Table 3.12 (continued)

Variables	CR5		FIN_1		sGMM			
	FIN_p	FIN_1	dGMM	sGMM	(6)	(7)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GS		0.001 [0.001]		-0.000*** [0.000]		0.001 [0.001]		-0.000** [0.000]
FIN_p	-0.045* [0.027]	-0.162** [0.070]	-0.014 [0.009]	-0.013* [0.008]				
FIN_1					-0.307*** [0.058]	-0.075 [0.093]	-0.002 [0.005]	-0.005** [0.002]
Constant			5.887** [2.439]	7.351** [3.287]			4.716 [3.143]	5.647* [3.017]
Inflection point	70.605	74.090	82.385	76.772	66.340	75.430	79.093	77.532
Observations	445	277	485	326	443	277	485	477
No. of instruments	16	16	14	19	11	17	14	15
No. of groups	40	30	40	30	40	30	40	39
Arellano-Bond: AR(1)	0.019	0.057	0.016	0.003	0.106	0.050	0.022	0.008
Arellano-Bond: AR(2)	0.110	0.212	0.101	0.155	0.388	0.193	0.105	0.108
Sargan test ( <i>p</i> -val)	0.086	0.756	0.002	0.670	0.372	0.801	0.001	0.150
Hansen test ( <i>p</i> -val)	0.238	0.820	0.228	0.566	0.273	0.896	0.286	0.270

Notes: (i) Standard errors in brackets, (ii) \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 3.13** Growth—concentration relationship—non-linear model—LI

<i>Variables</i>	<i>LI</i>			<i>FIN_I</i>				
	<i>dGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>dGMM</i>	<i>sGMM</i>	<i>sGMM</i>		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gpc <sub>t-1</sub>	0.251 [0.383]	0.430 [0.587]	0.462* [0.237]	0.876*** [0.158]	0.339 [0.372]	0.618 [0.644]	0.509* [0.266]	0.908*** [0.163]
LI	-3.243* [1.901]	-6.959*** [2.687]	-2.685 [1.876]	-3.938* [2.115]	-2.343 [1.941]	-6.116*** [2.946]	-2.908 [2.141]	-4.261* [2.300]
LISQR	0.815 [8.658]	15.096** [7.476]	2.953 [4.285]	4.955 [3.882]	-1.030 [9.085]	12.576 [8.613]	3.392 [4.677]	6.047 [4.066]
BNI	0.017 [0.033]	0.017 [0.031]	0.011 [0.015]	0.025*** [0.009]	0.023 [0.035]	0.026 [0.032]	0.018 [0.015]	0.027*** [0.009]
BNIM	-0.235 [0.243]	-0.199 [0.349]	-0.065 [0.103]		-0.270 [0.260]	-0.276 [0.385]	-0.010 [0.117]	
BCI	-0.001 [0.025]		-0.003 [0.015]	0.013* [0.007]	0.005 [0.026]		0.001 [0.015]	0.014* [0.008]
TO		0.088 [0.078]		0.014 [0.043]		0.088 [0.089]		0.012 [0.045]
HC		0.135 [0.108]		0.056*** [0.014]		0.161 [0.116]		0.057*** [0.014]
GCF		0.012 [0.032]		0.009** [0.004]		0.009 [0.036]		0.006 [0.004]
GS		0.001 [0.001]				0.001 [0.001]		-0.000 [0.000]

(continued)

Table 3.13 (continued)

Variables	<i>LI</i>							
	<i>FIN_p</i>				<i>FIN_l</i>			
	<i>dGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>	<i>dGMM</i>	<i>sGMM</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
FIN_p	-0.250*** [0.047]	-0.302*** [0.118]	-0.028*** [0.012]	-0.013** [0.007]	-0.236*** [0.051]	-0.245*** [0.124]	-0.009* [0.005]	-0.003 [0.002]
FIN_l								
Constant			2.642 [1.797]	-2.484*** [1.119]	-1.138 446	0.243 296	0.429 484	0.352 326
Inflection point	1.990	0.231						
Observations	446	296	484	329	446	296	484	326
No. of instruments	8	11	10	12	8	14	10	13
No. of groups	38	30	38	31	38	30	38	30
Arellano-Bond: AR(1)	0.196	0.282	0.016	0.015	0.143	0.228	0.020	0.016
Arellano-Bond: AR(2)	0.496	0.654	0.172	0.268	0.405	0.519	0.162	0.272
Sargan test ( <i>p</i> -val)	0.140	0.314	0.004	0.639	0.150	0.818	0.145	0.632
Hansen test ( <i>p</i> -val)	0.201	0.432	0.236	0.902	0.230	0.759	0.252	0.891

Notes: (i) Standard errors in brackets, (ii) \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



**Table 3.14** Growth-concentration relationship—interaction term model

Variables	Panel A				Panel B			
	CR5		LI		FIN_p		FIN_I	
	Linear	Non-linear	Linear	Non-linear	Linear	Non-linear	Linear	Non-linear
Gpc <sub>t-1</sub>	0.810*** [0.177]	0.777*** [0.148]	0.829*** [0.125]	0.859*** [0.112]	0.814*** [0.158]	0.733*** [0.144]	0.887*** [0.173]	0.679*** [0.205]
CR5	-0.034*** [0.014]	-0.257** [0.116]	-0.019 [0.015]	-0.299** [0.118]				
CR5SQR		0.002** [0.001]		0.002** [0.001]				
LI					-5.658*** [1.861]	-6.996** [3.115]	-3.247* [1.933]	-9.574* [5.363]
LISQR						7.021 [4.522]		11.233 [9.078]
BNI	0.007 [0.011]	0.017 [0.011]	0.019 [0.018]	0.023* [0.013]	0.021** [0.010]	0.020** [0.009]	0.022*** [0.007]	0.027* [0.014]
BCI	0.004	0.001	0.008	0.004		0.005		
BNIM	[0.007]	[0.006]	[0.011]	[0.006]		[0.010]		
	-0.015	0.031	-0.009	0.072	0.033	0.066		0.102
	[0.084]	[0.082]	[0.091]	[0.076]	[0.089]	[0.092]		[0.105]
TO	0.004 [0.028]	-0.008 [0.028]	0.015 [0.022]	0.006 [0.022]	0.047 [0.044]	0.003 [0.030]	0.016 [0.044]	0.026 [0.043]

(continued)

Table 3.14 (continued)

Variables	Panel A		Panel B				
	Linear	Non-linear	Linear	Non-linear	Linear	Non-linear	
CR5			LI				
			FIN_p	FIN_l	FIN_p	FIN_l	
			Linear	Non-linear	Linear	Non-linear	
	(1)	(2)	(3)	(4)	(5)	(6)	
						(7)	
						(8)	
ID	-0.008 [0.009]	0.005 [0.009]	-0.006 [0.007]	0.003 [0.007]			
HC	0.016 [0.027]	0.025 [0.022]	0.020 [0.026]	0.025 [0.021]	0.086*** [0.021]	0.070*** [0.020]	0.058*** [0.012]
GCF	0.012** [0.005]	0.009 [0.006]			0.009** [0.004]	0.006* [0.004]	0.003 [0.004]
GS	-0.000 [0.000]	-0.000*** [0.000]	-0.000 [0.000]	-0.000** [0.000]	-0.000 [0.000]	-0.000** [0.000]	-0.000 [0.000]
FIN_p	-0.059*** [0.022]	-0.057*** [0.020]			-0.034** [0.015]	-0.027** [0.012]	
FIN_l			-0.019 [0.014]	-0.017** [0.008]			-0.007* [0.004]
CR5 × FIN_p	0.001* [0.000]	0.001* [0.000]					
CR5 × FIN_l			0.000 [0.000]	0.000* [0.000]			
LI × FIN_p					0.070 [0.043]	0.064* [0.035]	
LI × FIN_l							0.011 [0.017]
							0.051* [0.030]

Constant	2.434*	9.407**	0.615	9.685**	-1.406	-1.195	-1.175	-1.331
	[1.464]	[4.071]	[1.566]	[4.090]	[1.247]	[1.722]	[0.855]	[1.528]
$\beta_1 + \beta_3$	-0.033**	-0.256**	-0.019	-0.299**	-5.588***	-6.932**	-3.236*	-9.523*
	[0.013]	[0.116]	[0.015]	[0.118]	[1.8729]	[3.088]	[1.919]	[5.540]
Inflection point	84.038	83.867		80.057		0.498		0.426
Inflection point for FIN				79.989		0.494		0.424
Observations	309	309	309	309	326	326	329	326
No. of instruments	22	17	18	18	19	25	13	23
No. of groups	30	30	30	30	30	30	31	30
Arellano-Bond: AR(1)	0.005	0.007	0.003	0.003	0.009	0.012	0.015	0.016
Arellano-Bond: AR(2)	0.117	0.138	0.094	0.101	0.202	0.283	0.241	0.282
Sargan test ( <i>p</i> -val)	0.553	0.457	0.152	0.685	0.836	0.908	0.780	0.800
Hansen test ( <i>p</i> -val)	0.266	0.808	0.458	0.850	0.845	0.293	0.971	0.364

Notes: (i) Standard errors in brackets, (ii) \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

economic growth is very small, although it is statistically significant and negative. For example, given the model (2) and assuming that there is an increase in CR5 by 0.1 point, this would cause Gpc to decrease by 0.0257 percentage point.<sup>23</sup> Even if the value of CR5 turns out to be equal to 1 (indicating full bank concentration in the market) this would result in a Gpc decrease of only 0.257 percentage points. This is due to the fact that bank concentration measure ranges between zero and one.

This, however, is not true for Panel B where we use the market power measure (LI) as the values of LI coefficients in these models are relatively high. Hence an increase of 0.1 point in LI would cause Gpc to decrease by about 0.70% in case of model (6) and 0.96% or almost 1% in case of model (8). Obviously, the negative effect of bank power can be detrimental to economic growth if the increase is extreme. For example, given the same models as above an increase in LI by 0.5 point would cause Gpc to decrease by almost 3.5% and 4.8% for models (6) and (8), respectively.

In conclusion, we found some evidences of a marginal negative impact of market structure and market power on economic growth. In addition, we found that this negative impact is somehow lowered when the financial development interaction term is implemented. Furthermore, the impact of changes in the market power (LI) is stronger than the impact of changes in the market structure (CR5). Again, this is in line with findings by Carbó et al. (2009). Furthermore, similar findings were evidenced by Beck et al. (2003), and Claessens and Laeven (2004), among others.

#### 3.4.4 *Low-Income Countries Model*

The discussion so far focused on the general equations of the linear and non-linear models, forcing the effect of bank concentration (CR5 and LI) on economic growth to be identical regardless of the fact that a country can be classified as a low- or high-income country. In essence, we want to investigate whether the effect of bank concentration, as represented by the market structure (CR5) and the market power (LI), differs for low- and high-income countries or it is the same. From Figs. 3.6 and 3.7, the difference between these two groups of countries is obvious. Overall, it seems that both bank concentration measures are higher in high-income countries compared to low-income ones. This reveals that among the OIC countries the bank concentration (CR5) and the market power (LI) are more apparent in high-income countries. Similarly, although the high-income countries are experiencing higher GDP growth rates in general,

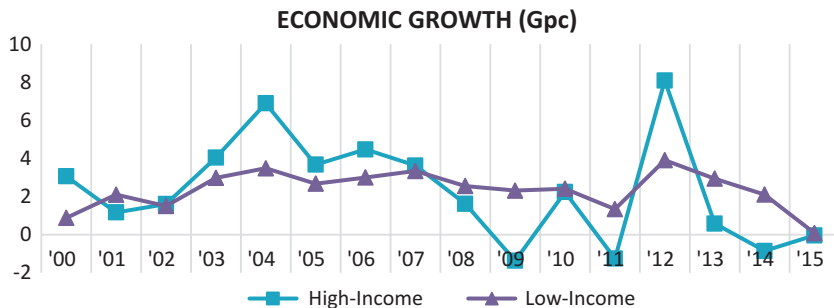


Fig. 3.6 Annual mean values of economic growth rates (Gpc) for low- and high-income countries

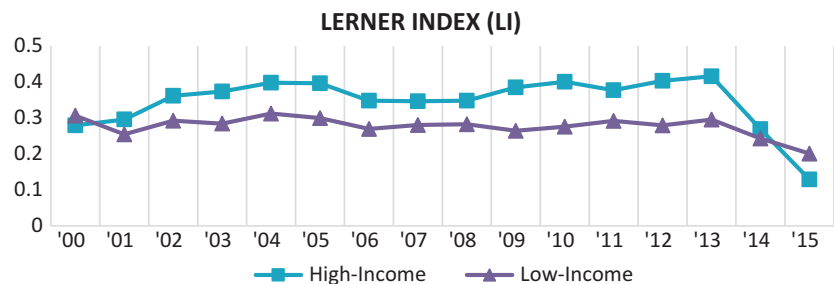
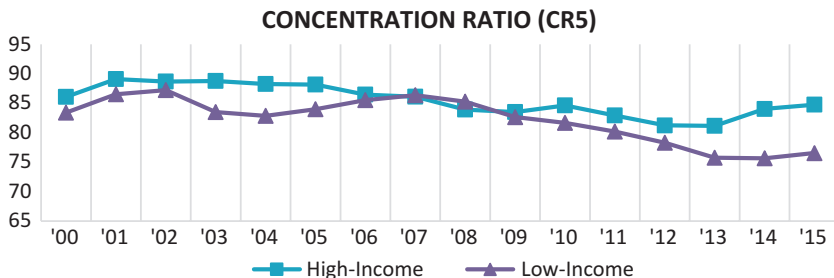


Fig. 3.7 Annual mean values of bank concentration measures (CR5 and LI) for low- and high-income countries

they are also experiencing higher growth rate volatility as can be seen from Fig. 3.6. Consequently, we could expect different results and effects of bank concentration on economic growth.

In order to investigate this empirically, we introduce a dummy variable *LOW* that takes a value of 1 if a country is classified as a low-income country and 0 if it is classified as a high-income country based on the World Bank classification. Further, we interact this dummy variable with each measure of bank concentration, namely *CR5* and *LI*. Hence, we get  $CR5 \times LOW$  and  $LI \times LOW$  as interaction terms. This is done to allow the relationship between *CR5* and *Gpc* and similarly the relationship between *LI* and *Gpc* to be different for low- and high-income countries. Table 3.15 presents results for both linear and non-linear models.<sup>24</sup>

The significance of all terms (*CR5*, *CR5SQR*,  $CR5 \times LOW$  and *LOW*) in Panel A of Table 3.15 confirms the validity of the model and suggests that the relationship between market structure and economic growth differs for each type of country income level. The results from Panel B, however, are quite different from those in Panel A. Using *LI* as proxy for bank concentration and including its interaction term with *LOW* variable, leads to insignificant results for all *LI* and *LISQR* terms. Nevertheless, the interaction terms  $LI \times LOW$  and *LOW* are found to be significant in three out of four models presented in Panel B, models (5), (7) and (8), respectively.

However, as pointed out briefly in the interaction term model above, the significance or insignificance of the interaction term should not be directly interpreted before looking into the marginal effect equations and testing the significance of bank concentration and interaction term coefficients jointly. Following the same approach as in the previous subsection, we test whether  $\beta_1 + \beta_3 = 0$ . By looking at the joint significance tests in Table 3.15 we can see that all joint significance tests are significant with negative sign. This indicates that the relationship between *Gpc* and bank concentration measures depends on a country's income level, especially when the market structure is used (*CR5*).

For example, assuming that there is an increase in *CR5* by 0.1 point, this would cause *Gpc* to increase by 0.0029 and 0.0041 percentage point for the models (1) and (3), respectively, if a country is a high-income country. However, if a country is a low-income country and assuming the same increase in *CR5*, it would cause *Gpc* in models (1) and (3) to decrease by 0.022 and 0.021 percentage points, respectively. The difference is quite obvious and significant. It simply means that given the same level of *CR5*, the impact on *Gpc* will be negative in the low-income countries group, instead of being positive as is the case with the high-income countries group.

**Table 3.15** Growth-concentration relationship—low income countries (dummy)

Variables	Panel A				Panel B			
	LI				LI			
	FIN_p		FIN_l		FIN_p		FIN_l	
	Linear	Non-linear	Linear	Non-linear	Linear	Non-linear	Linear	Non-linear
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gpc <sub>t-1</sub>	0.864*** [0.103]	0.851*** [0.099]	0.842*** [0.103]	0.837*** [0.106]	0.862*** [0.164]	0.938*** [0.185]	0.873*** [0.161]	0.910*** [0.170]
CR5	0.029* [0.017]	-0.213** [0.096]	0.041** [0.017]	-0.207** [0.099]				
CR5SQR		0.002** [0.001]		0.002** [0.001]				
LI					-0.583 [1.382]	-2.543 [1.638]	-0.204 [1.370]	-1.530 [1.591]
LISQR						5.317 [3.648]		2.808 [3.282]
BNI	0.012 [0.008]	0.013 [0.009]	0.022* [0.011]	0.017 [0.012]	0.016** [0.007]	0.019** [0.008]	0.021*** [0.007]	0.022*** [0.007]
BCI	0.009 [0.006]		0.013* [0.007]			0.010 [0.009]	0.007 [0.009]	0.008 [0.008]
BNIM			0.101 [0.081]	0.049 [0.082]	0.038 [0.066]		0.070 [0.069]	0.063 [0.084]
TO	-0.000 [0.019]	0.002 [0.018]	0.000 [0.019]	0.005 [0.017]	0.015 [0.043]	0.027 [0.046]	0.013 [0.043]	0.030 [0.048]

(continued)

Table 3.15 (continued)

Variables	Panel A			Panel B				
	Linear	Non-linear	FIN_I	Linear	Non-linear	FIN_I		
CR5				LI				
				FIN_p		FIN_I		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
HC	0.021 [0.019]	0.031 [0.020]	0.026 [0.019]	0.031 [0.020]	0.060*** [0.017]	0.058*** [0.016]	0.064*** [0.016]	0.066*** [0.014]
GCF	0.007 [0.005]		0.002 [0.004]	0.002 [0.004]	0.010** [0.004]	0.011*** [0.004]	0.007 [0.004]	0.008 [0.005]
GS	-0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]	-0.000*** [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	
FIN_p	-0.009 [0.006]	-0.006 [0.005]			-0.009 [0.008]	-0.007 [0.009]		
FIN_I			0.004 [0.003]	0.001 [0.003]			0.000 [0.003]	0.001 [0.002]
LOW	4.261*** [1.608]	1.923* [1.131]	5.140*** [1.529]	2.421* [1.236]	1.380* [0.780]	1.356 [0.899]	1.462* [0.798]	1.488** [0.721]
CR5 × LOW	-0.051*** [0.018]	-0.023* [0.014]	-0.062*** [0.018]	-0.027* [0.016]				
LI × LOW					-3.433* [1.967]	-2.706 [1.817]	-3.668* [1.948]	-2.671* [1.521]
Constant	-3.741* [2.028]	6.330* [3.519]	-5.956** [2.330]	5.118 [4.209]	-2.566 [1.659]	-3.540** [1.687]	-3.599** [1.721]	-4.236*** [1.394]
$\beta_1 + \beta_3$	-0.022** [0.009]	-0.236*** [0.091]	-0.021** [0.008]	-0.234** [0.926]	-4.016** [1.742]	-5.249* [2.704]	-3.873** [1.892]	-4.201* [2.423]



Inflection point for HIGH	70.042	68.831	0.239	0.272
Inflection point for LOW	77.675	77.901	0.494	0.748
Observations	326	326	326	329
No. of instruments	17	18	16	18
No. of groups	30	30	30	31
Arellano-Bond: AR(1)	0.003	0.003	0.017	0.015
Arellano-Bond: AR(2)	0.164	0.148	0.251	0.240
Sargan test ( <i>p</i> -val)	0.509	0.431	0.217	0.562
Hansen test ( <i>p</i> -val)	0.689	0.591	0.479	0.532

Notes: (i) Standard errors in brackets, (ii) \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The table also confirms the non-linear relationship between the market structure and economic growth as evidenced from models (2) and (4) from Panel A. The overall impact of CR5 on Gpc is negative. This impact, however, is relatively stronger for low-income countries compared to high-income ones which is in line with a study by Deidda and Fattouh (2005).

### 3.4.5 *Corrupted Countries Model*

Finally, as it was mentioned in the previous subsection, we want to investigate whether the impact of bank concentration on economic growth yields the same results for countries that are classified as corrupted or less-corrupted or it would yield relatively similar results. The approach is same as the previous model, except that we use a dummy variable COR that takes a value of 1 if a country is classified as a corrupted and 0 if it is classified as a less-corrupted country. Similarly, we interact this dummy variable with each measure of bank concentration, namely CR5 and LI. Hence, we get  $CR5 \times COR$  and  $LI \times COR$  as interaction terms. This is done to allow the relationship between CR5 and Gpc and similarly the relationship between LI and Gpc to be different for corrupted and less-corrupted countries. Table 3.16 presents results for both linear and non-linear models.

Similar to previous section, we provide a graphical illustration of the main variables. As can be seen from Fig. 3.8, the annual growth rates (Gpc) are more volatile in case of corrupted countries as compared to those less-corrupted within our study sample of the OIC countries. The difference between the corrupted and less-corrupted countries is also evident when looking at two main bank concentration measures (CR5 and LI), although this difference is relatively more apparent in case of the market power (LI) as can be seen from Fig. 3.9.

Now, coming back to Table 3.16, it can be seen that bank concentration measures in linear form are insignificant. The negative effect and significance of CR5 is confirmed in non-linear models (2) and (4) together with its square term (CR5SQR). The negative significance of LI is also confirmed in the non-linear form in model (8), but its square term (LISQR) is not significant. In addition, the coefficients of financial development variables are significant in almost all models with a negative sign indicating that its increase would decrease economic growth. The corruption variable shows a positive and significant effect on economic growth in model (1) under Panel A and in models (5) and (7) under Panel

**Table 3.16** Growth-concentration relationship—corrupted countries (dummy)

<i>Variables</i>	<i>Panel A</i>				<i>Panel B</i>			
	<i>CR5</i>		<i>LI</i>		<i>FIN_p</i>		<i>FIN_l</i>	
	<i>Linear</i>	<i>Non-linear</i>	<i>Linear</i>	<i>Non-linear</i>	<i>Linear</i>	<i>Non-linear</i>	<i>Linear</i>	<i>Non-linear</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gpc <sub>t-1</sub>	0.656*** [0.044]	0.845*** [0.109]		0.802*** [0.061]	0.882*** [0.144]	0.840*** [0.136]	0.742** [0.331]	0.890*** [0.111]
CR5	0.016 [0.013]	-0.426*** [0.151]	0.004 [0.027]	-0.248*** [0.082]				
CR5SQR		0.003*** [0.001]		0.002*** [0.000]				
LI					-0.704 [2.349]	-1.574 [2.239]	-0.127 [2.572]	-3.793* [2.107]
LISQR						2.499 [3.118]		2.825 [2.913]
BNI	0.017*** [0.005]	0.012 [0.010]	0.017 [0.019]	0.008 [0.006]	0.019** [0.008]	0.007 [0.011]	0.022** [0.009]	0.020*** [0.005]
BCI				-0.000 [0.004]				
BNIM		0.001 [0.066]						
TO	-0.001 [0.012]	0.014 [0.021]	-0.032 [0.029]	0.016 [0.010]	0.031 [0.028]		0.010 [0.029]	0.042 [0.033]

(continued)



$\beta_1 + \beta_3$	-0.021*** [0.006]	-0.375*** [0.132]	-0.026** [0.010]	-0.224*** [0.072]	-2.165 [1.552]	-3.582* [1.942]	-2.143 [2.879]	-3.078 [2.225]
Inflection point		84.272		81.858		0.315		0.671
Observations	331	74.167	347	73.783	309	0.717	309	0.545
No. of instruments	23	19	12	26	18	17	17	20
No. of groups	30	30	30	30	30	37	30	30
Arellano-Bond: AR(1)	0.063	0.003	0.129	0.002	0.005	0.002	0.041	0.015
Arellano-Bond: AR(2)	0.231	0.105	0.604	0.143	0.324	0.126	0.434	0.245
Sargan test ( $p$ -val)	0.001	0.425	0.000	0.608	0.403	0.162	0.235	0.656
Hansen test ( $p$ -val)	0.247	0.612	0.044	0.425	0.516	0.184	0.253	0.679

Notes: (i) Standard errors in brackets, (ii) \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

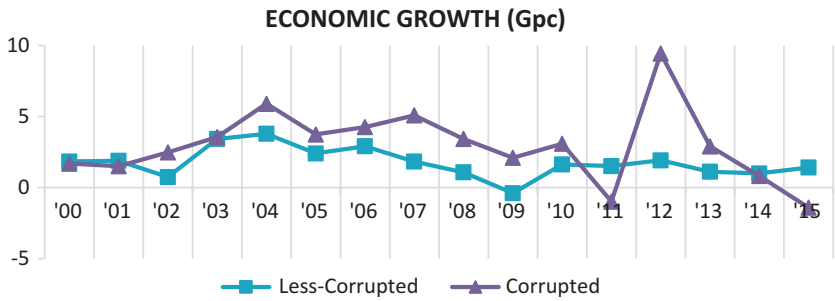


Fig. 3.8 Annual mean values of economic growth rates (Gpc) for corrupted- and less-corrupted countries

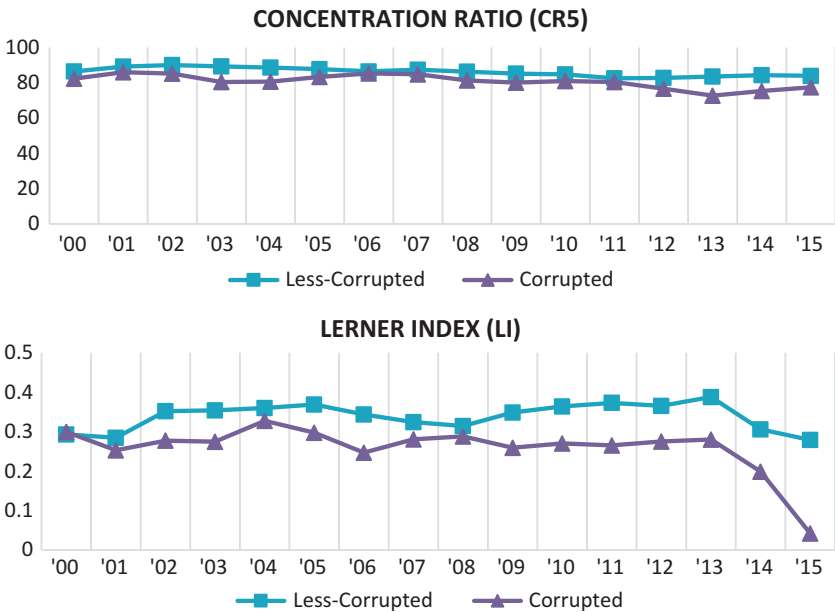


Fig. 3.9 Annual mean values of bank concentration measures (CR5 and LI) for corrupted- and less-corrupted countries

B. The integration term between variables CR5 and COR is significant with negative and positive sign in models (1) and (2), respectively. The joint significance tests confirm the validity of introduction of interaction terms even in models (3), (4) and (6) in which the interaction terms are insignificant on their own. Thus, in these cases we can interpret the sign of the interaction terms' coefficients. They are negative for linear model (3) and positive for non-linear model (4) in Panel A, and negative for non-linear model (6) in Panel B.

On the whole, the table confirms the significance of the market structure measure of the bank concentration and non-linearity of its relationship with the economic growth. Moreover, there are statistical evidences indicating that the effect of CR5 on Gpc is significantly different for the corrupted and less-corrupted countries. In case of linear relationship models (1) and (3), the corrupted countries are faced with overall decrease in Gpc despite the positive effect of CR5 on its growth. In contrast, the negative impact of CR5 on Gpc in case of non-linear models (2) and (4) is slightly decreased if a country belongs to the corrupted countries group. These results, however, cannot be completely proved when using the market power measure of the bank concentration (i.e. LI) as besides significance of joint coefficients test, other coefficients are mainly insignificant.

### 3.5 CONCLUDING REMARKS

The findings of the bank concentration and economic growth relationship, using the GMM estimation methods, various control variables and subgroupings, can be summarized as follows:

1. Overall, bank concentration, measured by CR5 and LI, has a negative impact on economic growth. This impact is much stronger in case of the market power (LI) compared to the market structure (CR5) measure of bank concentration. These findings support the competitive banking structure view and are in line with a number of studies (see for example Beck et al. 2003; Black and Strahan 2002; Carbó et al. 2009; Carlin and Mayer 2003; Cetorelli and Strahan 2006; Diallo and Koch 2017; A. I. Fernández et al. 2010; Ferreira 2012; Ghasemi and Abdolshah 2014). Different results, however, are reported by Petersen and Rajan (1995), Maudos and de Guevara (2006), and Abuzayed and Al-Fayoumi (2016), among others, who found a positive relationship between bank concentration and economic growth.

2. The impact of bank concentration has a certain limit or a threshold indicating that this relationship is, in fact, non-linear (at least when CR5 is used). This means that bank concentration will affect economic growth negatively up to a certain level when its effect will become positive, showing a “U-shaped” relationship. di Patti and Dell’Ariccia (2004) and Fernández et al. (2010) reported similar results. In contrast, De Guevara and Maudos (2011) found a non-linear relationship between market power and economic growth, but this relationship is “inverted U-shaped.”
3. Similarly, financial development has a negative impact on economic growth in both linear and non-linear relationships. This is the case regardless of whether we use private credit (FIN\_p) or liquid liabilities to GDP ratios as proxies for financial development. This is in line with findings reported by Demirgüç-Kunt and Huizinga (1999). Despite significant results of both financial development proxies, the coefficients’ values are so small that they can be ignored economically.
4. When financial development indicators are interacted with bank concentration measures then individually these terms have a negative impact on economic growth. However, the interaction terms are positive, thus lowering the overall negative impact of bank concentration on economic growth.
5. The financial crisis dummy variable is highly insignificant in most models.
6. By and large, the impact of bank concentration on economic growth is significantly different for low- and high-income countries. Although negative in both cases, this impact is, in absolute terms, stronger for low-income countries compared to high-income ones. This is also confirmed by Deidda and Fattouh (2005).
7. Similarly, a different impact of bank concentration on economic growth is also evident in corrupted countries. In case of corrupted countries, the negative impact of bank concentration is amplified by the interaction term.



## NOTES

1. The Organisation of Islamic Cooperation (OIC) is an international organization founded in 1969, consisting of 57 member states spread over four continents, with a collective population of over 1.6 billion as of 2008. Except Albania which is a European country and Suriname and Guyana which are South American members of the organization, the other members of the OIC are from Asia and Africa. The OIC is the second largest inter-governmental organization after the United Nations.
2. In economic theory, the term “moral hazard” describes situations in which a party will have a tendency to take risks because the resulting costs will not entirely be incurred by the party taking the risk (Dembe and Boden 2000). The term “credit rationing” describes situations in which lenders limit the supply of credit to borrowers, even when borrowers are willing to pay high interest rates (Stiglitz and Weiss 1981).
3. Note, however, that Cetorelli and Gambera (2001) also find evidence of a general depressing effect on growth associated with a concentrated banking industry, which impacts all sectors and all firms indiscriminately.
4. Using data for Italian provinces, di Patti and Dell’Ariccia (2001) find that bank concentration has a non-linear relation with firm growth, increases in concentration being associated with higher firm growth rates at lower levels of concentration and lower firm growth rates at higher levels of concentration.
5. For example, the results by Abuzayed and Al-Fayoumi (2016) reveal that as the quality of institutions in MENA countries deteriorates, the positive effect of banking concentration on economic growth strengthen. The coefficient on the interaction variable between banking concentration and institution quality turned out to be negative and significant.
6. Note, however, that in Eq. 3.8 we excluded square–interaction term  $CON_{it}^2 \times LOW_{jt}$ . The original formula included LOW interaction term with both CON and  $CON^2$ . However, after running these models we realized that this approach leads to primarily insignificant results and hence we decided to drop this term from both equations. Similar approach has been taken by Abojeib (2017).
7. The dynamic fixed effects (DFE) estimator constrains all the slope coefficients to be the same across countries, but allows for distinct country intercepts (see Yeh et al. 2013).
8. A variable is considered exogenous if it is uncorrelated with current and past errors.
9. “This arises from the possible correlation of the lagged or initial value of the dependent variable with the error term, i.e.,  $E[Y_{i,t-1} (\mu_i + \epsilon_{it})] \neq 0$  or

- $E[Y_{i0} (\mu_i + \epsilon_{it})] \neq 0$ , depending on which version of initial income is used in the regression.” See Barajas et al. (2013).
10. This method is briefly explained by Yeh et al. (2013) in their paper. However, for a more detailed description of those approaches see Pesaran et al. (1999).
  11. For detailed discussion see Barajas et al. (Barajas et al. 2013) and Beck and Levine (2004).
  12. For detailed discussions about the GMM methods, see Roodman (2009a, b) and Zsohar (2012), among others.
  13. This superiority of the system GMM over the difference GMM may not be completely true in all cases. For example, Blundell and Bond (1998) pointed to this exception in cases where the autoregressive parameter is below 0.8 and the time series observations are relatively large (see Blundell and Bond 1998). Additional concerns related to the GMM methods, with special focus on the system GMM, are discussed in details by Roodman (2009b).
  14. We can also use Difference Sargan tests comparing first differenced GMM and system GMM results. “Blundell and Bond (1998) show that the efficiency gain can be dramatic when the series are close to being random walks, and that the differenced GMM estimator can also have large finite sample biases in these cases. In a model with no  $x$  variables, the differenced GMM estimate of the coefficient  $b$  is found to be biased downward in small samples when the instruments are weak. More generally, Blundell and Bond (2000) show that if the instruments available are weak, the differenced GMM estimator will be biased towards the within groups estimator.” (see Hoeffler 2002, p. 141).
  15. Beck et al. (2013) included countries with at least 2 years of continuous observations. However, since we are using GMM method, we opted for at least three years of continuous observations.
  16. The detailed source of each variable in the sample is provided in Table 3.1. The data will be sourced from the World Bank.
  17. Please note that the data presented in this descriptive section are based on winsorized dataset in order to eliminate spurious outliers as explained briefly in the previous section.
  18. Albania, Gabon, Gambia, Guinea, Guyana, Iraq, Kyrgyzstan, Mauritania, Mozambique, Niger, Sierra Leone, Suriname, Tajikistan, Togo, Uzbekistan, and Palestine.
  19. Initially, we started with all control variables, then, the insignificant ones are excluded gradually (one by one). These initial results using all control variables, however, are not reported.
  20. After running regressions using several models applicable in our studies, it turns out that the financial crisis is insignificant in most cases. Hence, for

brevity of results interpretation, we excluded this control variable from other models.

21. They find that bank profitability is higher in developing countries than in developed ones.
22. Note, however, as mentioned earlier, in every model we use one of the two proxies for financial development, either FIN\_p or FIN\_l to investigate its significance on the dependent variable.
23. Found by multiplying coefficient with the change in CR5, i.e.  $-0.257 \times 0.1 = -0.0257$ .
24. In case of non-linear models where we have CR5 and CR5SQR in Panel A and LI and LISQR in Panel B, we may interact with the low-income dummy (LOW)—each one of them or only one. As per preliminary testing results (not reported here), when we include interaction terms for both, linear and non-linear terms, the results show insignificance of all interaction terms and even insignificance of bank concentration terms. Hence, we conclude that it is better to interact only LI.

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# Using Islamic Banking to Improve Financial Inclusion in Selected States of Northern Nigeria: The Case of Jaiz Bank PLC

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## 4.1 INTRODUCTION

Delivery of inclusive financial services to economically disadvantaged members of the society has been gaining more attention worldwide since the early 2000s. This is consequent upon results of a number of research findings on the negative impact of financial inclusion strategies as well as its relationship with absolute poverty. It is necessary that the prime objective of public policy is to make banking and payment services available to the entire population indiscriminately. The realization of this in the recent past was the major reason for the consideration of measures and policies aimed at establishing global financial inclusion as a means of promoting world economic development and prosperity. Mehrotra et al. (2009) analyzed that access to financial services allows the poor to save money outside the house safely and helps to reduce the risk that the poor face as a

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result of economic shocks. Hence, providing access to financial services is increasingly becoming an area of concern and a buzz word for policy makers due to its obvious implications on socio-economic development.

The relevance of financial inclusion cannot be overemphasized; for instance, Ajakaiye (2012) highlights that it promotes economic growth and development through financial intermediation by channeling funds from the surplus to deficit units of the economy. It is established that a financial system with banks as the major component provides linkages for the different sectors of the economy and encourages a high level of civilization, expertise and economies of scale, and provides a conducive environment for the implementation of various government financial policies.

The quest for developing a financial system that is in compliance with Islamic law calls for the exploration of what Islamic products could offer. This is because Islamic finance is growing all over the world and so also is the demand for such financial products but the focus of such products is more on financial intermediation through banking and capital market, while the availability of financial vehicles catering for the poor is still in the early stage (Iqbal et al. 2012). The core values of Islam are built upon greater emphasis on social justice, inclusion and sharing of resources between the haves and have nots. Islamic finance addresses the issue of financial inclusion from two points of view: either through promoting risk sharing contracts that provide an alternative to conventional interest based products or through specific instruments of redistribution of wealth in the society, such as *Zakkah*, *Sadaqa*, *Waqf* and benevolence loan. Both modules complement one another in eradicating poverty as well as building a strong and healthy economy.

In line with the Central Bank of Nigeria (CBN) financial inclusion strategy, a regional license was granted to Jaiz Bank PLC in November, 2011 and the bank started operation in January 2012 as the first and currently the only full-fledged non-interest Islamic bank in Nigeria. Other conventional banks like Stanbic IBTC and Sterling Bank obtained a license to operate only Islamic windows. One of the objectives of Jaiz bank is to be at every part of Nigeria so as to provide banking services to a large segment of the society that are unbanked or excluded. The Islamic bank products are expected to bring into the banking sector a large number of people who had previously stayed away from the organized conventional financial services, due to their aversion to interest based products (Umar 2011). The interest-free banking system serves as a means of achieving financial inclusion and attracting foreign investment especially from the

Middle East and Asian countries. It will also provide opportunity for manpower development, capacity building and healthy competition as well as fulfilling the demands and needs of not only the Muslim population but also the non-Muslims (Dogarawa and Bello 2014).

The financial exclusion problem in Nigeria is more pronounced in the north western and north eastern parts of the country. For example the north west has the highest population among the six geopolitical zones in Nigeria, but unfortunately this zone has the highest number (68%) of excluded adults as compared with the south west with only 19% (EFInA 2014). This ugly scenario prompted the government and other stakeholders to usher in various policies and plans to reverse the situation. Presently, the government has embarked on Sukuk finance for infrastructural development, for example road construction, but this is just segmental and a trial compared to full-fledged adoption of Islamic finance as far as financial inclusion is concerned.

Many efforts were made by academic and non-academic researchers, governmental and non-governmental organizations as well other experts to enhance the outreach of financial inclusion to bring the marginalized and excluded population into its fold for mainstream economic activity which has not yielded much success. For example, several indicators had been used by different researchers to assess the extent of financial inclusion, of which the most frequently used has been the number of bank accounts per 1000 adults. Some other indicators are number of bank branches per 100,000 people, number of ATMs per 100,000 people, amount of bank credits as well as amount of bank deposits. Viewing these indicators critically while used individually, it can easily be understood that it provides only partial information. A report by the World Bank (2006) indicated that the number of bank accounts per 1000 adults is higher in Russia but looking at the number of bank branches per 100,000 adults Russia ranks the lowest among the countries covered in the study. In the same line looking at the usage of the banking system in terms of the volume of credits and deposits as another indicator of financial inclusion, Argentina seemed to be having a very low credit ratio in spite of the density of bank accounts and bank branches per 1000 and 100,000 people, respectively. From the analysis of this report, no single indicator can be adopted as the sole measure of financial inclusion and some key issues of inclusion like quality of banks' services as well as general customers' satisfaction are left out. The reasons for this failure are yet to be fully ascertained which serves as an inducement for further research in the area.

Thus, it is against this background that this study examined the prospects of Islamic banking in improving financial inclusion in some selected states of Northern Nigeria using Jaiz Bank as the case study.

## 4.2 A REVIEW OF CONCEPT OF FINANCIAL INCLUSION: CONVENTIONAL PERSPECTIVE

Financial inclusion is a concept that has been defined or understood by various scholars, committees and institutions to reflect the reality or the extent in which individuals in a given society are supposed to be financially included or why they are excluded. Hanning and Jansen (2010) perceived financial inclusion from an affordability point of view—were people able to afford the financial products or not? In the same way, Thraot (2009) defined financial inclusion as the provision of affordable financial services such as: access to payments services, savings, loans and insurance services by the formal financial system to those who were initially excluded. Financial inclusion is the delivery of financial services at affordable cost to sectors of disadvantaged individual members of the society. It could also be seen as the provision of a broad range of high quality financial products, such as: savings, credits, insurance, payment and provisions of all financial services that are relevant, appropriate and affordable for the entire population especially by the low income segment (Central Bank of Nigeria 2012).

Rayes et al. (2005) on the other hand opined that financial inclusion connotes a position where the majority of the population has broad access to quality financial products and services which include: loan, deposit services, insurance provision and payment system as well as financial education and consumer protection mechanisms. Furthermore, according to Aduda and Kalunda (2012) financial inclusion is the process of availing an array of required financial services, at a fair price, at the right place, in the right form and time without any discrimination to all members of the society by the service providers.

According to Sarma (2008), financial inclusion is seen as a process which allows ease of access to, or availability of and usage of formal financial systems by all adult members of the economy. It involves a process whereby all members of the economy do not find it difficult to open bank accounts, they can easily afford to have access to credit facilities and can conveniently and consistently use financial system products and facilities

without much stress. Financial inclusion is also being considered as the process in which the person's in-coming income is maximized and out-going money is controlled and he/she can easily exercise informed choices through access to basic financial services in a given country (Financial Inclusion Strategy 2009).

### 4.3 EMPIRICAL REVIEW ON FINANCIAL INCLUSION VIA ISLAMIC BANKING LINKAGES

Ismail et al. (2015) used quantitative indicators to evaluate financial inclusiveness in Islamic banking. They identified various categories of poor people who need finance for their health, education and small business working capital, but they cannot be served using the available Islamic banks product structures. They argued that most of the Islamic banking debt based products are close, but relatively expensive substitutes, for instance in Pakistan. In the same line, Siddiqi (2014) argued that the role of debt needs to be drastically reduced and replaced by participatory modes of finance. Kayed (2012) observed that the activities of some Islamic banks in various Muslim countries have shown that the profit and loss sharing (PLS) model has not been given all the necessary attention. It was also argued that unless Islamic banking gradually moves away from debt like financing and stops acting like a financial broker just like conventional banks, Islamic banks cannot claim to be a substantive alternative of the conventional banking system (Siddiqi 2014).

In Pakistan for example, Naveed and Ali (2012) found that as many as 58.7 million people are living in multi-dimensional poverty with 46% of the rural population and 18% of the urban population falling below the poverty line. The study concluded that Islamic banks and conventional banks with Islamic branches can use their existing branch network to cater for the microfinance needs of the people.

Some researchers have tried to investigate the issue of financial inclusion from its demand side aspect and usage of financial services among Muslim societies. Naser et al. (1999) discovered that 70% of Muslims in Jordan revealed their preference for religious issues while selecting financial products; most of them cite religious reasons for not seeking a conventional loan. In Gaza for example 60% of respondents to a finance survey have shown a strong interest for Islamic products over conventional products while about 30% said Islamic products are preferred regardless of

price (El-Gamal et al. 2011). However, in Malaysia Haron et al. (1994) discovered that there is not much difference between Muslims and others in the choice of their bank. In their findings they discovered that people choose banks based on quality of services, the speed of transaction as well as the reputation of the bank. But most of the empirical works on financial inclusion and demand side particularly from Middle Eastern and North African countries suggest that there is a demand for Sharia-compliant services among Muslims.

Beck and Brown (2011) used household level data for 29 economies in Eastern and Central Europe and found that Muslims are 8% less likely than non-Muslims to have a formal account. After documenting a gap between Muslims and non-Muslims in the use of bank accounts, they discovered that, discrimination may play a role in lowering the use of formal financial services among Muslims. Demirguc-Kunt et al. (2013), used novel data to explore the use of and demand for formal financial services among self-identified Muslims by taking a sample of more than 65,000 people from 64 economies. Results revealed that Muslims are significantly less likely than non-Muslims to own a formal account or save at a formal financial institution.

Fada (2012) used a cross-sectional data for a sample of 134 respondents, and applied an exploratory factor analyses to examine the viability of Islamic banking in the Gombe local government of Nigeria. The findings discovered that the advent of Islamic banking in the area could bring about economic benefit, as it will serve as a means of financial inclusion for those that are excluded as well as serve as a potential vehicle for fund mobilization, create more employment opportunities and encourage foreign investment especially from the Middle East. Dogarawa and Bello (2014) analytically found out that profit-risk sharing characteristic and socio-economic function of Islamic finance along with more effective regulation and supervision can help to reduce financial instability and promote faster development. Therefore Islamic finance should be given a trial alongside its conventional counterpart in Africa.

Researchers using Indonesian Islamic banks' data from 2003 to 2014 and employing panel regression methodology found out that, financing rate has a negative impact on the Islamic bank financing technique (Zulkhibri and Sukmana 2016). Findings by Sami et al. (2015) analyzed existing country level information on the relationship between the development of Islamic banking and financial inclusion in Muslim countries, and revealed that various indicators of financial inclusion tend to be lower,

and number of excluded individuals citing religious reasons for not using bank accounts is greater than in other countries. Therefore Islamic banking would be an effective avenue for financial inclusion.

Also, Ismail et al. (2015) explained how philanthropy instruments can increase financial inclusion from the Islamic point of view. They considered that philanthropy instruments could increase the range of financial services available to the underserved market. The more these instruments are available, the more the number of the poor to have an account with Islamic financial institutions. Additionally, using the poverty gap index, Nasim (2014) argued that revival of Zakat and Awqaf institutions and their enforcement will enable the Islamic Development Bank member countries to generate sufficient revenue for their all pro-poor expenditures which is expected to reduce the level of poverty and increase financial inclusion in various countries. The positive impact of Islamic finance on poverty reduction is manifested in the inclusion of those that have hitherto been excluded from financial services. Siddiqi (2014) also noted that the comparative advantage of Islamic finance is that there is a close link between real economic activities and Islamic finance which creates value for financial activities and inclusion.

Cross-sectional data was applied in a descriptive research method to describe the alternative financial inclusion strategy, the Islamic expectation in Ogun. The findings showed that Islamic microfinance in concert with the right fiscal and monetary policies framework, could contribute positively to poverty alleviation in Nigeria (Onakoya and Onakoya 2014). Similarly, a survey questionnaire was administered to poor Muslim households in Ilorin, Nigeria, and applied factor analysis and structural equation modeling by Adewale (2014) indicated that lack of financial inclusion had significantly and statistically impeded the financial inclusion strategies in Nigeria

#### 4.4 METHODOLOGY

This research adopted a mixed method (triangulation) which is considered more suitable for this study. Triangulation involves the conscious application of quantitative and qualitative methodologies as a good solution to strengthen a research design where the logic is based on the fact that one single method cannot adequately solve the research problem at hand (Denzin 1998; Patton 1999).

The quantitative data is obtained through distribution of questionnaires to various Jaiz Bank customers. A multi-stage sample technique was adopted in which all the Northern states were taken as one large primary sampling unit, and three different geopolitical zones (North-West, North-East and North-Central) were considered at the second stage. Therefore, four states were selected (Abuja, Kano, Bauchi and Sokoto) to represent a three-stage sampling design. Instead of considering all Jaiz Bank branches in the selected states, one bank branch was taken in each state for the purpose of this research representing a four-stage sampling design. While for the qualitative data a semi-structured interview was conducted in which Heads of Operation, Sharia Audit Unit, Marketing and Risk department were chosen.

As a technique for the sample size determination, Yamane's formula of 1967 was adopted, where 400 respondents were selected out of 285,476 Jaiz Bank customers. In order to minimize the problem of low rate of return of the questionnaire, 10% is added to 400 which made it 440 with the argument that the larger the sample size, the smaller will be the sampling error. For questionnaire administration, a "*random arrival*" method of sampling was adopted in this study. By this method the daily banking opening hours were divided into one-hour intervals. An interviewer was stationed within the bank's premises and specific times within the hour were set to select customers at random.

#### 4.5 MEASURING FINANCIAL INCLUSION

The model is structured to include questions on access to banking services by Jaiz bank customers, availability of Jaiz Bank products and services, usage of Jaiz Bank products and services by the customers, the quality of Jaiz Bank products and services as well as the impact of Jaiz Bank products in terms of financial inclusion (Fig. 4.1).

This measurement is adapted from the work of Hanning and Jansen (2010), Aduda and Kalunda (2012), Serrao et al. (2012) and Salathia (2014). According to these researchers financial inclusion can be measured through the above mentioned variables. For example

1. Access, which can be seen as the ability of the customers to use the available financial products and services offered by financial institutions.

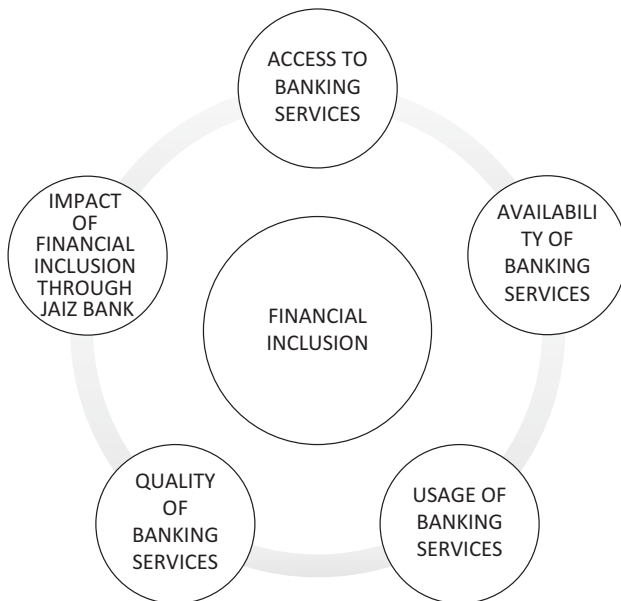


Fig. 4.1 Variables of financial inclusion. (Source: Researcher's computation 2018)

2. Usage, this goes beyond the basic acceptance or adoption of financial services but focuses more on the permanence and extent of the use of financial services and products.
3. Quality, this indicates the relevance of the financial products or services to the general need of the customers.
4. Availability, this has to do with how available the financial services and products are to the customers of financial institutions.
5. Impact, this is to measure changes in the lifestyle of the customers as a result of usage of financial services and products.

This information can be obtained from the demand side that is, by asking questions to individual customers or through the supply side which has to do with information obtained from financial service providers or the information from both sides like in the case of this research.

The questions are adapted from different sources and modification is made so as to capture some basic issues. Also, to fit into the study environment, as a form of validation of the questions, the researcher consulted



two experts; one was an expert of Islamic banking while the other was a data analyst. Still on the process of coming with relevant questions, this questionnaire was subjected to a pilot survey among the academic staff of Ahmadu Bello University, Zaria who have accounts with Jaiz Bank. All the items are measured based on 5 point Likert Scale system.

Factor analysis is used in this study for a validity test to ensure that questions asked in the questionnaire are associated with the constructs under survey. Also a reliability test was conducted in which Cronbach's alpha was used to measure the internal consistency.

#### 4.5.1 *Empirical Model*

Here the model used by Salathia (2014) and Ghatak (2013) is employed to examine the effects of access, availability, usage and quality of Jaiz bank products and services on financial inclusion. These models predict that ABS, AVBS, UBS and QJBS are factors that determine financial inclusion through Jaiz Bank within the study area.

A linear regression model is employed to regress dependent variable financial inclusion (FI) on a set of independent variables (ABS, AVBS, UBS and QJBS), where ABS stands for access to banking services through Jaiz Bank, AVBS is for availability of banking services through Jaiz Bank, while UBS is for utilization of banking services through Jaiz Bank and QJBS stands for quality of Jaiz bank products and services.

The models are expanded as follows:

$$FI = \alpha_0 + \alpha_1 ABS_i + \alpha_2 AVBS_i + \alpha_3 UBS_i + \alpha_4 QJBS_i \quad (4.1)$$

For the final equation we take the mean value of each and every equation and arrive at

$$\begin{aligned} \text{Financial Inclusion} = & \alpha_0 + \alpha_1 \text{access}_i + \alpha_2 \text{availability}_i \\ & + \alpha_3 \text{usage}_i + \alpha_4 \text{quality}_i + \mu_i \end{aligned} \quad (4.2)$$

ABS measures items under access to banking services through Jaiz bank.

AVBS measures items under availability of banking products and services through Jaiz bank. USB measures items under usage to banking products and services through Jaiz bank.

QJBS measures items under quality of Jaiz bank products and services.

while FI stands for financial inclusion where the impact of financial inclusion through Jaiz Bank is used as a proxy and  $\alpha_0$  is a constant parameter which is the value of the dependent variable when all the independent variables are 0. While  $\alpha_1$ ,  $\alpha_2$ ,  $\alpha_3$  and  $\alpha_4$  are the estimated coefficients of the independent variables,  $\mu_i$  is the error term which takes care of the other factors that might influence financial inclusion within the study area but not captured by the model.

## 4.6 DATA PRESENTATION

### 4.6.1 *Response Rate*

Out of 440 questionnaires distributed 394 were returned, which accounts for a response rate of 90% but out of this 394 returned questionnaires 24 were invalid because some significant parts of the questions asked were not completed by the respondents. The outstanding valid and usable questionnaires stood as 370 only, which accounted for 84% and is considered very adequate for the analysis in this study. As according to Sekaran (2003) a response rate of 30% is sufficient for a survey data (Table 4.1).

### 4.6.2 *Individual Item Reliability*

Individual item reliability was assessed by examining the factor loadings of each construct's measure (Duarte and Raposo 2010; Hair et al. 2012). Following the rule of thumb for retaining items with loadings between .50 and .70 (Hair et al. 2014), it was discovered that out of 66 items, 39 were retained while 27 were deleted because they presented loadings below the threshold of 0.50. Thus, those that were retained had loadings between 0.501 and 0.951 (see Table 4.2).

**Table 4.1** Response rate for the questionnaires

<i>Response</i>	<i>Frequency/ rate</i>
Questionnaires distributed	440
Questionnaires returned	394
Questionnaires not returned	46
Invalid questionnaires	24
Usable questionnaires	370
Response rate	90%
Valid response rate	84%

Source: Researcher's computation 2017

**Table 4.2** Number of items retained

S/N	Variable	Original number of items	Items retained
1	QJBS	19	14
2	FI	15	8
3	ABS	13	8
4	UBS	11	6
5	AVBS	11	3

Source: Researcher's computation 2018

### 4.6.3 Regression Models for Financial Inclusion

The hypotheses were tested using the multiple regression models. In this study, the goodness of fit statistics, R (correlation value),  $R^2$  and adjusted  $R^2$  were the main criteria used in testing the hypothesis models. The unstandardized path coefficients ( $\beta$ ) and corresponding  $t$ -values were also examined to test the significance and strength of the relationship between the dependent and independent variables.

From Table 4.3, the model summary provides the correlation coefficient and coefficient of determination ( $R^2$ ) for the regression model. As we have already seen from the table the coefficient of .717 suggests there is a strong positive relationship between ABS, AVBS, QJBS and UBS scores, but it is not more than 0.9 for one to suspect the presence of multi-collinearity among the variables, this is because according to Field (2005), to avoid multi-collinearity in the sample, the value of correlation should not exceed 90% between the predictors, that is ( $R > 0.9$ ).

While,  $R^2 = .514$  suggests that 51% of the variance in FI can be explained by ABS, AVBS, QJBS and UBS. In other words since the value of  $R^2$  is more than 50% the success of financial inclusion is strongly predicted by how successful ABS, AVBS, QJBS and UBS are.

From the ANOVA table we extracted F-statistics which has the  $P$ -value for the regression model as .000. This is an indication of a highly significant model; therefore, we can come to the conclusion that all the four independent variables jointly predict the percentage of financial inclusion through Jaiz bank.

Turning to coefficient values, the total value of the intercept (constant) stood at .316 depicting that the dependent variable (FI) will increase by approximately 31.6% when the influence of all other independent variables is held constant. Looking at ABS a 1% increase in it will lead to a 4.1

**Table 4.3** Summary of regression models table

<i>No</i>	<i>Hypothesis path</i>	<i>Parameter estimate (<math>\beta</math>)</i>	<i>t-Value</i>	<i>P-Value</i>	<i>Results</i>
H1	ABS → FI	.041	.815	.415	Rejected
H2	AVBS → FI	.198	5.321	.000	Supported
H3	QJBS → FI	.526	9.779	.000	Supported
H4	UBS → FI	.149	4.874	.000	Supported

R= .717; F-statistic = 96.520

R<sup>2</sup> = .514; Prob (F-statistic) = .000

Adjusted R<sup>2</sup>= .509

Source: Researcher's computation 2018

Note: ABS = access to banking services through Jaiz Bank, AVBS = availability of banking services through Jaiz Bank, OJBS = quality of Jaiz Bank products and services while UBS = usage of banking services through Jaiz Bank and FI= impact of financial inclusion through Jaiz Bank

increase in FI as the relationship between the two variables is positive though not significant as the *P*-value is greater than 5% ( $p > 0.05$ ). Also a 1% increase in AVBS will lead to about 19.8% increase in FI; the relationship is positive and very significant as the *P*-value is .000. Going through the coefficient value of QJBS is an indication of a positive relationship with FI which means a 1% increase in it will lead to a 52.6% increase in FI and this relationship is very significant with a *P*-value as .000. Lastly from the model UBS indicates a significantly positive relationship with FI, therefore, from the table a 1% increase in UBS will lead to a 14.9 increase in FI; the significance level is very high with *P*-value as .000.

## 4.7 DISCUSSION OF FINDINGS

After pre-tests of the normality test, test of outliers and multi-collinearity to ensure all the necessary conditions for regression analysis are set, the test is run and from R, to R<sup>2</sup> and F-statistics. The model is adequate for this analysis. Initially there were four constructs that made up financial inclusion and were therefore tested at their level of significance to find out if they really contribute to financial inclusion among the Jaiz Bank customers. Therefore, this research considers all these constructs to see how each one of them contribute significantly or not to the achievement of financial inclusion in Northern Nigeria through Jaiz Bank.

Hypothesis 1 tries to test whether access to Jaiz Bank products and services has significantly contributed to the issue of financial inclusion in

Northern Nigeria. From Table 4.3, this hypothesis is rejected as the  $p$ -value is .415 which is far higher than the 5% level of the alternative hypothesis rate of acceptance. This analysis tallies with the findings under Jaiz Bank Islamic banking products awareness. This is a testimony that without knowing how the bank operates or what kind of products or advantages the bank offers, one cannot fully access these services. This result is in line with Ibeachu (2010) who found that people are being driven away from a product or services, when they considered the product as highly risky. In this regard, the insignificant value of access to banking services through Jaiz is because many depositors in Nigeria are used to conventional banks where one can deposit money and get interest in return without engaging in any business or sharing of any loss as the case may be. Also from the interview with some customers of Jaiz Bank some of them believed that since the bank is an Islamic bank, there should not be any stringent conditions in dealing with it. In fact some made the researcher understand that their thinking is that the bank should operate like a charity organization. The interview with Kano main branch Manager confirms this statement where he says:

We find it difficult to explain to customers that need similar products with that of conventional banks. Some customers think Islamic bank does not need any condition before you engage in transaction with, which are however needed seriously particularly because of the Shariah compliance

Also due to the fact that the bank is a new bank compared to other convention banks within the study area, the majority of the customers totally disagreed with some questions under ABS. For example more than 90% of the customers strongly disagree that the bank is conveniently located within their area, ATM service is nearby from their area and as compared to other banks, Jaiz Bank is closer to them. This lack of proximity prevents some individuals from fully accessing the available products and services of the bank.

Another reason is that some customers have a perception that the products of Islamic Banks are expensive compared to that of conventional banks, especially in the case of *Murabahah*. This corroborates with the findings of Ismail et al. (2015), who argued that most of the Islamic banking debt-based products are close, but relatively expensive substitutes in Pakistan. Therefore, these customers' perception will deter them from full access to all the services offered by banks. However, in contrast to this

finding, Ghatak (2013) found accessibility to banking services as the major significant determinant of financial inclusion in India. Also in a similar finding, Salathia (2014) discovered that access to banking services is one of the significant factors that determine financial inclusion in five districts of India. Therefore, the issue here is how accessible the banking products are to the customers will determine whether it is a significant factor or not. One beautiful thing with this access to banking services through Jaiz bank is the positive relationship the factor has with FI which signifies that as access increases the level of financial inclusion will also increase.

Hypothesis 2 measures the relationship between availability of Jaiz Bank products and services (AVBS) in relation to financial inclusion. From the results it was found that availability of Jaiz Bank products and services is a positive and significant construct that determines financial inclusion in Northern Nigeria as the *p*-value is .000 (see Table 4.3). This finding is an indication that the products and services of Jaiz Bank are available to all customers. Being an Islamic bank does not make its services to be available to only one segment of the population (ie Muslims) but rather to all individuals. From the descriptive analysis segment of this study under religion of the customers, the presence of Christians among respondents is a good testimony that the bank covers all. This finding corroborates with the qualitative data obtained through interviews with Jaiz Bank Head of Operations, Head of Sharia Unit as well as the Marketing Manager Abuja main branch. For example, according to the Head of operations:

In regard to availability of banking products and services there is no limitation, is available to everyone regardless of his or her religion, these services could be accessed either through internet, ATM points or mobile banking.

Also the Abuja Branch Marketing Manager testified that the products of Jaiz Bank are available to all customers regardless of one's religious belief. This finding is similar to that of Salathia (2014) who found that availability of banking services is a significant factor that determines financial inclusion. Evidently, the finding that Jaiz Bank products and services are available to all categories of customers has significantly improved the level of financial inclusion within the study area.

Hypothesis 3 is that the quality of Jaiz Bank products and services (QJBS) had improved financial inclusion in Northern Nigeria. This hypothesis is accepted even in terms of correlation between the developed hypotheses and financial inclusion in this study. It was found that QJBS

has the highest level of relationship with FI. Also, from factor analysis, QJBS has the highest number of factors that remained after factor loading analysis. From Table 4.3 it was discovered that 1% increase in QJBS could lead to more than 51% increase in FI with a highly significant positive relationship ( $p$ -value = .000). This result indicates that the more the quality of Jaiz Bank products and services the more people will be financially included through Jaiz Bank. The interview with the management of Jaiz Bank confirms this finding for example, the Head of Operations says:

Our products are unique in the sense that, Jaiz Bank is the first Islamic Bank in Nigeria, though this bank has many similarities with conventional banks' products but it has a lot of flexibility like in terms of underlying contracts. So the quality of our products and services is standard, while in terms of financing Jaiz Bank has different system such as: *Murabahah* financing, *Ijara wa iqtinah* etc.

From this interview, it is clearly seen that the quality of Jaiz Bank products and services is standard and unique being the first Islamic bank in Nigeria. Therefore the customers considered this bank as the one that could allow them to do trading activities, due to its flexibility and a customer can utilize it based on Murabaha agreement to purchase a car to his own test or to use *Ijarah* to own a house, for instance. These trading opportunities are not available in the conventional banks.

Hypothesis 4 tries to measure whether usage of Jaiz Bank products and services (UBS) is a significant determinant of FI. From the results of regression analysis, this hypothesis stands accepted as the  $p$ -value is less than 5%. In fact the level of significance is very high, that is,  $p$ -value = .000. This result shows that as usage of banking services increases the level of financial inclusion will also increase due the positive relationship between the two variables. After accepting the basic banking services, usage focuses more on the permanence and depth of financial services and products use. Hence determining usage requires more details about the regularity, frequency and duration of use over a period of time which can best be measured through demand side survey data. Therefore this study exactly measured the usage through asking customers some set of questions about how frequent the use of Jaiz Bank services is and how regular is the use of the products among other things. The finding testifies that Jaiz Bank customers had accepted the bank and they use it for their day to

day transactions. The usage of Jaiz bank products and services is an indication that customers really adopt this bank and the bank is trying to provide services that are efficient to the level of customers demand.

In a verbal interviews with some customers of Jaiz Bank, they have indicated that they also prefer to use Jaiz Bank simply because the services use to be effective they normally cite example with the issue of ATM and internet efficiency as some of the reasons. In a nutshell usage of Jaiz bank services is found to be a significant factor that determines financial inclusion through Jaiz Bank. The more frequent people use the bank the more the bank will remain in the market and the more it will continue to provide financial services that will make people more financially included.

On a general note from the F-statistic value (96.520) and its corresponding  $p$ -value (0.000), the four constructs ABS, AVBS, QJBS and UBS jointly made up the financial inclusion construct within the study area and contributed significantly toward improving it. Therefore, they are the determinants of financial inclusion in Northern Nigeria through Jaiz Bank. This result is an indication that if access to banking services and products, availability of financial services and products, quality of the financial services and products as well as the usage of the financial services and products through Jaiz Bank could be improved, the level of financial inclusion within the study area will also be improved due the positive relationship between this financial inclusion and the other constructs. One of the findings of this research is that many people have joined the bank because of its adherence to religious principles, those who refused to bank with any conventional bank due to their aversion to interest now have no reason to be voluntarily excluded from the formal financial institutions.

These findings are in tandem with several previous studies in the area of Islamic banking and financial inclusion such as: Naser et al. (1999) who discovered that 70% of Muslims in Jordan give much importance to religious issues while choosing financial products; most of them cite religious reasons for not seeking a conventional loan also it was discovered that in Gaza, for example, 60% of the respondents to a finance survey have shown a strong interest for Islamic products over conventional products while about 30% said Islamic products are preferred regardless of price. But in Malaysia Haron et al. (1994) discovered that people choose banks based on quality of services, the speed of transaction as well as the reputation of the bank. But most of the empirical works on financial inclusion and the



demand side, particularly from Middle Eastern and North African countries, suggest that there is a demand for Sharia-compliant services among Muslims. In Nigeria for example, Dogarawa and Bello (2014) analytically conclude that profit-risk sharing characteristics and socio-economic functions of Islamic finance along with more effective regulation and supervision can help to reduce financial instability and promote faster development.

Furthermore, this study discovered that, the availability of banking services and products, the quality of the products and services as well as the usage of the banking services through Jaiz had a significant impact on financial inclusion within the study area.

Therefore with all this evidence the bank has the full potential to include many unbanked individuals into the formal financial system, especially those that are voluntarily excluded from the system or those that are excluded as a result of not having full documents, as the bank offers first tier and second tier accounts for this category of customers.

## 4.8 CONCLUSION

From the research findings, we conclude that Jaiz Bank as a full-fledged Islamic bank in Nigeria has great potential toward ensuring a significant level of financial inclusion within the Northern part of the country and to a larger extent the country in its entirety. This as a result of how many individuals within the study area are becoming more aware about Islamic banking and the kind of opportunities Jaiz Bank offers. One important thing about this bank is how even Non-Muslims are availing the services and products of Islamic banking which is an indication in the near future the Nigerian society will take the full benefit of these products and invariably a significant portion of the total population will be fully included financially.

This study also concludes that for the achievement of full financial inclusion target in Nigeria as a whole, quality, availability, accessibility and usage of banking products and services must be improved at all times and be provided at affordable prices to all segments of the society regardless of the individual's tribe, religion or financial status. Only with financial inclusion can real economic development be achieved. This will happen because financial inclusion helps in pooling up the funds which initially remain idle in the hands of those who are financially excluded, as this will help in capital formation. The capital formed will be put to productive investments

and these investments will generate more wealth in the economy as well as provide job opportunities to the teeming Nigerian population. Thus the GDP will, in particular, be improved and the nation will prosper in general.

#### 4.9 RECOMMENDATIONS

For Jaiz Bank as a full-fledged Islamic bank in Nigeria to continue to contribute its quota in terms of improving financial inclusion in the Northern region of country and Nigeria in general, the following recommendations are offered:

1. It was found in this study that Sharia compliance is one of the major reasons many customers joined Jaiz bank, but some of these customers are lamenting about the total Sharia compliance of the bank. Therefore the management and staff of Jaiz bank should intensify efforts to always ensure total compliance with all principles of Islamic law. Also the bank should create more means to make their customers more aware on how the Islamic banks deal with the issue of interest. This will make all those who previously refused to bank with any conventional bank, due to their aversion to interest, feel comfortable and safe to continue banking with Jaiz Bank and remain financially included.
2. The government and the Central Bank of Nigeria (CBN) as the chief financial regulatory agency in the country should give all necessary support to all institutions providing Islamic finance by ensuring no condition is imposed upon them that violates the rule of Sharia.
3. Regarding the accessibility to Jaiz bank products and services, effort should be made to make all these unique products affordable to all customers. More branches and ATM points need to be opened, especially in the rural areas so as to reduce the distance between individual customers and the bank branches. Proximity is very essential in ensuring financial inclusion among the people.
4. The products of Jaiz bank should be made available to all categories of customers regardless of tribe or religious belief. Where possible more products should be made available for customers who could not satisfy one condition or the other. The issue of first tier and second tier accounts should be giving necessary attention as this is an avenue to bring more people into the circle of financial inclusion.

## APPENDIX: SUMMARY OF MEASUREMENT SCALES

<i>Constructs</i>	<i>Measures</i>	<i>Sources</i>
Access to Banking Service	<ul style="list-style-type: none"> <li>• Jaiz Bank is conveniently located within your area</li> <li>• Employees of Jaiz Bank are easily accessible when needed</li> <li>• ATM service is nearby from your place</li> <li>• Financial services are accessible to disabled customers</li> <li>• You can easily have access to the bank manager when the need arises</li> <li>• Transaction timings are convenient</li> <li>• Account opening formalities are easy</li> <li>• This is the only bank in your area</li> <li>• As compared to other banks, this bank is nearest to you</li> <li>• Bank is easily approachable in case of emergencies</li> <li>• Jaiz Bank has sufficient staff to meet its customers' requirements</li> <li>• You have easy access to the information which is useful</li> <li>• Overall, you are satisfied with your access to banking services</li> </ul>	Salathia (2014), Sarma (2008)
Availability of Banking services	<ul style="list-style-type: none"> <li>• Financing is available in the bank</li> <li>• Attractive saving schemes are available</li> <li>• Debit card facility (ATM) is available</li> <li>• Financing is available within time limit</li> <li>• New cheque or passbook are issued as and when asked for</li> <li>• Procedure involved in getting finance is easy</li> <li>• New bank products/services are advertised frequently</li> <li>• Field workers promote various products/services</li> <li>• Jaiz Bank staff are helpful in making information available regarding new products/services</li> <li>• Help desk/assisting staff is available for filling withdrawal/deposit form</li> <li>• Overall, you are satisfied with the availability of Jaiz Bank products and services</li> </ul>	Salathia (2014), Sarma (2008)

Salathia (2014), Sarma (2008)

Usage of Banking Services

- You save money frequently
- You withdraw money frequently
- You frequently use credit facilities of the bank
- You are a regular visitor of the bank
- You are using the bank for the payment of insurance (Takaful)
- You are using the bank for the settlement of obligations toward a third party
- You are using the bank for depositing money
- You are using banking services because of its free interest system
- Advance services of the bank are frequently used by you
- In terms of usage the Profit and Loss Sharing (PLS) system of Jaiz bank has no practicality issues

• Overall, you visit the bank regularly for saving, withdrawing, borrowing, etc.

Quality of Jaiz Bank Services

- Jaiz Bank has modern looking equipment.
- The physical facilities at Jaiz Bank are visually attractive.
- Staff of Jaiz Bank are neat in their appearance.
- Materials associated with Jaiz Bank services (pamphlets or statements) are visually attractive.
- Jaiz Bank transaction timings are convenient.
- When a customer has a problem, Jaiz Bank staff show a sincere interest in solving it.
- Jaiz Bank follows a quick problem solving approach
- Jaiz Bank staff provides services at the time they promise to do so.
- Staff of Jaiz Bank give prompt services to customers.
- Staff of Jaiz Bank are always willing to help customers.
- Staff of Jaiz Bank are cooperative, friendly and knowledgeable.
- The behavior of staff in Jaiz Bank instills confidence in customers.
- Jaiz Bank staff possess sufficient banking information.
- Staff of Jaiz Bank have the knowledge to answer customers' questions.
- Jaiz Bank staff give customers individual attention.
- Jaiz Bank has operating hours convenient to all their customers.
- Jaiz Bank staff have their customers' best interest at heart.
- Sharia compliance of Jaiz Bank is satisfactory.
- The overall quality of Jaiz Bank services is satisfactory.

Lau et al. (2013)

(continued)

(continued)	<i>Measures</i>	<i>Sources</i>
Impact of Financial Inclusion	<ul style="list-style-type: none"> <li>• Islamic financial products have improved my living condition.</li> <li>• Islamic banking has facilitated the expansion of my business.</li> <li>• Islamic banking improves my financial inclusiveness.</li> <li>• Jaiz Bank has increased access to education of the society.</li> <li>• Islamic financial institutions engage the Muslim communities in active economic participation (through payment of Sadaqa, Waqf &amp; Zakah).</li> <li>• Jaiz Bank has led to progress of Northern Nigeria.</li> <li>• Jaiz Bank has the Northern Nigeria sustainable for further progress.</li> <li>• Jaiz Bank has led to the increase in the production of goods and services in the area.</li> <li>• Jaiz Bank has increased economic activities in each sector.</li> <li>• Jaiz Bank has reduced level of stress in your life.</li> <li>• Jaiz Bank has increased per capita income of your family.</li> <li>• Jaiz Bank has created new employment opportunities.</li> <li>• It is expected that Jaiz Bank can meet the financial needs of Muslims and other Non-Muslims alike.</li> <li>• Overall, Jaiz Bank has led to the economic development of Northern Nigeria.</li> <li>• In general, the role of Islamic finance in improving financial inclusion in Nigeria cannot be overemphasized</li> </ul>	Salathia (2014)

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# Financial Inclusion Disclosure in Islamic Microfinance: The Case of Baitul Mal Wa Tamwil

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## 5.1 INTRODUCTION

The promotion of an inclusive financial system is considered a policy priority in many countries. Financial inclusion is important for improving the living conditions of poor farmers, rural non-farm enterprises and other vulnerable groups (Lakshmi and Visalakshmi 2013). The vision of national financial inclusion in Indonesia is formulated as follows:

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To achieve a financial system that is accessible by all layers of the community to promote economic growth, poverty reduction, income equality, and creation of financial system stability in Indonesia<sup>1</sup>.

In addition, Indonesia central bank also initiatives to promote financial inclusion, it needs to strengthen the synergy between banks, microfinance, and non-bank financial institutions to achieve financial stability (Indonesia 2014). Gopalan and Kikuchi (2016) assert the government provides Kredit Usaha Rakyat (KUR) in Indonesia which is a micro-credit program that guarantees a scheme whose goal is to allow more small and micro enterprises to borrow from banks with minimal collateral. Potential borrowers apply to KUR through participating banks and are still obligated to fulfill banking credit requirements. While, it show that the response of banks in supporting microfinance lending has been decreasing (Rosengard and Prasetyantoko 2011). It implies that the government prefer financial inclusion through banks institutions rather than microfinance institutions.

One well-known type of Islamic microfinance institution (IMF) in Indonesia is Baitul Maal Wat Tamwil (BMT). Baitul Maal (Bait = House, al Maal = Wealth) focusing collecting and distributing the charity funds (e.g. Zakat, infaq, Shadaqah) to the poor. Meanwhile, Baitul Tamwil (Bait = house, at Tamwil = finance) operates based on commercial or economic activities, and deposits are mobilized for productive investments (Holloh 2001). Furthermore, based on ownership, BMT is a cooperative institution because BMT is owned by members who are shareholders and associated members (Nasution 2013). BMT is also known as Islamic cooperative.

Cooperatives also have been working for financial inclusion. Cooperatives are one of the oldest organizations working for financial inclusion. In developing countries, they still play a crucial role in that issue, especially by serving rural areas that other types of microfinance institutions are not willing to or not able to help (Périlleux 2012). Indeed reaching rural areas is one of the main challenges of microfinance and cooperatives could represent an efficient way to overcome this challenge. However, they remain neglected in the microfinance literature and practitioner's debates. Cooperatives have some significant specific capacities such as remote rural areas, mobilizing local resources through savings products and favoring the implication of the beneficiaries in a self-help dynamic. However, one of the main weakness of cooperatives and microfinance are their governance (Lakshmi and Visalakshmi 2013).

The main problems in delivering credit are linked to risks arising out of information asymmetries and the high transaction costs of processing, monitoring, and enforcing small loans. These asymmetries result from adverse selection, that is, the inability of the lender to distinguish between high- and low-risk borrowers or from moral hazard (Iqbal and Mirakhor 2013). For the cooperative themselves, non-financial information is a way to improve risk management and long-term social, environmental and financial performance and competitiveness (Bose et al. 2016, 2017).

Availability of adequate and transparent financial inclusion information will foster the entrepreneurial spirit of the masses and increase output and prosperity in the countryside. Provide financial and non-financial information on financial inclusion activities in BMT will be affected for communities and citizen to enable restoring their trust in. For investors and stakeholders, non-financial reporting is also a way of reinforcing the stability and predictability of a firm's performance in financial markets (Bose et al. 2017).

Despite, Mathuva and Kiweu (2016) who found there was low level of disclosure by cooperative in Kenya. Similarly, Duc et al. (2006) stated that the level of quality financial reporting is low in Vietnam. Becker et al. (2011) found there was a lack of transparency in German small and medium-sized enterprises (SMEs). The level of disclosure was weak for BMTs in Indonesia (Wahyuni 2008). The lack of cooperative information disclosure restrains accountability and responsible behavior in the cooperative. Financial inclusion disclosure is essential to evaluate the extent of the financial inclusion program and measure the participation of cooperative in financial inclusion activities (Lakshmi and Visalakshmi 2013). Hence, there is critical of information disclosure in cooperative institutions. There needs to an emphasis on the quality and importance of financial and non-financial information disclosure in the cooperative by providing regulation on financial inclusion.

Indonesia, Bangladesh and Sudan are the top three countries which provide microfinance products and services in the world (El-Zoghbi and Tarazi 2013). Indonesian government expects to strengthen financial inclusion system by providing the regulation not only in the banking sector but microfinance also. But, most previous studies on financial inclusion used country-level indicators to measure the extent of financial inclusion, and they also weighed in the banking sector rather than microfinance (Hassan 2015). While the importance of financial inclusion is widely recognized, there is a lack of assessment of the extent of financial inclusion

based on credit flow to small borrowers in. The current study tries to fill the gap by examining the extent and quality of financial inclusion in BMT/ Islamic cooperatives in Indonesia and emphasize the active participation of Islamic cooperatives as important tools of financial inclusion in Indonesia.

This study contributes to the literature by examining the extent and quality of financial inclusion at the BMT/Islamic microfinance level. This article also differs from other existing studies because the authors used an index that it is developed by Ascarya et al. (2015). They design and determine holistic financial inclusion through BMT (Islamic cooperative). Holistic means that the model must be integrated between social inclusion and financial inclusion and based on maqasid shariah. This study also examines the association between financial inclusion disclosure index and the financial performance of BMT with regard to financial inclusion activities.

## 5.2 LITERATURE REVIEW

### 5.2.1 *Financial Inclusion in Islamic Microfinance*

Two pillars enhance financial inclusion based on Islamic perspectives which are Risk sharing or Asset-Linked Financing and redistribution institutions. Offering Shariah compliance is part of the financial instrument to mitigate the risk in Small Medium Enterprise (SME), Microfinance (MF), and Microinsurance (Micro Takaful) that may enhance access in financing (Mohieldin et al. 2011). While to complement risk sharing by redistributing through Zakat, Sadaqah, Qard al Hasan, and Wafq (Iqbal and Mirakhor 2013). Furthermore, Ascarya et al. (2015) emphasize that it is essential to integrate financial, social and spiritual inclusion to achieve the triple bottom line simultaneously (sustainability, outreach and welfare impact). According to them BMT is an ideal institution to carry out the mission of holistic inclusion that means a combination of financial, social, and spiritual inclusion. Impoverished people and households do not need financial support only, but also social programs (Parker 2010).

Social programs mean activities that increase the ability of poor people, such as empowerment programs. The process of empowering is to provide opportunity and the role of the community to participate actively in the development process and to increase the potential existing resources

(Syamsuri and Syafitri 2018). Empowerment enhances the quality of society and people in the environment by encouraging, motivate, raise and develop the awareness of the potential and capabilities to meet the needs and improve the prosperity for themselves and groups (Syamsuri and Syafitri 2018).

In the Islamic perspective, empowerment refers to the word Tamkin. Tamkin means to have the ability to do something solidly, have the power, influence, and possess a maddi (material) or ma'nawi (non-material) position (Sanrego 2016).

A structured approach to enhancing financial inclusion integration financial and social inclusion activities from both pillars can complement to start the business and increase the income (Table 5.1). All the information relating to financial and social inclusion are expected to be revealed in financial reporting of institutions. Information is a key component of any functional market: quality information can provide the necessary incentives to market actors to enter the market, expand offerings, and innovate. Conversely, the lack of reliable quality information can lead to thin or absent markets, which is the case today with financial service markets that fail to serve the poor and low-income populations.

Ali (2015) examines that Islamic microfinance is moving beyond its conventional counterpart to provide practical and financial information simultaneously. This is done through Islamic social tools such as Sadaqah, Waqf, and Zakah, which is to be given directly to the extremely poor either in cash or in kind to satisfy their basic needs before granting micro-credit to them. Islamic microfinance improves the social and financial inclusions of disadvantaged people. On the other hand, Umar (2017) examines that index Syariah financial inclusion (ISFI) is generally low in

**Table 5.1** A Structured approach to enhancing financial inclusion

	<i>Redistributive pillar</i>	<i>Risk sharing pillar</i>
Extreme poverty (below poverty line)	Zakah, Sadaqah, and Waqf	Collective risk sharing through collective support during crisis
Poverty (above poverty line)	Qard al Hasan, Zakah and Waqf	Micro-Finance (Murabaha, Musharikah)
Low income	Hybrid Solutions (applications with market based solutions)	Micro-Takaful Micro-Small-Medium Enterprises (MSME)

Source: Iqbal and Mirakhor (2013)

Indonesia between 2010 and 2015. He calculates with three dimensions: the accessibility, the availability, and the usage of Islamic Banking Services.

Hassan (2015) points out there is limited matter on financial inclusion of the poor through Islamic microfinance in India. Financial inclusion expects to improve the capability of the economic condition of poor Muslim communities through some innovative approaches. Islamic microfinance needs to design and deliver Islamic microfinance products suitable for the poor based on the Islamic of Islamic solidarity. This service will help the poor turn their savings into sums large enough to satisfy a wide range of personal, social, and asset-building needs as well as requirements relating to small business and consumption. Islamic microfinance needs to integrate the products and actions that encourage poor people to become more active.

However, the microfinance sector is looking forward to training that shall equip its members with the knowledge to practice Islamic microfinance using these models cautiously. It has been observed that there are no specialized institutions for the education of Islamic microfinance in particular. The lack of Sharia compliance and the absence of specialized training in Islamic microfinance are hurdles in the promotion of the industry (Admin 2017).

The main challenges of Islamic microfinance are lack of awareness and education and of course religious consciousness. Therefore, it needs to initiate comprehensive programs to enhance the knowledge and capacity of poor people on Islamic microfinance globally because the main challenge of Islamic microfinance is the industry, therefore, it faces criticism in different aspects. The expensive education of Islamic microfinance is also a discouraging factor for the Islamic microfinance learners which should be subsidized and funded by donor agencies.

About 46% of the total world poverty exists in the Muslim world while the Muslim population in the world is 26%, so Islamic microfinance can potentially be used for poverty alleviation by social awareness programs through proper channels and educationists of Islamic microfinance realizing its importance and optimal results.

### 5.2.2 *Theoretical Framework*

From the perspective of the organization, it faces a wide array of stakeholders to whom they need to consider their accountability obligations. They are accountable to their beneficiaries that is those directly involved

in or affected by the organization (Candler and Dumont 2010). The stakeholder theory is used to identify the key stakeholders in the strategic management of organization accountability (Candler and Dumont 2010). The disclosure of the information would derive from the established accountability relationship and seek to provide information to which the stakeholders have a right (Gray et al. 1997).

The stakeholder theory suggests to institutions to increase communication and the need to address information through the promotion of dialogue and engagement. From the discussion, the organization expects that stakeholders will be given reliable information that is relevant to their needs and interest. These effects enhance the accountability and transparency of organizations (Owen et al. 2001).

In another view, stakeholder theory, in general, has been defined as the theory of organizational management and business ethics that discusses morality and values in running an organization (Freeman 1994). In the traditional western view, the only important stakeholders were shareholders. An organization made a contract with shareholders to increase their value of equity by increasing financial performance.

On the other hand, stakeholders from the Islamic perspective are different, based on the Islamic Financial Services Board (IFSB). In 2009, IFSB explained that Islamic institutions' stakeholders include not only employees, customers, suppliers, and government regulators but also the community, particularly the Muslim Ummah (community). Islamic institutions came into existence as a collective religious obligation (Fard Kifayah) and community (Ummah). Consequently, BMTs' stakeholders expect the managers to operate their business by piety, righteousness and assure the stakeholders that there have committed all activities that comply with Sharia principles (Hassan and Harahap 2010). Therefore, this study is drawn upon the stakeholder theory.

The increasing awareness of financial inclusion activities has led to increased demand from stakeholders, including government regulators, investors, and social investors for Islamic cooperatives to provide additional information about their current events and future strategies to engage Islamic cooperatives in financial inclusion activities, disclosure of these activities, and the impact of these disclosures on the Islamic cooperative's performance. Financial inclusion is a broad concept that includes: social programs, financing programs, outreach, economic impact, development programs, Islamic microfinance services and social impact (Ascarya et al. 2015).

Government regulators promote the engagement of banking and private sectors in supporting financial inclusion as it reduces the extent of governmental burden. BMTs expect to involve in financial inclusion activities facilities both the fulfillment of the government's inclusive growth and poverty reduction goals and the satisfaction of the demands of the others stakeholders. Nabi et al. (2017) found financial inclusion among unbanked people, in general, has been successful in serving the moderate poor but failed in reaching the extremely poor in Bangladesh. Quayes and Hasan (2014) examine better disclosure has a statistically significant positive impact on the operational performance of microfinance and improving financial performance results in better financial disclosure. Hence, it needs to increase its performance.

Therefore, this study examines the extent and quality of financial inclusion disclosure of the BMT and these activities would influence an BMT's performance. Hence, this study hypothesizes that:

*H1* The extent and quality of financial inclusion disclosure are positively associated with Return on Equity.

*H2* The extent and quality of financial inclusion disclosure are positively associated with Leverage.

*H3* The extent and quality of financial inclusion disclosure are positively associated with Size.

### 5.3 IMPORTANCE OF FINANCIAL INCLUSION DISCLOSURE FOR ISLAMIC COOPERATIVE

Related to the position of BMT as Baitul Maal, the role of donors is needed in supporting the quality of life of the community such as the poor and the weak economic class (Cokrohadisumarto et al. 2016). Islam and Mathews (2009) mention that donors, policymakers, and members need information from Microfinance institutions (MFIs) that will motivate them to provide support. It is noted that social disclosure will motivate donors to increase their support for BMTs. This means that positive social disclosure is that which contains information about social activities that have a positive or beneficial impact on society. Donors use the information to assess whether funds are distributed for social purposes. Policymakers (government) use financial inclusion information to amend existing policy regulations. Members use information to make a decision on where to



invest. An accountant uses information to assess the ability to repay (Htay and Salman 2014). In short, the users of BMTs financial inclusion information are donors, policymakers, members, and preparers.

Furthermore, accountability of MFIs is through the disclosure of financial and social activities in financial reporting. This is to raise the level of understanding and transparency toward the stakeholders. However, there is lack of social information in financial reporting of MFIs and as a result the investors do not have the interest to put their fund in MFIs; especially, socially aware investors (Pouliot 2007).

Besides, there is a need for stakeholders to measure social information activities of MFIs. This approach has led to understanding the limitation on their operations in the community (McManus et al. 2006). From this point, stakeholders expect to participate and support to figure out solutions to the problem that operators are facing in their community.

## 5.4 DESCRIPTION OF DATA AND VARIABLES

To measure the extent of financial inclusion accomplished a content analysis predetermined list of the disclosure can be used. The dimension of financial inclusion disclosure is based on an index developed by Ascarya et al. (2015). There are five dimensions of financial inclusion; these are a social program, development program, financing program, Islamic micro-finance services, outreach, and social impact. Both weighted and unweighted indices have been used. This study utilizes data collected from the annual report of the BMT/Islamic cooperative, using a sample of 50 Islamic Cooperative firm-year observations from 2014–2015.

### 5.4.1 *Dependent Variable*

For measuring the extent of financial inclusion, a disclosure score will be given to each BMT based on the disclosure index concerning BMT overall rating scores for six dimensions. Furthermore, the BMT will be given a score based on the unweighted score in the disclosure index. For example, zero (0) will be assigned for not disclosed and (1) for disclosed. Assigning the value of zeros and ones to not disclosed and disclosed information, respectively, is consistent with a prior study by Cooke (1989), Harahap (2003), Haniffa and Hudaib (2007). Having assigned the value to the level of information disclosure of the BMTs, the following formula will be used to calculate the level of disclosure by BMT:

$$\text{BMT}_{DI} = \frac{\sum X_{i,j}}{\sum M_{i,j}}$$

where

$\text{BMT}_{DI}$  = BMT disclosure index

$M_{ij}$  = Number of items expected to be disclosed by BMT

$X_{ij}$  = Number of disclosure items disclosed by BMT.

While for quality score, this study defines the quality of BMT as how much the BMT's information disclosed matches with the indicators in the disclosure index. The method used will be the same as determining the extent score except that the information disclosed is given different weights. Besides, the quantitative information disclosed is given more weight than the qualitative information because it is more objective and informative (Al-Tuwaijri et al. 2004).

Therefore, this study intends to apply the same technique to Al-Tuwaijri et al. (2004) and Cooke (1989). A score of 3 will be given if it is quantitative disclosure related to indicators of the disclosure index and 2 if it non-quantitative but specific information. Then, if the information disclosed is only general qualitative information, the weight is 1. However, if there is no disclosure for any indicators, the weight is 0 (Table 5.2).

$$\text{BMT}_j = \frac{\sum_{i=1}^n X_{ij}}{\sum M_{ij}}$$

$\text{BMT}_j$  = BMT quality score  $J$ th BMT.

$M_i$  = Total number of items expected for  $J$ th company with maximum score assigned.

$X_{ij}$  = The score of 3 for the  $I$ th item if quantitative data is disclosed, the score of 2 for the  $I$ th item if qualitative data with spesific explanation is disclosed, the score of 1 for the  $I$ th item if general qualitative data is disclosed and the score of 0 for  $I$ th item if there is no diclosure.

Futhermore, the level of extent and quality result will value into three categories, viz:  $0.5 < \text{IFI} \leq 1$ —High financial inclusion;  $0.3 \leq \text{IFI} < 0.5$ —Medium financial inclusion; and  $0 \leq \text{IFI} < 0.3$ —Low financial inclusion (Sarma 2008).

**Table 5.2** Quality score

<i>Qualitative disclosure</i>	<i>Quality definition</i>
0 = non-disclosure	Do not disclose any information for the given indicators
1 = general qualitative disclosure	Common qualitative disclosures
2 = qualitative disclosure with specific explanation	Non-quantitative but specific information related to these indicators
3 = quantitative disclosure	Quantitative disclosures related to the indicators as described in the BMTs index checklist

Source: Cooke (1989)

**Table 5.3** Descriptive statistics

	N	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. deviation</i>
EXT	50	0.13	0.76	0.43	0.14
Qual	50	0.04	0.47	0.25	0.11

### 5.4.2 *Independent Variable Operational Definition*

Recall that the independent variables are classified into the following two categories: size and performance.

<i>Size</i>	<i>Log of total assets</i>
Performance	Return on equity
Leverage	Total debt/total Assets

## 5.5 RESULTS AND DISCUSSION

### 5.5.1 *Descriptive Analysis*

Table 5.3 presents a descriptive analysis of the financial inclusion index for the sample of the BMT/Islamic cooperatives. The analysis in Table 5.3 suggests that the majority of BMTs disclose information on financial inclusion activities in their annual reports. There are 25 BMTs by over the period 2014 to 2015. The result on the extent and quality of financial inclusion disclosure in BMT annual report are relatively low. The highest and the lowest total scores of the extent of financial inclusion in the BMT's

annual report are 0.76 and 0.13. The highest quality and lowest quality of financial inclusion information in the BMT annual report is 0.47 and 0.04, respectively.

### 5.5.2 *The Extent and Quality of Financial Inclusion Disclosure by Information Dimension*

There are 38 financial inclusion disclosure index items classified into six information dimensions. These information categories are (A) social program (five items), (B) development program (six items), (C) financing program (seven items), (D) Islamic microfinance services (seven items), (E) outreach (seven items) and (F) social benefit (six items).

As shown in Table 5.4, a more detailed analysis by index category highlights the particular areas from extent and quality of financial inclusion disclosure in the annual report of BMT. Firstly, dimension social program, on the average, the extent and quality of financial inclusion in BMT annual report are relatively low. The highest and the lowest total scores of the extent of the social dimension in BMT annual report are 0.83 and 0.00. The highest and lowest quality of financial inclusion information in BMT annual report is 0.5 and 0.0.

Secondly, the mean scores for the development program were relatively high with the highest and lowest being 1.00 and 00. Thirdly, the highest and lowest scores for the finance program is 1, and 00 with average remaining high. Fourthly, for the Islamic microfinance services dimension, the average rating is 0.34 with highest and lowest being 0.71 and 0.00. Fifth, the dimension of outreach has a common means at 0.32. Finally, in the

**Table 5.4** Financial inclusion category scores

<i>Dimension</i>	<i>Ext</i>			<i>Qual</i>		
	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>
Social program	0.00	0.83	0.30	0.00	0.50	0.16
Development program	0.00	1.00	0.66	0.00	0.83	0.39
Financing program	0.00	1.00	0.73	0.00	0.67	0.35
Islamic microfinance services	0.00	0.71	0.34	0.00	0.52	0.18
Outreach	0.00	0.83	0.22	0.00	0.50	0.15
Social impact	0.00	0.83	0.32	0.00	0.67	0.19

social impact dimension, the highest and the lowest total scores of the extent of the social aspect in the BMT annual report are 0.83 and 0.00.

With regards to the extent and quality of each financial inclusion dimension, the item financing program has the highest score. It implies that BMT has committed to providing products and services that it is easy to access the product, simplicity product, cheap, flexible collateral program, pick up service program, risk mitigation program and monitoring program. The existing this program in line with the objective's BMT is to serve to unbank poor people with providing simplicity, cheap Product and flexible services (Ascarya et al. 2015). Moreover, BMT develops products that are easy, cheap, simple, flexible and suitable to the needs of poor people. BMT provides a product such as a deposit for education, deposit for marriage, deposit for Umrah, deposit for Idul Fitri, deposit for Qur'an, deposit for sanitation, and deposit for water treatment. BMT provides financing services such as *Muharabah*, *Mudhrabah*, *Ijarah* to support the business of members.

Furthermore, BMT also provides financing such as working capital financing, investment financing and consumptive financing and saving programs like daily savings, hajj savings and savings for marriage (Cokrohadisumarto et al. 2016). This program offers pick-up service which facilitates an alternative approach for BMT to meet and visit customers personally in their homes and workplaces. The impact of this program is a strong personal relationship among members and management of BMT. The effect of this program is accessibility to monitor the members or customers of BMT.

The second highest is the development program. The objective of the development program in BMT is to build the capacity of BMT for their members because ownership of BMT is by members (Cokrohadisumarto et al. 2016). The development program of BMT which are regular meetings, saving the program, skill training program, family financial management training program, management training program, and qardh financing program (Ascarya et al. 2015). From those program, it expects that members will have self-reliance and sustainability (Ascarya et al. 2015). BMT has an obligation to encourage members to meet together at least once a year. Mostly, BMT provides qardh financing program to help the poor people. This program is a non-interest paying loan that relieves the debtor from any return on the principal. Some BMTs such as Cooperative Shariah Benteng Mikro Indonesia provide activities for their members such as: Training in making fish feed, training in the chili

farming method, training on the concept of business, Education Packet C and product development training for their members and community.

The third score is the extent and quality of financial inclusion disclosure in BMT. In this dimension, BMT has a microfinancing program, a micro-savings program, and bill payments. While, BMT cannot provide micro Tafakul, micro-transfer, micro pension fund, and emergency financing program. The level of awareness and understanding among SMEs toward Micro Takaful products is at a low level. An education level of SME owners does impact their level of knowledge instead of awareness on Micro Takaful product (Salleh and Padzim 2018).

Concerning the dimension of outreach, the information is low about members/depositors, deposits, borrowers, total financing and area coverage. But, some of the BMTs have a branch to provide services to their members. There is still limited BMTs who have branches. The lowest is dimension social program information and social impact. Dimension social impact is social inclusion in BMT. A few BMTs develop their development program and social program for their members and customers. Empowered/Tamkin programs are a focus on women and economic empowerment schemes (Mwobobia 2012). While in Islamic view, empowerment is giving stimulus not only focus on women, but also to a man that enhance the capacity in order to meet their needs in financial, social, and spiritual aspect (Rifqi 2018; Syamsuri and Syafitri 2018). BMT have empowerment through social and spiritual perspective. From a spiritual aspect, BMT has priority to encourage their ibadah; increase in the religious activity increases the ability of Muslims; improving religious life and activities among low-income families, as reflected by honesty, discipline, patience, loyalty, and social responsibility of the poor. The spiritual exercises of BMT for their employees or members and communities, such as holding Jamaah prayers in the office or outside office, conducting training in reading Al Quran, Tahsin, Tazkirah, Zakah training, memorization of Al Qur'an (Tahfiz). The result, is in line with Bose et al. (2016) who found that banking's religion-based operation is positively associated with the level of financial inclusion activities disclosure. They examine that banks with Islamic operations in Bangladesh are more engaged in financial inclusion activities compared to conventional banks.

Furthermore, BMT should not focus only on their institutions, but also be responsible for enhancing the ability of the ummah/environment by giving them knowledge and training. This indicates that when doing their business, people should promote the principles of cooperation

(Al-Musharakah), justice (Al-Adl), benevolence (Al-Ihsan), and trust (Amanah). This could be traced to financial reporting as a part that shows the response to the stakeholder. The level of financial inclusion disclosure shows the way of BMT enhancing transparency to stakeholders. Most importantly, as BMT it should be aware of financial inclusion and social inclusion issues.

Besides, the point of view of Dusuki (2006) based on Ibn Khaldun's concept of Asabiyah is that human beings by nature are social beings who prefer to live together, cooperate and help each other. Empowering BMT to enhance social solidarity/brotherhood among the community, creates social networks, norms, trust and effective sanctions that facilitate coordination and cooperation for mutual benefits. Trust and willingness to cooperate allow the poor to form groups and associations, which facilitate the realization of shared goals.

### ***5.5.3 Relationship Between Extent and Quality of Financial Inclusion in the Annual Report in BMT***

This study aims to investigate whether there is an association between the extent and quality of financial inclusion disclosure as the dependent variable (N EXT) and (NQQUAL) and financial performance of BMT (independent variables). The independent variables expected to affect the extent and the quality of financial inclusion disclosure investigated in the current study are BMT size (Size), Return on Equity (ROE) and Leverage. This section was divided into two sections: correlation and relationship of the level of financial inclusion with financial performance analysis and also compare the current study findings with results from previous relevant studies.

#### ***5.5.3.1 Correlation Analysis***

Variable definitions: EXT is the level the financial inclusion disclosure, Qual is the level of quality financial inclusion disclosure (Table 5.5). ROE is a return on equity measured as the ratio of SHU (net income) divided by total capital. Size is the BMT size as the natural logarithm of BMT's total assets; LEV is the leverage ratio, measured as the ratio of total liabilities divided by total assets. The table shows the descriptive for ROE ranges from 0.00 to 0.35 with average 0.10. Meanwhile, the average of Lev and size are 0.78 and 0.00 respectively.

**Table 5.5** Statistic descriptive

	N	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. deviation</i>
EXT	50	0.13	0.76	0.44	0.13
Qual	50	0.04	0.47	0.25	0.11
ROE	50	0.00	0.35	0.10	0.07
Lev	50	0.03	0.96	0.78	0.22
NSize	50	-2.06	2.06	0.00	0.94

**Table 5.6** Pearson correlations

		<i>NEXT</i>	<i>NLEV</i>	<i>NSIZE</i>	<i>NROE</i>
NEXT	Pearson correlation	1	0.182	0.631	0.006
	Sig (2 tailed)				
NLEV	Pearson correlation	0.182	1	0.287*	0.161
	Sig (2 tailed)				
NSIze	Pearson correlation	0.631*	0.287*	1	0.03
	Sig (2 tailed)				
ROE	Pearson correlation	0.006	0.161	0.03	1
	Sig (2 tailed)	0.969	0.265	0.286	
N		50	50	50	50

Note: \* Indicate significance level at 10 percent

Table 5.6 indicates that the correlation coefficient for the extent and leverage is 0.81.  $p$  value for correlation is 0.205,  $p > 0.05$ , the relationship is statistically not significant. Moreover, The Pearson correlation coefficient value of size 0.631. While,  $p < 0.05$ , the extent of financial inclusion shows a significant positive association with the size of BMT. Further, the correlation coefficient for ROE is 0.006 with  $p > 0.05$ ; there is no significant relationship between the extent and ROE. The number of BMT is 50.

#### 5.5.4 *Relationship of the Level of Financial Inclusion with Financial Performance*

This study examines the factors associated with the level of disclosure of financial inclusion activities undertaken by BMT/Islamic cooperatives. These factors include BMT size (Size), leverage ratio (LEV), ROE ratio (ROE). To find the association of these factors with the extent and quality of financial inclusion.



**Table 5.7** Regression results of the financial inclusion disclosure

<i>Independent variable</i>	<i>Coefficient</i>	<i>t-statistic</i>	<i>Sig</i>	<i>95% confidence interval</i>	
ROE	-0.49	-0.411	0.68	-0.28	0.18
LEV	0.15	0.124	0.9	-0.23	0.26
Size	0.62	5.22	0.0	-0.38	0.86
<i>F-ratio</i>			0.000		
Adjusted <i>R</i> 2	0.36				
<i>R</i> -squared	0.4				
Number of obs	50				

Based on the above Table 5.7, the results show that F-ratio is 0.00, which statistically supports the significance of the model. The *R* square correlation is 0.4, which means that the regression model is capable of explaining 40% of the variation of the extent of financial inclusion in the annual report in the BMT/Islamic cooperative.

#### 5.5.4.1 Hypothesis 1: ROE

The analysis shows that ROE is not significantly associated with the disclosure level of financial inclusion. This implies that there is no relationship between ROE and BMT's engagement and disclosure of financial inclusion activities. One possible reason for this insignificant relationship may be attributed to the high variation of ROE. Furthermore, this finding is consistent with findings from studies relating to a firm's engagement and disclosure of social activities. Karim et al. argue that a firm's exposure to social activities is unrelated to financial performance (ROE) because firms make decisions about disclosure of social activities in advance of reducing transaction costs. Intuitively, a larger level of total equity should have a positive impact on financial performance and disclosure, but it can also be argued that greater equity may have a negative effect on the financial performance of an MFI. While capital to assets ratio should have a positive effect on efficiency and financial performance, we do not have any a priori assumption about its impact on disclosure level.

#### 5.5.4.2 Hypothesis 2: Leverage

The results show that leverage coefficient shows that this variable is not significant and therefore, hypothesis related with leverage is not

supported. This implies that leverage does not explain the variation of financial inclusion disclosure level among the BMTs significantly. The leverage does not give any effect on the disclosure of financial inclusion activities. Based on agency theory, higher debt affects the high indebtedness of the contract. It will influence management doing their monitoring. They will reduce ineffective activities. Managers in highly levered firms are more interested in lowering discretionary expenditures to maintain liquidity than maintaining it through engagement into financial inclusion activities (Sudipta Bose et al. 2016).

#### 5.5.4.3 Hypothesis 3: Size of BMT

The regression results shown in Table 5.7 reveal that the most essential BMT that helps explain variations in the extent of financial inclusion in the annual reports of BMT is size. The regression coefficient for the variable is 0.62, which is positive and very significant at the 00 level. As a result of H1: There is a significant association between the extent and quality of financial inclusion disclosure with the Size of BMTs. BMT size can be expected to have a positive association with the level of financial inclusion disclosure. Core (2001), suggest that firm size is an essential determinant of firm performance. Both Hartarska (2005) and Mersland and Strøm (2009) have used size to explain financial performance.

Overall, it can be concluded, based on the statistical results displayed in Table 5.7, that there is a significant positive relationship between BMT size as represented by total assets (log assets) and the level of financial inclusion disclosure in annual reports. This result is in line with the outcomes from prior relevant disclosure studies. For instance, in Bangladesh, Bose et al. (2016) found that the size of the bank is positively associated with a banking firm's disclosure of financial inclusion activities. Despite that, larger organizations have more attractive public fund and government scrutiny. Such scrutiny by various groups in society creates pressure on larger firms for more social engagement and disclosures. Thus, it is expected that the BMT would be engaged in more financial inclusion activities and disclose this information as well because larger organization have more stakeholders interested in the social activities of their organizations. BMT in Indonesia is more visible regarding size, which attracts greater regulatory pressure because financial inclusion is a part of the national strategy of the government.

The Indonesian government needs to focus attention on the implementation BMT governance because there are challenges on the implementation of financial inclusion programs, namely, issue of database in BMT, lack of adequate collateral and problems in business legality. To overcome the problems in financial inclusion in Indonesia other than through banking, it can be through the microfinance institution. However, the Government is currently prioritizing programs related to financial inclusion through banks, because the bank is considered more transparent and accountable compared to Islamic microfinance (BMT).

## 5.6 CONCLUSION

The objective of this study was to analyze the level of financial inclusion activities by BMTs in Indonesia. It also explored the factors that may affect the BMT's engagement and the level of disclosure of financial inclusion activities. This study follows an index of financial inclusion in the light of a study by Ascarya et al. (2015). The results show the extent of financial inclusion disclosure is at the medium level. The quality of financial inclusion disclosure in BMT is low. Furthermore, the level of financial inclusion is positively associated with BMT size. The extent and quality are not related to the Return on Equity and Leverage.

From the information above, it is evident that empowerment and capacity building is needed at all levels to enhance the full potential of Islamic microfinance. At the macro level, the Islamic Development Bank and Islamic financial standard setters should consider developing global financial reporting standards adapted to microfinance to build the infrastructure for transparency in the global Islamic microfinance sector.

Therefore, it is important to ascertain why financial inclusion (non-financial information) is being disclosed. This infrastructure would entail comprehensive disclosure guidelines on Islamic microfinance accounting principles, mandatory disclosure, voluntary disclosure, financial audits, and eventually, rating services. At the micro and institutional levels, international donor agencies can play a significant role in expanding access to finance in Muslim countries by helping existing institutions reach scale and funding pilot projects testing various business models. Also, more effort should be made to train Islamic MFI managers and staff through, for example, the development of operational tools and manuals.

## APPENDIX: HOLISTIC FINANCIAL INCLUSION DISCLOSURE ITEMS

<i>No</i>	<i>Dimension</i>	<i>Activities</i>	
1	Social program	Programs that supports small and medium-sized enterprises (SMEs) with social programs that provide basic needs fulfillment.	
2		Programs that supports small and medium-sized enterprises (SMEs) with social programs that provide bailout debt.	
3		Programs that supports small and medium-sized enterprises (SMEs) with social programs that provide Basic Education Scholarship.	
4		Financing programs to supports agricultural activities (e.g, crops, oilseeds, spices, vegetable, fruit farming activities (e.g, milk production or fish or cattle farming)	
5		Financing programs to supports traditional handicraft business and folk music and performing arts activities that are carried out with a view to income generation and employment for the population groups involved	
6	Development program	Regular meetings	
7		Saving program	
8		Skill training program	
9		Family financial management training program	
10		ME management training program	
11	Financing program	Qardh financing program	
12		Easy access product	
13		Simplicity product	
14		Cheap	
15		Flexible collateral program	
16		Pick-up service program	
17		Risk mitigation program	
18		Monitoring program	
19		Islamic micro-financial services	Micro financing program
20			Micro savings program
21	Micro takaful program		
22	Micro transfer program		
23	Micro pension fund		
24	Outreach	Emergency financing program	
25		Bill payment	
26		Members/depositors	
27		Deposits	
28		Borrowers	

(continued)

(continued)

No	Dimension	Activities
29		Total financing
30		Avg. (mode) of deposits and financing
31		No. of branch
32		Area coverage
33	Social impact	Empowered
34		Health improvement
35		Knowledge improvement
36		School attendance
37		Social improvement
38		Religious improvement

Source: Ascarya et al. (2015) and Bose et al. (2017)

## NOTE

1. Bank Indonesia Booklet, 2014, examines that the level of financial inclusion in Indonesia in 2014 was low which was 36 percent for formal financial sector and 64 percent for informal sector. it expects to increase to 75 percent by 2019. Financial inclusion focus through Islamic banking rather than Islamic microfinance. Therefore, it needs to enhance monitoring and supervision for microfinance institutions.

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# Public Awareness and the Role of Islamic Deposit Insurance in Promoting Financial Inclusion

*Salisu Hamisu and Rusni Hassan*

## 6.1 INTRODUCTION

Banking crises always occur, and banks, whether conventional or Islamic, can fail no matter how big and no matter how good it is (Afolabi 2011). The failures of the giant Lehman brothers in the recent financial crisis, Islamic bank of South Africa, Ihlas finance Istanbul, the closure of 84 Micro finance banks in the year 2014, as well as the recent closure of another set of over 150 Micro finance banks in Nigeria are some example of this failure. The main objectives of deposit insurance systems are the protection of the depositors in the event of bank failure, and the stability of the banking system. It was, therefore, argued that the scheme could be

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effective only if designed to perform key regulatory objectives (Kleftouri 2014), through an established public policy objective of financial stability and depositor protection. In the same vein, in strengthening banking regulations and disclosure, small depositors are protected, and the possibility of risk and contagion are reduced (Polius and Peters 2000).

A deposit insurance scheme (DIS) “is a mutual insurance system supported by insured banks and administered via a government-controlled agency or a privately arranged” (Maria 1991, p. 35). The controlling agency, guarantees deposits in the participating financial institutions and at the instance of failure of the participating insured financial institution, were ready to pay back depositors their insured deposit promptly. The protection of the depositors and stability of the banking system are the principal objectives of deposit insurance systems (De Giuli et al. 2009; Groeneveld 2009). The scheme became necessary due to the need to offer protection to depositors of banks, who risk losing their hard-earned money if their bank fails. In addition there was also the need to protect the financial system from instability, which could be from bank runs and a loss of depositors’ confidence.

The rapid growth of the Islamic financial sector across the globe in general, necessitates the need for an Islamic version of the deposit insurance as a mode of safety-net to cover the Islamic bank depositors as well. This is indeed necessary to create a level playing field for both the conventional and Islamic banks (The Star 2009). Islamic deposit insurance (IDI) is aimed to protect insured depositors against the loss of their insured Islamic deposits placed with Islamic banking institutions (IBIs) in the event of an IBI’s failure (Md Khairuddin Hj Arshad 2011).

Public awareness in a deposit insurance system is essential for the scheme to be effective (Umar 2011). Therefore, public understanding and knowledge is critical to the effectiveness of a DIS. A distinctive public awareness initiative can accomplish numerous objectives, and facilitate the flow of information that can enhance understanding of the DIS and its main features. Public awareness campaigns can also promote or help re-establish confidence in the banking sector. Similarly, to disseminate vital information, when failures occur, it will be easier when depositors are well informed or are aware of the scheme, such as understanding how to claim and receive reimbursements of their deposits (Ogunleye 2009).

The purpose of this study is to provide some basic understanding on the need, issues and challenges regarding IDI in an existing conventional system such as the one recently established in Nigeria known as the

Non-Interest Deposit Insurance, and to ascertain people's perception and awareness of the scheme, and that, if public confidence which the system aimed to provide can actually translate into financial system participation.

## 6.2 LITERATURE REVIEW

Awareness refers to the cognitive ability of a person to discern, decipher and judge a given phenomenon. It refers to the knowledge about an object or event, the competences or skills as well as the methods of operation; it has to do with background knowledge about the object, event or any other phenomenon (Reinhardt et al. 2015).

In addition to the popular mantra that "customer is the king" and whose interest must prevail at all levels by service providers, some legislation has been put in place by the government to ensure that the rights and concerns of consumers are protected in the country (Umaru 2011). For instance some of the laws governing banking practice in Nigeria, and whose provision directly or indirectly gives some level of protection to the rights of their customers, include, central bank of Nigeria Act 2007 (as amended), Nigerian Deposit Insurance Corporation (NDIC) Act 16, Banks and Other Financial Institutions Act (BOFIA) Act 24, 1991, and Financial Malpractice in Banks and Recovery of Loans Act 18, 1994, among others.

Central Bank of Nigeria and the NDIC were empowered by an Act known as BOFIA, 1991, to supervise banks (Hamisu and Hassan 2017) as well as manage distress in ailing ones, respectively. This is with a view that the rights of customers are protected and the quality of service being rendered by banks is enhanced. In particular, the provision of the BOFIA clearly gives the NDIC the power to take over distressed banks when their conditions fall below certain thresholds (Umar 2011). This is with the view to resuscitating them back to their normal operations so that they could render efficient service to their customers.

For a deposit insurance system to exist effectively it should be unambiguously and clearly defined in law and regulation, which should be known to, and understood by, the public so that bank customers can take action to protect their interest (Garcia 1999). In addition, the deposit insurance scheme was considered to promote public confidence, financial system participation and stability. However, many people seem not to be aware of such a protection scheme. For instance in Nigeria, it was reported that, the likely informed individuals having more than 500,000 in their account, comprise of only 2% of the total Nigerian bank depositors (Abayomi 2016). Moreover,

Consultative Group to Assist the Poor (CGAP) (2010) reported in United Nation Development Program (UNDP) (2012) that as high as 72% of Muslims were reported to have excluded themselves from a non-Shariah-compliant financial system. This, however, may not be without implication on the socio-economic lives of such faithful people, in general, because the legal and regulatory environment in place in any country has a strong influence on its national economic growth trajectory (Evidence et al. 2004).

In light of the above, it is therefore pertinent to ascertain the effectiveness of the scheme, in respect of how far the scheme achieved its mandate, and to also determine people's awareness and perception about the scheme in relation to the government's efforts in achieving financial inclusion and financial literacy.

Nor Haziah Hashim and Sgahidawati Shahwan in their article "deposit Insurance in Malaysia: Shariah Perspective and Muslim Acknowledgement" discuss the general concept of deposit insurance scheme and how it was launched in Malaysia (Hazim and Syaddawati 2010), The study however, found out that there was some level of awareness, but concluded that, perception and level of understanding of the scheme was low in Malaysia.

As far as the Islamic deposit insurance in Nigeria is concerned, no attempt is made to study depositors' perception on the scheme (Umoh 2003), furthermore, there was no empirical study that has attempted to link or relate deposit insurance with people's confidence, banking participation or household savings. There were efforts by the Nigeria deposit insurance corporations (Hamisu and Hassan 2017) to assess the awareness of the scheme from the Nigerian perspective. However, there is little or no reference to empirical data, and most authors have not attempted to assess the effectiveness of the DIS, and consequently, there has been no systematic evaluation of the Nigerian DIS, nor any impartial assessment of the extent to which the scheme's stated objectives have been realized.

### 6.3 PURPOSE OF THE STUDY

This investigation specifically aimed to ascertain people's perception and awareness of IDI, and that, if public confidence which the system aimed to provide can actually translate into increased financial system participation. Based on that, we developed the hypotheses of this study.

#### *Hypothesis 1:*

There is a statistically positive explained relationship between IDI scheme and depositors' confidence in the financial system.

*Hypothesis 2:*

There is a statistically positive explained relationship between the awareness of IDI scheme and depositors' participation in the banking system.

*Hypothesis 3:*

There is a statistically positive explained relationship between the awareness of IDI scheme and depositors' saving behavior.

Therefore, a multiple linear regression was carried out to examine variance in the level of awareness of IDI on the depositors' confidence in the financial system, increased participation and household savings. A model was used to test each of these items as presented below:

$$IDI = \alpha + \beta_1CF + \beta_2FP + \beta_3IS + e \quad (6.1)$$

where IDI is Islamic Deposit insurance, CF is Confidence in Financial system, IP is Increased Participation, IS Increased Savings, 'e' is the residual error term.

## 6.4 RESEARCH METHODOLOGY

### 6.4.1 *Population and Sampling*

A total of 412 questionnaires were distributed across the branches of three selected banks in the five most financially excluded states in Nigeria. All questionnaires were returned; the banks are: First bank of Nigeria plc (FBN), Jaiz bank plc and Tijarah Micro finance banks (MFB). The basis for choosing these banks was that, FBN is the first and the largest bank in Nigeria in terms of customer base with a branch representation in all the states in Nigeria. In addition all conventional deposit money banks (DMBs) in Nigeria have homogeneity of deposit products, and thus the depositors' characteristics will be similar. Meanwhile Jaiz bank Plc and Tijarah MFB were the only full-fledged national Islamic DMBs and full-fledged Islamic MFBs in the country, respectively. The questionnaires were offered to depositors who came for banking transactions, and were filled in while they were waiting for the bank transaction to be completed. The responses were collected by each branch with the help of a staff, and subsequently delivered to the researcher.

The study employed probability sampling, through a simple random sampling technique, to carry out the survey. Simple random sampling is a subset of the sample selected from the population. Respondents were selected randomly and exclusively with the probability that each respondent has an equal chance of being selected at any stage of the sampling process (Sekaran 2013). For this purpose, depositors in the above mentioned banks were randomly selected during the normal course of banking hours for administration of questionnaire.

#### 6.4.2 *Measures*

This study contains a set of questions designed to measure the level of awareness and perceptions of the deposit insurance scheme among the Nigerian depositors. The questionnaire contained questions, divided into three, clearly identified, sections. These represented the demographical data, information on the level of awareness of DIS, and the Nigerian depositor's perception on the objectives of the scheme comprising confidence in the banking system, increased participation and increased savings in the banking system.

A five-response Likert scale with a neutral midpoint (Strongly agreed, agreed, uncertain, disagree, and strongly disagree) was used in all the questions. The scale and wording of the response options were adopted from Abdul Wahid (2013) and Oladapo (2009). The questionnaire items were subjected to content validity by an expert in quantitative research.

A pilot study was conducted to ensure that the questionnaire is well structured and its contents are well understood. It also helps improve the overall research approach such as the research design and the data collection techniques (Mogilnaya 2012). The study was carried out using a sample of 42 respondents drawn from the Nigerian community in Gombak Malaysia. Based on the results of the survey, the following changes were made from the initial questionnaire:

1. All the questions in both sections B and C were made in a 5-point Likert scale form as against the initial yes/no type.
2. More questions were added to find out a more accurate notion of depositors' understanding of the DIS and their perceptions toward the scheme objectives of protecting their rights and interest.
3. A short introduction was also added to explain the purpose of the survey.

**Table 6.1** Reliability statistics

<i>Cronbach's Alpha</i>	<i>No of Items</i>
.833	25

Source: Authors computation

Generally the pilot study made it possible to rephrase some questions so as to spell out their meanings appropriately.

Reliability of the instrument was assessed using Cronbach's Alpha. Reliability and KMO/Bartlett tests were conducted to examine the appropriateness of items in measuring what they are expected to measure. In this study, Cronbach's alpha was employed to test reliability, and minimum reliability levels of 0.50 and 0.60 have been suggested by scholars (Geraint et al. 2010; Creswell 2013; Krejcie and Morgan 1970). In this research, the reliability level was .883 Cronbach's alpha. Table 6.1 shows the Cronbach alpha of this study.

## 6.5 DATA ANALYSIS

### 6.5.1 *Demographic Profile*

The backgrounds of the respondent based on gender, educational qualification, occupation, class of bank operated and type of bank institution used are as follows.

Table 6.2 indicated that the respondents' demographic profile is quite appropriate for the intended study. While the gender representation is fairly balanced, about half of the respondents were at least graduates as per educational attainment. The distribution for job designation and working experience are in alignment with the educational attainment distribution, this ensures that respondents were not tilted along a particular group. Because of the limited number of Islamic banks in the country, respondents that operated with Islamic banks were 28.6%, Islamic windows 8%, while for the conventional banks, it was 63.3%. The distribution of the demographic profile is expected to positively complement the quality of the data obtained in this study and the subsequent inferences to be drawn therefrom.

### 6.5.2 *Awareness Level*

Table 6.3 shows the findings regarding the level of awareness and understanding of the overall depositor's protection scheme in Nigeria. From the

**Table 6.2** Demographic profile of the respondents

	<i>Frequency</i>	<i>Percent</i>	<i>Valid percent</i>	<i>Cumulative percent</i>
<b>Gender</b>				
Male	245	59.5	59.5	59.5
Female	167	40.5	40.5	100.0
Total	412	100.0	100.0	
<b>Educational qualification</b>				
Primary school cert	15	3.6	3.6	3.6
0 levels	107	26.0	26.0	29.6
Diploma	48	11.7	11.7	41.3
Graduate	182	44.2	44.2	85.4
Post graduate	60	14.6	14.6	100.0
Total	412	100.0	100.0	
<b>Occupation</b>				
Govt. employee	129	31.3	31.3	31.3
self employed	17	4.1	4.1	35.4
private business	47	11.4	11.4	46.8
Unemployed	129	31.3	31.3	78.2
Student	73	17.7	17.7	95.9
Others	17	4.1	4.1	100.0
Total	412	100.0	100.0	
<b>Class of bank operate</b>				
MFB	168	40.8	40.8	40.8
PMB	10	2.4	2.4	43.2
DMB	234	56.8	56.8	100.0
Total	412	100.0	100.0	
<b>Type of bank operated</b>				
Islamic	118	28.6	28.6	28.6
Conventional	261	63.3	63.3	92.0
Islamic window	33	8.0	8.0	100.0
Total	412	100.0	100.0	

Source: Researchers computation

Note: PMB = Primary Mortgage Banks

findings majority of the respondents (84%) stated that they know about the existence of the DIS in Nigeria, and 62.1% of the respondents are aware that the role of NDIC is to effectively guarantee to protect depositors in the event of a bank's failure. This is an indication that depositors are aware that the purpose of NDIC is protecting bank depositors in the event of the bank's failure. However, many of the respondents (79.6%) are unaware that the corporation undertakes consumer protection initiatives of addressing depositors' complaints against their banks. Similarly,



**Table 6.3** Awareness and knowledge of IDI in Nigeria

	<i>Frequency</i>	<i>Percent</i>	<i>Valid percent</i>	<i>Cumulative percent</i>	<i>Mean</i>	<i>Std. deviation</i>
Question B-1: I am aware of existence of the Nigeria Deposit Insurance Corporation (NDIC) in Nigeria						
STRONGLY DISAGREE	10	2.4	2.4	2.4	3.91	.834
DISAGREE	23	5.6	5.6	8.0		
UNCERTAIN	34	8.3	8.3	16.3		
AGREE	272	66.0	66.0	82.3		
STRONGLY AGREE	73	17.7	17.7	100.0		
Total	412	100.0	100.0			
Question B-2: The role of NDIC is to effectively guarantee to protect depositors in the event of a Banks' failure						
STRONGLY DISAGREE	10	2.4	2.4	2.4	3.60	.918
DISAGREE	41	10.0	10.0	12.4		
UNCERTAIN	105	25.5	25.5	37.9		
AGREE	203	49.3	49.3	87.1		
STRONGLY AGREE	53	12.9	12.9	100.0		
Total	412	100.0	100.0			
Question B-4: I am aware that effective Deposit insurance scheme undertakes consumer protection initiatives by addressing various banks' customer's complaints						
STRONGLY DISAGREE	15	3.6	3.6	3.6	2.78	.968
DISAGREE	175	42.5	42.5	46.1		
UNCERTAIN	138	33.5	33.5	79.6		
AGREE	55	13.3	13.3	93.0		
STRONGLY AGREE	29	7.0	7.0	100.0		
Total	412	100.0	100.0			
Question B-5: I am aware of the limit of insurable deposit per depositors						
STRONGLY DISAGREE	25	6.1	6.1	6.1	3.35	.951
DISAGREE	42	10.2	10.2	16.3		
UNCERTAIN	132	32.0	32.0	48.3		
AGREE	191	46.4	46.4	94.7		
STRONGLY AGREE	22	5.3	5.3	100.0		
Total	412	100.0	100.0			
Question B-11: I am aware of the NDIC new initiatives of protecting mobile banking deposits through the pass through deposit insurance scheme						
STRONGLY DISAGREE	18	4.4	4.4	4.4	2.78	.639
DISAGREE	78	18.9	18.9	23.3		
UNCERTAIN	297	72.1	72.1	95.4		
AGREE	13	3.2	3.2	98.5		
STRONGLY AGREE	6	1.5	1.5	100.0		
Total	412	100.0	100.0			

*(continued)*

**Table 6.3** (continued)

	<i>Frequency</i>	<i>Percent</i>	<i>Valid percent</i>	<i>Cumulative percent</i>	<i>Mean</i>	<i>Std. deviation</i>
Question B-7: I am aware that Deposit Insurance is different from Conventional commercial insurance						
STRONGLY DISAGREE	22	5.3	5.3	5.3	2.81	0.886
DISAGREE	118	28.6	28.6	34		
UNCERTAIN	210	51	51	85		
AGREE	39	9.5	9.5	94.4		
STRONGLY AGREE	23	5.6	5.6	100		
Total	412	100	100			
Question B-9: Non-interest deposit insurance Scheme is different from Takaful (Islamic Insurance)						
STRONGLY DISAGREE	27	6.6	6.6	6.6	2.84	753
DISAGREE	62	15	15	21.6		
UNCERTAIN	283	68.7	68.7	90.3		
AGREE	29	7	7	97.3		
STRONGLY AGREE	11	2.7	2.7	100		
Total	412	100	100			

Source: Researchers computation

regarding understanding of the scheme activities, when asked if the respondent knows that the scheme is different from the normal conventional insurance, and also that Islamic deposit insurance (IDI) differs from Takaful, only 15% and 9.7% of the respondents are aware that, DIS is different from normal conventional insurance and IDI also differs from Takāful, respectively. This indicates a very fundamental lack of understanding of the whole concept of DIS by the depositors.

### *6.5.3 Relationship Between Awareness, Confidence in the Financial System, Increased Participation and Increased Savings*

The data was subjected to multiple regression models to assess the impact of awareness of the IDI scheme on confidence in the financial system, increased participation and increased savings. The awareness level is subdivided into general awareness, knowledge and the understanding of the scheme. These three are considered as determinants and factors, which contribute to the overall level of awareness of the respondents concerning depositors' protection scheme in Nigeria.

### 6.5.4 *Awareness and Confidence in the Financial System*

Three predictors were loaded into the multiple regression model using the enter method. The model indicated 40.5% of the sample outcome variance (Adj.  $R^2 = 40.1\%$ ), which is found to predict the outcome significantly,  $F = 92.750$ , and  $p < 0.001$ . The display shows that two of the predictors were found to be more significantly associated with confidence, better knowledge about the IDI is highly related to more confidence in the financial system ( $\beta = 0.434$ ,  $t = 7.536$ ,  $p < 0.001$ ), while increase in understanding IDI ( $\beta = 0.185$ ,  $t = 3.781$ ,  $p < 0.001$ ) also is significantly associated with confidence. Meanwhile, awareness is found not to be significant ( $\beta = 0.093$ ,  $t = 1.346$ ,  $p = 0.179$ ) to the depositors' confidence in the banking system at 0.005 significance level, however at 10% level, it is found to be slightly significant and associated with increase in confidence. Table 6.4 shows the summary of the results.

The outcome clearly shows that knowledge and understanding of the IDI scheme will make people more confident in the financial system. This means that, the more people acquire knowledge on the concepts and objectives of the scheme, the more they believe that there is a mechanism in place guided by a public policy to protect their interest.

### 6.5.5 *Awareness and Increased Participation in the Financial System*

In Model 2 the same three predictors (Awareness, Knowledge and Understanding of IDI) were loaded in the equation. The model revealed that awareness of DIS is a significant predictor ( $\beta = 0.330$ ,  $t = 3.715$ ,  $p < 0.001$ ) of encouraging participation in the financial system. Only 15.1% (Adj.  $R^2 = .145$ ) of the outcome cases were explained by the model.

**Table 6.4** Summary of regression analysis results on confidence in financial system as a result of DIS

<i>Predictor variable</i>	$R^2$	<i>Adj.R<sup>2</sup></i>	$F$	p	<i>Gradient</i>	t	p
Model	.405	.401	92.750	<0.001			
Awareness	.093					1.346	0.179
Knowledge	.434					7.356	<0.001
Understanding	.185					3.781	<0.001

Source: Authors' computation

However it is still considered to be significant ( $F = 92.750$ , and  $p < 0.001$ ) as shown in the Table 6.5.

These findings indicate that an increase in the people's participation in the financial system can be influenced by their level of awareness in the IDI. Knowledge ( $\beta = 0.111$ ,  $t = 1.476$ ,  $p = 0.141$ ) and understanding ( $\beta = 0.037$ ,  $t = 0.585$ ,  $p = 0.559$ ) of the scheme even though they are not as significant as the awareness, the positive correlation however indicated some level of knowledge and understanding of DIS to some extent motivates people to engage and participate in the financial system.

### 6.5.6 Awareness and Increased Household Savings

The last model was used to test the relationship between the level of awareness (awareness, knowledge and understanding) of DIS and household savings. Table 6.6 indicates the regression model; only 6.5% ( $\text{Adj. } R^2 = .058$ ) of the sample outcome could be explained by the model. It is also found to be able to predict the outcomes with significance level  $p < .001$  but a very low variance  $F = 9.455$ . All the three predictors did not significantly contribute

**Table 6.5** Summary of regression analysis results on increased participation as a result of DIS

<i>Predictor variable</i>	$R^2$	$\text{Adj.}R^2$	$F$	p	<i>Gradient</i>	t	p
Model	.151	.145	24.232	<0.001			
Awareness	.330					3.715	<0.001
Knowledge	.111					1.476	.141
Understanding	.037					.585	.559

Source: Authors' computation

**Table 6.6** Summary of regression analysis results on increased household savings as a result of DIS

<i>Predictor variable</i>	$R^2$	$\text{Adj.}R^2$	$F$	p	<i>Gradient</i>	T	p
Model	.065	.058	9.455	<0.001			
Awareness					.083	.769	.442
Knowledge					.089	.966	.335
Understanding					.182	2.372	.018

Source: Authors' computation

to the variance at a 0.05 level of significance. However, at the 0.10 significance level, DIS understanding is statistically significant. This indicated that there is no statistical significance to deduce that the IDI scheme influences depositors' saving behavior. However, the positive correlations among all the predictors indicated that practical knowledge about the scheme could be associated with enhanced household savings. This is supported by the findings in the descriptive statistics where the results suggested that the majority of respondents believed that availability of IDI influences a change in their saving behavior and the scheme has a great potential for helping banks to attract more deposits and accounts from the public.

## 6.6 CONCLUSION

The purpose of this research is to assess the general awareness and effectiveness of the IDI scheme as implemented in Nigeria. Results of the quantitative data analysis suggest that majority of the respondents are aware of the existence of the Islamic deposit insurance under the depositors protection scheme in Nigeria. However, they lack the knowledge and understanding of the concepts and operations of the scheme. For instance, the majority do not know that the scheme is quite different from normal commercial insurance, and that the IDI scheme is different from Takāful.

Based on the findings, people with higher education tend to be more aware and knowledgeable about the scheme, and the depositors feel more confident about the banking system because of the availability of the protection scheme; they are also willing to encourage others to open a bank account as a result of IDI. They also believe that the provision of a Shariah-compliant deposit scheme will help banks to attract more savings. Furthermore even though the awareness is found to enhance confidence in the financial system, there was no statistically established linkage between deposit insurance scheme and increase household savings; however positive correlations exist which in practice may suggest that the level of awareness, knowledge and understanding of the deposit insurance scheme can influence household savings culture.

Therefore, what is considered as a major theoretical milestone of this investigation is that, the study has extended Islamic finance frontiers and its potentials for financial inclusion, following confirmed results regarding the effects of awareness, knowledge and understanding of Islamic deposit insurance on depositors' confidence on the financial system which as a whole tends to lead to an increase in financial system participation and a potential to increase household savings.

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# Islamic Financial Inclusion for Agriculture Development: The Case of South Al-Dweim Agricultural Microfinance Projects in the White Nile State, Sudan (2016–2018)

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## 7.1 INTRODUCTION

Financial inclusion has become an increasingly important concern for a vast number of countries worldwide. At the same time that a fast-growing literature has emerged to examine its measurement, determinants, and impacts, governments have made promoting it a priority. For example, the World Bank's 2014 Global Financial Development Report (GFDR), devoted to financial inclusion, reports that more than two-thirds of regulatory and supervisory agencies have been tasked with encouraging financial inclusion, and more than 50 countries have set formal targets. Last

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year the World Bank president announced a global target of universal financial access by 2020 (Sami Ben Naceur et al. 2015).

Microfinance institutions (MFIs) offer many types of services to individuals and communities in an effort to sustain the economic development. Each service potentially plays a vital role in the life of a client. These services are often offered in isolation, but in some cases efforts are made to coordinate different kinds of service to enhance accessibility and overall efficiency. Ideally, clients would have access to a coordinated combination of microfinance and other development services (training services) to improve their businesses, income and assets, health, nutrition, education of children, and social support networks. In general, the Microfinance Unit of the Central Bank of Sudan tends to favor microfinance institutions (MFIs) and organizations that offer an integrated approach to poverty alleviation as its better-rounded approach best serves the clients. Financial inclusion services can be offered to clients by coordinating the delivery of different sector services to the same people.

The agricultural sector is the core of Sudan life and the main driving force for its economy even with the emerging oil sector. Sudanese economy is predominately agricultural with 70% of the population deriving their livelihoods in rural areas. Agriculture contributes 46% of the country's GDP and more than 90% of the non-oil export earnings. In addition, it accounts for about two-thirds of the employment and supplies about 60% of the raw material needed by the manufacturing sector (Abdellatif Ijaimi et al. 2004).

Agriculture will continue to be the main basis for sustained future national economic growth, increased food security, a substantial share of exports, and increased employment. A fundamental approach to reduction of poverty and sustaining food security will rest on the government ability to develop agriculture as the main vehicle for poor growth. The agricultural sector is also envisaged to play a major role in the post-peace period by generating employment opportunities and providing food security for the war-affected populations. Apart from its size, Sudanese agriculture is also very diverse and complex because of the range of agro-climatic environments under which it operates. Therefore, a wide range of policies, institutions, and infrastructure will be needed for the sector to generate growth and achieve the poverty reduction objective. The sector's diversity is reflected in the different performance results from the major sub-sectors over the last ten years. These sub-sectors face different problems, have substantially different prospects, and make different contributions to poverty reduction (Abdellatif Ijaimi et al. 2004).

To enable financial inclusion for small farmers, the entire value chain needs to be understood and supported, and financial products have to be designed keeping in mind their unique needs. Bank of Khartoum believes that Islamic microfinance products can effectively reach small farmers in Sudan when customized to their needs (Naeem 2012).

Bank of Khartoum and six more microfinance institutions reaching small farmers through a series of capacity building projects and developing tools such as group financing, cooperative, production-risk guarantees, and crop insurance products aimed at small-scale farmers since the year 2011.

## 7.2 LITERATURE REVIEW

### 7.2.1 *Islamic Wholesaling Banks and Microfinance*

Bank wholesaling to MFIs in Sudan was first suggested by Unicons in 2006 to expand microfinance outreach. Unicons also suggested the adoption of a pilot wholesale project between banks to MFIs.<sup>1</sup> Recently the National Comprehensive Microfinance Strategy (2013–2017) encouraged banks to increase the volume of wholesale finance to MFIs and to provide microfinance services via joint portfolios.<sup>2</sup>

The wholesale lending market in Sudan is wholly Islamic, relatively young but growing faster than Ethiopia's wholesale lending market. The Sudanese commercial banks entered into microfinance lending as a result of Central Bank of Sudan (CBOS) mandatory lending conditions, stipulating that they should allocate not less than 12% of the total banking portfolio to the microfinance sector, directly to individuals or groups of clients, or indirectly through wholesale lending to MFIs. This condition of social priority is meant to meet the social objectives of Islamic banking and to contribute toward poverty reduction among the economically active population.

The wholesaling market in Sudan is CBOS led. The wholesale lending programs in Sudan, to date, are dominated by the CBOS and shared by commercial banks, Sudanese Microfinance Development Company (SMDC), and partnership with Islamic Development Bank (IDB). As of May 2014, out of SDG 328 million funds allocated for microfinance by the MFIs, the share of self-employed financial resources was 14%, the CBOS share 53%, the Islamic Development Bank/CBOS partnership share 18%, the Sudanese Microfinance Development Company (SMDC) 10%, and commercial banks 5%.<sup>3</sup>

### 7.2.2 *The CBOS Standard Restricted Mudaraba Wholesale Lending Contract*

Since 2007 Sudan has used different modes of wholesale finance to MFIs. These modes include *Qard Hassan* (the benevolent loan) and *Musharaka* (equity participation) and are lenient, which is why they were suitable at the early stage of the development of MFIs. Nevertheless, since 2011 the CBOS has only used the restricted *Mudaraba* (trustee financing) contract (see Box).

**The CBOS standard restricted *Mudaraba* wholesale lending contract**  
 Restricted *Mudaraba* is an agency joint venture/limited partnership which involves two parties: the bank which owns the money, and the institution acting as a partner/entrepreneur, who uses his/her skills. The CBOS uses the restricted *Mudaraba* contract to extend wholesaling finance to MFIs via equal instalments, to be paid when 80% or more of each instalment is distributed according to the constraint mentioned in the contract.

The receiving MFI should have a clear project plan which specifies (among other things) the maximum loan and the types of activities. Moreover, the MFI should group all clients and insure all individual projects with the relevant insurance company. The MFI should also supply the CBOS with monthly records and accept a field visit by the CBOS to see the progress in the field. Each volume of finance targets a certain number of clients and certain percentage of women. The contract also sets a certain percentage of the *Mudaraba* fund for the MFI to cover the follow up cost, determines the types of guarantees, and specifies the distribution of profit, which is made on an equal basis (50% for the MFI and 50% for the CBOS). If the profit exceeds 20% of capital, 80% of the excess will be distributed to the MFI and 20% to the CBOS. Other conditions include the manual and electronic registration of clients in a Client Registry.

(Source: restricted *Mudaraba* contract, CBOS/MFU)

Finally, although the framework and the CBOS policies encourage banks to participate in MFI equity to improve capital adequacy and stimulate the wholesale market for MFIs, there has been no participation in this

field to date, with the exception of *Al-Ebdaa* Microfinance Bank, a foreign microfinance bank that managed to generate capital from the Farmers' Commercial Bank, in addition to local social investors.

### 7.2.3 *Microfinance Wholesaling via Portfolios*

The Sudanese experience in the microfinance wholesale field includes different microfinance portfolios for a limited period (usually three years, extendable) with capital shared by banks, local donors (such as *Zakat* Fund), and the CBOS. In Sudan the wholesaling finance via portfolio is of two types:

- To combine different financial resources from different financial institutions, including the CBOS, to finance a specific national microfinance project considered necessary for poverty alleviation, especially in rural areas;
- Microfinance portfolios targeting some microfinance segments of the economically active population such as graduates, rural women, graduates of technical and vocational training, craftsmen, and so on.

The following Box shows the major features of interest-free microfinance portfolios in Sudan.

#### **The major features of interest-free agricultural & non-agricultural microfinance portfolios**

The Sudanese microfinance experience is creative in the formulation of interest-free microfinance portfolios. These portfolios are encouraged by the CBOS as one means of enhancing microfinance for different clients and target groups such as graduates or rural women or even technical training graduates. The CBOS usually encourages banking portfolios, not only in microfinance but also in other priority sectors such as agriculture or Arabic gum exports. Sometimes, certain concessions are made to banks that contribute to these portfolios. A concession might be the exemption of the contribution from the reserve ratio by the same amount of the contribution in the portfolio, or counting the portfolio as part of the mandatory 12% to be allocated to the microfinance sector by each bank. Although the CBOS encourages banks to formulate or enter into portfolios, the portfolios are always initiated by the CBOS and it is up to each bank to decide whether to contribute or not.

The following shows how the portfolios are formulated and administered:

### **1. Formations of Agricultural Portfolios**

The Central Bank on the agreement of some banks approves the formulation of agricultural portfolio (or consortium)

The Central Bank of Sudan share in the portfolio and a member in the board of directors (BOD), reporting to the governor or the concerned department.

Not all capital-sharing banks are member of the BODs, one bank is chosen to be the president of the BOD. This bank should be a sharing bank, but might not be a lending bank.

### **2. Functions of the Shareholders Council**

Put down the major policies,

Recruit the BODs,

Approve the annual report and the profit distribution. Approve profit distribution

### **3. Role of the Lending Bank(s)**

Supervision of the portfolio & lending to clients in accordance with the agreed policies and lending regulations

Apply rules and regulation from the BODs

Determine the annual plans in accordance with the direction of the BODs and follow-up its implementations

Control the portfolio-related financial side, and deliver the Operational Reports financial statements to the BODs

One famous microfinance portfolio is the Graduates' Project Financing Portfolio. This successful portfolio started in 2012. It is a joint portfolio between the CBOS and other banks and is administered by two leading banks, the Farmers' Commercial Bank and the Savings and Social Development Bank, with a capital of SDG 100 million (equivalent to approximately US \$20 million).

### **Graduates' Projects Financing Portfolio 2012**

The Graduates' Projects Financing Portfolio is meant to provide lending opportunities to graduates as a target microfinance group. It is a joint portfolio between CBOS and other banks, to be administered by two leading banks (the Farmers' Commercial Bank and the Saving and Social Development Bank) with capital of SDG 100 million. By August 2014, SDG 56.6 million had been paid, out of which SDG 36 million was paid by the CBOS. The total return is SDG 7 million, and repayment is 93%.

By the end of August 2014 around 3366 graduates' projects in 15 states had been financed. The portfolio uses the Comprehensive Insurance Policy as a guarantee. The sectors covered are agriculture (38%), commerce (29%), services (18%), and industrial (1%). Finance covered 38% of agricultural projects.

This portfolio encourages new projects such as fishing and protected planting and medical laboratories. The major constraints are high taxes and local fees, the high cost of licences and raw materials and inadequate capital, compared with the demand for loans from graduates.

(Source: Graduate Project Financing Portfolio, 2012)

AMAN portfolio (a consortium of private sector banks and *Zakat* Fund) is also one of the microfinance portfolios. Around US \$40 million finance administered by Bank of Khartoum were allocated for microfinance projects. In addition, the CBOS microfinance experimental wholesale program started in 2007 as *Musharaka* program (joint partnership where two or more persons/institutions combine both their capital and labor together to share the profit) with eight banks and two MFIs. By 2012 US \$168 million were allocated in this program.

One of the most successful microfinance portfolios is the CBOS and Islamic Development Bank of Jeddah portfolio. This portfolio is allocating SDG 93.8 million on a wholesale lending base via *restricted Mudaraba*

to ten MFIs (Baraa', SDF/Khartoum, SDF/Kassala, *Al-Anaam*, PASED, Al-Gezira, *Al-Shabab*, *Al-Watania*, SRDC, and Blue Nile).

#### **The wholesale lending under the CBOS/IDB Partnership**

In the CBOS/IDP Partnership model program the current portfolio is SDG 80 million, Portfolio at Risk, PaR (<30 days) is 2.83% and more than 32 thousand clients were covered (47% are women). The average loan size is only US\$ 437. The distribution of finance according to sectors is as follows: Agriculture 21%, Industry 13%, services 19%, commercial 37% and others 8%.

(Source: CBOS/IDB Partnership Management Unit, Consolidated Report, August 2014)

Another comprehensive wholesale program is linking farmers in traditional agricultural rain-fed states to all markets via a wholesale lending portfolio. This national microfinance project is meant to cover half a million farmers in the coming years. The program started with finance from the *AMAN* portfolio in 2011. Working with the same stakeholders (in addition to Sudanese Microfinance Development Company, SMDC), the 2012 and 2013 versions were financed by the CBOS and Bank of Khartoum.

#### **Linking small farmers in the traditional rain-fed agriculture to markets**

The aim is to improve financial inclusion of rural farmers in rural areas, to empower small farmers and strengthen food security, to consolidate value chain and to change farmers from food subsidy to food self-sufficiency. The Bank of Khartoum, supported by the CBOS and other banks funds, finances the rain-fed agricultural sector to grow sesame, beans, sorghum, and millet, and to link farmers in traditional agricultural rain-fed states to all markets (crop market, crop insurance market, extension services—seed selection, fertilizer

usage, harvesting techniques etc.). The State ministries provide extension services sponsored by the CBOS. Shiekan Insurance Company insured the product, the United Nations World Food Program (WFP) provides food for farmers, the strategic Reserves Corporation of the government acts as a buyer of last resort. The WFP also buys the surplus product for its own program of schools and food for work.

The project started in 2011 with the target of 100,000 farmers in nine states via four banks: Agricultural Bank of Sudan, Saving and Social Development Bank, Family Bank and Bank of Khartoum. Finance from AMAN banking and *Zakat* Portfolio including a share from the CBOS. Repayment was 80%. The major problems were identified as the selection of the target group and weak coordination among stakeholders.

These constraints were overcome in 2013 when 160,000 rural farmers (135,000 in small rural agriculture and 25,000 raising animals) were targeted in seven states. Finance of SDG 36 million was made via SMDC, a company shared by the CBOS and the Ministry of National Economy in addition to other donors, plus SDG 20 million from Bank of Khartoum and other banks (Agricultural Bank of Sudan, Farmers Commercial Bank, Saving and Social Development Bank).

Other stakeholders are the same, but the National Insurance company replaces Shiekan Insurance Company.

(Source: CBOS/MFU)

Another wholesale microfinance project via partnership funding is the Agricultural Bank of Sudan Microfinance Initiative, ABSUMI. This pioneering pilot project in May 2011 was financially supported by the Agricultural Bank of Sudan (ABOS), International Fund for Agricultural Development (IFAD), and the CBOS in both North and South Kordofan states.



### **The Agricultural Bank of Sudan Microfinance Initiative, ABSUMI**

The ABSUMI Model started in 2011 and targeted one million households across Sudan over a decade. Small loans of around SDG 672 (around US\$ 130) were made to rural farmers based on *Murabaha* and *Musharaka* to perform agricultural activities (95% livestock fattening, 1% small agricultural activities and 4% income generating activities). The pilot project in 2011 reached 119, 88 households via 677 women's groups with SDG 13 million total lending and SDG one million small saving mobilization.

By March 2014 ABSUMI had reached more than 25,000 members through 1439 women groups in five units in five states. SDG 39 million (US\$ 6.8) were disbursed, and the average loan was SDG 930 (US\$ 163) with a repayment of 100%. ABSUMI also had mobilized a saving worth of more than SDG three million by March 2014, up from 42,000 in October 2011. The number of savers is more than 27,000 compared with only 1000 during the same period the previous year. ABSUMI has employed 87 youth. The extension is largely due to the success of the pilot project and the enthusiasm of the stakeholders to expand to fill in the gap between demand and supply of microfinance services in rural areas. Due to these successes, huge up scaling of ABSUMI is underway.

(Source: Central ABSUMI Unit, Agricultural Bank of Sudan)

### *7.2.4 Technology Transfer and Extension*

Extension is the responsibility of the individual states as part of their responsibility for agriculture and livestock services. The new national strategy for agriculture launched in 2001, and the recognition that extension is a critical factor in improving agricultural production and food security, led to the resulting of the Extension Department into a Technology Transfer and Extension Administration (TTE) which has the task of modernizing agriculture, increasing crop yields and the quality of production, improving farmers' income, achieving sustainable use of resources and sustainable production.<sup>4</sup>

The TTE plans to establish a network which administrations in the state ministries responsible for agriculture (nine of which have been already established in Southern Kordofan, West Nile, and Upper Nile) and working with the states, Agricultural Research Corporation (ARC), and

universities will facilitate the transfer of technology to farmers. Several central government centers for technology transfer and 50 extension stations (with federal and state financing) connected with the government agricultural schemes (such as the large irrigation schemes) will be established. Plans are in place to have ten transfer and farmer training centers by 2006 and to have 2000 demonstration farms. It is also planned to merge extension services for rain-fed and irrigated crops (Abdellatif Ijaimi et al. 2004).

TTE has four main thematic programs, namely improving crop productivity, promotion of improved seeds, integrated mechanization, and rural women development. It is worth focusing on the seed program to demonstrate TTE's work in facilitating the availability of an important technology for farmers. Only an estimated 10% of farmers use certified seeds. Improved seed technology is essential for bridging the gap between yields in demonstration trials and farmers' fields. Until recently, seed production and certification was handled by the central government through the Seed Unit of the Extension Department in the Ministry of Agriculture and Forestry. It was an inefficient operation. Seeds were not of good quality or disease-free; they were also expensive. National seed production was limited to field crops, while horticultural crop seeds were usually imported.<sup>5</sup> In a move to improve production of good-quality seed and boost the use of improved seed, the Seed Multiplication Department in the Ministry of Agriculture and Forestry was semi-privatized in 2000 and entrusted to a new joint (public-private) ownership company. The government donated physical assets to the newly formed Arab Sudanese Seed Company representing a share of 42% of the company's capital. The remainder was financed by the Arab Authority for Agricultural Investment and Development (AAID), Al Aktan Company, and the Farmers Commercial Bank. The responsibility for seed certification and oversight was retained by TTE (Abdellatif Ijaimi et al. 2004).

### 7.2.5 *Agricultural Credit*

Lending to the agricultural sector occurs through both formal and informal credit channels. Although informal credit is an important source of finance for agriculture, because of data constraints, it was not considered in this section. Lending directed specifically to the needs of the agricultural sector started with the formation of a government-owned Agricultural Bank of Sudan (ABS) in 1957. It currently has 91 branches. About 90% of

ABS loans go to the agricultural sector which is an increase on past performance. Loans mainly finance activities in irrigated and rain-fed agriculture, providing about 20% of farmers' total credit demand. The other major sources of credit for the sector are the commercial banks. There are also other sources, such as the Sudan Cotton Company (SCC), which has more recently taken responsibility for the bulk purchase of inputs for cotton farmers, with guarantees from the government. Fertilizer is provided on credit to farmers through the Sudan Gezira Board (Abdellatif Ijaimi et al. 2004).

### *7.2.6 Islamic Financial Inclusion for Agriculture Development*

This chapter is trying to assess the relationship between the growths of Islamic financial inclusion services and the agricultural development in the White Nile State, Al-Dweim locality. As to have a systemic answer for this relation, the study adopted both primary and secondary data collection to assess this relationship.

## 7.3 DATA SOURCES

The study used both primary and secondary sources of data.

### *7.3.1 Primary Source of Data*

#### *7.3.1.1 Questionnaire*

Field survey by using the questionnaire sampling techniques in the White Nile State to have a clear understanding of the telecommunication role in facilitating and easing Islamic financial services management for small farmer-based delivery model. A valid and reliable research instrument (Questionnaire) developed to get information from field.

#### *7.3.1.2 Secondary Data Sources*

Extensive secondary research conducted about telecommunication network outreach in Sudan including the area of the study, current outreach, in default rates, and the use of mobile phones in Islamic microfinance operations in the Alfal Microfinance Company. The study used reports, Internet, and other related secondary sources of data.

## 7.4 DISCUSSION

This section is divided into three sections: section one discusses the findings of the questionnaire, section two discusses the findings of the annual telecommunication network report, and the last section discusses the Islamic microfinance performance in South Al-Dweim agricultural projects.

### 7.4.1 *Characteristics of Respondents*

Field work for this study was undertaken in the White Nile and Khartoum states from September to October 2018 via structured questionnaire with 137 persons from various sectors; the main objective from structuring questionnaire was to weight the Islamic financial inclusion services influencing development in agricultural projects.

### 7.4.2 *Questionnaire*

A questionnaire distributed to 137 persons from all of the White Nile State to assess the relationship between the Islamic financial services provision and agricultural development in South Al-Dweim agricultural projects. The respondents were active civilians. The first part of the client's questionnaire focused on personal data including ages, academic qualifications, and careers.

The second part of the clients' questionnaire focused on the levels of Islamic financial services provided to them and the use of mobile network.

Table 7.1 and Fig. 7.1 show that the majority of respondents are male compared with minority of females.

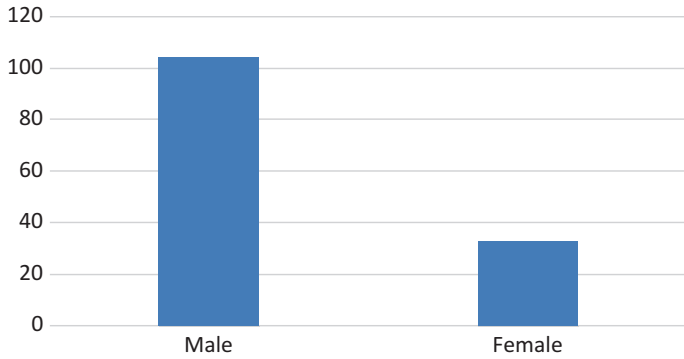
From Table 7.2 and Fig. 7.2, the majority of respondents' ages were between 26 and 35; this means the majority of respondents are youths who are mostly using mobile devices in Sudan.

From Table 7.3 and Fig. 7.3, the majority of respondents are farmers, who are the major targeted persons with Islamic financial products.

**Table 7.1** Distribution by gender

<i>Male</i>	<i>Female</i>	<i>Total</i>
104	33	137

Source: calculations based on survey data (2018)

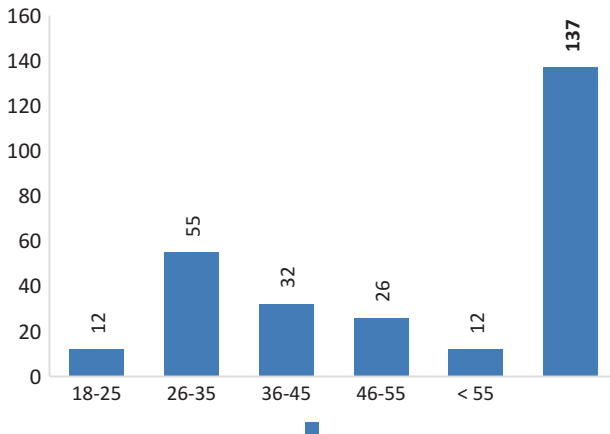


**Fig. 7.1** Distribution by gender. (Source: calculations based on survey data (2018))

**Table 7.2** Age of respondents

<i>Age</i>	18–25	26–35	36–45	46–55	< 55
	12	55	32	26	12

Source: calculations based on survey data (2018)

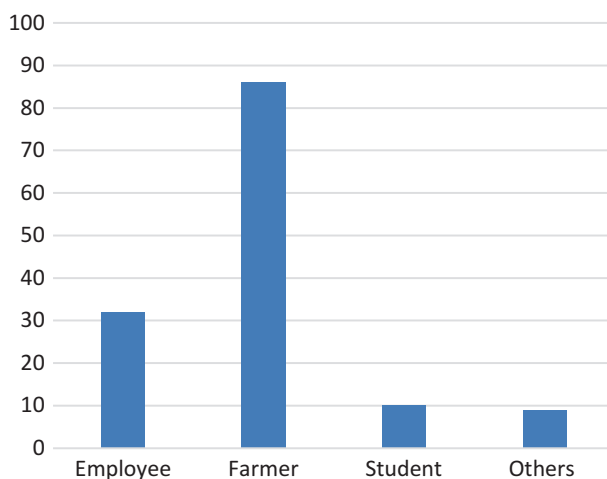


**Fig. 7.2** Age of respondents. (Source: calculations based on survey data (2018))

**Table 7.3** Careers of the respondents

<i>Employee</i>	<i>Farmer</i>	<i>Student</i>	<i>Others</i>
32	86	10	9

Source: calculations based on survey data (2018)



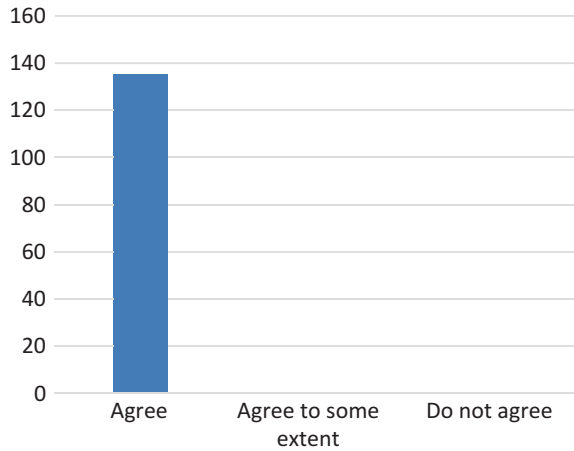
**Fig. 7.3** Careers of the respondents. (Source: calculations based on survey data (2018))

**Table 7.4** Islamic financial products provided by microfinance institutions contributed in increasing the rate of financial inclusion of farmers

<i>Agree</i>	<i>Agree to some extent</i>	<i>Do not agree</i>
135	2	

Source: calculations based on survey data (2018)

Table 7.4 and Fig. 7.4 show the majority are agreeing that the Islamic financial products provided by microfinance institutions contributed in increasing the rate of financial inclusion of farmers.



**Fig. 7.4** Islamic financial products provided by microfinance institutions contributed in increasing the rate of financial inclusion of farmers. (Source: calculations based on survey data (2018))

**Table 7.5** Mobile telecommunication network expansion helped in increasing the services of farmers’ inclusion

<i>Agree</i>	<i>Agree to some extent</i>	<i>Do not agree</i>
137	0	0

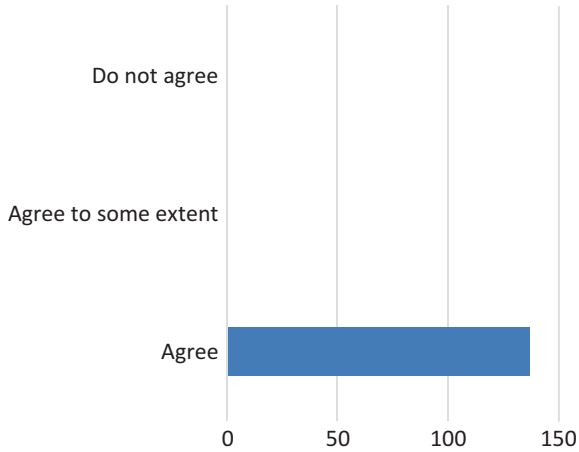
Source: calculations based on survey data (2018)

Table 7.5 and Fig. 7.5 show that all the respondents are agreeing that the mobile telecommunication network expansion helped in increasing the services of farmers’ inclusion.

Table 7.6 and Fig. 7.6 show all the respondents are agreeing that the use of mobile phone operations need to develop networks and applications to serve the small farmers in the South Al-Dweim.

Table 7.7 and Fig. 7.7 show the majority are agreeing that the development of communications methods between farmers helped in reducing financing risks.

Table 7.8 and Fig. 7.8 show the majority are agreeing that the development of telecommunication services increased the outreach of Islamic financial services among farmers.



**Fig. 7.5** Mobile telecommunication network expansion helped in increasing the services of farmers' inclusion. (Source: calculations based on survey data (2018))

**Table 7.6** Use of mobile phone operations need to develop networks and applications to serve the small farmers in the South Al-Dweim

<i>Agree</i>	<i>Agree to some extent</i>	<i>Do not agree</i>
137	0	0

Source: calculations based on survey data (2018)

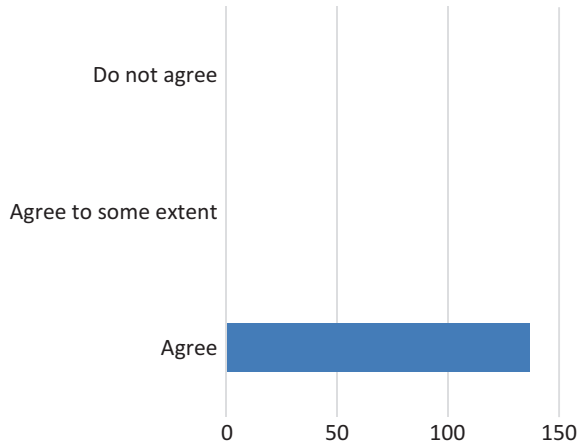
Table 7.9 and Fig. 7.9 show the majority are agreeing that the improvements of telecommunication services achieved a significant development in agriculture in South Al-Dweim project.

### 7.4.3 *Network Performance Indicators in Sudan*

Table 7.10 shows that the subscribers of mobile phone in Sudan are rapidly increasing during the last three years; this can expand the chance to provide more Islamic financial services.

Table 7.11 shows that the subscribers of mobile phone in Sudan are rapidly increasing during the last three years; this can expand the chance to provide more Islamic financial services, but there is no data found to indicate the subscription classified by specific areas.





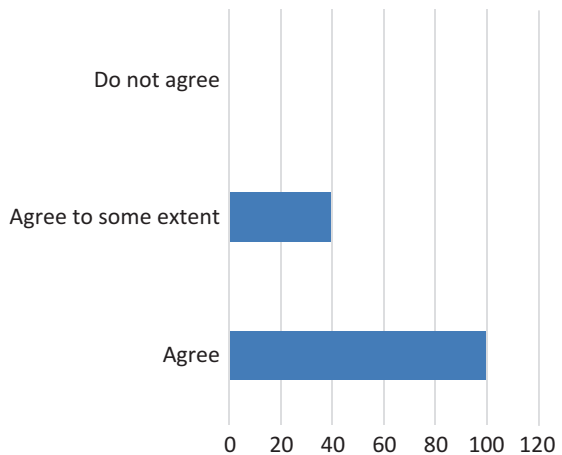
**Fig. 7.6** Use of mobile phone operations need to develop networks and applications to serve the small farmers in the South Al-Dweim. (Source: calculations based on survey data (2018))

**Table 7.7** The development of communications methods between farmers helped in reducing financing risks

<i>Agree</i>	<i>Agree to some extent</i>	<i>Do not agree</i>
99	38	0

Source: calculations based on survey data (2018)

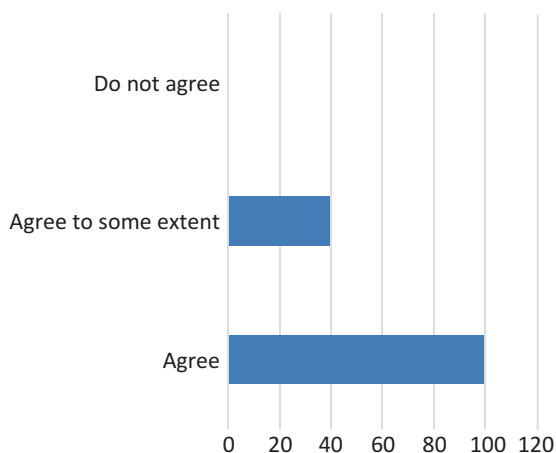
**Fig. 7.7** The development of communications methods between farmers helped in reducing financing risks. (Source: calculations based on survey data (2018))



**Table 7.8** The development of telecommunication services increased the outreach of Islamic financial services among farmers

<i>Agree</i>	<i>Agree to some extent</i>	<i>Do not agree</i>
133	4	0

Source: calculations based on survey data (2018)

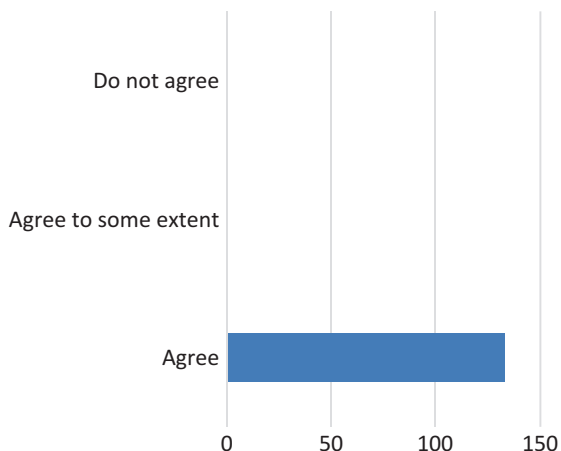
**Fig. 7.8** The development of telecommunication services increased the outreach of Islamic financial services among farmers. (Source: calculations based on survey data (2018))**Table 7.9** The improvements of telecommunication services achieved a significant development in agriculture in South Al-Dweim project

<i>Agree</i>	<i>Agree to some extent</i>	<i>Do not agree</i>
136	1	0

Source: calculations based on survey data (2018)

Table 7.12 shows the volume of registered subscribers of mobile phone in Sudan. The total rate of registration through the national ID is 76%; it means there is still 24% of the total subscribers lagging behind, so they may be exposed for further financial exclusion as the opportunities of financial inclusion can increase after they finalize their registration through their national ID numbers.

**Fig. 7.9** The improvements of telecommunication services achieved a significant development in agriculture in South Al-Dweim project. (Source: calculations based on survey data (2018))



**Table 7.10** Mobile phone subscribers (prepaid + postpaid): (Internet use postpaid)

	2015	2016	2017
Zain	11,909,149	12,587,509	13,72,301
MTN	8,467,339	7,490,892	7,643,356
Sudani	7,562,019	7,728,892	7,428,482
Total	27,938,507	27,807,293	28,644,139

Source: Sudan National Telecommunication Authority annual report 2017

**Table 7.11** Internet usage

	2015	2016	2017
Zain	5,463,096	3,587,298	4,669,990
MTN	3,835,958	3,884,728	4,493,131
Sudani	2,350,000	2,733,000	20,140
Total	11,649,054	10,205,026	12,363,261

Source: Sudan National Telecommunication Authority annual report 2017

#### 7.4.4 *Financial Performance Summary of AL-FAL Islamic Microfinance Company*

Table 7.13 shows the volume of Islamic agricultural portfolio status, with areas, number of farmers included, sector, fund owner, and portfolios.

Table 7.14 shows that the volume of agricultural Islamic microfinance portfolios and farmer inclusion is leveraging during the last three years

**Table 7.12** Mobile SIMs registry statistics until December 31, 2017

<i>Company</i>	<i>Zain</i>	<i>MTN</i>	<i>Sudani</i>	<i>Total</i>
Active numbers	12,862,857	7,626,366	7,330,728	27,819,951
Registered numbers	12,862,857	7,626,366	7,330,728	27,819,951
National ID verification	9,057,288	5,396,150	6,289,482	20,742,920
Registered without national ID verification	3,805,569	2,230,216	1,041,246	7,077,031
The rate of national ID verification	70%	71%	86%	76%

Source: Sudan National Telecommunication authority annual report 2017

**Table 7.13** Islamic agricultural microfinance provided by AL-FAL MFC in South Al-Dweim projects, Sudan, White Nile State

<i>Portfolio</i>	<i>Status</i>	<i>Area</i>	<i>No. of farmers</i>	<i>Sector</i>	<i>Fund owner</i>	<i>Portfolio volume/SDGs</i>
(1)	Cleared 100%	WNS	1062	Agricultural	JSJB	22,811,925
(2)	Cleared 100%	WNS	1266	Agricultural	JSJB	19,845,000
(3)	Subsisting	WNS	156	Agricultural	JSJB	3,955,000
(4)	Subsisting	WNS	236	Agricultural	JSJB	21,666,500
(5)	Subsisting	WNS	5000	Agricultural	JSJB	28,000,000
(6)	Subsisting	WNS	180	Agricultural	JSJB	9,500,000

Source: Alfal Microfinance Company report 2018

**Table 7.14** The growth of agricultural Islamic microfinance portfolios and farmer inclusion during the last three years

<i>Year</i>	<i>No. of farmers</i>	<i>Portfolio volume</i>
2016	100	3,000,000
2017	4701	38,656,945
2018	6320	65,121,500

Source: Alfal Microfinance Company report 2018

besides the increasing of the mobile networking coverage; this explains there is a positive relationship between the agricultural development and the Islamic financial inclusion.

## 7.5 CONCLUSION

This section presents the summary, conclusions, and recommendations of the study. The summary focuses on the findings in relation to the objectives of the study it intends to achieve. The summary followed by the conclusion, which is also based on the findings of the study, and the recommendations.

### 7.5.1 *Summary of Major Findings*

Findings on the relationship between the Islamic financial inclusion and agricultural development.

Findings focus on the fact that there is a *positive relationship* between Islamic financial inclusion and agricultural development in South Al-Dweim, White Nile State. The outreach of mobile network supported farmers to communicate easily; it helped them to keep care of their farms and to avoid any field practice risks. This situation encourages Islamic financial institutions to leverage their financial portfolios at that area.

### 7.5.2 *Recommendations*

The Sudanese rural areas need more mobile networking coverage to enable farmers to have easy access to Islamic financial services; without expanding the mobile networking coverage the use of mobile phones will not enable other rural farmers to have access to digital Islamic financial services.

The current mobile service platforms need to qualify the service to suit the need of rural farmers in using advance mobile applications for extra Islamic agricultural services.

Rural farmers need more awareness about the importance of mobile phone number registration through the national ID numbers to be included within the official financial systems in Sudan.

Strong coordination between the Islamic banking sector and the telecommunication sector is highly needed to enable the Islamic financial inclusion which plays the role of developing the agricultural development.

## NOTES

1. Unicons, 2006, “The Vision for the Development and Expansion of the Microfinance Sector in Sudan,” op. cit., p. 56.
2. Higher Council of Microfinance, HCMF, 2013, *National Microfinance Comprehensive Strategy*, 2013–2017, op. cit.
3. CBOS/MFU Monthly Report, May 2014; Ibrahim Badr El Din A. 2012, *Characteristics of Microfinance Wholesale lending...* ibid.
4. There is a similar body in the Ministry of Animal Resources and Fisheries called the Administration of Extension and Pastoralist Development.
5. Except for the traditional Mloukhieh and okra.

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# Enhancing Financial Inclusion Through Sustainable Islamic Microfinance in Pakistan: A Participatory Products Development Perspective

*Muhammad Khaleequzzaman*

## 8.1 INTRODUCTION

### *8.1.1 Socioeconomic Profiles of Pakistan and State of Financial Inclusion*

Pakistan, spread over a geographical area of 796,095 sq. km., holds a population of 207.77 million inhabitants (Fiscal Year-2017) and carries 41st largest economy in the world in terms of GDP (at current prices) recording growth of 5.8% in the last year (2017–2018). Its per capita income amounts to US \$1641.<sup>1</sup> Literacy rate establishes around 58% (GoP 2015).

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[https://doi.org/10.1007/978-3-030-39939-9\\_8](https://doi.org/10.1007/978-3-030-39939-9_8)

A considerable proportion (31% of total population) is aged between 15 and 29 years. Broadly, the population composition skewed toward the working age (61.4%) falls in the same age group. Women constitute about half (49%) of the total population and contribute 22% to the total labor force.

Largely, a significant proportion of population lives in poverty, varying from 30% to 39% as reported by various official sources.<sup>2</sup> The government is cognizant and committed to tailor its socioeconomic policies to help in achieving Sustainable Development Goals (SDGs) set for the period 2015–2030. It has prioritized pro-poor sector through the Poverty Reduction Strategy Paper II (2008–2010) where the share of expenditure allocated to this cause was ever high of 9.3% of GDP. Subsequently, a number of measures such as Benazir Income Support Program (2008) and Prime Minister's Youth Business Loan Scheme (2013) for youth with potential entrepreneurial capabilities were initiated. However, the latter scheme introduced with political motivation could not leave the desired impact. There is a need to extend the access to productive finance, especially to women household heads and widows, enabling to earn their livelihood by instilling/enhancing entrepreneurial capacity in rural and semi-urban areas.

Access to formal financial services is low (22%) as compared to the other countries in the region, such as Bangladesh (34%) and India (67%). The access of women to financial services is even lower (11%). Therefore, an overwhelming majority of the country's population remains financially excluded. However, ambitious target looks for achieving access to bank accounts around 50% in 2020 (women 25%).<sup>3</sup>

In Pakistan, broadly, the population composition is skewed toward the working age (61.4%) falling in the age group 15–59 years. The potential of young people can be productively used by providing opportunities for growth and personal development. Unfortunately, the lack of focus on their development in previous years has exposed youth toward vulnerability to violence and conflict.

The goal of Pakistan's financial inclusion program as chalked out in 2015 by the State Bank of Pakistan (SBP)—country's central bank—requires improving inclusive economic growth, income, and livelihood opportunities for poor and marginalized groups including women and youth. The program, in fact, looks beyond the provision of microfinance and small enterprise financing by exploring innovative interventions in subsectors of rural financing, remittances, Islamic banking, and low-income housing. A key element for the success of the program has been



identified as productive partnership between the commercial banking sector and microfinance providers.

Accordingly, the financial inclusion has been the core component of the country's financial sector development strategy. SBP's efforts for promotion of financial inclusion have yielded significant results but the scale is yet to be achieved.

Pakistan is signatory to and has adopted the Sustainable Development Goals (SDGs) requiring to eradicate extreme poverty (people living under US \$1.25 a day) by 2030.<sup>4</sup> The Islamic Development Bank (IsDB), to which Pakistan is a member, already collaborates with United Nations Development Programme (UNDP) on account of SDGs and has identified priority areas for coordinated action including innovation, poverty reduction, and employment, particularly the role of Islamic finance. Particularly, Islamic finance, as an alternative to conventional counterpart, is based not only on the principles of risk sharing and justice but also provides link to the real economy rendering it a sustainable system of economic development, including poverty alleviation inspiring entrepreneurship and providing access to economic and financial resources. Therefore, Islamic finance can more efficiently achieve the financial stability, financial inclusion, and shared prosperity, promoting inclusive society.

### *8.1.2 Analysis of Microfinance Sector*

Pakistan's microfinance sector has not been able to reach the poor population effectively. A smaller proportion (11–13%) of the potential market of about 28 million poor in Pakistan has been covered by the microfinancial services. The coverage of poor population in its depth and breadth is quite low and does not place Pakistan even among the top ten countries (including India and Bangladesh) in terms of number of borrowers and loan portfolio. The constraints of the sector are briefed in the following.

Very thin outreach of microfinance in Pakistan is appropriated to a number of factors. The microfinance institutions (MFIs) suffer from paucity and piecemeal supply of funds. The microloans have not proved sustainable for clients owing to high cost ranging from 30% to 50%. High interest rates (effective interest rates even higher) keep the borrowers in debt trap. A research study on prospects and challenges of microfinance sector in Pakistan concludes that about 74% practitioner respondents believed that the availability and access to cheaper finance was the biggest challenge to MFIs and the growth of the sector (Jaffari et al. 2011).

Commercial banks having excess liquidity do not consider microfinance (MF) intervention a business case despite very high collection rates of this sector. On the other hand, commercial banks do not intend to downscale owing to higher transaction cost; however, they have not considered linking this sector through microfinance institutions, possessing local experience and knowledge about clients.

It is well understood that both Islamic and conventional MFIs have failed to assist their clients in procuring supplies and marketing their produce. The absence of such arrangement is affecting the clients' sustainability adversely. The MFIs seldom provide participative finance through risk-sharing mechanism and lose the confidence of their clients when they shoulder the sole burden of business loss, forcing to resort to multiple borrowing.

In almost all cases, the clients are financed individually and the concept of solidarity remains absent. In Pakistan, even the clients socialized through group are treated individually and such groups are not used for project finance due mainly to the short-term lending appetite of MFIs and incapacity to supervise such investments. The general practice of microfinance does not include the poorest and destitute, rather enterprising clients, thereby ignoring the integrated approach of providing social safety net and enterprise development. The criterion is unduly depriving sizable proportion of vulnerable community, instead of devising workable financial products and models suitable to them. A significant proportion of poor in Muslim communities, also, demonstrate self-exclusion owing to *Shariah* prohibition restricting the use of conventional finance. As such, there is an overwhelming demand for Islamic financial services (95%) as evidenced by a KAP study conducted by the State Bank of Pakistan in 2014 (SBP and DFID 2014).

Islamic microfinance institutions (IMFIs) also suffer even far worse conditions and sustainability issues owing mainly to inadequate capacity to conduct Islamic finance operation. These have been unable to access cheaper sources of funds like deposits and equity and rely on donations and/or borrowing from bigger MFIs on the bases of interest, violating a core prohibition in *Shariah*. These limitations have constrained them from accessing cheaper source of funds and hence not allowed them to service larger number of clients and achieve economy of scale.

Most of the IMFIs have not yet reached to the scale of even 10,000 clients and the clientele remains even low as 200. Similarly, the average size of Islamic finance remains at very low bound, that is, Rs. 16,790 (US

\$125), ranging from Rs. 5000 to 35,000 (US \$37–261). IMFIs are facing sustainability issues mainly due to smaller outreach and high cost of operation. Only Akhwat, the largest IMFI, occupying around 90% of gross finance portfolio and clientele of IMFIs, has demonstrated operational self sufficiency (OSS) and financial self sufficiency (FSS), respectively, at 137% and 97%. The other institutions, however, are not sustainable. The products have concentrated in *Qard* and *Murabahah*. The participatory modes *Mudarabah*/*Musharakah* have not yet surfaced, except introduced by a few IMFIs on experimental basis but have not been able to establish viable structures. The scale of operation of Akhwat and significantly large source of funding (donations) are likely not to pose any significant challenge to sustainability of Akhwat as an organization; it is unrealistic for other IMFIs to achieve similar sustainable basis. This is in addition to the inherent limitation of *Qard*-based model that adds rather limited value to the real sector economy.

The efficiency of IMFIs is further restricted by weak social mobilization, absence of Shariah advisory, virtually no product development capacity, and lack of financial discipline. At the same time, the Islamic banks, keeping short- to medium-term liquidity, have ignored to diversify their assets in microfinance. Only Meezan Bank has established *Ihsan* Trust to administer a *Waqf*<sup>5</sup> fund to operate microfinance; the other Islamic banks operate in sheer disregard to *Maqasid al Shariah*.

Recognizing these facts, product innovation and integration of Islamic social sector (*zakat*, *awqaf*, and microfinance) in Islamic finance are required to support poverty alleviation efforts at affordable prices that could sustain both IMFIs and their clients. The financial inclusion as adopted in current practices of Islamic financial system where conventional products are converted into *Shariah*-compliant alternatives does not result into much different outcome. Rather, the focus should rest with to develop viable MFIs capable of offering opportunities to its clients by engaging them as business partners.

It would be concluded that the focus of Islamic finance in Pakistan practiced through commercial banks broadly ignores the disadvantaged and the poor segments of the society; rather the interest of the corporate sector and affluent is served in terms of access to finance, product structure, and practical orientation. As a matter of fact, the Islamic financial institutions have become active instruments of net resource transfer from middle and lower income to high income strata.<sup>6</sup> Financial exclusion is also evidenced in the interest-based model of conventional microfinance

institutions (MFIs). These MFIs tend to offer lending products to financially disadvantaged borrowers at unaffordable pricing. The demand for Islamic microfinance is overwhelming. However, only a handful of Islamic microfinance institutions (IMFIs) in the country are unable to meet this demand due to a number of limiting factors. These IMFIs are subjected to a number of sustainability challenges, including product concentration in *Murabahah*, paucity of cheaper sources of funds resulting into limited outreach, exclusion of the poorest, absence of participatory modes of financing, market linkages (value chains), and absence of *Shariah* structuring capacity.

There is a dire need that more innovative solutions for the poor communities should be presented to create employment, enhancing productive use of finance and creation of assets and promoting distributive justice. Providing them an opportunity through business partnership with the financial institution can enhance business productivity and confidence over the financier as it has to share the business results, both profits and losses, hence increasing financial inclusion.

### 8.1.3 Objective of the Research

It is worth exploring if gradual shift toward participatory modes of financing (where profits and losses are shared and enable transformation of finance into real assets) can help address the challenges IMFIs are currently exposed to. A number of studies have been conducted already where participatory modes of financing have been both favored and criticized. An analysis of these studies is likely to help draw a more conclusive evidence in support (or otherwise) of this mode of financing. Therefore, this chapter intends to conduct review of existing research in the area and take account of certain case studies based on participatory modes. It is expected that the findings will provide useful basis for policy decisions on product structuring and offering by IMFIs.

## 8.2 REVIEW OF LITERATURE

Keeping in view the objectives of the chapter and issues discussed in previous section, the review of literature has been limited to the rationale of partnership contracts vis-à-vis fixed rate contracts, their proximity with *Maqasid al Shariah*, and the related case studies, as well as the models of affordable/sustainable participatory financing.

Dar and Presley (2000) observe that Islamic banks hesitate to finance through partnership modes due to a number of reasons, particularly, the agency problem, competition from conventional counterparts compelling to adopt fixed return modes, non-participatory role of capital providers, and short-term nature of transactions suiting more for markup financing (since short-term investments in equity expose the investors to greater risk as compared to longer-term investments<sup>7</sup>), tax evasion attitude (as profit is taxed whereas interest is not and the latter becomes part of the cost), and absence of secondary market in the case of *Mudarabah* and *Musharakah* instruments. They have suggested the solution in venture capitals as these enterprises allow participation in management and decision making besides promising many times higher returns as compared to fixed return or even the return in partnership modes. Zaman and Zaman (2001) also argue that the banks' fear that equity-based financing would lead to more losses than debt has not been tenable and state that equity-based finance is typically more common in the USA and Japan than interest-based transactions despite the fact that debt-based financing would attract tax advantage, allowing businesses to write off interest expense and not the dividend payment. Their argument, however, leads to rethink that Islamic banks need to devise ways and means for the implementation of equity-based financing through prudent selection and monitoring of projects.

Nagaoka (2010) focuses on the economic advantage of partnership-based instruments in light of their conformity with the ideals of Islamic teachings. He has elaborated the economic rationale in operating these contracts. He concludes that the partners share the business results and any profit is realized according to the pre-agreed ratio while losses are shared in proportion to the investment of each partner. This means that the right of realizing profit is subjected to undertaking responsibility of sharing the loss which, in fact, is consistent with the Islamic maxim *al-kharaj bi al-dhamaan*. At the same time, he mentions some of the problems related to partnership-based contracts, for example, asymmetric information causes adverse selection before the contract is entered and moral hazard afterward. This situation increases monitoring and screening costs. However, fortunately, in the case of microfinance such costs are minimized through social collateral. Similarly, Khan (2015) emphasizes that equity-based financing contracts operate under the principle of equitable risk sharing. He maintains that the reason behind the global financial crisis was the overwhelming debt transactions devoid of market discipline through risk sharing.

Deliberating on the challenges encountered by Islamic banking and finance in meeting justice and equality as prescribed by *Maqasid al Shariah*, Yusof et al. (2010) conclude that overwhelming current practice of debt-based financing is harmful in sheer disregard of *Maqasid al Shariah*. Therefore, realization of justice and equality can be achieved by instituting equity financing. In their view, the equity-based financing would bring stability in the economy, especially when poor are provided finance through these modes of financing. They suggest that equity financing would not only increase access of the poor to institutional finance but also the returns are shared between financiers and the financed at market terms satisfying the criterion of justice for both parties. In the same context, Karim et al. (2008) conclude that fundamental to the provision of Islamic financial services is the inability to give or receive a fixed and predetermined rate of return. This principle is banned based on two *Shariah* precepts: money has no intrinsic worth, and providers of funding must share the business risk. Islamic finance is a holistic system that must be guided by Islamic economic objectives achieved through *Maqasid al Shariah*.

El-Gamal (2006) points out that the spirit of Islamic finance is being undermined by rent-seeking motive and has undermined the original approach translated through *Maqasid al Shariah*. He asserts that lawyers, providing regulatory arbitrage, help the bankers and *Shariah* experts to structure the products achieving competitiveness in the market (against conventional products), giving up the original sense of *Maslahah*.

Against the aforementioned argument, the model of “micro-credit” has been widely criticized for its high interest rate charges. Bhuiyan et al. (2011) identify that interest rates charged by MFIs range from 15% to 22% while 33% to 120% in non-institutional cases, leading to a major impediment in the financing solution for the poor and thus negating the goal of poverty alleviation and exploiting the poor. Karnani (2011) says that suicide cases have been reported in India due to incapacity to pay back the principal with high rate of interest and consequent harassment at the hands of MFI officials, meaning thereby that the clients have become worse off as compared to if they had not borrowed.

Based on a pilot survey conducted in Malaysia in 2011, Haneef et al. (2014) have proposed that Integrated *Waqf*-based Islamic Microfinance Model (IWIMM) can prove its utility in a number of ways including low-cost financing, provision of micro-*takaful*, human resource development in business skills, and project financing to the groups of clients possessing common skills. Hence, *Waqf* and microfinance can combine to look into

both income and non-income aspects ensuring more effective and efficient microfinance structures that address the challenges faced by low-income people. The model encompasses combining five components as the ultimate goal of poverty alleviation having *Waqf* as the funding agency, Islamic microfinance institutions as the implementing agency, *takaful* as risk mitigation tool, partnership-based project financing of solidarity groups, and human resource development. More particularly, the *Waqf* fund has been preferred to reduce the cost of capital for Islamic microfinance, while project financing through solidarity groups of entrepreneurs and *takaful* would target reducing poverty through economic growth of their businesses and vulnerability of clients, respectively. The clients have been proposed to perform different functions according to their expertise like supplies, production, packing and marketing, record keeping, and so on. They have also proposed commercial engagement of the associations in the model. Although the model has proposed project financing of the clients in groups, different productivity levels and expertise may entail difficulty in sharing business results which require certain formula to be developed for the purpose. Moreover, drawing from experience of Pakistan, the marketing of the production could better be arranged by the MFIs rather than associations to save on the cost and to increase benefit to the clients.

### 8.3 CASE STUDIES

The Sudanese Islamic Banks (SIBs) have experienced microenterprise financing through equity participation contracts (Ahmed 2011). The banks undertake *Musharakah* for a definite period, where single transaction, a series of transactions, or working capital requests are met. The banks also facilitate large transactions like export of certain goods where client acquires the productive asset and bank provides working capital. The profits are shared between the parties once the export bill is realized and respective investments and expenses pertaining to the transaction are appropriated. Another alternative of working capital finance requires that the client would have acquired certain asset whose depreciated values are counted as client's investment. The bank providing working capital renders this partnership as *Shirkat ul Milk* and profits in this case are distributed as per investment of either party. The banks also practice diminishing *Musharakah*. SIBs contribute from 60% to over 80% of the estimated business capital in the majority of the projects; however, the proportion of

women's participation has remained quite low. Most of the *Musharakah* transactions were for short-term maturity (3–6 months). The banks could undertake very few longer-term projects owing to short financing appetite, represented through short maturity deposits. The study concludes that longer-term project could be beneficial to both the banks and the clients. The banks express low financial feasibility due to low productivity of the businesses and undertake the financing mode of partnership mainly owing to the government's directive. However, the clients were reported dissatisfied with the formula devised for profit distribution, besides considering undue interference of the banks in the management of their businesses.

They demanded that the share of profit on account of management should be set through negotiations as they apprehended undue share realized by the banks on account of their participation in the management of the business. Despite all such observations, these facts, SIBs have demonstrated partnership mode of financing which is rarely practiced elsewhere, especially in the case of small and microenterprises. Their experience provides a tested framework that can be adopted with constraints overcome in local social, economic, and cultural conditions. The problem of providing collateral in *Musharakah* can be addressed through solidarity group approach where social capital developed among the group members works to provide joint and several guarantee for each other.

UNDP introduced Village Fund Model in Jabal al-Hoss area of Syria in 2000 where community partnership and risk sharing were found to be sound and culturally feasible. The local inhabitants established formal *Musharakah* financing platforms (known as *sandug*; pl. *sanadiq*) by purchasing investment shares. The self-reliance as demonstrated by the communities induced UNDP to inject almost three times of the former contribution. The ministries of finance and agriculture also became the stakeholders. The project was using only *Murabahah* for short-term and seasonal financing. The average loan balance per borrower per capita GDP of 61% was better than other countries in the region. The project has proved the sense of participation and self-reliance by the communities, building formal institutions to serve themselves. Up to the time of study, the needs of the members were fulfilled through *Murabahah*. The participants were also receiving dividends from these platforms.

Bank of Khartoum (BOK) undertakes microfinance operations through IRADA Microfinance Company. The beneficiaries are financed individually in productive families engaging adult members of the households,



through associations, and solidarity groups having common activity. IRADA initiated the Abu-Halima Greenhouse Project in 2011 to provide employment to the agricultural graduates achieving composite objective of ensuring food security, combating unemployment, and reducing poverty (Alsagoff and Surono 2016). The project envisaged to set up 25 productive units with production of 1200 tons of off-season vegetables. The project carries distinguishing features of mitigating market risk, enhancing income due to high-value off-season sale, round-the-year engagement of economic activity, utilization of technology, and practice of equity financing products. The bank used restricted *Mudarabah* finance SDG 10.90 million for a period of five years for the purchase of greenhouse equipment, supporting infrastructure, cost of preparing technical feasibility, technical capacity building, provision of agricultural inputs, and living allowances (living allowance being a special characteristic to restrict *Mudarabah* capital entering into consumption expenditure). The bank and beneficiaries share profit of the venture as 60% and 40%, respectively. Monthly target returns to beneficiaries are estimated as SDG 2700 per family including living allowance of SDG 300–600. The projects provided all financial, technical, and marketing support, electric and water resources, operational and harvesting expenses, cold storage and grading machines, and market link to the local super markets. The beneficiaries were required to form a cooperative to become eligible for the project and finally get transferred the ownership to the cooperative after completion of five years.

The bank has the prerogative to distribute a larger proportion of profits based on performance and commitment of the beneficiaries. Regarding conflict arising about distribution of profits due to difference in yields, the profits of the beneficiaries and bank are based on the total production of all the greenhouses and not on the basis of an individual greenhouse. Obaidullah (2017) has indicated certain challenges which need to be kept in view while looking at a number of positives in the case of this project. These challenges include the possibility of including beneficiaries with lesser than the required competence, unfavorable attitudes and behavior about the project, lack of sense of responsibility, little understanding about the *Mudarabah* contract and related rights and obligations, and so on. He has also pointed out institutional challenges including robust procedures about operation of contracts like *Murabahah*. He has also referred to the lack of enabling environment like enforcement of *Mudarabah* contract and high inflation rates.

Azm Foundation in Rawalpindi, Pakistan, practices *Mudarabah* to finance male sheep for the purpose of fattening. The pilot has been operated in Union Council Lawa of District Chakwal in Punjab province. The farmers are sensitized in groups of 15 each; thereafter, in the next week they are engaged in dialogue to agree upon the terms of *Mudarabah*. Then, social collateral is formed and terms of memorandum of understanding (MOU) for undertaking *Mudarabah* are signed by the group. The entire process from sensitization to signing of MOU takes a period of about one month. For the purchase of sheep, a committee of five members is formed in each group (three members from the group, one credit officer of MFI, and a veterinary doctor). During the process of purchase, the vendor is asked to bring a herd of young sheep (2–5 months old) to the place of the group and the members are allowed to select 4–5 young sheep of their choice which are financed by the MFI at an average cost of Rs. 5500 per sheep and are sold respectively for Rs. 10,000 after fattening process of four months. At the time of financing, individual *Mudarabah* agreement is entered between farmer and Azm Foundation. The cost of green fodder is borne by the farmer. He is also responsible for grazing in the field. As such, a farmer rearing five sheep could earn Rs. 18,000 in a period of four months. Sheep are dewormed before these are delivered to the farmers. Medicines are provided free of cost by the government's livestock department. Azm Foundation provides services of veterinary doctor against fee of Rs. 15,000 fattening cycle. The profit is shared in proportion of 20% by Azm Foundation and 80% by the farmer. Loss of any dead sheep is borne by Azm Foundation as Rab al Maal. Azm Foundation also helps in marketing and their cred officer searches the market in urban areas to fetch better price. *Mudarabah* model is more advantageous to the farmers as compared to the conventional loan available in the vicinity by the conventional MFIs where livestock loan is provided at interest rate of 35% for six months (this works out to 70% per annum). Above this, loss is also borne by the client making the loan dearer.

Another NGO, National Rural Support Program (NRSP), in Pakistan has developed partnership-based *Karobari Sarmaya* (business finance) and made a successful case study and currently offers this product in eight districts of Pakistan. This product is particularly designed to address the problem of *chhota* (intern or helper) engaged in various businesses, mostly of technical nature, in Pakistan. Most of such interns are engaged in their young age of 11–14 years, mainly to support their poor families (mostly earning around Rs. 6000 or US \$57 per month). Being unskilled, with no

education, or being school absconders, most of these interns are paid very low wages on a daily basis (av. Rs. 100 or US \$0.80 or less) against 12 hours of work (Hussain et al. 2017). Some studies even report lesser wages in the beginning (Rs. 600 or US \$6.0 per month). These children are mostly active in urban areas and employed in tea stalls, restaurants, automobile workshops, mobile phone repair shops, clothes stitching, electric repairing, small manufacturing concerns like uninterruptible power supply (UPS) and stabilizers, hand loom weaving, carpet weaving, and so on. These interns remain with these businesses in the same capacity with little increase in wages for different time periods, generally five to ten years. Some of them decide to continue in the same position due to consistent poverty, while the others leave in hope of establishing their own businesses but are constrained with the needed capital and ultimately remain in the poverty trap despite possessing good skills of their work.

The experience of National Rural Support Program (NRSP), a conventional microfinance organization, in providing business capital to these interns and helping to detach from their masters and establish their own enterprises has proved very successful. Started in 2015, with financing cycles of 6–12 months, NRSP has disbursed Rs. 522.81 million (US \$3.90 million) to 11,196 clients. The collection rate has been 99.95%. NRSP has achieved this exemplary rate of collection mainly due to a number of factors such as business planning, provision of technical advice, and close monitoring. The main factor appropriating success has been termed by NRSP as the business skill which the client has acquired during stay with his master. The business is evaluated after every three cycles to assess if it can sustain at its own; if so, the financing is discontinued, otherwise NRSP decides about further cycles of financing on the justified reasons thereto.<sup>8</sup>

## 8.4 CONCLUSION

The review of literature concludes that cheaper source of finance is the first and foremost necessity to disburse further to the clients at affordable price. The participatory finance merits consideration to earn the confidence of poor clients as against unaffordable high rates of interest. The case studies of SIBs, UNDP, and Bank of Khartoum provide successful examples of practicing *Musharakah* and diminishing *Musharakah*. The *Waqf*-based microfinance operations help in reducing cost of funds which ultimately benefits the poor clients. Although the agency problem and asymmetric information are considered as obstacle to practice partnerships, the social

collateral prevalent among the microfinance groups could address this problem and save from adverse selection. The Islamic values of cooperation, mutual trust, equality, and harmony can be effective tools to establish solidarity among members through joint liability and peer support. The financing of IMFIs has been concentrated in *Murabahah* with virtually no use of participatory finance. The clients are not supported with market linkages, hence lose on their business operations.

Keeping in view these factors, a *Musharakah*-based product for establishing microenterprises has been outlined with the following details:

- Preparations to Launch the Product
  - A survey would be conducted by IMFI to assess the potential of certain businesses from their feasibility in the market and the clientele with different experiences and ability to perform independently or in solidarity groups.
  - Accordingly, the IMFI will prepare prefeasibilities of the selected businesses including cost of the business (fixed and working capital) and revenues, projected cash flows, and income statements. The business would generally sustain in a period of three years unless there are special circumstances to the delay.
  - The survey of interns would be conducted through a professionally designed questionnaire to assess their level of professional experience, expertise, ability to pursue the business independently, capacity to contribute business capital, and so on.
  - For example, in the case of auto body shop, the most significant considerations would be the following: relevant work experience required in repairing, body touch-ups, painting, and so on of cars; ability of growing and maintaining a referral network of customers; marketing skill to attract customers from private car owners and companies; adequate inventory for denting and painting based on prior experience; and business size to start with.
  - Once the results of the survey are ready, the most promising businesses would be selected to finance in the first phase while the other businesses would be added in latter phases.
  - The client's potential business will be assessed on the basis of technical appraisal and client's assessment would be conducted on the basis of his/her competence and character assessment (social appraisal). Often, information about the creditworthiness of the

client is gathered through informal sources and through local community networks.

- Outline of *Musharakah* Framework
  - IMFI will create its separate pool of *Musharakah* financing since it will be governed by the rules applicable to *Musharakah*.
  - A business plan would be prepared comparable to the prefeasibility standards and on ground actual circumstances.
  - The prospective client will be asked to offer his part of share in *Musharakah*, for example, space for business which he could acquire on rent.
  - Based on the fixed and working capital requirements as per business plan, IMFI will work out its share of investment. However, IMFI will cap its investment to a certain extent, up to Rs. 75,000 in the first cycle of six months, with an increase of 25% in each subsequent cycle.
  - Cash flows and net profit would be determined according to the business results, but will be matched with the ones estimated on the basis of the business plan. In case the profits deviate much from the estimated ones, the IMFI will become more vigilant in monitoring the business.
  - Profit sharing ratio will be predetermined in *Musharakah* contract, but the share of IMFI will be equal to its operating cost plus an appropriate growth margin (in the case of *Waqf* financing) and operating and financial cost and margin for growth (in the case of funds provided by the Islamic financial institution against cost).
  - A certain minimum amount of profit can be appropriated to the client every week or fortnight (as stipulated in the *Musharakah* contract) treated as “on account payment” to sustain the client’s consumption and business expenses subject to the settlement from subsequent profits, such as treatment to be provided in the *Musharakah* contract.
  - IMFI would agree to give up its right to the share of the excess amount of profit in favor of the client in case the profit of the business exceeds certain threshold to induce the client to work harder.
  - The *Musharakah* capital contributed by IMFI would be redeemed periodically along with the profit (all installments of the capital investment to be evenly distributed against the term of *Musharakah*).

- The client, as managing partner, shall be liable for any loss caused by his/her misconduct, negligence, or breach of the specified terms. Otherwise, each party would bear the loss in proportion to the investment.
- However, IMFI may voluntarily absorb the loss in genuine cases if its financial capacity permits to do so.
- The business would be physically verified after establishment and proper monitoring will be conducted to prevent frauds, willful losses, and depletion of capital invested by IMFI and the client.
- The client will be required to keep a minimum number of books of accounts to record daily income and expense transactions and business creditors and debtors.
- The credit officers of IMFI will impart necessary training to keep the record of financial transaction on a daily basis.
- As suggested by Haneef et al. (2014) in IWIMM model, the solidarity groups would be beneficial in providing entrepreneurship training and arranging *takaful* mutually.
- Sources of Funds
  - It is necessary that cheap source of funds is made available to IMFIs such as cash *Waqf*. In this case the IMFI will become the manager of the fund and will utilize it according to the principles applicable to such funds. The funds could be contributed against the issuance of *Waqf* certificates to be purchased by the people from all walks of life. The Islamic banks and federal and provincial governments can also be approached to contribute toward this fund. The fund can be registered under the Trust Act 1882 in Pakistan 1882 as cash *Waqf* currently cannot be accommodated by the provincial *Awqaf* Property Ordinances.
  - Shirazi et al. (2015) have elaborated that a survey conducted in Pakistan revealed very low awareness among respondents about the existence and purpose of *Waqf*. This is because the idea of cash *Waqf* is novel and needs an organized awareness campaign.

It may however be mentioned that the research presented through this chapter has floated an idea of introducing participatory modes in Pakistan. Further research can be conducted to obtain opinion of the various stakeholders to extend this approach in more productive manner.

## NOTES

1. 1 USD = PKR 136.
2. The new poverty line using consumption of reference group set at Rs. 3030 (US \$22.28) per adult equivalent per month computes 29.5% of the country's population living below poverty line (urban 18.2% and rural 35.6%). The other measure, too, multidimensional poverty index based on deprivation in living standard, health, and education, counts 38.8% people as poor by the Govt. of Pakistan (Economic Survey of Pakistan, 2015–2016). The headcount reduced from 55.2% to 38.8% between 2004–2005 and 2014–2015. However, the intensity of deprivation reduced only slightly over the same time period (from 52.9% to 51%). This means that majority of the multidimensionally poor people continue to experience deprivation in the same number of weighted indicators.
3. Access to financial services I (A2FS-I) and access to financial services II (A2FS-II) surveys were conducted by Pakistan Microfinance Network (PMN), DFID, and State Bank of Pakistan (SBP), respectively, in 2008 and 2014 as well as national financial inclusion strategy (NFIS) 2015–2020.
4. SDGs require to ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources and financial services, including microfinance, and their integration into value chains and market linkages. This objective requires, in particular, to reduce inequalities and progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average.
5. Ihsan Trust was founded in January 2010 and maintains a *Waqf* fund made through a separate *Waqf* deed. Ihsan Trust raises funds through charities from customers and donations from other Islamic Banks and Islamic Asset Management companies. Ihsan Trust has been focusing particularly in the areas of health and education by providing medical equipment to hospitals and by providing interest-free loans (*Qarz-e-Hasan*) to students who lack financial resources to continue their higher educations. Till now, Ihsan Trust has helped more than 1000 students to pursue higher education in leading universities like IBA, LUMS, NUST, GIKI, and others. Ihsan Trust has also made inroads in Islamic microfinancing. Initially, Ihsan Trust has joined hands with Akhwat and Wasil Foundation to provide Islamic microfinancing to the poor and needy people of the society and higher education.
6. State Bank of Pakistan's Financial Supplement of Annual Report 2013 states that the deposits of the scheduled banks (including Islamic banks) were substantially contributed by the small accounts forming 92% of the total keeping up to Rs. 300,000 (including 45% accounts keeping up to Rs. 50,000), shared 33% of the total deposit base. However, the financing up to the similar amount i.e. Rs. 300,000 constituted only 5.39% of the total.

7. The principle of “Time diversification effect of equity” suggests that investment risk decreases with time, cited from Merrill, G. and Thorley, S. 1996. “Time Diversification: Perspectives from Option Pricing Theory,” *Financial Analysts Journal*, 52(3), CFA Institute, p. 13. <http://www.jstor.org/discover/10.2307/4479917?uid=2anduid=4andsid=21106842661123>
8. The information has been obtained personally by the author from NRSP Head Office, Islamabad.

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PART II

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Islamic Finance for Financial  
Inclusion: Countries Diagnostics



# Enabling Mobile Microfinance: Opportunities and Challenges

*Abdelrahman Elzahi Saaid Ali and Khalifa Mohamed Ali*

## 9.1 INTRODUCTION

Sudan has attempted to utilize microfinance as a means of reducing poverty levels since the mid-1990s. However, decades of civil war, political instability, and other reasons have prevented Sudanese microfinance efforts from having any noticeable impact. By some accounts, an estimated 60–70% of the population lives on less than USD 1 per day, while the current microfinance efforts only cover 1–3% of the potential market.<sup>1</sup>

Since the signing of the Comprehensive Peace Agreement (CPA) between the Government of Sudan and the Sudan People's Liberation Movement (SPLM) in 2005, the Central Bank of Sudan (CBOS) has renewed its efforts in the fight against poverty, and a number of global organizations have joined in to support the cause. In 2006, the CBOS signed an agreement with the World Bank to launch a USD 50 million microfinance fund. The purpose of the fund was to support microfinance efforts and establish a microfinance department within the CBOS.<sup>2</sup> With

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the formation of the Sudan Microfinance Development Facility (SMDF), both sides agreed to “take an institutional approach to supporting microfinance” and act like investors in retail providers rather than financiers of a project. Hence, investments were tied to defined and agreed-upon performance targets, and the SMDF was expected to invest in a diverse pool of retail providers. Diversity was defined in terms of services provided (industry) and market segments served in the Republic of Sudan (ROS) (gender, geographic location, socioeconomic status, etc.). In addition to financial investments, the SMDF was also expected to invest in support organizations to give retail providers the greatest chance of success.<sup>3</sup>

Moreover, in 2009 the CBOS issued a circular describing the SMDF and detailing the role Sudanese banks were to play in Sudanese microfinance. One major directive called for all Sudanese banks to allocate a minimum of 12% of their portfolios to microfinance and to develop units or departments specifically for microfinance.<sup>4</sup> The CBOS Microfinance Unit also realizes the potential of mobile banking as an effective vehicle for microfinance in other countries and recently placed a request for feasibility study to be done. Other notable microfinance efforts include those offered by CBOS located mainly in or around Khartoum. These include the Port Sudan Association for Small Enterprise Development (PASED), one of the largest microfinance service providers based in Port Sudan, Elkifaya Bank, Sudanese Development Association, Sudanese Red Crescent, and the Women’s Fund of the Women’s Union of Khartoum State.

Banks that have been providing microfinance services prior to CBOS directive include the Agricultural Bank of Sudan and the Savings and Social Development Bank (which serves as an intermediary for INGOs and UN agencies) and to a lesser extent, the Sudanese Islamic Bank, the Faisal Islamic Bank, Al Baraka Bank, and the Islamic Cooperative Development Bank. Recent developments include initiatives by the North Kordofan Microfinance Bank (Gudaim) that involves taking the delivery of microfinance services beyond brick and mortar by investing in the management information system (MIS) and mobile payment platform (MPP) needed to make mobile banking a reality. Other ventures include IRADA, which is an Islamic microfinance institution (MFI) being set up with USD 50 million in capital with backing from the Bank of Khartoum and the Islamic Development Bank,

and Al-Edba's Microfinance Institution that has been set up with USD 5 million in capital financed by the Arab Gulf Program for Development.

The existing MFI structure in Sudan has a strong Islamic foundation with the banking system being entirely Shariah compliant. Islamic microfinance represents the confluence of two rapidly growing industries: microfinance and Islamic finance. It has the potential to not only respond to unmet demand but to also combine the Islamic social principle of caring for the less fortunate with microfinance's power to provide financial access to the poor. Unlocking this potential could be the key to providing financial access to millions of poor people in Sudan.

## 9.2 LITERATURE REVIEW

Almost everyone agrees that poverty alleviation should be the paramount goal of microfinance (see Ali 2017, Hassanain and Saaid 2016, Hassanain 2014 and for Yemen see Ali and Khandare 2014). But what do we mean by poverty alleviation? Is it helping the poorest of the poor to achieve a better quality of life? Or is it enabling the largest number of people to get above the poverty line? Does it mean helping to improve people's lives now, or laying the conditions for future improvements?

Obviously, there are poverty reduction trade-offs between tackling current and future poverty, between helping as many poor people as possible versus focusing on those in chronic poverty, and between measures that tackle the causes of poverty and those which deal with the symptoms (see Owen Barder 2009). Poverty alleviation therefore encompasses many goals. If MFI providers, support organizations, regulators, and donor agencies do not explicitly recognize and account for these differences at the outset and make clear the type of measure for poverty alleviation that needs to be employed, then confusion and disillusionment can and does ensue. Each individual MFI project or program cannot meet all the objectives of poverty alleviation at the same time and to the same extent: hence the reason why it is important to recognize and value the different views of the different industry players when designing and selecting products, services, or even programs that reflect what in their perception seems to be the dominant narrative of the day.

### 9.2.1 *The Context of Microfinance in Sudan*

Until the year 2006, the microfinance sector in Sudan had a limited number of initiatives for extending financial services to the rural poor. Adequate policy framework, regulatory mechanisms, and capacity building measures for developing microfinance services were lacking, and very few financial institutions dealt with microfinance. Development banks such as the Agricultural Bank of Sudan (ABS) and the Savings and Social Development Bank (SSDB) did have a microfinance mandate, but loan sizes were upwards of USD 2500 and microcredit hardly reached the real poor.

The situation started changing in 2007 with the establishment of the Microfinance Unit (MFU) within the CBOS for promoting the growth of the microfinance sector in Sudan. Since its inception, CBOS-MFU has taken a series of promotional and developmental steps such as (a) the establishment of microfinance units within commercial banks, (b) formulation of microfinance regulatory framework (Ali 2015a, b), (c) directing higher volumes of commercial funds toward microfinance by instructing commercial banks to allocate 12% of their portfolio to microfinance, (d) awareness generation campaigns, training, and capacity building activities. These measures have created a positive environment and willingness among financial entities toward supporting microfinance initiatives. Moreover, between 2007 and 2008, the Sudanese Microfinance Development Facility (SMDF) became operational as a multi-donor trust fund supported facility for developing Sudan's microfinance sector. Its mandate was to promote the sector by supplying portfolio funds, capacity building, and infrastructure development. While the CBOS-MFU focuses its activities mainly on banking entities, the SMDF's activities are primarily focused on nonbanking microfinance institutions.

In spite of these developments, microfinance in Sudan is still an urban and semi-urban phenomenon with negligible penetration in rural areas. One of the main reasons for this gap is the lack of capable and motivated intermediaries that could partner with formal financial institutions and enable the flow of commercial funds into rural areas. To address this space donors such as International Fund for Agricultural Development (IFAD) are in the process of reorienting their approach so that in the medium to long run they can bridge the gap between the promising microfinance development initiatives at the central level and the continued lack of supply of microfinance funds in the rural areas (IFAD 2013).

### 9.2.2 *Opportunities for MFI Services in Sudan*

IFAD is providing a USD 925,000 grant to Sudan to scale up the existing Agricultural Bank of Sudan Microfinance Initiative (ABSUMI). The objective is to further improve the livelihoods of 150,000 poor households by increasing income and savings through access to a wide range of agricultural and non-agricultural investments. Offering Islamic Shariah-compliant credit, savings, and micro-insurance, particularly to women, ABSUMI works through pilot phases in two locations in North and South Kordofan. It is built upon the proven “village sanadiq” model and incorporates a range of strategic innovations and unconventional business practices including group guarantees and effective training. It entered the microfinance market through the bottom layers of the economic pyramid by providing smaller loans and serving the poorest segments of the population. Loans support small agricultural activities, livestock fattening and rearing, and a range of microenterprises such as petty trading, tea stalls, and brick-making. The improved information dissemination and training paired with the confidence in this model and the presence of enabling regulatory framework has resulted in the resounding success of the initiative. As of September 2012, the program had reached more than 60,000 people in 10,000 households across 97 villages. As a response to this successful outcome, IFAD has approved the new grant to expand the initiative to six new units in five states. The ten-year projection is that ABSUMI will provide sustainable microfinance services to about a million poor women across Sudan.

The Islamic Development Bank (IsDB) approved in 2012 an equity investment of USD 10 million in IRADA Microfinance Institution Project, Sudan. IRADA plans to raise capital of SDG 140 million (USD 23 million) to provide microfinance products to individuals, families, social groups, and other microfinance agencies in Sudan. IRADA’s development is a response to a high demand for Islamic microfinance products in the country. IRADA is backed by Bank of Khartoum, which holds 70% of the MFI’s shares. Bank Al Khartoum experience in microfinance is long standing, having already disbursed approximately USD 42 million to 90,000 Sudanese citizens through the Al-Aman microfinance fund, a fund of SDG 200 million (USD 74.9 million) backed by 32 Sudan banking institutions and Zakah Chamber. IRADA hopes to reach 325,000 clients in its first five years of operation leveraging on Bank of Khartoum’s 17 branches in Khartoum, Sudan’s capital and 33 other branches countrywide.

The only Sudanese MFI that reported 2010 data to the US-based Microfinance Information Exchange (MIX), Port Sudan Association for Small Enterprise Development (PASED), holds a gross loan portfolio of USD 900,000 disbursed to approximately 4000 borrowers. PASED is a local NGO established and registered in the Red Sea State in October 2000. It emerged from the Association for Cooperative Operations Research and Development (ACORD) International program, which served the local Red Sea community for over 15 years. Since its transformation into an independent NGO, PASED has specialized in urban development and the reduction of poverty among poor communities. PASED has aligned its program based on micro-credit delivery according to Islamic banking principles, in order to respond to the needs of the Port Sudan area residents. As of June 2013, PASED has 7000 clients. Grameen-Jameel partnered with PASED in October 2012 and has supported the organization with technical assistance, business planning, and microfinance training ever since.

### 9.2.3 *Challenges Faced by Microfinance in the RoS*

According to the General Directorate for International Relations of the Ministry of Trade Conceptual Framework for Developing the Small and Medium Enterprises in Sudan, there are many factors and causes that result in the weakness of MFIs in achieving their objectives. These are:

- Obstacles represented by the claim and mortgage guarantees and the legal registration of the customer's name
- Lengthy documentation processes and high expenses
- Confusion between economic and social goals
- Absence of a specific definition of poverty
- Absence of the studies on the needs of the target customers
- Poor training and little experience
- Collateral requirements that place access to finance beyond the reach of the poor
- Lack of information
- Lack of trade support services for SMEs aimed at making them more competitive in the international markets
- Lack of effective communication and coordination



## 9.3 OBJECTIVES AND METHODOLOGY

### 9.3.1 *Objectives*

The main objective of this study is to examine the status of poverty alleviation through microfinance in Sudan. More specifically the study seeks to examine:

1. Details of major MFI players in Sudan
2. The opportunities available to MFI players for achieving full financial inclusion and therefore poverty alleviation in Sudan
3. The challenges that hinder MFI in Sudan from successfully and responsibly including all individuals in order to conclusively alleviate poverty

### 9.3.2 *Methodology*

The goal in this study was to collect data to answer three questions: Who are the major MFI players in Sudan? What are the opportunities available for achieving full financial inclusion and therefore poverty alleviation in Sudan? What are the challenges that hinder MFI in Sudan from successfully and responsibly including all individuals in order to conclusively alleviate poverty?

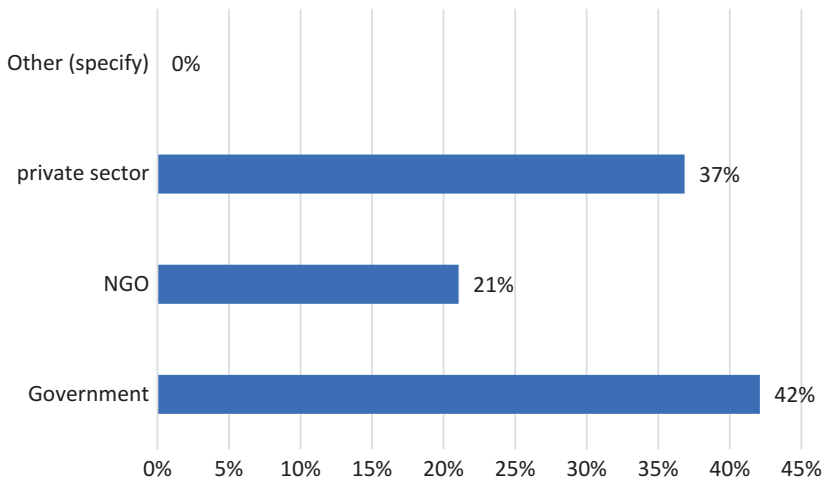
The field surveys were undertaken by a core team of senior experts and junior researchers experienced in fields related to finance in general and microfinance in particular. The surveys were conducted, and the data was processed, during 2016. To fully understand the status of the microfinance sector, the survey findings were fully analyzed and reported in the background study. This study utilized both quantitative and qualitative information gathered during the survey and benefited from the insights of many years of experience in the field and from secondary sources on the subject matter.

To conduct this survey, the survey team reached out to contacts in the microfinance and financial inclusion sectors and presented them with a questionnaire pertaining to opportunities and challenges of MFI in Sudan. As expected, the providers did think differently based on their sector about the challenges and opportunities. The survey was offered in Arabic and where necessary translated into English. Fifteen service providers participated in the survey. Their responses formed the basis for the results

presented herein. The completed questionnaires were checked at the time of collection from enumerators for (a) completion of the questionnaires and (b) to confirm whether or not all the questions were asked and properly completed. When the paper-based forms were not completed as expected, clarification from enumerators was sought. Data was then captured and analyzed using Excel.

### 9.3.3 *Limitations of the Methodology and Ethical Considerations*

Segmenting the survey responses in subsequent research based on stakeholder groups shows how each group's priorities in financial inclusion align with its main interests as well as its day-to-day realities. It will also allow for due consideration to be given to the unique roles played by actors at different levels of the financial inclusion ecosystem. In order to negotiate informed consent, the purpose of the study was continually explained to the respondents. Consent was sought both verbally and in writing from every participant.



**Fig. 9.1** Financial service providers

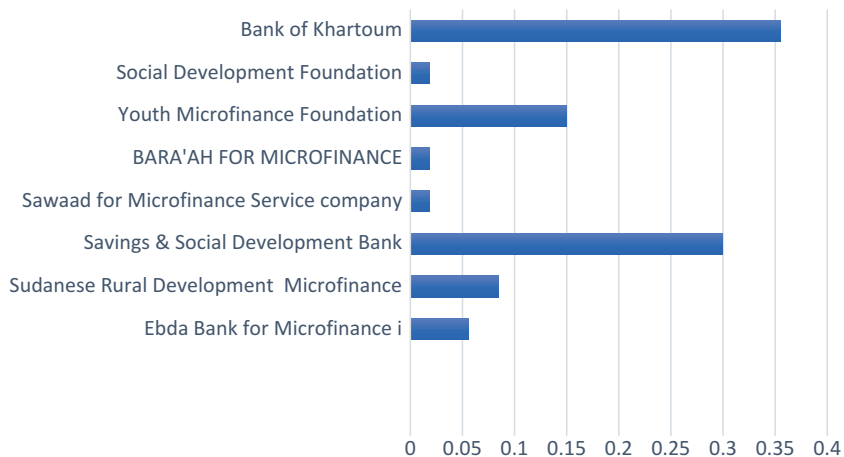


Fig. 9.2 Branches of microfinance providers

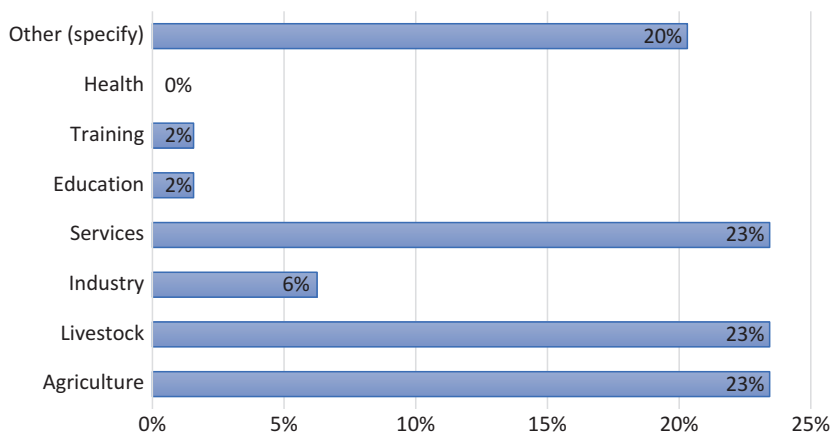
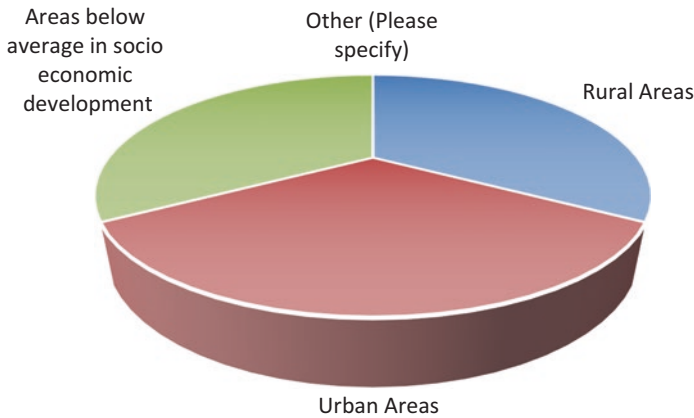


Fig. 9.3 Microfinance by sector

## 9.4 SURVEY RESULTS

All the survey respondents are financial service providers who come from a variety of organizational types: government (42%), private sector (37%), and NGO (21%) (Fig. 9.1).



**Fig. 9.4** MFI geographical focus

The respondent with the most number of branches was Bank of Khartoum followed by Savings and Social Development Bank (Fig. 9.2).

The highest served sectors are livestock, agricultural, and services all at 23%, while the health sector remains unserved with the education and training sectors following closely behind at only 2% (Fig. 9.3).

Geographically the surveyed MFIs are spread evenly across the urban, rural, and areas ranked below nationally accepted levels of socioeconomic development where they are mainly engaged in traditional forms of financial services—credit, savings, and remittances. None report to be offering mobile or agency banking or actively targeting the youth aged under 20 years old. This is despite the fact that all the providers report being aware of other countries' experiences on the same. Their source of information regarding mobile and agency banking is reported to be mass media and the regulatory authorities. Further, the respondents reported to be offering between SDG 5,000 (USD 815) and SDG 20,000 (USD 3,260) as the maximum amount of credit which seems rather high for the ultra-poor to be able to access and service (Fig. 9.4).

The highest ranked opportunities cited for mobile banking are provision of an efficient electronic channel for cross-selling, reduction of operational costs, increase in customer outreach, and most importantly financial inclusion of the poor (Fig. 9.5). The MFI providers also acknowledged that they would stand to benefit if they provided mobile MFI services (Fig. 9.6).

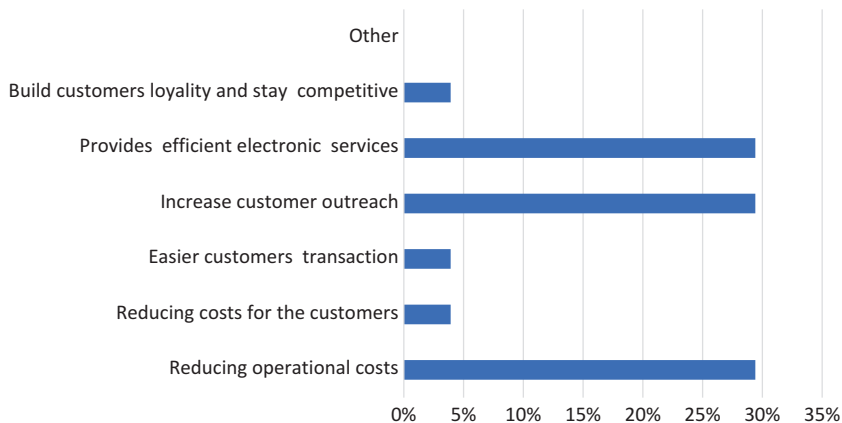


Fig. 9.5 Opportunities for launching mobile microfinance

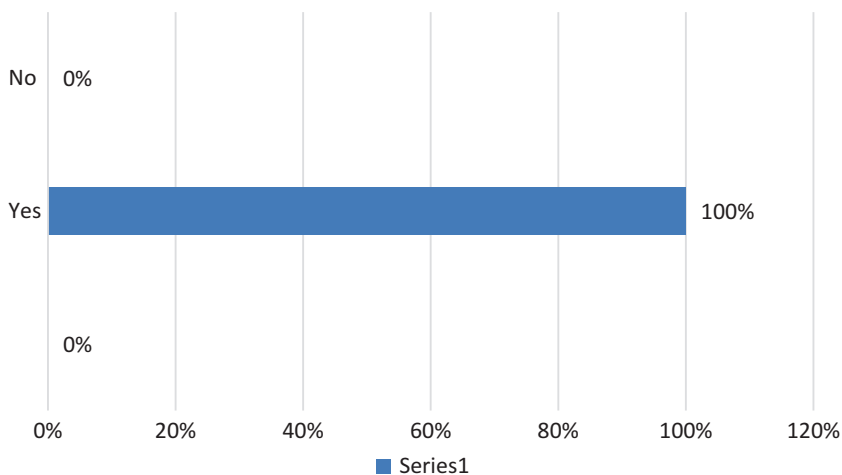


Fig. 9.6 Provision of mobile microfinance is beneficial

None of the providers reported having had a direct interaction with any mobile microfinance providers which may be the reason that explains why 88% of them reported that the best option for establishing mobile banking is to build their own as opposed to partnering with a third party or mobile network operator (Fig. 9.7).

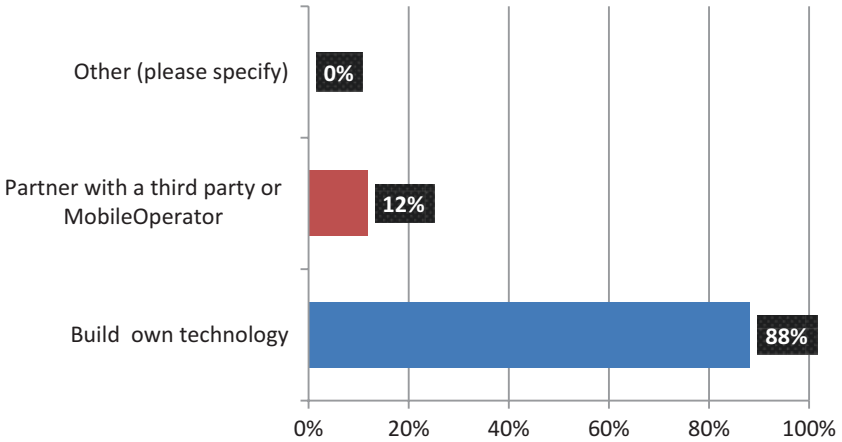


Fig. 9.7 Best option for building mobile banking channel

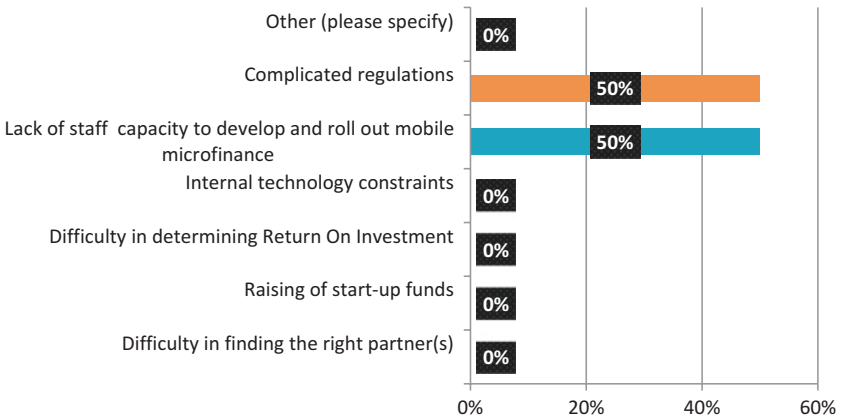


Fig. 9.8 Challenges to mobile microfinance

This in turn informed the anticipated challenges that include internal technological constraints, lack of adequate staff capacities, and complicated regulations. None of the providers cited the difficulties in finding the right partner, raising startup capital, and determination of Return on Investment (ROI) as constraints (Fig. 9.8).

When asked about the barriers that would impact the demand side of the provision of mobile MFI services, client’s technical capacities and level

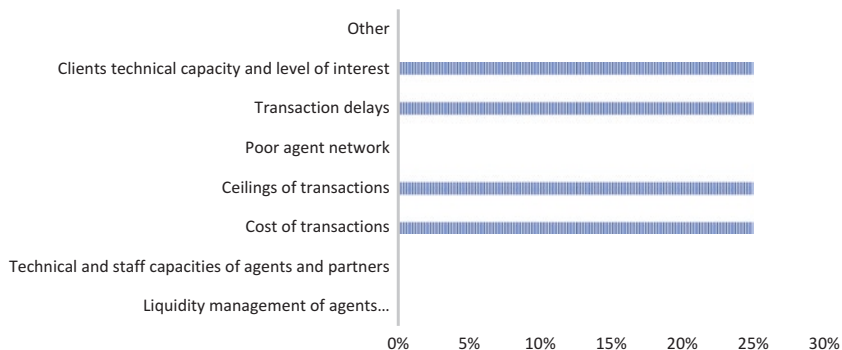


Fig. 9.9 Barriers that may limit microfinance

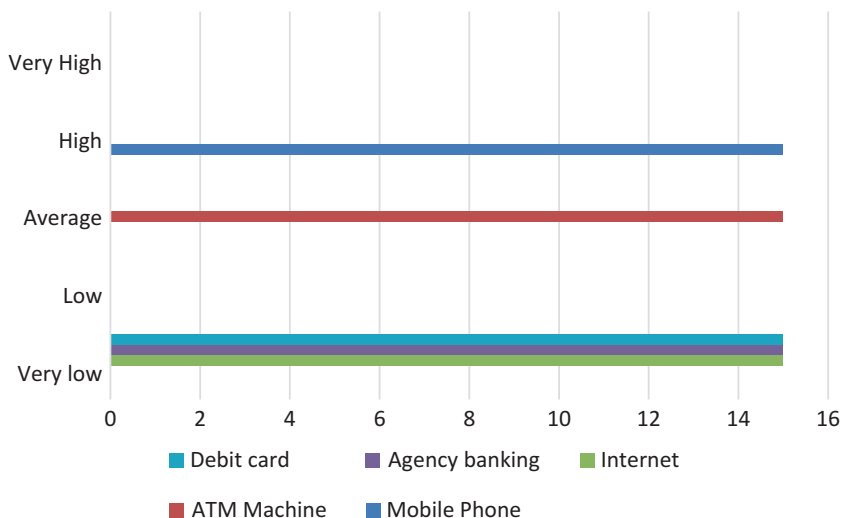


Fig. 9.10 Ability to use modern payment devices

of interest as well as transaction delays, costs, and ceilings of transaction were the most cited. However, the providers reported being aware that their client’s capability of using the mobile phone and ATM is rather high. Insofar as agency banking is concerned, liquidity management, poor agent networks, and clients’ low capability of using the same were deemed to be the main barriers (Figs. 9.9 and 9.10).

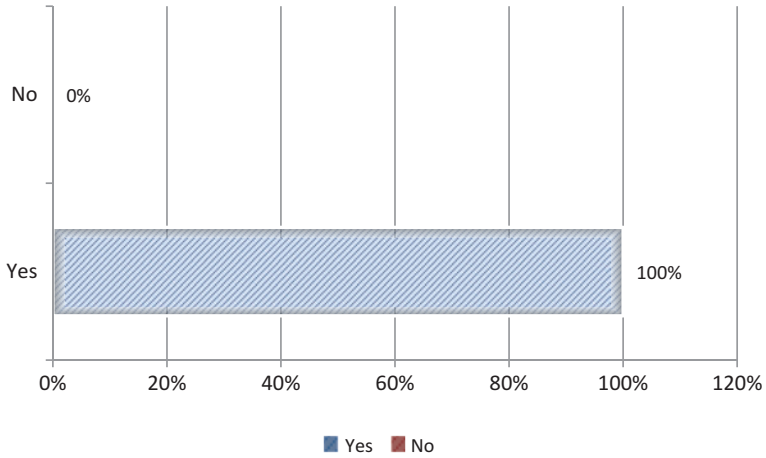


Fig. 9.11 Need for changes to the current regulations

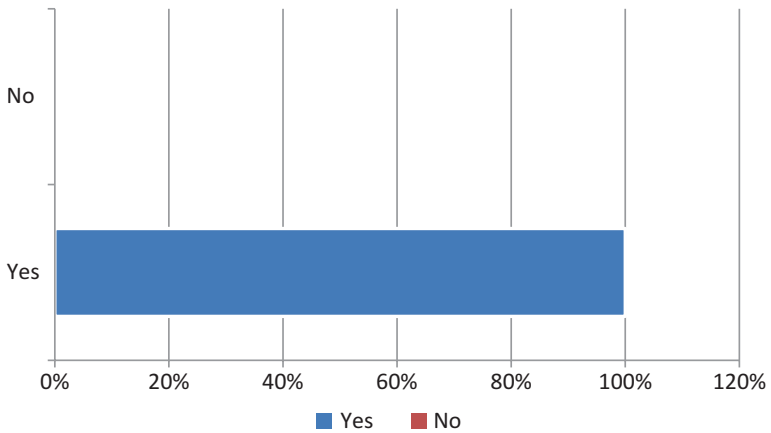
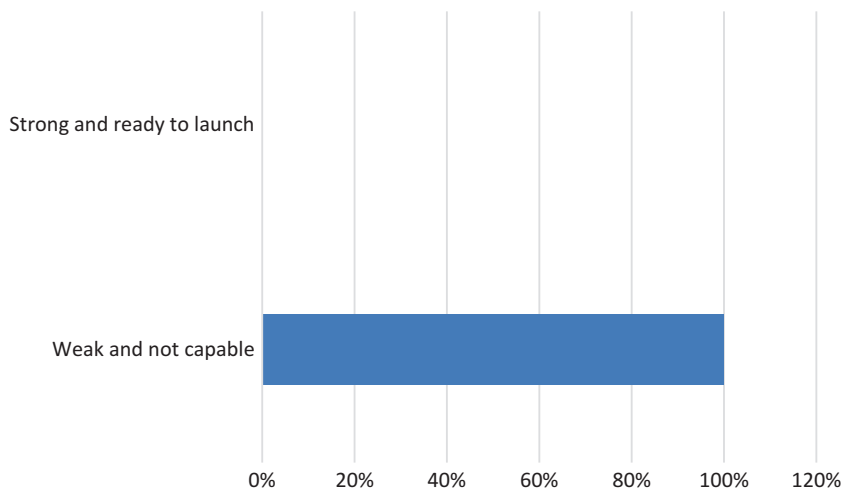


Fig. 9.12 Mobile microfinance contribute to financial inclusion

None of the providers reported being aware of mobile microfinance facilitative regulations that are being put in place by the Bank of Sudan, but all of them did report the need for change in the supervisory and regulatory system (Fig. 9.11).

The providers stressed their belief in mobile microfinance as contributor to financial inclusion (Fig. 9.12), yet their conclusion that Sudan in its





**Fig. 9.13** Country's readiness

present state is weak and not capable of developing and launching mobile microfinance services (Fig. 9.13) (as opposed to the success stories of its regional peers) is a call to action for all stakeholders—executives, policy-makers, donors, and implementers—to work toward enhancing the opportunities availed to microfinance in Sudan while simultaneously removing barriers that are currently preventing microfinance institutions (MFIs) from effectively engaging in poverty alleviation.

## 9.5 CONCLUSION

Today the infrastructure gap in developing countries is large and continues to hinder efforts for poverty alleviation. Technology advance on the other hand has dramatically linked the world, increased communication is making the world without barriers or boundaries and information spread freely. This international interconnectedness has revolutionized countless industries, including for microfinance with opportunities and challenges.

Providers' top opportunities—financial education, product range, and institutional capacity building—and other opportunities typically associated with rapid growth, such as mobile (phone) banking and correspondent agent banking, suggest that any course of action should not just be aimed at pursuit of scale but focus also on improving its value proposition to the client opportunities. At the same time, MFIs seem to be aware that

they can do more to advance financial inclusion to facilitate poverty alleviation and that in order to expand the product range, MFIs need to build their internal capabilities. Especially the twin issues of lack of skilled manpower to run mobile microfinance enterprises and the inability of the institutions to design product suitable to the different client.

One challenge highlighted by providers is costs which were said to be generally high. This offers the following insights: first, that providers do not seem to see alternative channels like mobile and agent banking as key solution to reaching new clients cost-effectively and second that the regulators can help the providers make branches less costly by modernizing physical branch requirements and implement regulations that are favorable toward alternative channels such as agency banking. The other biggest challenges listed by providers were complicated regulations and limited understanding of client needs. These two challenges confirm the change where providers may be shifting attention less toward pursuing new clients and more to understanding better how to serve the clients they have.

The sources of information for mobile microfinance (media and regulator) indicate the providers hunger for good information. The Bank of Sudan has a major opportunity of playing a major role here. For the next growth stage of financial inclusion, most elementary will be new ways of distributing products, via mobile phones or branchless banking because it is only then can MFIs achieve scale and penetrate deep into new territories.

On the challenge side, insufficient infrastructure and product cost structure highlight key growth barriers from the investor perspective. Investors connect to financial inclusion primarily through MFIs which explains the high rankings for limited institutional capacity among MFIs and hence the need for capacity building. The development of technical skills and IT systems necessary to adequately manage financial risk will be the single most stabilizing force in the market. Inclusive finance needs to focus on offering a diverse range of financial services that meet real needs of clients. This is essential for a sound and sustainable development of the sector. In this sense there should be no tension between the social mission and long-term profitability. Over-indebtedness of clients should be used to measure the loss of focus on wellbeing of clients. But if turned around and the focus is on serving clients with good products and services that meet their needs, then profits will follow. Without the ability to differentiate clients, it's extremely difficult to understand and price the risk

associated with lending to different client segments. This is the reason why all unbanked clients are priced as the most risky. With a more developed data collection infrastructure such as credit bureaus, providers can begin to expand to lower risk client segments by offering less expensive credit. Investors also need to better understand the impact of financial inclusion so that they can more accurately market this impact to donors and investors, thereby avoiding a mismatch of expectations.

The findings of this chapter are in line with emerging trends that include the recognition that the role of policymakers is changing and leadership is important to successful financial inclusion strategies and response; that microfinance can be used as an entry point for improving access and poverty alleviation; that new technology is a very important but not the only consideration for Sudan's policymakers looking to improve access; that savings are the fundamental element of financial inclusion initiatives; that banks have an important role to play in reaching the poor with their services; and that financial inclusion policy should focus not only on supply concerns but on consumer demand as well.

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# The Role of Islamic Finance in Achieving Economic Growth: An Econometric Analysis of Pakistan

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## 10.1 INTRODUCTION

Financial prosperity brings economic growth. Financial sector plays a vital role in providing the resources to economic agents who are facing shortage or excess of funds. When the financial sector is more advanced, more

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physical capital can be accumulated and distributed to accelerate economic growth with optimal allocation. Being a part of financial system, Islamic financing system also affects the economic growth. Further, one can understand that the influence of financial system on economic growth is not found same at the same time, rather it depends consistently on the level of growth of an economic system, the structure of financial methods, the legal system, the financial inclusion, and the overall quality of organizations. So many forthcoming issues and promising avenues are there for upcoming research in sustainable development goals (SDGs).

Islamic banking developed extensively in the last few years, which track a good prospect, during recent credit crunch and instability. Islamic banking and finance is growing extensively over the globe. Young's World Islamic Banking Competitiveness Report 2013 reports that the size of Islamic financial industry has reached from \$1.66 trillion to \$2.1 trillion and is expected to achieve the target of \$3.4 trillion by the end of 2018. The development and stability of Islamic financial industry will benefit Muslim countries particularly and the rest of the world generally, in terms of economic development, poverty reduction, business opportunities, trade balances, capital formation, financial inclusion, and circulation of conservative wealth. Mohielden et al. (2011) have documented that Islamic banks have contributed substantially toward real economic growth of economies which run Islamic banking parallel to their conventional peers.

In the last decade, we faced a severe credit crunch in the banking sector especially; it is need of the day to observe the evidences of alternative banking models with diverse approaches of risk and finance. In line with the above need, Islamic banking and finance is based on the philosophies of *Shari'ah* as an alternative banking in the framework of Islamic law of business contract to achieve the objectives of *Shari'ah* that are very near to the 17 recommended objectives by the United Nations (UN) as a new global development agenda of SDGs.

*Shari'ah*-compliant investment opportunities are the basic need of Muslim communities because they are interest sensitive (Quranic-2:275). According to this instruction, Islamic society is strictly prohibited to deal with interest-based economic transactions; whoever ignores this instruction is declared on war against Allah Almighty and Prophet Muhammad (PBUH). As a result, interest (Riba) sensitivity of Muslim economic agents affects saving rate adversely, which disturbs aggregate demand of economy in existing interest-based system (Shah et al. 2017). Further, the objectives of *Shari'ah* may not be realized because of the lack of interest-free avenues to park the excess funds of Muslim population to meet SDGs of

the UN. However, Furqani and Mulyany (2009), Majid and Kassim (2010), Abduh and Omar (2012), Manap et al. (2012), Kusuma and Muqorobbin (2014), and Tabash and Dhankar (2014) have explored the association of the financial sector and economic growth in different countries. Yet, the relationship between Islamic finance and economic growth is less explored over the globe, and none of the studies is found to explore this relationship in the case of Pakistan. This study examines the relationship between Islamic finance and economic growth and their causal direction across the country. This will be helpful for policymakers to design policies in line with the recommendations of the study.

In Table 10.1, we can see the total assets, deposits, number of Islamic banking institutions, and expansion of branches along with industry progress, growth rate, and industry share that reflect growth of the industry at different perspectives.

In this study, we intend to investigate how Islamic banks' financing has significant impact on economic growth. Parallel to this objective, we analyze the association of gross fixed capital formation, labor force, trade openness, and money supply that play a substantial role in defining economic growth of the country. This study develops a confidence of investors and policymakers to support Islamic finance for sustained growth in Pakistan. It appears as a trendsetter paper for researchers to consume their efforts in this avenue. It will encourage the students to study the increasing impacts of Islamic finance on the economy for future career in their practical life, especially in context of new global development agenda of SDGs.

The rest of the study is structured as follows. In Sect. 10.2, we review the empirical literature on the subject matter. Sect. 10.3 designates data and presents the empirical framework. The empirical findings are discussed in Sect. 10.4. Finally, we present some conclusions and policy recommendations in Sect. 10.5.

## 10.2 LITERATURE REVIEW

The United Nations (UN) as representative of all humanity has presented the sustainable development goals (SDGs) by keeping them a blueprint to achieve a better and more sustainable future for all. On 25 September 2015, the 193 member countries of the UN General Assembly adopted the 2030 Development Agenda titled "Transforming our world: the 2030 Agenda for Sustainable Development." The SDGs cover social and

**Table 10.1** Industry progress and market share

<i>Particulars</i>	<i>Industry progress</i>		<i>ToY growth (%)</i>		<i>Share in overall banking industry (%)</i>	
	<i>December 17</i>	<i>September 18</i>	<i>December 18</i>	<i>December 18</i>	<i>December 17</i>	<i>September 18</i>
Assets (net)	2272	2458	2658	17.0	12.4	13.6
Deposits (rupees in billions)	1885	2005	2203	16.9	14.5	14.7
Number of Islamic banking institutions	21	21	22	—	—	—
Number of Islamic banking branches <sup>a</sup>	2581	2709	2581	10.5	—	—

Source: SBP Islamic Banking Bulletin, December 2018

<sup>a</sup>Including sub-branches



economic development issues including poverty alleviation, social justice, inequality, environmental degradation, climate, energy, peace, prosperity, and justice. These objectives are kept as target by 2030.

There is a series of research paper on the relationship between financial stability and economic growth that goes back to the nineteenth and twentieth centuries. Bagehot (1873) and Hicks (1969) have documented that financial system observed a vital role in exploding industrialization in the case of England as it facilitates the mobilization of capital for “massive works.” Schumpeter (1912) has highlighted the importance of the banks in economic growth, indicating the same directional effect of financial capital on economic growth and its mechanism underlying the long-run relationship between finance and economic growth by the identification of productive investment of funds. McKinnon (1973) and Shaw (1973) have explored that the expansion of financial intermediation enhances investment with resultant increase in the level of output. The other fact has substantiated, for instance, King and Levine (1993) using panel data of 80 countries document strong and positive link between financial development and per capita output.

There is a strong relationship between financial development and economic growth both in the short run and in the long term (Xu 2000). Further, Xu (2000) has pondered deeply on such connection between the development of the financial sector and economic growth; at the end the causality directional approach is equipped to finally fall into three categories: first, the financial development affects the economic growth; second, the economic growth affects the financial sector; and third, bidirectional causality between the financial development and the economic growth with feedback between each other. The former argues that the financial sector bridges the gaps between excess funds and short funds as the role of financial intermediation. Similarly, Schumpeter (1912), Demetriades and Hussein (1996), Levine (1997), and Fase and Abma (2003) have argued that this approach is considered as the significant method in promoting economic development. The latter hypothesizes that a high economic growth requires sound financial market as prerequisite to achieve the intended targets of economic development. Similarly, Robinson (1952) and Romer (1990) have documented that the financial sector’s improvement affects the economic growth. Finally, it is empirically tested that a country with a sound financial system can fuel a country’s growth agenda through the latest technology, sound regulatory framework, innovative products, and formation of human and financial capital. Since financial

system is actively responsive on such development, a higher economic performance could be attained. In a nutshell, they found the interdependency of the financial sector and economic growth in different economies.

A series of global economic crisis, Mexican crisis, Indonesian crisis, Sudan crisis, and current global financial crisis describe a potential disequilibrium to the real economy because of the problems emerged from the financial sector. Therefore, the role of financial activity cannot be excluded in developing an economic growth of a nation. This is because the financial sector has a function as financial intermediaries that accumulate capital from the household sector or savers to the business sector, in which the capital will be used to generate the investment activities in real sector which will absorb available labor from market. Further, Stolbov (2012) debates on systems of banks and markets appear to be equally imperative. He has found that both these sectors of the financial system are found positively contributing to economic growth.

Islamic banking (Arabic: مصرفية إسلامية) is a financing activity in compliance with Shari'ah (Islamic law), and it is practically applied through the Islamic economics framework. The Islamic banking industry has achieved its distinction recently due to unique contractual arrangements and asset-backed financing as unique set of characteristics. Some of the Islamic banking modes include Mudarab'ah, Musharak'ah, Murabah'ah, Salam, Istisn'ah, and Ijar'ah which support the development of the real sector economy to enhance growth of an economy. Ayub (2007) has noted that Shari'ah prohibits interest (Riba, Usury, Ribit) paid on all loans of money. Similarly, investment should be strictly in Halal (valid, permissible) goods or services, whereas any investment contrary to Islamic principles (e.g., pork, porn, or alcohol) is also Haram (void). In line with same instructions, El-Gamal (2000) has explored that several traditions of Holy Prophet Muhammad PBUH are found in the prohibition of games of chance and prohibition of bai-al-gharar (uncertainty of legal results). In line with the above-reviewed literature about the relationship between the financial sector and economic growth, Furqani and Mulyany (2009), Abduh and Omar (2012), and Tabash and Dhankar (2014) have explored the link between Islamic banks' financing and economic growth. This newly developing financial market of Islamic banks is closely associated with financial intermediaries, particularly affecting the real economy. Yet, this is a less explored area of a new market, especially in countries with dual banking system—Islamic and conventional banks.

In the case of Indonesia, using quarterly data from 2003 to 2012, Abduh and Omar (2012) have utilized the bound testing method of co-integration and error correction models. These are settled within the framework of an autoregressive distributed lag (ARDL) to conduct the causality analysis. They have explored the link between Islamic banks' financing and economic growth and recommended the government to design all the policies in the financial market to support the Islamic financial sector for the sake of economic development. Further, using different time span of data, the empirical results of Furqani and Mulyany (2009) and Majid and Kassim (2010) changed the causality direction but overall, they confirm an association between Islamic banks' financing and economic growth.

Tabash and Dhankar (2014) founded empirically the relationship in the region of the Middle East about Islamic finance and economic growth nexus especially for Qatar, Bahrain, and the United Arab Emirates (UAE) and appear to be a bidirectional correlation for Bahrain and Qatar using Granger causality test. The results obtained for the United Arab Emirates (UAE) indicate that the causal relationship emerges in one direction, which supports Schumpeter's supply-leading theory. Similarly, Al Rajhi (1999) explores many opportunities can be availed through the Islamic financial market to finance the development projects. This agenda may bridge these financing gaps in the private as well as public sector with the help of global economic organizations. Kusuma and Muqorobin (2014) observe the rapid growth of the Islamic banks in Indonesia and assess the stability of these banks. They prove that the rapid growth of the Islamic banks positively contributes toward the country's economic growth using the vector autoregression (VAR) analysis. Likewise, Furqani and Mulyany (2009) estimated econometric regression models by using the quarterly data from 1997 to 2005 and concluded that the link between Islamic banks' financing and economic growth is following the view of "demand-following," which implies that the growth in the real sector depends on the encouragement of Islamic financing, especially through banks. In contrast, Majid and Kassim (2010) supported the supply-leading opinion in exploring that the Islamic financial sector is correlated to basic macroeconomic indicators of Malaysia.

Overall, we have found the empirical literature highlighted the role of the financial sector in general and Islamic banking with specific reference to contribute in the economic growth that is a part of the UN new global development agenda of SDGs. Further, infrastructure development is a

prerequisite condition to stimulus economic development through the Islamic financial market. It is notable that a development of Islamic banking in countries with Muslim majority has a substantial potential to earn financial inclusion for the economic growth in line with the referred objectives of the UN. In this chapter, we have focused on the subject matter about the nexus between Islamic banking and economic growth for a developing market of Pakistan with dual banking system. It may appear as an empirical case study for the market with Muslim majority to gain a confidence to achieve the economic growth through the inclusion of Islamic banking.

### 10.3 DATA AND METHODOLOGY

There is a long list of factors which contribute to economic growth of a country. The literature speaks about physical capital and other factors contributing to economic growth. Islamic banks are initiated to facilitate financing in compliance with Shari'ah through Islamic modes of finance, like *Murabah'ah*, *Mudarab'ah*, *Musharak'ah*, *Diminishing Musharak'ah*, *Ijarah*, *Istisnah*, and *Salam*. Accordingly, Islamic financial products are designed to achieve the objectives of Shari'ah in support of SDGs. In addition, financial intermediation is an important indicator of economic development and growth. As standard Cobb-Douglas production function " $Y_t = AL^\alpha K^\beta$ ," that is significant to economic growth. " $A$ " is generally considered as the total factor productivity, " $L$ " is the quantity of labor, and  $K$  is the gross fixed capital formation (GFCF) that represents the quantity of capital. In line with these facts, we discuss the methodology to meet the goals of the study as follows.

#### 10.3.1 *Econometric Methodology*

The Granger causality test is selected to investigate the correlation between Islamic banks' financing and economic growth. The ordinary least square (OLS) method is borrowed for regression analysis. As a starting point of the analysis, the unit root test, augmented Dickey-Fuller (ADF), for the selected data series is applied before the time series regression analysis. Augmented Dickey-Fuller (ADF) is used to test the stationarity of the data series in the model.

Granger (1969) established the causality method as follows: A variable  $Z_t$  is supposed to Granger cause to variable  $X_t$  when the variable  $X_t$  can be

forecasted with greater correctness by using previous lag values of the variable  $Z_t$  rather than not using such previous values, suppose all other terms held constant. The aim here is to probe the effect of Islamic financing on the economic growth in Pakistan. The Granger causality test for variables involves as initial estimate the following VAR model as

$$Z_t = \beta_1 + \sum_{i=1}^m \beta_i X_t + \sum_{j=1}^m \gamma_j Z_{t-j} + \mu_{1t} \quad (10.1)$$

$$Z_t = \beta_2 + \sum_{i=1}^m \phi_i X_t + \sum_{j=1}^m \delta_j Z_{t-j} + \mu_{2t} \quad (10.2)$$

where it is supposed that both  $\mu_{1t}$  and  $\mu_{2t}$  are not correlated as error term.

In our analysis, we use the ordinary least square technique (OLS) to examine the nature and form of relationships among two or more variables included in the model.

$$Y_t = a + \beta X_t + u_t \quad (10.3)$$

Equation (10.3) cannot be observed directly and is supposed to collect data sample from a population against the variable. Then, the estimates of  $\alpha$  and  $\beta$  will help to find the estimated intercept and estimated slope  $\hat{\alpha}$  and  $\hat{\beta}$ , respectively.

$$\hat{Y}_t = \hat{\alpha} + \hat{\beta} X_t \quad (10.4)$$

Equation (10.4) is the sample regression equation. Here  $\hat{\alpha}$  and  $\hat{\beta}$  and  $\hat{Y}_t$  denote the predicted value of  $Y$ . If we have an estimated sample regression equation, we can easily predict  $Y$  for various values of  $X$ .

### 10.3.2 Model Specification

The analysis of the study is based upon the standard Cobb-Douglas production function  $Y_t = AL^\alpha K^\beta$ . This is prominent to investigate the significance of potential variables to economic growth. This is appropriate to explore the relationship between the Islamic banks' financing and the economic growth as the main goal of the study.

**Table 10.2** Description of variables

<i>Variable</i>	<i>Data range</i>	<i>Unit of measurement</i>	<i>Data source</i>
Real GDP	2005–2015	Million rupees	World Development Indicator
Islamic banks' financing (IBF)	2005–2015	Million rupees	State Bank of Pakistan
Broad money (BM)	2005–2015	Million rupees	World Development Indicator
Gross fixed capital formation (GFCF)	2005–2015	Million rupees	World Development Indicator
Labor force (LF)	2005–2015	Million	World Development Indicator
Trade openness (TO)	2005–2015	$\frac{\text{IMPORTS} + \text{EXPORTS}}{\text{GDP}}$ (Ratio)	World Development Indicator

$$\ln Y_t = \alpha_0 + \alpha_1 \ln IF_t + \alpha_2 \ln M_t + \alpha_3 \ln \text{GFCF}_t + \alpha_4 \ln LF_t + \alpha_5 \ln T_t + \mu_t \dots (v)$$

In the model,  $Y$  represents real GDP as a proxy of economic growth.  $IF$  denotes Islamic banks' financing,  $M$  symbolizes money supply, GFCF stands for gross fixed capital formation,  $LF$  means labor force, and  $T$  represents trade openness. Data trends of variables are listed in Appendix. In detail, the description of variables, their measures, time span, and sources of data collection are summarized in Table 10.2.

## 10.4 RESULTS AND DISCUSSION

This section explains all estimation results along with a discussion and its relevancy with the real sector. Before estimating the regression model, the descriptive analysis is discussed in detail; unit root test, ordinary least square, and at the end Granger causality test results are to be discussed.

### 10.4.1 Descriptive Analysis

In Table 10.3, we have provided a summary of descriptive statistics for each variable. All necessary information is provided before moving to further analysis.

**Table 10.3** Descriptive statistics

	<i>GDP</i>	<i>BM</i>	<i>GFCF</i>	<i>IBF</i>	<i>LF</i>	<i>TO ratio</i>
Mean	9,332,249	8,373,524	1,397,600	444,898.2	55.86889	0.300565
Median	91,52,553	7,807,083	1,388,839	356,545.9	57.22000	0.304519
Maximum	11,229,656	14,637,381	1,560,186	1,181,854	63.06778	0.356817
Minimum	7,738,134	3,182,515	1,215,075	81,463.73	46.82000	0.243264
Std. dev.	1,045,490	3,669,960	110,420.2	340,760.1	5.097467	0.035888
Skewness	0.335834	0.320981	-0.181413	1.016331	-0.377759	-0.044841
Kurtosis	2.281354	1.933434	1.828429	3.018287	1.951221	1.834832
Jarque-Bera	0.443479	0.710270	0.689435	1.893856	0.765751	0.625928
Probability	0.801124	0.701079	0.708420	0.387931	0.681895	0.731276
Observation	11	11	11	11	11	11

Source: Authors' calculation

In the first row of Table 10.3, the central tendency value of all variables is listed down. The mean value of GDP is 9,332,249 million rupees on average, broad money is 8,373,524, GFCF is 1,397,600, Islamic banks' financing is 444,898.2 million rupees, labor force is 55.86889 million in numbers, and trade openness is 0.300565 million in ratio. Dispersion of data set is check out with standard deviation values. The normality of the data distribution is observed with the help of values of kurtosis and skewness. Skewness is a measure of the asymmetry of the probability distribution of a definite value arbitrary variable about its mean. Kurtosis is telling us about the degree of peakedness or smoothness of the unimodal frequency curve. Mesokurtic showed the normality of the data distribution. Further, Jarque-Bera test is also used to observe the normality of the data distribution. We observe that all values are there within normally defined standard benchmarks to proceed for the analysis further.

#### 10.4.2 Unit Root Analysis

In general, unit root tests are tests for stationarity in a time series. A time series has stationarity if a shift in time doesn't cause a change in the shape of the distribution; unit roots are one cause for nonstationarity. These tests are known for having low statistical power. Many tests exist, in part, because none stand out as having the most power. The Dickey-Fuller test (sometimes called a Dickey-Pantula test), which is based on linear

**Table 10.4** ADF test results

<i>Variable names</i>	<i>Trend</i>	<i>Trend and intercept</i>	<i>Stationarity</i>
Gross domestic product	-0.4211 (0.7328)	-4.1843 (0.0000)	I(0)
Islamic banks' financing	-0.4953 (0.8853)	-3.872107 (0.0000)	I(0)
Money supply	-0.71795 (0.8909)	-9.4618 (0.0000)	I(0)
Gross fixed capital formation	-1.4234 (0.3153)	-8.3516 (0.0000)	I(0)
Trade openness	-0.3753 (0.8853)	-6.47217 (0.0000)	I(0)
Labor force	-0.3685 (0.8449)	-9.2304 (0.0000)	I(0)

Parenthesis shows probabilistic values

regression. During econometric analysis, serial correlation can be an issue; therefore, the augmented Dickey-Fuller (ADF) test is used there. The task of the test is to determine whether the stochastic component contains a unit root or is stationary. In Table 10.4, we observe that all variables achieved the desired level of stationarity at I(0) to move to the analysis.

### 10.4.3 Ordinary Least Square Method (OLS)

In Table 10.5, the results suggest that Islamic banks' financing, broad money, GFCF, trade openness, and labor force have positive significant impact on GDP growth.

We observe in the results of the ordinary least square (OLS) that there is a positive association between the Islamic banks' financing and the economic growth in line with Furqani and Mulyany (2009), Majid and Kassim (2010), Abduh and Omar (2012), Manap et al. (2012), Kusuma and Muqorobin (2014), and Tabash and Dhankar (2014). Islamic financing increases the number of participants (financial inclusion) in financial markets because Pakistan is with major Muslim population and they are interest sensitive. Hence, Islamic investment avenues provided them opportunity to park their abundant funds. This confidence has increased the overall economic growth of the country as empirical results supported our hypothesis of a positive significant association of the Islamic finance with the economic growth. Similarly, this result supports to promote



**Table 10.5** Results of OLS

<i>Variables</i>	<i>Coefficients</i>	<i>Standard error</i>	<i>Probability</i>	<i>Remarks</i>
IBF	0.27	0.09	0.0015	Significant
Broad money	0.26	0.06	0.0012	Significant
GFCF	0.23	0.19	0.0911	Significant
Labor force	0.40	0.17	0.0305	Significant
Trade openness	0.17	0.25	0.5006	Insignificant
Constant	11.55	2.56	0.0043	Significant

Source: E-views' results

Islamic banking to achieve the economic growth as an objective of the UN agenda for SDGs.

Broad money (money supply) is also found positively and significantly associated to economic growth. This is because an increment in the general price level enhances incentive to a producer to collect more profit. As a result, this process becomes a cause to increase in the production of goods and services, increasing the economic growth in the country.

The GFCF (gross fixed capital formation) is positively significant associated with economic growth of Pakistan. The growth is affected 0.23% due to the 1% change in GFCF. It means the GFCF plays a vital role in determining the growth of the economy. It is notable that the GFCF is used here as a proxy of capital. As per economics literature, investment has a positive impact on GDP growth. In fact, the developing countries face severe problems in the formation of capital as people are unemployed or offered employment but on compromised opportunities. Similarly, it also affects savings adversely. As a result, there appeared a sharp decline in investment and capital formation of the economy.

Labor force affects the economy positively as a potential variable. On empirical grounds, the growth accounting approach to measure the contribution of labor reveals a positive and significant impact in Pakistan's economy. The current statistics reveals that Pakistan has improved in the formation of human capital through skill and education that enhance the labor efficiency in a best manner. The economic survey of Pakistan in 2016–2017 has recorded contribution of labor force to GDP of the country with 42.3%, 35.1%, and 22.6% from agriculture, services, and industry, respectively. These results reveal contribution of skilled labor is changing among sectors of the economy.

Trade openness has a positive impact on economic growth, although this variable is found statistically insignificant in our analysis. One should note that liberalized economies enjoy foreign direct investment. This channel expands market opportunities and decreases cost per unit of goods, and hence specialization starts in professions based upon comparative advantages. Theoretically, the technological transmission becomes a reason to attract the attention of foreign investors; therefore, trade openness is used as a proxy variable that affects GDP growth positively. On practical ground, however, uncompetitive developing economies face hurdles; they need protection to grow in the global market. We conclude that Pakistan is not competitive in different terms, it needs protection to get matured. Through this way, it can enhance quality and quantity in the international market to harvest benefits of an open economy.

#### 10.4.4 Granger Causality Analysis

The results of Engle-Granger causality test are presented in Table 10.6. There are causal relationships among different variables. Basically, the Engle-Granger causality test is a form of different predictability where the long-run relationship between different variables is established in the discussed model. These hypotheses are established according to the probability values of Granger causality relationships in Table 10.6.

According to the probability value, we reject the null hypothesis on causal relationship between Islamic banks' financing (IBF) and gross

**Table 10.6** Granger causality results

<i>Null hypothesis</i>	<i>Obs</i>	<i>F-statistic</i>	<i>Prob.</i>
Islamic banks' financing does not cause GDP	9	3.26178	0.0019
GDP does not cause Islamic banks' financing		3.70532	0.1229
Broad money does not cause GDP	9	1.02242	0.0079
GDP does not cause broad money		3.54306	0.0085
GFCF does not Granger cause GDP	9	4.42181	0.0222
GDP does not Granger cause GFCF		2.98774	0.1608
Labor force does not Granger cause GDP	9	2.07992	0.0046
GDP does not Granger cause labor force		7.41911	0.0451
Trade openness does not cause GDP	9	1.77166	0.2812
GDP does not Granger cause trade openness		3.95623	0.1128

Source: E-views' results

domestic product (GDP). This rejection of null hypothesis supports that Islamic banks' financing does cause GDP. We can say that we are successful to support our core theme of the study that Islamic banking and finance contributes to economic growth of the country. This result also supports us to achieve SDGs of the UN.

Similarly, broad money (M), gross fixed capital formation (GFCF), and labor force (LF) Granger cause gross domestic product (GDP). This is in contrast to trade openness (T) which does not Granger cause gross domestic product (GDP) according to the probability value of results.

## 10.5 CONCLUSION AND RECOMMENDATIONS

Economic development has been a prime objective of any growing economy. Policymakers have been interested to find out potential variables to achieve the said objective of economic growth. The same agenda is a fundamental part of the SDGs targeted by the UN in 2030. We have examined that the development of Islamic financial institutions in Pakistan will lead to economic growth and development. In countries with Muslim majority like Pakistan, Islamic financing has emerged as the best source of financial inclusion to achieve the objectives of economic growth. The same religious taste can be a potential source of economic growth in countries with dual banking, for instance, Malaysia, Sudan, Indonesia, the UAE, Turkey, Egypt, and so on.

On the basis of empirical results, we recommend policymakers to increase the share of Islamic banking and finance to provide Halal investment opportunities for the Muslim population. Majority of Muslim countries is considered developing economies for whom these empirical results may appear as a sign of hope, which show a positive relationship between Islamic banks' financing and economic growth. It will also play a vital role in the long run for capital formation, financial inclusion, economic welfare, and poverty alleviation in line with SDGs of the UN. We recommend Muslim countries and the countries with Muslim majority to tap the Islamic financial market potential through the development of regulatory framework, Shari'ah auditing, and Islamic branch expansion. Yet, Islamic banking and finance is a less explored area in local and global markets.

Along with the recommended steps for central banks, there is a crucial need to develop the Islamic capital market and other nonfinancial institutions in accordance with the Islamic law of business contract to realize the higher objectives of Shari'ah in domestic and international markets. In

short, Islamic financial institutions and Shari'ah-compliant nonfinancial firms will contribute in achieving the goals of economic prosperity. We recommend the UN to support the development agenda of Islamic banking in global markets and especially in Muslim countries to achieve the goal of economic growth that is part of SDGs as common interest.

#### APPENDIX: DATA OF VARIABLES

<i>Years</i>	<i>GDP</i> <i>(million Rs)</i>	<i>GFCF</i> <i>(million Rs)</i>	<i>Broad money</i> <i>(million Rs)</i>	<i>Trade</i> <i>openness</i> <i>ratio</i>	<i>Labor force</i> <i>(million</i> <i>Rs)</i>	<i>IBF</i> <i>(million</i> <i>Rs)</i>
2005	7,738,134	1,215,075	3,182,515	0.32932	46.82	81,463
2006	8,216,160	1,456,889	4,631,578	0.35681	50.5	114,965
2007	8,613,232	1,491,796	5,439,249	0.33403	50.78	177,475
2008	8,759,778	1,560,186	5,794,143	0.33368	52.32	269,087
2009	9,007,825	1,482,823	6,814,495	0.28855	55.76	299,295
2010	9,152,553	1,374,205	7,807,082	0.30983	57.22	356,745
2011	9,404,102	1,268,315	8,970,979	0.30451	58.41	404,758
2012	9,733,907	1,299,089	10,306,617	0.26934	59.33	450,634
2013	10,159,011	1,332,648	11,676,558	0.27542	60.35	676,570
2014	10,640,381	13,888,839	13,028,161	0.26139	60.09	881,228
2015	11,229,656	1,503,731	14,637,380	0.24326	63.06	1,181,853

Source: World Development Indicators (WDI) and SBP

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# The Impact of the Islamic Banking Industry on Economic Growth and Poverty Reduction in Pakistan

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and Memoona Rahim*

## 11.1 INTRODUCTION

The well-known 5 higher Shariah objectives<sup>1</sup> include 17 social development goals set by the United Nations (UN) in its broad spectrum. Therefore, it can be said that achieving these goals is the basic purpose of Shariah injunctions. As an Islamic system, Islamic banking also is subject to achieve these goals. In the case of Pakistan, the history of Islamic banking development can be divided into two consecutive phases. The first phase ranges from 1980 to 2002 during which basic concept of interest-free economy evolved theoretically and consequently noninterest-based banking (NIB) emerged. The government of Pakistan showed its interest and made its efforts to transform the economy from interest to

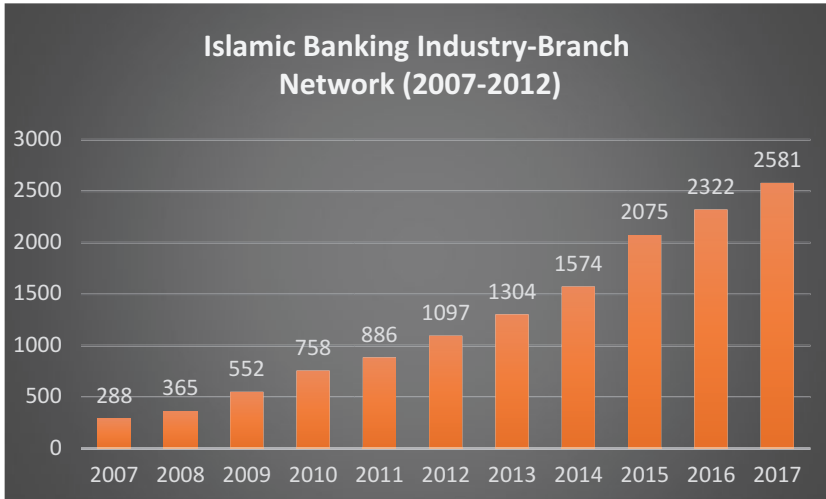
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**Fig. 11.1** Islamic banking industry branch network (2007–2012)

noninterest base, and it started from the banking industry. The second phase ranges from 2003 onward during which Islamic banking was practically launched and started to work in parallel with the conventional banking as per new strategy of State Bank of Pakistan (SBP) (Janjua 2004). Since then, Islamic banking has achieved 12.4% of total banking business as indicated in EY 2017 (Fig. 11.1). By the end of 2017, there were 5 full-fledged Islamic banks and 18 standalone Islamic banking branches of conventional banks and 6 sub-Islamic branches of conventional banks. IBI showed a rapid growth till 2017 (SBP Annual report 2017).

It is the time now to find out at what extent the Islamic banking industry could achieve its foundational and conceptual socioeconomic objectives of welfare like poverty elimination and economic growth in Pakistan. This study has been undertaken by using data for the period 2004–2017.

## 11.2 LITERATURE REVIEW

The banking and financial industry affects the real output growth of an economy (Goldsmith 1969), and consequently it affects the unemployment level of the economy. King and Levine (1993) explored the causality relationship between the variables of banking and financial development



and economic growth. They used the Three-stage Least Squares (3SLS) technique and found that financial industry was one of the causes of rapid economic growth of developing Asian economies. Therefore, banks were preferred over security markets in these economies for the purpose of financial intermediation (Bosworth 1998). According to Garson (1998), banking and financial industry plays its role as the main locomotives for economic growth. The reason is that the banking sector plays its role effectively in increasing the velocity of money by seeking and accepting the deposits from the individuals and lending credit from those deposits to the others. These lending are considered as growth engines, not the inputs. Employing Generalized Method of Moments (GMM) dynamic on dynamic panel data, Levine et al. (2000) also found a bidirectional relationship between the financial development of economy and its economic growth.

Furqani and Mulyany (2009) employed the vector error correction model (VECM) using quarterly time series data (1971:1-2005:4) in their study to check the long-run relationship between the Islamic financial sector and the performance of economy in Malaysia. They showed that the Islamic banking industry contributed 60.2% in the total financial industry by the end of 2005. In this way, they found that there was a positive impact of the Islamic banking industry on the economic growth of Malaysia.

Goaied and Seifallah (2010) conducted a study on Middle East and North Africa (MENA) region to find out the impact of the Islamic banking industry on the economic growth. They employed the technique of GMM estimation. They used dynamic panel data of 16 economies in MENA region. They found that there was an insignificant relationship between growth and Islamic banking system. They, ultimately, concluded that there is zero contribution of Islamic banks in economic growth of MENA region. These results were confirmed by Goaied and Sassi (2011) who studied the relationship between economic growth and Islamic financial development in MENA region. They used unbalanced dynamic panel data and employed system GMM estimation technique. They found that there was no significant impact of Islamic financial development on economic growth in MENA region. Later Echchabi and Dhekra (2015) also found same results. They conducted their research to analyze the impact of the development of the Islamic banking industry on the UAE's economic growth. Using time series quarterly data ranging from Q1: 2004 to Q4: 2011. They employed co-integration and Granger causality tests and

found that there was no significant relationship between Islamic banking and economic growth in the UAE.

Abduh and Omar (2012) studied the Indonesian economy to find out the impact of the Islamic financial development over the economic growth of Indonesia. They employed bound testing co-integration approach, and for short-run analysis, they used error correlation models (ECM). Their results showed the significant relationship between Islamic financial development and the economic growth in the long as well as short run. These results were confirmed by later research of Abduh and Chowdhury (2012). They focused on Bangladesh economy to find the relationship between growth dynamic and total financing as well as deposit structure of the banking sector operating in Islamic setups. They used quarterly time series data for the period 2004–2011. They found a significant impact of the Islamic banking industry on economic growth in the long run. These results were confirmed in another study conducted by Kaleem et al. (2016) who tried to find out the relationship between economic growth and full-fledged Islamic banking development in Pakistan. They used quarterly panel data for the period 2006–2013. They employed bound integration test and ECM developed within Autoregressive Distributed Lag (ARDL) structure. They found that there was a positive significant relationship between Islamic banking development and economic growth.

In his Bangladesh-based study, Abdin (2016) analyzed the impact of financial development over the poverty alleviation. He used time series data for the period 1974–2013 and found that poverty was directly alleviated by financial development through channeling the greater credit access along with savings opportunity for the poor. He also showed that economic growth, indirectly, reduced poverty. Same results were obtained by Rashid and Intartaglia (2016) who tried to test the influence of financial development on poverty alleviation in developing countries. They used unbalanced panel data for the period 1985–2008 and employed a two-step system GMM estimator. They showed that absolute poverty reduction was significantly positively affected by financial development. They also found that financial sector is more effective in poverty reduction when economic growth is high.

To check the impact of financial industry over poverty reduction, Rewilak (2017) divided the financial development into four categories—size, accessibility, efficiency, and stability—of financial system and used the unbalanced panel data for the period 2004–2015. He employed the ordinary least squares (OLS) method. He found that high accessibility and size

of financial system has positive significant impact on poverty reduction. The results suggest that financial instability and inefficiency have no direct detrimental effect on poverty.

### 11.2.1 Summary

It has become clear that no study has been done to test the impact of the Islamic banking industry as a whole on the economic growth and poverty alleviation in Pakistan. All abovementioned important studies have been done for other countries except the research done by Kaleem et al. (2016), but they used the data of just a few full-fledged Islamic banks rather than taking the complete Islamic banking industry. Moreover, they studied the impact of Islamic banking development just over the economic growth. However, this study investigates the relationship between the Islamic banking industry's development and economic growth and poverty alleviation in Pakistan. They conducted their study considering banking aggregate indicators like financing, investments, and so on, but we will consider the Islamic banking products that are being offered to the public. It is an updated version and value addition in the literature on the impact of Islamic banking offerings over poverty reduction and economic growth of Pakistan.

## 11.3 DATA

Keeping in view the possible availability of data, we selected nine banks: four full-fledged Islamic banks and standalone Islamic branches of five conventional banks running Islamic banking operations separately from their conventional system (Table 11.1) in Pakistan.

To find out the impact of Islamic banking industry development over the economic growth and poverty eradication, we selected the Islamic financial products: Murabaha, Diminishing Musharakah (DM), Ijarah

**Table 11.1** Banks

<i>Sr.</i>	<i>Standalone Islamic branches of conventional</i>	<i>Sr.2</i>	<i>Full-fledged Islamic banks</i>
1	Askari Bank	1	Meezan Bank
2	Bank Alfalah	2	Bank Islami
3	Bank AL Habib	3	Al Baraka Bank
4	The Bank of Khyber	4	Dubai Islamic Bank
5	Faysal Bank		

**Table 11.2** List of the dependent and independent variables

<i>Nature of variables</i>	<i>Variables</i>	<i>Description of variables</i>
Dependent	Poverty	Poverty is measured through unemployment rate
	ECGR	Economic growth is measured through GDP growth rate
<i>Bank-specific variables</i>		
Independent variables	Salam	Salam financing as percentage of total financing
	Murabaha	Murabaha financing as percentage of total financing
	Ijarah	Ijarah financing as percentage of total financing
	Diminishing Musharakah (DM)	DM (house+auto) financing as percentage of total financing
	Istisna	Istisna financing as percentage of total financing
<i>Macroeconomic control variables</i>		
Independent variables	Foreign direct investment (FDI)	FDI as percentage of GDP
	INF	Consumer price index (Pakistan economic surveys) is taken as inflation
	EXPGR	Export growth rate

(Kaleem et al. 2016), Salam, and Istisna, offered by Islamic banks, as independent variables. The Islamic banking industry has shown tremendous growth in these areas (see Annexure). Hence, we used annual panel data ranging from 2004 to 2017, but it is an unbalanced data because different Islamic banks started their operations at different times. Data is collected from the bank's financial statements (Table 11.2).

#### 11.4 MEASUREMENT OF ECONOMIC GROWTH AND POVERTY

Economic growth is measured through collecting the data on GDP growth rate (Kaleem et al. 2016) for the period 2002–2017, while poverty is measured through an indirect measure of unemployment rate (Saunders 2002) of Pakistan for the period 2004–2017. Due to limitation of availability of data on variables, we consider unemployment as an indicator to measure poverty to find out some results and to provide the base for future

prospectus and policy structure of the Islamic banking industry of Pakistan in specific. Unemployment is a very close determinant of poverty (Karnani 2011). Though unemployment is not the best indicator to measure poverty (de Dios and Dinglasan 2014), because of limitation of availability of data on variables of the Islamic banking industry, we consider it to find out some results and to provide the base for future prospectus and policy structure of the Islamic banking industry of Pakistan in specific and of other nations in general.

## 11.5 METHODOLOGY

We will employ unit root and co-integration tests to avoid the occurrence of spurious regression. Banerjee et al. (2005) suggest that panel-based unit root test has higher power than univariate unit root based on univariate time series. According to Ozturk and Kalyoncu (2007), panel unit root tests have been found successful in finding evidence of stationarity that cannot be found by univariate methods. Therefore, Im, Pesaran, and Shin panel unit root test will be employed to test the stationarity of variables included in this study.

### 11.5.1 *Model and Estimation: Islamic Banking Development and Poverty*

$$\text{Poverty}_{it} = \beta_0 + \beta_1 \text{DM}_{it} + \beta_2 \text{Salam}_{it} + \beta_3 \text{Istisna}_{it} + \beta_4 \text{Murabaha}_{it} + \beta_5 \text{Ijarah}_{it} + \beta_6 \text{ME}_t + \varepsilon_{it} \quad (11.1)$$

where  $\text{ME}_t$  is the matrix of macroeconomic control variables.

$$\text{ME}_t = [\text{GDPGR}_t, \text{EXPGR}_t, \text{INF}_t, \text{FDI}_t]$$

GDPGR, EXPGR, FDI, and inflation rate also affect the level of unemployment (Rewilak 2017; Muntah et al. 2015; Dandume 2014; Suryahadi et al. 2009).

We estimated Eq. (11.1) and applied random-effect method. All other variables were found significantly related to poverty, while Ijarah was found insignificant. *R*-square value was 68% that implies that 68% of the variation in the unemployment rate is explained by the explanatory variables.

*Dependent variable: POVERTY*

*Method: panel EGLS (cross-section random effects)*

<i>Variable</i>	<i>Coefficient</i>	<i>Std. error</i>	<i>t-statistic</i>	<i>Prob.</i>
C	8.050468	0.466113	17.27150	0.0000
SALAM	-0.045212	0.009737	-1.562240	0.0004
MURABAHA	-0.023806	0.002743	-1.387273	0.0005
IJARAH	-0.031601	0.003188	-0.502274	0.0002
DM	-0.060005	0.001383	-0.061555	0.0001
ISTISNA	-0.010473	0.008185	-1.279561	0.0000
FDI	-0.571501	0.076722	-7.449000	0.0000
INF	0.015152	0.002815	5.383645	0.0000
EXPGR	0.026486	0.006017	4.402069	0.0000

Note: EGLS = Estimated generalized least square

Islamic bank-specific variables like Salam, Murabaha, DM, Ijarah, and Istisna are significant and negatively related to poverty (unemployment). These results clearly explain that the Islamic banking industry is playing its positive role in reducing the unemployment level (Matarneh and Almanaseer 2015) in Pakistan. According to the findings, a 1% increase in DM financing will cause 6% reduction in the unemployment level. Diminishing Musharakah is a multidimensional mode through which machinery, equipment of factories, and productive material are financed. Moreover, Diminishing Musharakah is also a key element in boosting up the small and medium enterprises (SMEs). In this way, Islamic financial modes play a very important role in increasing employment and in digging up new entrepreneurial horizons because it is risk sharing-based mode, not risk transferring like conventional loans (Matarneh and Almanaseer 2015; Marzban and Asutay 2014; Bendjilali & Khan 1995). These results confirm the findings of Matarneh and Almanaseer (2015), Marzban and Asutay (2014), and Bendjilali & Khan (1995) that DM may increase the job opportunities.

Though the coefficients of Salam, Istisna, and Murabaha are not high in comparison with DM, still it shows that these modes are also important in creating jobs, and these findings confirm the results of Tabash and Dhankar (2014). Textile mills, sugar, cement, other manufacturing industry, and agricultural industry are usually financed through credit sale-based modes of financing like Salam, Istisna, and Murabaha (Ali and Hussain 2017; Arsalan 2015; Ansari 2014; Tabash and Dhankar 2014). According

to Aburaida (2011) Salam affects the level of unemployment through creating the opportunities of self-employment specifically in the agricultural sector. This finding is also in line with the conclusion of Millanei et al. (2016) that Istisna increases the level of employment in the economy's internal system because banks finance the different projects which require the relevant professionals and labor. Salam, Istisna, Ijarah, and Murabaha are creating job opportunities in economies (Saleem 2007). The coefficient of Ijarah is just 0.03 but still it shows great potential for creating employment because house financing and auto financing through Ijarah mode are creating earning opportunities for the people who avail this product. Mostly, car Ijarah is being used to run a taxi business (Lateef et al. 2017; Bustami 2017).

Macroeconomic variables like FDI are significant and negatively related to unemployment having high coefficient of 57%, which means a 1% increase in FDI will reduce 57% unemployment in the economy. This finding confirms the results of Blomstrom and Kokko (2003), Klein et al. (2003); Borenzstein et al. (1998). It means poverty can be reduced by encouraging the FDI (Rutihinda 2007; Dollar and Kraay 2000; Dupasquier and Osakwe 2005). Inflation is positively related to unemployment, and it confirms the findings of Jelilov et al. (2016), Umair and Ullah (2013), Zaidi (2005), Mocan (1995), Cutler and Katz (1990). EXPGR was also found significant and positively related to unemployment rate, and it confirms the studies done by Yolanda (2017), Pierce and Schott (2013), Ebeinstein et al. (2009), James and Fujita (2000). This result shows that export growth does not absorb much labor that is why unemployment is increasing with EXPGR (Yolanda 2017).

### 11.5.2 *Model and Estimation: Islamic Banking Development and Economic Growth*

$$\begin{aligned} ECGR_{it} = & \beta_0 + \beta_1 DM_{it} + \beta_2 Salam_{it} + \beta_3 Istisnas_{it} + \beta_4 Murabaha_{it} \\ & + \beta_5 Ijarah_{it} + \beta_6 ME_t + \varepsilon_{it} \end{aligned} \quad (11.2)$$

where  $ME_t$  is the matrix of macroeconomic control variables.

$$ME_t = [ EXPGR_t, INF_t, FDI_t ]$$

Export, FDI, inflation rate, and government spending are also important determinants of poverty reduction (Muntah et al. 2015; Abdullah et al. 2015; Dandume 2014; Ali 2014; Naseer 2013; Saqib et al. 2013; Suryahadi et al. 2009; Liang and Reichert 2006).

After repeating the same test procedure, we obtained the same results. Therefore, we estimated Eq. (11.2) and applied random-effect estimation method. All other variables are found significantly related to ECGR at the level of 5%, while Istisna is significant at 10% level. Only inflation remained highly insignificant. *R*-squared is 75% that shows that 75% of variation in ECGR is explained by explanatory variables.

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*Dependent variable: ECGR*

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*Method: panel EGLS (cross-section random effects)*

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<i>Variable</i>	<i>Coefficient</i>	<i>Std. error</i>	<i>t-statistic</i>	<i>Prob.</i>
C	4.951455	0.217536	11.59074	0.0000
SALAM	0.012754	0.023137	4.551256	0.0001
MURABAHA	-0.017949	0.016518	-3.219435	0.0247
IJARAH	0.011346	0.027575	5.777725	0.0062
DM	0.024206	0.013285	3.671521	0.0033
ISTISNA	0.021188	0.019448	2.261070	0.0614
FDI	0.459485	0.182300	2.739912	0.0069
INF	0.093663	0.006688	3.538349	0.1445
EXPGR	0.219011	0.014296	5.329750	0.0000

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Islamic bank-specific variables like Salam, DM, and Ijarah are significant and positively related to economic growth of Pakistan at the level of 5%, while Istisna is significant at 10% level. These results confirm the findings of Kalim et al. (2016), Abduh and Omar (2012). Murabaha is negatively related to economic growth as found by Kalim et al. (2016). Furqani and Mulyany (2009) and Goaiad and Seifallah (2010) also concluded that the development of the Islamic banking industry is playing an important role in economic growth. All these Islamic modes of financings are real asset-based modes and boosting GDP by real productive economic activity in the economy. Out of the macroeconomic indicators, inflation remained highly insignificant, while FDI and EXPGR are found significant and positively related to economic growth (Abdullah et al. 2015; Muntah et al. 2015; Naseer 2013; Tiwari and Mutascu 2011; Chakraborty and



Nunnenkamp 2008; Omri et al. 2014; Ahmadi and Ghanbarzadeh 2011; Antwi et al. 2013; Bhandari et al. 2007; Hassen and Anis 2012) and contrary to the findings of Saqib et al. (2013) and Ali (2014), because they found a negative relationship between FDI and economic growth.

## 11.6 CONCLUSION

Islamic banking major financing modes like Salam, Murabaha, Diminishing Musharakah (DM), Ijarah, and Istisna were used as dependent variables because they play an important role in the development and growth of the Islamic banking industry. The study was focused on finding the impact of these dependent variables on poverty reduction and economic growth in Pakistan for the period 2004–2017. Random-effect estimation technique was employed. The study showed that the Islamic banking industry in Pakistan is not running just to chase the high growth rate to get a major role in the country's economic growth, but it is also prioritizing the achievements of SDGs.

The results showed that Islamic banking products are playing a positive role in achieving social development goals like poverty eradication and economic growth in Pakistan. The negative relationship between Murabaha and economic growth shows that scholars are true in discouraging the Murabaha financing mode and considering it less ideal mode. Many scholars consider it legal device to circumvent the prohibition of *riba*. Nyazee (2009) added that well-known scholars of the age, for example, M. Sulyman al-Ashaqar, Bakr bin Abdullah Abu Zaid, Rafiq al-Masri, Hassan Abdullah al-Amin, and Abd al-Rahman Abd al-Khaliq, also opposed the banking Murabaha because it was not legal in view of Shariah. Such repute about Islamic banking modes is injurious for the Islamic banking industry. According to Haron et al., controversies and skepticism about Murabaha were causing risk of repute for the Islamic banking industry. Hamzah et al. (2015) and Tang (2010) found that the image of Islamic banking was positively related to the customer's satisfaction level. Regulators and other stakeholders of Islamic banking must pay their attention on the issue.

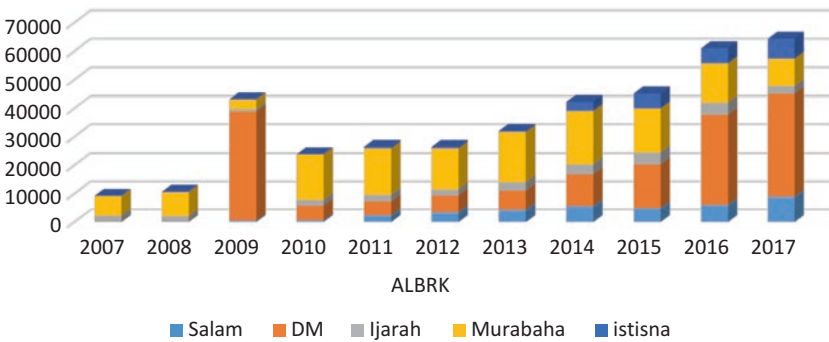
Macroeconomic variables, FDI, and export growth were also found significantly related to poverty reduction and economic growth, but inflation was insignificant with economic growth. Overall results showed that these indicators are creating opportunities in the employment area

and enhancing public standard of living which obviously may bring the population above the poverty line (Abdullah et al. 2015).

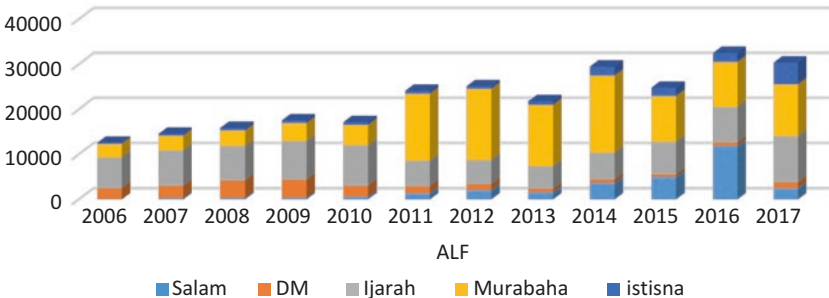
The Islamic banking industry has great potential to achieve SDGs in Pakistan. The implication of the results of the study recommends that the government of Pakistan should make concrete efforts to promote Islamic banking, to cash the potential role of the Islamic banking industry at macro level, and to identify other potential economic roles of the industry in achieving SDGs. Already existent taken steps to promote Islamic banking are less enough for this great cause in many aspects.

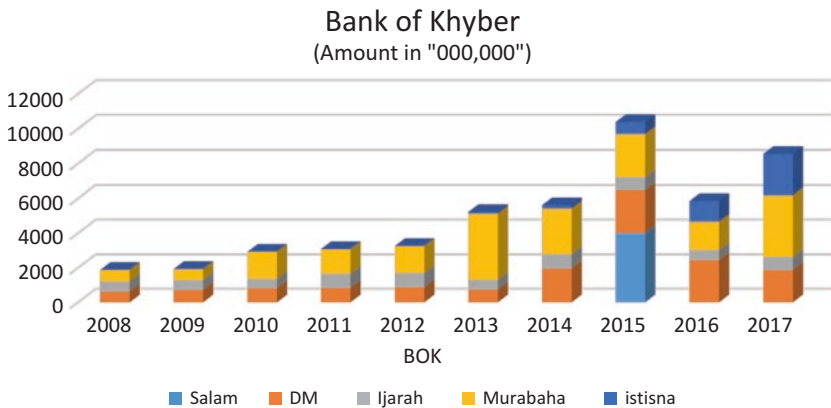
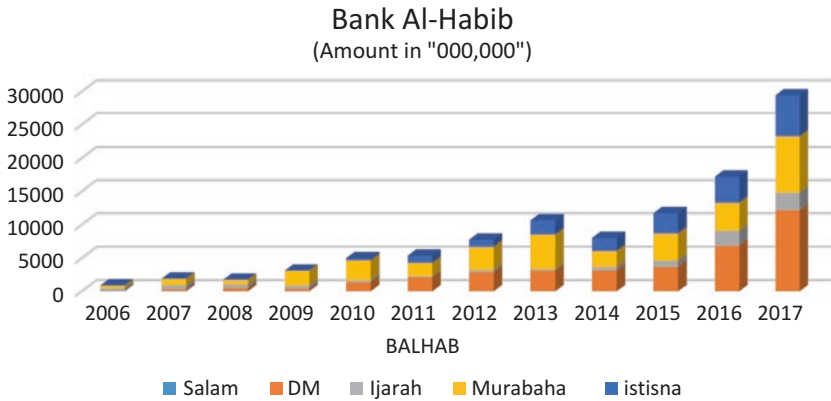
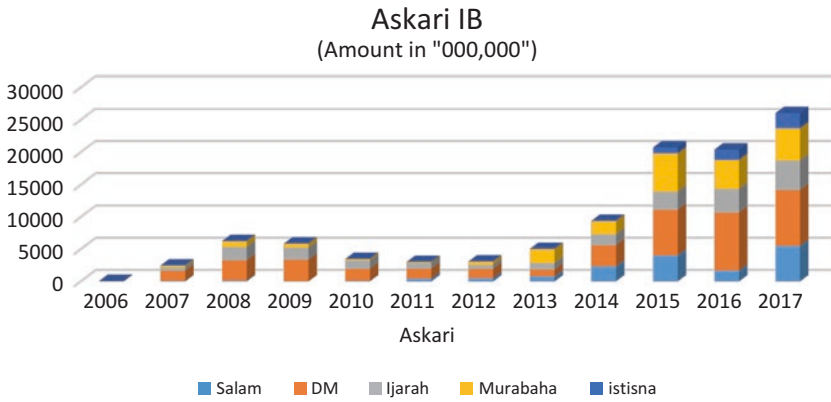
### APPENDIX

**Al-Barkah IB**  
(Amount in "000,000")

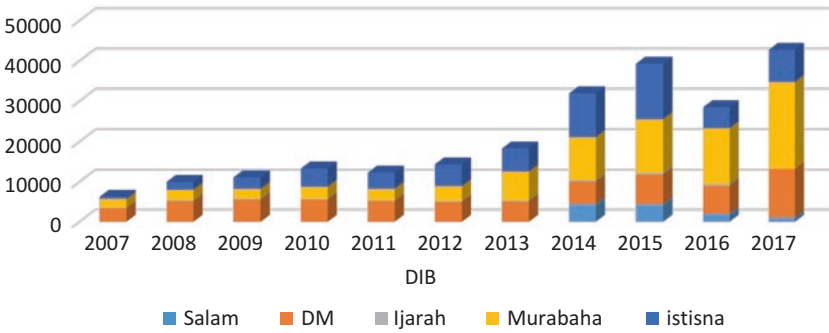


**Al-Falah IB**  
(Amount in "000,000")

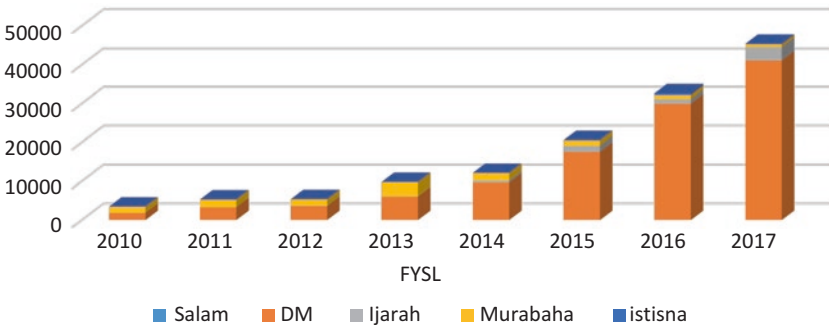




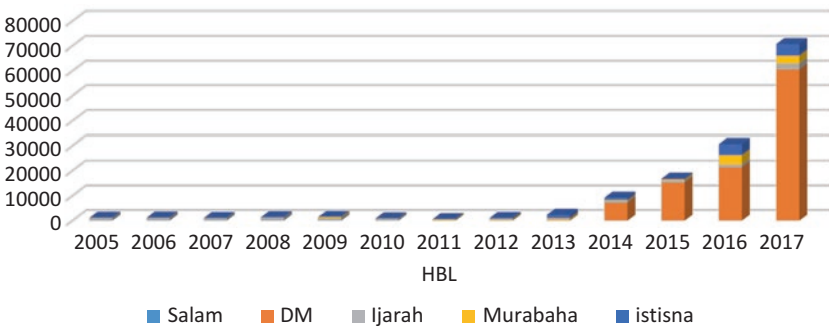
**Dubai Islamic Bank**  
(Amount in "000,000")



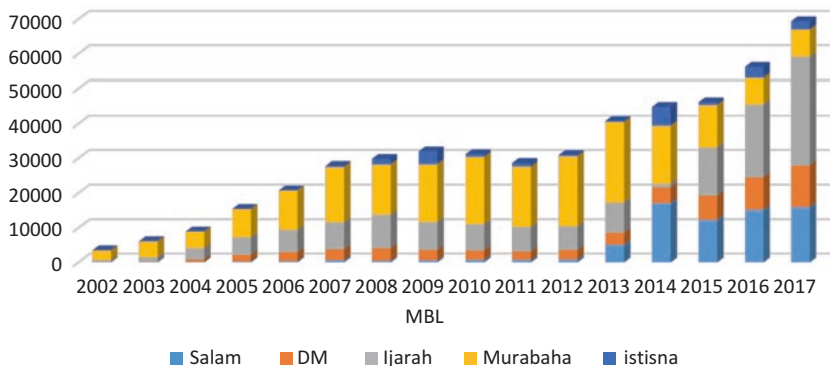
**Fysal Islamic Bank**  
(Amount in "000,000")



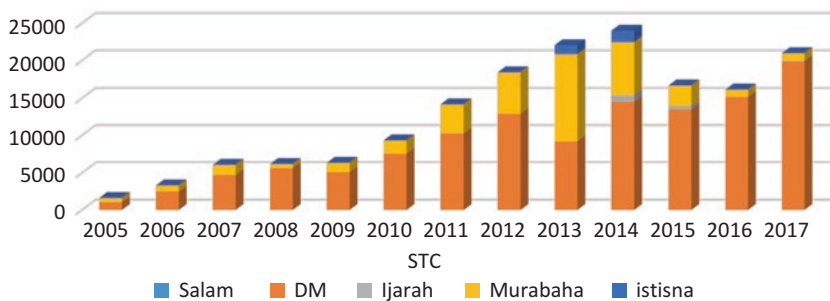
**HBL**  
(Amount in "000,000")



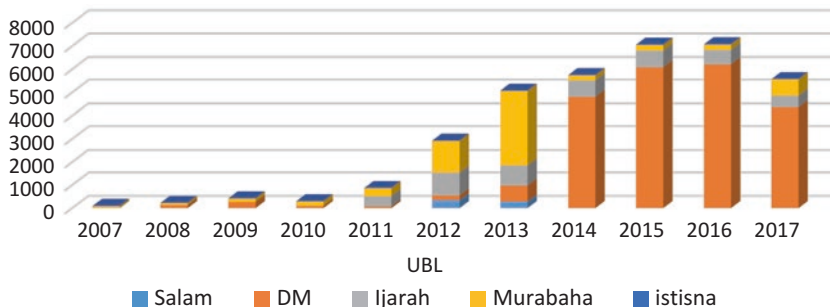
**Meezan Bank**  
(Amount in "000,000")

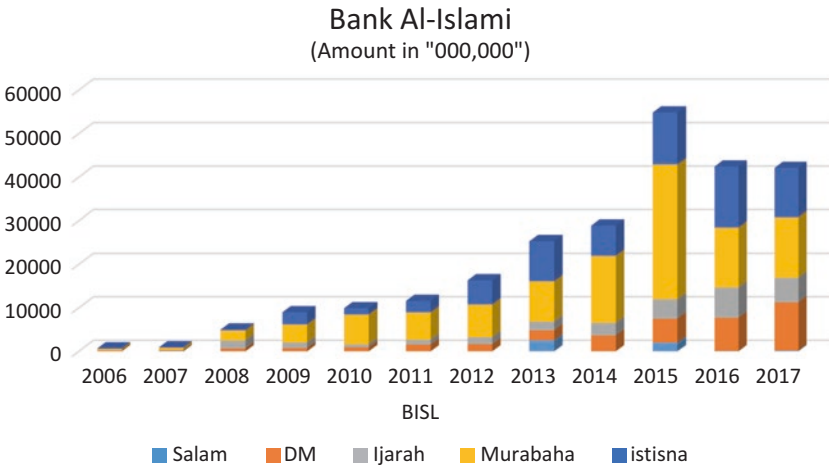
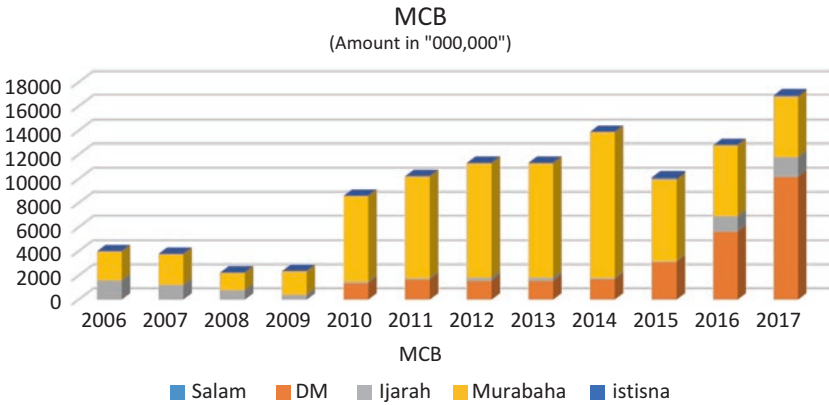


**standard Chartered Bank**  
(Amount in "000,000")



**UBL**  
(Amount in "000,000")





NOTE

1. There are five broad categories of higher Shariah objectives, for example, protection of religion, life, property, progeny, and intellect. All other objectives are covered under the umbrella of these five in different capacities.

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# Alleviating Poverty Through Islamic Microfinance: Factors and Measures of Financial Performance and Roles of Islamic Values and Financial Policies

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## 12.1 INTRODUCTION

One of the aims of the sustainable development goals (SDGs) initiated by the United Nations (UN) in efforts to end the poverty is improving financial inclusion (FI). In particular, the UN has listed 17 goals under the SDGs which also include ending poverty and ensuring universal financial access to all through improving FI. Under the SDGs, all the goals listed are expected to be achieved by 2030. The goal of increasing FI has resulted

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in rigorous efforts to achieve it, among others, enhancing the role of Islamic Microfinance Institution (IMFI), particularly leveraging on its unique aspects such as the noble Islamic values and relating it to financial policies that could benefit the poor people.

The World Bank Global Findex database (2011), a cross-country database on the use of financial services in 150 countries, found that half of adults in the developing countries have no access to basic financial services as they are considered as unbankable due to lack of collateral. Consequently, the World Bank through Global Findex has declared FI as a global agenda, especially in the developing countries. This agenda of universal financial access has highlighted the role of all types of financial institutions, particularly the MFIs in expanding their services, especially in rural areas (World Bank 2014; Beck et al. 2015). Furthermore, according to Shirazi and Khan, microfinance could be the best way to alleviate extreme poverty effectively and offer positive welfare impact. Another purpose of microfinance is to ensure improvement in the long-term income. Several studies have shown that providing accessibility to credit for the microenterprises does not only provide effective solutions to poverty, but it also works well for clients, who are close to the poverty line since it will provide them with the chance to be economically independent and break the poverty trap.

It is important to realize that microfinance is a mechanism to develop good relationship between the MFIs and the clients based on trust and commitment. MFIs should be constructed using a community-based framework concept where it could help to alleviate poverty to a reasonable degree (Abdelbaki 2013). Understanding the credibility of the customers would also help to reduce the occurrence of non-performing loans (Nkamnebe and Idemobi 2011). Therefore, the MFIs should educate the poor people's awareness in order to reach them (Lønborg and Rasmussen 2014). Several studies have assessed the relationship between microfinance and poverty alleviation, and most of them have found a positive relationship between the two (Lønborg and Rasmussen 2014).

In the case of Indonesia, the Islamic Microfinance Institution (IMFI) has contributed to alleviate poverty since 2000 by expanding financial access to the poor. One of the IMFIs in Indonesia is the Baitulmaal Wa Tamwil (BMT), which is well known for its role in conducting and delivering their businesses with the principles of Islamic *muamalat*. Operating based on a cooperative model, BMT has two functions, namely, social function (*Baitulmaal*) and business function (*Baituttamwil*), simultaneously. According to the Indonesian Ministry of Cooperative and

Micro, Small and Medium Enterprises (2017), there are currently more than 5000 BMTs around Indonesia, and this MFI has contributed significantly to the income of the poor, helping them to graduate from poverty and creating wealth (Santoso and Ahmad 2016). It is estimated that cooperative, in general, has contributed around 4% to the Indonesian gross domestic product (GDP).

The IMFIs in general, and the BMT in particular, help in alleviating poverty by providing financial services to the poor in the informal sector of the economy and are usually funded using Islamic social fund such as *zakat*, *infaq*, *shadaqah* and *waqf*. Islamic microfinance is basically an interest-free microfinance as it delivers funding without the interest so as to comply with the Islamic financing principles (Dhumale and Sapcanin 1998; Wulandari and Kassim 2016). This chapter attempts to explore the determinants, measures of IMFIs performance, roles of Islamic values and financial policies of the IMFIs in alleviating poverty, based on the experience of BMT in Indonesia.

## 12.2 LITERATURE REVIEW

In accordance with the goal of financial inclusion which is alleviating poverty, IMFIs need to know what are the dominant factors, policies and Islamic financial compliance which influence their role in the efforts to achieve the goal. Alleviating poverty through Islamic microfinance needs to be related to the existence of the IMFIs. In this regard, the informal credit market theory is highly relevant. It stated that informal finance can influence development economy by empowering the incapable or unbankable low-income people, and it works directly in the community by easing access to microcredit to the poor (Bose 1998).

### 12.2.1 *The Theory of Informal Credit Market*

The informal credit market is an important part of the financial system of the developing countries. They play a decisive role in channeling credit to small and poor borrowers in both urban and rural areas. They also constitute an important source of working capital of all sizes and serve generally to ameliorate inefficiencies in the allocation of formal sector credit (Daniel 2000).

There are two views concerning the importance of the informal credit markets, namely, the traditional view and the modern view. The traditional

view is quite skeptical about the usefulness of the informal credit market in financial intermediation, saving mobilization, efficient and equitable use of funds in less developed countries (LDCs). Informal finance was often thought to be anti-developmental, exploitative and prone to consumption rather than investment behavior and incapable of expanding to provide an appropriate volume and range of financial services (Daniel 2000).

United Nations for Development Programme (UNDP) mentioned that it is clear that informal credit market works directly in the community and had simplified application procedures, quickness in extending credit, focus on the local market, providing larger loans based on successful repayments, charge high rate of interest, addressing the need of the poor clients and consider reputation in the community as more important than collateral (Haugen 2006).

### 12.2.2 *Financial Inclusion and Alleviation of Poverty Issues*

The conception of poverty that is employed here draws on Simmel's *The Poor*, which analyzes the relationship between poor people and the society. Simmel (1965) explains that poverty alleviation is part of "the role that each concrete individual member of society performs". Therefore, "[t]he poor, as a sociological category, are not those who suffer specific deficiencies and deprivations, but those who receive assistance or should receive it according to social norms" (Simmel 1965).

Following Simmel (1965), poverty means being in need relative to others in the same society and relative to its expectations and norms. Post-development theorist Yapa (1997) conceptualizes poverty as consisting in global social relations, arguing that no conception of "poor" could exist without corresponding conceptions of "non-poor". Mediated through the production sphere, discourses of poverty and non-poverty generate recognition and acceptance of the material symptoms while simultaneously hiding the causes of the concrete phenomena, which are lumped together as "poverty" (Yapa 1997).

According to the UN, through the sustainable development goals (SDGs), every country will eradicate extreme poverty for all people everywhere in 2030; it is currently measured as people living on less than USD 1.25 a day. Moreover, the authorities strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all. Likewise, according to Wulandari and Kassim (2016), IMFIs provide financial services not only for the poor but also for the poorest in the

informal sector of the economy, which are usually being funded using external sources such as *zakat*, *infaq* and *shadaqah*. Furthermore, another study finds that there are some opportunities capable of improving the economic condition of the poor Muslim communities through IMFIs, based on the Islamic principle (Hassan et al. 2015).

Furthermore, according to Shirazi and Khan, microfinance could be the effective way to alleviate poverty effectively and deal with positive welfare impact. Another determination of microfinance is to confirm improvement in the long-term income. Several studies have shown that Micro, Small and Medium Enterprises (MSMEs) finance credit does not only provide effective solutions to poverty, but it also works well for people close to the poverty line (Shaw 2004).

Retrieving microfinance, poverty can be reduced by providing credit to the poor or by permitting them an access to credit. It is important to realize that microfinance is a mechanism to improve good relationship between the microfinance institutions (MFIs) and the borrowers based on trust and commitment. MFIs should be created using a community-based framework concept where it could help to alleviate poverty to a practical degree (Abdelbaki 2013). Accepting the credibility of the borrowers would also help to reduce the happening of non-performing loans (Nkamnebe and Idemobi 2011). Therefore, MFIs should train the poor people's awareness in order to reach them (Lønborg and Rasmussen 2014).

### 12.2.3 Roles of BMT in Indonesia

In the case of Indonesia, BMT has grown significantly over the last 20 years, and it continues to improve the wealth and alleviate poverty among the poor in the country. According to Santoso and Ahmad (2016), it can be seen that BMT has succeeded in assisting the poor and developing economic growth with conditions such as commitment and consistency of stakeholders of BMT. Therefore, the management of BMT should understand the background, vision, mission and *shari'ah* principles of operating BMT. As such, a comprehensive education for practitioners of BMT is very important in improving financial inclusion in Indonesia.

Mislan and Ismail (2014) stated that BMT is capable of collecting and developing social funds such as *zakat* and corporate social responsibility (CSR), while simultaneously it could help to increase members' awareness to increase *zakat* and CSR fund for financing people and increasing wealth. Furthermore, *musharakah* funding has become a real transaction based on



**Table 12.1** Cooperatives in Indonesia

<i>No</i>	<i>Categories</i>	<i>Unit</i>	<i>Percentage (%)</i>
1	IMFI/Islamic cooperative	5,648	23,98
2	MFI/conventional cooperative	17,903	76,90
	<i>Total microfinance institution</i>	<i>23,551</i>	<i>15,58</i>
3	Producing cooperative	27,179	17,98
4	Marketing cooperative	3,091	2,04
5	Consumer cooperative	94,332	62,40
6	Services cooperative	3,025	2,00
	<i>Total non-microfinance institutions</i>	<i>127,627</i>	<i>84,42</i>
	<i>Total cooperatives in Indonesia</i>	<i>152,714</i>	<i>100</i>

Source: Ministry of Cooperative and Micro, Small, Medium Enterprises (2017)

Islamic profit and loss sharing compared to conventional institutions such as risk sharing, *ukhuwah* (brotherhood) and *ta'awun* (helping each other). Hence, BMT has dual functions comprising social function and profit function in improving financial inclusion in Indonesia (Ismail 2014). According to the Ministry of Cooperative and Micro, Small and Medium Enterprise, there are 152,714 cooperatives in Indonesia. It can be seen in Table 12.1.

## 12.3 METHODOLOGY

### 12.3.1 *Data*

As the research covers different areas in Jakarta, Bogor, Depok, Tangerang and Bekasi (JABODETABEK), in total 34 managers of BMTs throughout the areas were selected as respondents. They were selected as respondents because they know the financial inclusion regulation, understand the goals of institutions and adapt to the change of business environment. Data collection process lasted for about four months from June to September 2018. A total of 50 questionnaires were distributed equally to JABODETABEK areas; at the end, from data collection process, 34 questionnaires were suitably completed and judged useful for this research.

Before getting on further survey, the questionnaire was tested for validity and reliability. Cronbach's alpha test showed an adequate number for the questionnaire to be proceeded with a reliability value of 0.848. Meanwhile, validity test for each question was done by looking at whether

the corrected item-total correlation value exceeded  $r$ -table for 81 ( $83 - 2$ ) which was 0.18. The result obtained shows that all questions in the questionnaire had more than 0.18 in their corrected item-total correlation, thus were valid.

### 12.3.2 *Method*

The partial least square (PLS) is used to analyze the data collected in this study. The PLS is a part or an alternative of structural equation modeling. According to Sanchez (2013), PLS is a set of methods for analyzing multiple relationship between various blocks of variables. According to Henseler et al. (2009) and Hair et al. (2014), PLS-SEM is an analysis of variance-based structural equation modeling. It is different from the first generation of structural equation modeling (SEM) as a covariance-based model. The PLS-SEM can run with a small-sized sample (Henseler et al. 2009).

The rationale of using PLS in this study is based on the following reasons. Firstly, the use of PLS-SEM for the present study is based on the nature of the study. The objective of this study is to explore the structural model of the roles of IMFIs by examining the alleviation of poverty. Furthermore, PLS-SEM is best appropriate for data analysis because the objective model is to measure the extension of model prediction. Hair (2014) mentioned that the PLS-SEM is applied while the research is to explore or to extend an existing structural theory. PLS-SEM aims to measure the extent to which a construct in the research model predicts values in other construct of the research model (Hair et al. 2014).

Secondly, the reason for carrying out PLS-SEM is based on characteristics and advantages for data analysis. PLS-SEM can explain model complexity with a small sample size. It differs from the previous SEM that requires an adequate sample or a large number. On the other hand, PLS-SEM can obtain a high level of statistical power although the sample size is relatively small (Reinartz et al. 2009). Moreover, the other characteristics of PLS-SEM are related to data properties. Different from covariance-based SEM (CB-SEM) that needs a multivariate normal data distribution from the sample data, PLS-SEM is still powerful even if the data is not normally distributed. PLS-SEM is less strict with the requirement of a multivariate normal data distribution (Peng and Lai 2012).

According to Leardi et al. (2002), PLS-SEM practices calibration mechanism that transforms non-normal data distribution into data that

adheres to the central limit theorem. Data normality is not a crucial or demanded factor in PLS-SEM. The convenient statistical program used in this research for the performing PLS is SmartPLS 3.0. Another software used is SPSS 22.0, especially for descriptive analysis. Therefore, for minimizing measurement error where imposing too many scale while respondents only accurately respond to a few, this research used the five-point Likert scale (Leardi et al. 2002).

### 12.3.3 *Empirical Model*

The effect of the role of IMFIs toward alleviating poverty is elaborated through a model consisting of five latent variables. Those are latent exogenous role of IMFIs toward community development (CD), role of IMFIs toward financial education (FE), role of IMFIs toward Islamic values (IV) and role of IMFIs toward financial policies (PL). Likewise, latent endogenous poverty alleviation comprises poverty reduction (FI). The rest of the five variables are dependent latent variables. All variables have been significantly proven in building construct.

Originally developed by Wold (1984), PLS is an SEM technique based on an iterative approach that maximizes the explained variance of endogenous constructs (Bookstein and Fornell 1982). Unlike CB-SEM, which aims to confirm theories by determining how well a model can estimate a covariance matrix for the sample data, PLS-SEM operates much like a multiple regression analysis (Hair et al. 2014). This characteristic makes PLS-SEM particularly valuable for exploratory research purposes. The PLS method gives a solution to the multiple regression problem which is stabilized in comparison with the Ordinary Least Square (OLS) solution and which has, at least in the examples investigated, a comparable prediction error to multiple regression. Meanwhile, the structural model indicates the relationship among latest variables. In notation, they can be described in the following equations (Wold 1984):

$$\eta = \beta\eta + \Gamma\xi + \zeta \quad (12.1)$$

Equation (12.1) shows the relationship among latent variables, where:

$\eta$  (Eta) indicates endogenous latent variable that contains poverty reduction (FI).

$\xi$  (Ksi) indicates exogenous latent variables, such as role of IMFIs toward community development (CD), role of IMFIs toward financial education (FE), role of IMFIs toward Islamic values (IV) and role of IMFIs toward financial policies (PL).

$\beta$  (Beta) indicates structural coefficient from endogenous latent variable to another endogenous latent variable.

$\gamma$  (Gamma) indicates structural coefficient from exogenous latent variable to endogenous latent variable.

$\zeta$  (Zeta) indicates structural error terms.

$$x = \Lambda x \xi + \delta \quad (12.2)$$

$$y = \Lambda y \eta + \varepsilon \quad (12.3)$$

Equations (12.2) and (12.3) show the relationship between manifest and its latent variable ( $x$  for exogenous,  $y$  for endogenous), where:

$\lambda$  (Lambda) indicates loading between latent variable and its manifest variables ( $\lambda X$  for exogenous,  $\lambda Y$  for endogenous).

$\delta$  (Delta) indicates measurement error for exogenous variable.

$\varepsilon$  (Epsilon) indicates measurement error for endogenous variable.

By using SmartPLS 3.0, according to validity and reliability tests, significant constructs are community development (CD), financial education (FE), Islamic values (IV) and financial policies (PL). Moreover, these latent exogenous variables toward construct poverty alleviation (FI).

The early model of this study searches 31 parameters with 5 latent variables. Moreover, the model was identified where data is smaller than predicted data which gives information minimum data is suitable for 30 samples in PLS model. It makes the degree of freedom become positive (predicted data-estimated parameters > 0). Details of the model are shown in Fig. 12.1.

## 12.4 RESULTS AND FINDINGS

Table 12.2 depicts the characteristics of respondents from the survey questionnaire.

By analyzing the data, this study used software SmartPLS 3.0 to examine latent variables and construct model role of IMFIs toward alleviating poverty. Loading factor of PLS result is more understand to be interpreted

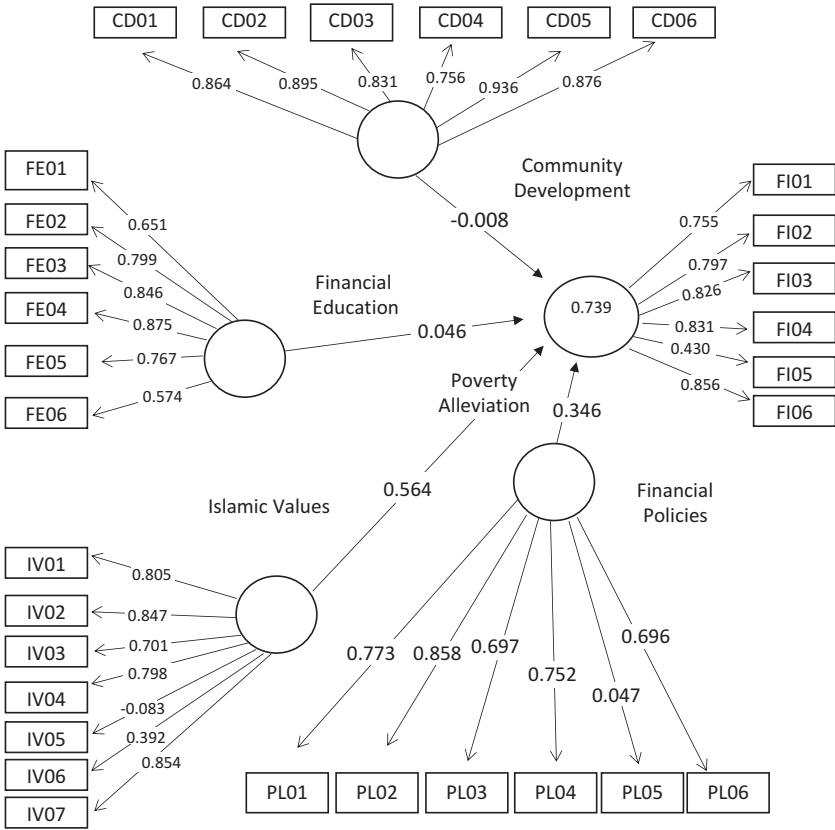


Fig. 12.1 Initial model of alleviating poverty through Islamic microfinance

than loading weight value. This can be seen in Table 12.3. The outer loading highlights how latent exogenous variables influence its manifests/indicators (eq; Community development variable of the model influences its indicators (CD01) is 0.864).

Table 12.4 shows that the path coefficient value of latent exogenous variables affects latent endogenous variable. Path coefficient value of community development (CD) negative means latent exogenous CD has negative impact toward latent endogenous poverty alleviation. Other latent exogenous variables such as financial education, Islamic values and financial policies were positive. It means those latent exogenous variables

**Table 12.2** Characteristics of respondents

<i>Variable</i>	<i>Cluster</i>	<i>Frequency</i>	<i>Valid percentage</i>
Gender	Male	34	100.0
	Female	–	–
	Total	34	100.0
Age (years old)	29–39	14	41.2
	≥40	20	58.8
	Total	100	100.0
Income ( <i>Rp</i> )	1–3 juta	5	14.7
	3.1–5 juta	8	23.5
	5.1–10 juta	10	29.4
	≥10 juta	11	32.4
	Total	34	100.0
Length of time working (years)	1–3 years	1	2.9
	3–5 years	1	2.9
	≥5 years	32	94.1
	Total	34	100.0

have positive impact with financial education 0.046, Islamic values 0.564 and financial policies 0.348.

On the other hand, *R*-square illustrates that latent exogenous variables simultaneously affect latent endogenous variable (0.739), or this relationship can be explained that latent endogenous variable has been affected by latent exogenous variables (73.9%).

Table 12.5 shows that composite reliability all of constructs more than *p*-standard 0.6. It means that the internal consistency measurement of those latent variables was reliable. Likewise, the average variance extracted (AVE) of all constructs show values more than 0.5 except Islamic values (0.483) and financial policies (0.479). It means the convergent validity measurement from both of construct were less represented indicators in its variable. Therefore, Cronbach's alpha shows that to measure the ideal reliability, all latent variables need to achieve a value more than the *p*-standard (0.6). All measurements show that all values are more than 5. It means all latent variables have ideal reliability.

To measure the structural model, it can be seen that the following  $Q^2$  value:

$$Q^2 = 1 - (1 - R^2)$$

**Table 12.3** Outer loading

<i>Variable</i>	<i>Subvariable</i>	<i>Entire sample estimate</i>	<i>Mean of subsample</i>	<i>Standard deviation</i>	<i>T-statistic</i>
Community development (CD)	CD01	0.864	0.845	0.127	6.789
	CD02	0.895	0.873	0.137	6.556
	CD03	0.831	0.828	0.091	9.081
	CD04	0.756	0.749	0.125	6.055
	CD05	0.936	0.914	0.131	7.161
	CD06	0.876	0.846	0.161	5.442
Financial education (FE)	FE01	0.617	0.595	0.216	3.013
	FE02	0.454	0.735	0.220	3.641
	FE03	0.349	0.813	0.152	5.568
	FE04	0.461	0.833	0.186	4.701
	FE05	0.522	0.744	0.140	5.467
	FE06	0.839	0.542	0.223	2.576
Islamic values (IV)	IV01	0.447	0.782	0.099	8.103
	IV02	0.466	0.855	0.062	13.652
	IV03	0.322	0.644	0.205	3.410
	IV04	0.336	0.797	0.072	11.015
	IV05	-0.086	-0.069	0.318	0.262
	IV06	0.147	0.368	0.221	1.772
	IV07	0.509	0.862	0.044	19.512
Financial policies (PL)	PL01	0.228	0.769	0.103	7.521
	PL02	0.481	0.852	0.086	10.037
	PL03	0.276	0.687	0.145	4.810
	PL04	0.669	0.726	0.101	7.449
	PL05	-0.060	0.062	0.335	0.141
	PL06	0.532	0.691	0.113	6.164
Poverty alleviation (FI)	FI01	0.134	0.732	0.151	5.009
	FI02	0.385	0.796	0.079	10.061
	FI03	0.522	0.842	0.060	13.661
	FI04	0.596	0.819	0.061	13.627
	FI05	0.367	0.442	0.280	1.535
	FI06	0.335	0.857	0.041	21.119

$$= 1 - (1 - 0.739) = 0.739$$

It means the structural model is fit with data due to  $Q^2$  value toward point 1 which represents the structural model is valid and reliable. This result shows all indicators were valid and reliable that reflects all latent variables with structural model test were fit. All

**Table 12.4** Path coefficient and *R*-square

<i>Structural equation</i>		<i>Path coefficient</i>	<i>R</i> <sup>2</sup>
<i>latent endogenous variable</i>	<i>Latent exogenous variable</i>		
Poverty alleviation (FI)	Community development (CD)	-0.008	0.739
	Financial education (FE)	0.046	
	Islamic values (IV)	0.564	
	Financial policies (PL)	0.346	

**Table 12.5** Construct reliability and validity

<i>Construct</i>	<i>Composite reliability</i>	<i>AVE</i>	<i>Cronbach's alpha</i>	<i>Fit/unfit</i>
Community development (CD)	0.945	0.742	0.930	Fit
Financial education (FE)	0.889	0.577	0.854	Fit
Islamic values (IV)	0.837	0.483	0.752	Fit
Financial policies (PL)	0.824	0.479	0.749	Fit
Poverty alleviation (FI)	0.890	0.583	0.848	Fit

latent exogenous variables of the model are simultaneously significant affect latent exogenous variable.

## 12.5 CONCLUSION

With the aim of assessing the efforts of alleviating poverty through IMFIs, this study has conducted a survey among 34 managers of BMTs in efforts to get their feedback on the role of IMFIs in alleviating poverty with its latent exogenous variables, namely, community development, financial education, Islamic values and financial policies. Several interesting findings emerged from this study. Firstly, the theory of informal credit in this context cannot be confirmed for community development variable because its path coefficient was negative that reflected its construct has negative impact toward latent endogenous poverty alleviation. Nevertheless, literatures show that informal credit market works straight in the community in Indonesia.

Community development variable in this study has been proven negatively affecting poverty alleviation. However, financial education has been proven to have a relationship in alleviating poverty. Likewise, Islamic values and financial policies also have been significantly proven to alleviate



poverty. It ultimately affects the outcome indicators that are represented by the whole model in poverty alleviation.

As this study recommends, improving financial education as a major effort to increase financial inclusion especially on ways of accessing financial services would be significant if IMFI stakeholders routinely provide training or financial learning to their clients. At the same time, strengthened intensive Islamic values could be delivered in small-group economic empowerment. This could also avoid the poor from involving in interest-based conventional microcredit, which is prohibited in Islam. Last but not least, socialization of financial policy including financial inclusion simultaneously has to be carried into their client due to change of regulation. Academicians and practitioners should endorse Islamic principles related to the microfinance industry actively, not only financial matters but regularly also about social knowledge and behavioral matters. Since the result of this study shows that community development gives a negative relationship, yet the others are positive. Therefore, psychological and socioeconomic aspects should be included in their education.

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# Achieving Sustainability in Sudan Through Microfinance and Mobile Banking

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## 13.1 INTRODUCTION

Knowledge has been recognized long time ago as a key source of economic growth, and a valuable asset can be leveraged, particularly in globalization era that connected the world economic activities. The revaluation of information and communications technology (ICT) as the main driver of knowledge economy through the hardware and software applications helped to integrate the world economies. The sustainability of knowledge economy relied on knowledge competitive companies and economies.

In this respect, ICT includes a collection of hardware, software, telephones, businesses, services, and networks that allow access to the internet. ICT is usually sustained by the equipment such as computers, the internet, CD-ROMS and other software, radio, video, television, and digital cameras that can be used in the works. In contrast, human capital can be defined as the skills and knowledge intensity of the work power in an economy, which are fundamentally attained through schooling and

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training. The significance of human capital buildup to the course of economic development stems from its possible beneficial influence on macroeconomic productivity and on the long-run distribution of incomes, when some basic conditions are met. Furthermore, sociologists highpoint the fact that education is frequently related to the releasing of traditional and religious norms. It should be recalled that there is no one typical definition of the knowledge-based economy; nonetheless, an acceptable one should place importance on the generation and exploitation of knowledge to create new value in the economy. Certainly, knowledge is information that is placed into productive work.

Moreover, knowledge contains information in any form, know-how and know-why. Knowledge is not only embodied in goods and services, predominantly in high technology-based industries, but similarly in knowledge as a commodity itself, established in procedures such as intellectual property rights or in the tacit knowledge of exceedingly mobile key employees. Besides, it includes the way people interact as individuals and as a community. Dissimilar, capital and labor, knowledge is a public good and sharing it with others involves zero marginal cost, but it will increase as the knowledge is the only product that is augmented by consumption. In addition, technological breakthrough based on knowledge creates technical platforms that support further innovations and drive economic growth (Bank Negara Malaysia 1999). The knowledge-based economy (K-economy) is not confined to information and communications technology (ICT) alone. Before the evolution of the ICT, it was knowledge that was embodied in human beings, namely, human capital, and technology that was embodied in the physical capital investment undertaken by the Asian economies that brought about the so-called Asian miracle.

Meanwhile, the bio-economy refers to the production of a wide range of goods and services, from plant, animal, and forest-based material. It is more than just grain-based biofuels or biodiesel as extensively highlighted in Latin America. It's related to biotechnology activities and other bioactivities based on knowledge generated from the bioactivities and extension of knowledge-based economy.

According to the World Bank digital dividends report (2016), digital technology in the form of the internet, mobile phones, and all the other tools to collect, store, analyze, and share information digitally have spread quickly around the globe. Households own mobile phones more than access to electricity and clean water in developing countries is estimated by 70%. The number of internet users has more than tripled in a decade (1

billion in 2005, 3.2 billion by the end of 2015). This means businesses, people, and governments are more connected as before digital revolution. Digital divide is showing the gap in the access to ICT applications within nations or between nations, while digital dividend is the broader development that benefits from using digital technologies.

In many instances, digital technologies boosted growth, expanded opportunities, and improved service delivery. Their aggregate impact has fallen short and is unevenly distributed. For digital technologies to benefit everyone everywhere, it requires closing the remaining digital divide, especially in internet access. But greater digital adoption will not be enough. To get the most out of the digital revolution, countries also need to work on the “analog complements”—by strengthening regulations that ensure competition among businesses, by adapting workers’ skills to the demands of the new economy, and by ensuring that institutions are accountable.

### 13.2 SUDAN KNOWLEDGE ECONOMY FOUNDATIONS

Sudan is the country that is located in the heart of Africa with diverse natural and human resources and is yet to benefit from the knowledge economy to move forward as a leading country in the future. In this respect, Sudan needs to improve the existing pillars of knowledge economy based on common economic foundations such as good governance and rule of law, education and health services, research and development, and promoting saving and investment. It should be noted that developing human capital (skilled workers) is prerequisite of developing and implementing ICT applications in Sudan’s economic sector with the right human skills ICT will facilitate the economic activities as technology in general and ICT in particular are facilitators that need the right human skills to function it. To develop a competitive edge in a knowledge-based economy, Sudan would need a highly skilled labor force. A highly skilled labor force is the fuel to the engine of growth in the K-based economy. They provide the “know-how” that goes into the production of innovative products to enable a company or a country to be competitive in the global marketplace. In addition, out-migration drains the limited talent pool. Many professional and technical personnel have migrated abroad. Sudanese students overseas are another source of potential out-migration.

It should be recalled that the only other alternative is to bring in the requisite skilled labor from outside, and conditions in the country should

be liberalized for their recruitment. Sudan produces a huge number of university graduates and postgraduates that should be trained to upgrade their skills to contribute to the development of Sudan's knowledge economy foundations and activities. Improving the schools and universities in Sudan by developing good infrastructure and info-structure is of urgent need to make the Sudanese education institutions play their significant role as the sources of human capital development that is considered to be one of the important pillars to develop knowledge economy in Sudan. Another important challenge that Sudan would face in its effort to move to a K-based economy would be its ability to build an innovative capacity in the country to be able to develop innovative goods and services for the K-based economy.

With increased liberalization of economies and the removal of tariff barriers, goods and services produced by Sudanese companies and workers will have to compete with multinationals and those of other developing countries.

The current amount of resources allocated to research and development (R&D) in the country as a percentage of the GDP is lower as compared to other countries.

To bring about innovation, the government must foster an environment where creative and innovative thinking are rewarded. Incentives should therefore be given to those who come up with cutting-edge ideas and recognition should accompany such discoveries.

The award and recognition should be strictly for the contribution of an innovative product and process or processes that would enhance Sudan's innovative capacity and competitive standing in the global marketplace.

Sudan is highly qualified to be an education center to attract the students from the Middle East and Africa and other countries if the education institutions developed well to serve Sudan and other countries. It should be recalled that with the current situation Sudanese graduates are the most important source of Gulf countries' human capital if the education institutions developed well to meet the international Sudanese graduates can compete around the globe through developing Sudan economy into knowledge-based economy with the right foundations.

The current business model practice in Sudan should be developed to meet the requirements of knowledge economy foundations. By doing so improving the current business model will contribute will add economic value to the development of Sudan and achieving the desired knowledge

economy if planned for it well in short period of time as the later countries will catch up very fast to achieve their objectives.

In this respect, SMEs are considered to be the backbone of economies around the globe and constitute 90–99% of the companies in every country. In Sudan SMEs are not well classified in Sudan even are not existed. It should be noted that SMEs at the center point of knowledge economy to transfer the technology and upgrade the local work force skills via foreign direct investment (FDI) spillover effects.

Knowledge economy flagships should be developed in order to develop Sudan's knowledge economy foundations by studying the experience of the countries that planned and developed their economies into knowledge economy such as countries in America, Europe, and Southeast Asia. It should be noted that Malaysian experience is a good example to follow as planned well for knowledge economy foundations such as Multimedia Super Corridor (MSC), knowledge economy flagships, and economic corridor regions around Malaysian states.

Therefore, cyber laws should be introduced to overcome the cyber problems associated with knowledge economy activities. Cybercrimes may take place abroad in this respect collaboration around the globe of urgent need to overcome the cybercrimes.

The definitive currency of a K-based economy is intellectual property rights (IPRs). Such IPRs include copyrights, patents, trademarks, service marks, and goods of geographical indication. IPRs in a way are legal monopolies awarded to original owners of copyrights and patents to enable them to benefit from their discoveries. They are also a way of ensuring the effective distribution of those inventions into an economy.

The first step of Sudan to move to knowledge-based economy is developing Sudan knowledge economy master plan blueprint to address the policies and developing knowledge economy institutions. This study will be useful for ICT policy formulation in Sudan as a foundation of knowledge-based economy development. In this context, a comparison of the contributions of ICT to productivity growth in each of the East Asian countries provides guidelines for the policy makers in Sudan to formulate appropriate national and international ICT policies. The findings from this study will also help policy formulation in promoting ICT investment and in developing the human capital and infrastructure needed to support the effective use of the technology in Sudan.

It is possible that Sudan can capitalize on its synergy with the other nations and make full use of the competitive advantages in other countries



to overcome its insufficiencies. In that case, Sudan will be able to accelerate the movement toward a technology-savvy nation that is achieved by Japan, South Korea, China, and the rest of East Asia and other countries.

There is a need to address security issues associated with technology applications so as to ensure the success of technology application implementation. More specifically, the issues that need to be addressed in the time being are to ensure the security and privacy of existing e-channels such as ATM and EPOS and resolve all network problems.

Building people awareness and informing the public on the benefits and uses of the new technology and services are required. There should be rigorous campaigns to educate the public, especially targeting the urban and rural communities to be aware of the knowledge economy concept and dimensions to create knowledge sociality that is required for knowledge economy to be found.

Proper regulatory environment, respecting user guidelines, trusts, rights and protections, proper integration and partnership between mobile network operators and the economy sectors, adequate staff training and introducing client literacy for proper use, developing reliable and adequate ICT infrastructure, and better product and service design are necessary to implement knowledge economy applications.

Finally, the collaboration and cooperation between private and public sectors are of significant need in order to build knowledge economy (smart partnership). Kenana Sugar Company is a very good model of collaboration and cooperation between private and public sectors in the form of foreign direct investment (FDI) in 1979–1981.

### 13.3 ICT DEVELOPMENT IN EAST ASIAN COUNTRIES

Development economists frequently vary with one another, but they approve that the knowledge economy will be the foundation of every nation's progress after the excitant of knowledge economy by the revolution of information and communications technology that is provided with advanced hardware and software applications that facilitate the economic activities around the globe. Hitherto while East Asia and other regions have been making substantial gains in building their development based on knowledge economy activities that is generated higher standard of living and wellbeing to their nations. In this respect, Africa has not benefited from this new economy revolution as stated by Asongu (2017).

The Japanese experience has offered many useful visions of knowledge-based economy. Numerous of them are appropriate to developing countries looking to enhance the knowledge-related aspects of their economies. The four pillars of a knowledge economy in Japanese concept are economic and institutional regime, dynamic information infrastructure, educated and skilled population, and national innovation system. The companion volume provides case studies of knowledge creation and knowledge sharing at six high-performance companies and has its own summary (Shibata 2006). According to the World Bank (2006), Korea's plan and implementation of knowledge-based development strategies and the subsequent fast and continued knowledge-led economic growth over the past four decades offer a wealth of valuable policy lessons for other developing economies. First, and mainly important, is the corresponding and balancing expansion of the four pillars of the knowledge economy framework—economic incentives and institutional regimes, educated and skilled workers, an effective innovation system, and contemporary and satisfactory information infrastructure—which evolved with the economy's several phases of development. The World Bank study stated that these pillars provided the economy with the essential means to efficiently obtain and use knowledge to progress productivity and boost long-term economic growth. Second, the World Bank in its study specified that the strong and operative leadership provided by the government, which led to the harmonized development of the education, innovation, and ICT pillars, was chiefly important during the earlier phases of industrialization when suitable institutions to coordinate economy extensive development agendas were not yet adequately established. It has renowned that the role of the Korean government has properly matured in recent times to consent the market to extra offshoot economic activity. Third, the World Bank inclusive study stresses that the economy-wide reforms and the array of policy measures that were implemented after the 1997 crisis serve as good instances of building the best use of opportunities to rally economic conditions. One outcome of those measures was the successful wiring of the Korean economy and the public, resulting in a first-class information infrastructure. The study revealed that even though Korea has made these advances, it wants to continue to increase efforts to reform its higher education and innovation systems. As it has been stated by the World Bank study, these pillars have not adequately grown in recent years to encounter the demands of the existing global economy. In addition, a more practical policy response is required to realize more balanced economic

development across the different sectors and niches of the economy. Tangible steps are desirable to resolve these issues will ultimately become critical to Korea's sustained transition to the knowledge economy and to constant economic growth (World Bank 2006).

Moreover, among the ASEAN countries, Singapore, notwithstanding being the smallest country in terms of size, has been one of the most progressive and has been leading a knowledge economy realizing strategic ICT policies since the late 1970s. One of the earliest efforts by Singapore to modernize the country involved the creation of a five-year Civil Service Computerization (CSC) program in 1981 to enhance productivity in government agencies (Low and Toh 1991). In line with the changes in the global ICT landscape, the Singapore government developed a strategic plan called information and communications technology for the twenty-first century to prepare the local ICT sector to face greater competition from global industries.

It should be mentioned that Malaysia has also undertaken various initiatives to move toward the knowledge-based economy and to achieve its Vision 2020. The National IT Council (NITC) was established in 1996, which was intended to become the main ICT policy making body in the country. NITC launched the National IT Agenda (NITA), which served as the main framework for the systematic development of ICT in Malaysia. The formation of the Multimedia Super Corridor (MSC) has been an important milestone for the Malaysian ICT development. The MSC leverages ICT to provide conducive environment for the development of creativity and innovation in the country, by providing a promising functioning environment for local and foreign ICT-based companies, with the objective of allowing faster technology transfer and closer ICT adoption in Malaysia. In this respect, seven flagships were familiarized under the MSC, including electronic government, the smart school system, a multipurpose card system, tele-health, a research and development (R&D) cluster, e-commerce, and technopreneur.

Furthermore, in the case of Philippines, in the early 1960s, the government took steps to embrace the knowledge-based economy, with particular emphasis on computerizing the country, as their main ICT strategic plan to catapult the country into the information technology. The Philippines implemented the National Information Technology Plan (NITP) in 1994, and in 1999, the Department of Trade and Industry announced their ISP.COM, an internet strategy for the Philippines which

focuses on attracting direct foreign investment in the ICT industry and ICT-enabled services (Tipton 2002).

It should be noted that the expansion of the knowledge economy in Indonesia was initiated with the liberalization of the telecommunication sector in the early 1990s, while the National Steering Committee for IT Competitiveness (Nusantara-21) created to drive Indonesia's ICT development was started in 1996. This project was intended to create a national information infrastructure, the development of multimedia applications, and the establishment of public access points. Comparable to developments in some other ASEAN countries, the development of a knowledge-based economy in Thailand is still in its infancy. The National Electronics and Computer Technology Center (NECTEC) was established in Thailand in 1986 that is responsible for promoting ICT as a tool for economic expansion (Tipton 2002). Moreover, in November 2000, the government endorsed the e-Thailand framework, with a specific focus on e-society, e-government, e-trade, e-service, e-investment, e-commerce, and information infrastructure (NITC 2000). In March 2002, the Thai government recommended a policy framework for Thailand ICT development for 2001–2010.

In this regard, the mobile phones and wireless internet are widely used in ASEAN 5 plus 3 economic activities, universities, schools, and households recently as a result of the implementation of knowledge-based economy institutions and policies to transform these economies into knowledge-based economies probably by 2020 in the case of Malaysia. Nevertheless, Japan and Korea are considered to be knowledge-based economies, and Singapore is almost transformed into knowledge-based economy among the ASEAN 5 as the wireless internet and mobile phones are everywhere in the island city.

### 13.4 TOTAL FACTOR PRODUCTIVITY IMPLICATIONS

According to Elsadig (2016), it has been documented in the Solow (1956, 1957) empirical work on economic growth that after accounting for physical and human capital accumulation, “something else” accounts for the bulk of output growth in most countries. Together physical and human capital accumulations are definitely critical for economic growth. The development becomes more complex with the role of knowledge in the economic growth procedure.

Knowledge clearly accounts for a share of the growth that is not accounted for by the further factors of production, namely, capital and labor. It should be mentioned here that in growth theory, the so-called Solow residual is an unexplained residual of labor and capital that is attributable to the growth of total factor productivity (TFP).

The idea of TFP is understood as an “index of all those factors rather than labour and capital not obviously accounted for but that contribute to the generation of output.” TFP refers to the extra output produced through augmentations in the efficiency accounted for by such things as progression in human capital, skills and expertise, acquisition of efficient management techniques and know-how, enhancements in an organization, expansions from specialization, introduction of new technology, innovation or upgrading of present technology, and enrichment in information and communications technology (ICT). TFP can explicate the growth in a K-economy because it captures endogenous technical change and other characteristics of the K-economy, including diffusion of knowledge, organization, restructuring, networking, and new business models that would contribute to market efficiency and productivity.

While intellectual capital can be gauged to some extent, and incorporated into capital, there are many factors that explain growth in the K-based economy that are not measurable at present. The size and performance of the TFP provide a clue to the extent of the performance of the K-economy. When growth accounts fail to consider improvements in the quality of labor inputs due to education, these improvements would be assigned to TFP. Unmeasured improvements in the stock of physical capital would also be assigned to TFP (Knowledge-Based Economy Master Plan 2002).

### 13.5 SUDANESE MICROFINANCE SECTOR

According to Ammar and Ahmed (2016), Sudan has a very high poverty rate (46.5%), where almost one out of two Sudanese are below the poverty line. The government is attaching high priority to microfinancing as one of the tools for addressing poverty alleviation. Many studies showed that the Sudanese microfinance has a positive impact on poverty alleviation, income-generating activities, women’s empowerment, improvement in education, access to financial services, and access to health services. Nevertheless of the ambitious development plans, the exerted efforts by Sudanese government through providing favorable climate and the

establishment of Islamic financial institutions and establishing structured microfinance framework extensive work done on policy (Elzahi Saaid Ali 2015) increase of microfinance portfolios, increase contribution of microfinance sector to GDP, increase number of clients, and increase number of women clients microfinance remains in its early stages. As late statistics shows that the total number of clients in 2014 is 970,000, that is, 8% coverage of total potential clients (estimated at 7.2 million), leaving more than 6 million individuals in Sudan have a need of microfinance services (Ibrahim 2014).

This poor performance of the microfinance sector in Sudan might be due to several reasons, the poor communication, the weakness of the Sudanese basic infrastructures, and the limited presence of banks in rural areas because of the high risk/cost. Sudan microfinance market maintains a high operating expense ratio at 56%. There is no sustainable, and profitable, microfinance model for the rural areas, which constitute about 90% of the geographical area of Sudan, mainly due to the lack of road and transportation infrastructure, lack of market access, lack of business skills, and recurring conflicts (UNICONS January 2010). Limited range of microfinance products has been focusing on microloans for productive purposes only (Impact Evaluation 2013).

Traditional distribution channel solutions may not be the answer to address the problem of microfinance in Sudan. MFPs, therefore, need to innovate and think “out of the box” for solutions to overcome the problem of microfinance in Sudan. M-banking is seen as a promising channel to facilitate financial access and accelerate financial inclusion to the poor, especially in countries where there is no robust financial and banking infrastructure. Many studies in Sudan suggest M-banking as a solution to microfinance problems (Mapping 2012).

Ammar et al. (2016) state that in Sudan, there are certain gaps on the supply side of microfinance services that are evident from outreach statistics. The gap in the financial services market is creating a unique niche for M-banking, thus enabling a growing number of people to access financial services for the first time. In Sudan, little research was conducted to understand M-banking and the environment needed to develop an effective M-banking for serving Sudan microfinance sector. Thus, this study aims to examine the factors that should be considered to develop a successful M-banking that is suitable for Sudan MFPs.

It should be noted that the Sudanese experience showed that microfinance has a positive impact on income-generating activities, women’s

empowerment, improvement in education, access to financial services, poverty alleviation, and better health services. Badri (2013) study's main findings revealed that participation of women in micro-credit program helps in promoting women's empowerment, in particular the economic and sociocultural dimensions of empowerment. Impact Evaluation (2013) study shows that microfinance client respondents reported an improvement in nutrition for their families (46.7% of clients), followed by better access to education (36.3%), better access to health services (33.8%), and purchase of property (30%). When compared to non-clients, less impact is reported by non-clients in all areas. Elemam et al. (2014) studied the role of North Kordofan Rural Development Project (NKRDP) as a microfinance institution in women development, in North Kordofan. The results showed that the project helped in providing education services, health services, water services, fuel services, and handicrafts. Siddig (2013) stated that microfinance providers in Sudan have shown impressive contribution in delivering financial services to the poor and their enterprises. Microfinance institutions enable poor low-income households to develop their microenterprises, which enhance their income-earning capacity and improve their living standard. Elmola and Belal (2013) study results show that there is a positive effect of microfinance on poverty reduction by 16%.

Furthermore, offering financial services to poor people under the traditional microfinance setting is sometimes costly, unproductive, unprofitable, and unappealing for MFPs; the main problem with poor people's access to finance is that they are too costly to serve (Mas 2011). Sudan microfinance market maintains a high operating expense ratio at 56%. Equally, for MFPs, the cost of reaching people is high. The lack of physical infrastructure increases the transaction costs for micro- and small enterprises. The distance of microfinance institutions is a variable that is always associated with high transaction costs (Hassan and Bauer 2013). Further, Hinson (2011) highlighted geographical distance as the main factor preventing poor people from accessing traditional banking services. Ivatury and Pickens (2006) study stresses that banks will aggressively target the poor as a market only if they find ways to serve these customers profitably.

It should be noted that microfinance is an important and influential tool to combat poverty in Sudan. The Sudanese microfinance project made moderate satisfactory progress toward achieving the proposed objectives. Microfinance in Sudan has proven to be an impressive tool for applying business practices to solutions of poverty. It is important to maintain building on this success to develop innovative solutions that can reach

all microfinance customers. Yousif et al. (2013) claim that, even now, Microfinance Institutions (MFIs) face two important barriers in achieving scale: operational inefficiencies and high operational costs, both of which contributed to keeping interest rate high. She noted that with the appearance and development of mobile payments, it comes to the promises for many MFIs to address these barriers and offer M-banking.

### 13.6 MOBILE BANKING

To reach large clients and offer better services, MFIs should bring the banking services to the doorstep of poor people (Nestor and Edelstein 2011). The mobile revolution has transformed the lives of many people in developing countries, providing not just communications but also basic financial access in the forms of phone-based money transfer and storage (Demombynes and Thegeya 2012).

It should be recalled that M-banking can carry financial services close to the poor people lives (Alexandre 2011); it can reduce the problem of lack of proximity and high cost to reach distant clients with brick and mortar branches (Breul 2012). Besides, M-banking uses mobile phones to perform various functions like mini statement, checking of account history, SMS alerts, access to card statement, balance check, mobile recharge, and so on (Vinayagamorthy and Sankar 2012). Researchers use various terms to refer to mobile banking, including M-banking, branchless banking (Ivatury and Mas 2008), m-payments, m-transfers, m-finance (Donner and Tellez 2008). M-banking, also known as mobile money, is defined as a broad term for the use of a mobile phone to access financial services (Pierre-Laurent 2011). It allows customers to use their mobile phone as another channel for their banking services, such as deposits, withdrawals, account transfer, bill payment, and balance inquiry.

Additionally, the implementations of M-banking have many advantages for microfinance institutions. M-banking helps microfinance institutions to serve existing customers better as well as to reach new customers. Due to mobile banking, rural banks in the Philippines reduced interest rate monthly from “2.5% to 2%” and “fees from 3% to 2.5%”; mobile banking also reduces at least 2.20 cents travel costs for clients (Kumar et al. 2010). Meanwhile, the Pakistan experience highlights an important point about the link between M-banking and microfinance (Michel and Sarah 2013). According to the PHB Development, there are 154 microfinance institutions using M-banking channel around the world (Voorrips et al. 2012).



Nestor and Edelstein (2011) argued that M-banking can amplify trust and transparency for MFIs by sending short message services (SMS) to customers after repayment or disbursement of loan. Conzett et al. (2010) study with microfinance institutions in Tanzania shows that M-banking increases outreach in rural areas. Moshy and Mukwaya (2011) survey results in Uganda and Tanzania show that mobile financial services reach rural areas and greater number of clients who were previously excluded from financial services. M-banking is considered more convenient for clients in terms of flexibility especially in saving small amount, in obtaining loan, and repayment (Goss et al. 2011) due to its reliability and convenience (Ivatury and Mas 2008).

Moreover, realizing the importance of M-banking technology for Sudanese microfinance sector, in October 2010, the Central Bank of Sudan (CBOS) contracted two consultants from HORUS Development Finance to investigate a pro-poor branchless banking initiative in Sudan. Yasir (PACT 2012) study reveals that in Sudan the traditional and informal mobile phone transfer is dominating the market by 62% varying from region to another, but it seems that where the banking services are not accessible probably, this percentage increased as appears in the West (80%) and East (81%). Meanwhile, Aversano et al. (2013) study reveals that mobile phone coverage in Sudan is extremely high, with 80% of retailers owning one phone, and 18% owning two. Most importantly, the results highlight the direct positive impact of mobiles on business efficiency in Sudan. According to ZAIN PWC Report (2014), in Sudan M-banking for the unbanked has the potential to include a huge part of the population in banking services. Ismail and Osman (2012) study results show that 84% of the retail banking industry clients uses at least one of the e-banking services; among all e-banking channels in Sudan, M-banking is used by 12.6% of the clients.

### 13.7 THE MODEL OF THE STUDY

The proposed framework of this study combines UTAUT, TOE and banking needs, perceived self-efficacy, awareness, perceived credibility, and perceived financial cost factors to investigate factors influencing attitude to adopt M-banking by microfinance customers and microfinance service providers in Sudan, as depicted in Fig. 13.1.

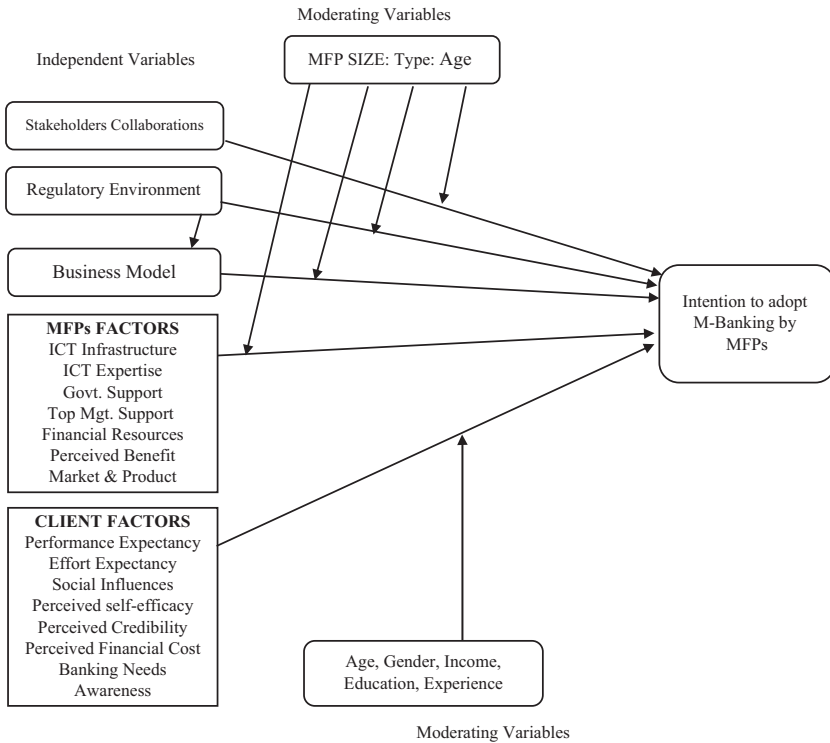


Fig. 13.1 The combined study framework

## 13.8 RESULTS AND DISCUSSION

The main purpose of this section is to present the analysis and discussion of the findings of the study. The analysis is done in line with the objectives.

### 13.8.1 Microfinance Customer

Females represent the majority of respondents with 57%. The breakdown of age groups is dominated by the group of 28–37 years (35%); this is followed by those respondents aged 38–47 (33%). The majority (36%) of respondents earned income ranges between 1001 and 2000 Sudanese pounds, followed by (34%) earning income less than 1000 Sudanese pounds. University graduates compose the majority of respondents (35%),

**Table 13.1** Demographic statistics

<i>Variable</i>	<i>Description</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Gender	Male	170	43.3
	Female	223	56.7
Age	18–27	65	16.5
	28–37	138	35.2
	38–47	125	31.8
	48–60	65	16.5
Education level	Illiterate	36	9.3
	Primary	39	9.9
	Intermediate	76	19.4
	Secondary	64	16.1
	Diploma	41	10.4
	University	137	34.9
Income level	Rather not say	52	13.2
	<1000	132	33.6
	1001–2000	142	36.2
	2001–3000	48	12.2
	3001–4000	13	3.3
	>4000	6	1.5

Source: Field Data 2015

followed by intermediate (19%) and secondary (16%). Table 13.1 displays the major demographic data.

Majority of respondents (99%) own a mobile phone, evidencing a very high cell phone penetration rate in microfinance communities. As for the purpose of using mobile phones, 69% reported using it for personal and business reasons, followed by those using it for personal (26%). The most preferable way to communicate through using mobile phones was reported to be call and talk to people (48%), followed by those who use mobile to transfer money (31%), and the least important way of communication was sending only texts (10%). In terms of years of using the mobile phone, majority (61%) had good experience in using the mobile phone since their usage is more than six years, followed by those who used it between three and five years (19%). In response to frequency of usage, majority (85%) use mobile on a daily basis. Table 13.2 displays customer characteristics related to mobile phone.

Majority of the respondents belong to the trade sector (40%); the respondents were asked to indicate which financial services are needed; majority of respondents (60%) want send/receive money services,

**Table 13.2** Mobile phone ownership and usage

<i>Mobile phone</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Ownership</i>		
Yes	388	99
No	5	01
<i>Mobile usage purposes</i>		
Personal	95	26
Business	17	05
Both	250	69
<i>Mobile services</i>		
Calls	177	48
SMS	37	10
Money transfer	116	31
Other	42	11
<i>Mobile experience</i>		
One year	25	06
One to two years	53	14
Three to five years	73	19
Six to eight years	235	61
<i>Frequency of usage</i>		
Daily	327	85
Two to five times a week	19	05
Once a week	7	02
When required	32	08

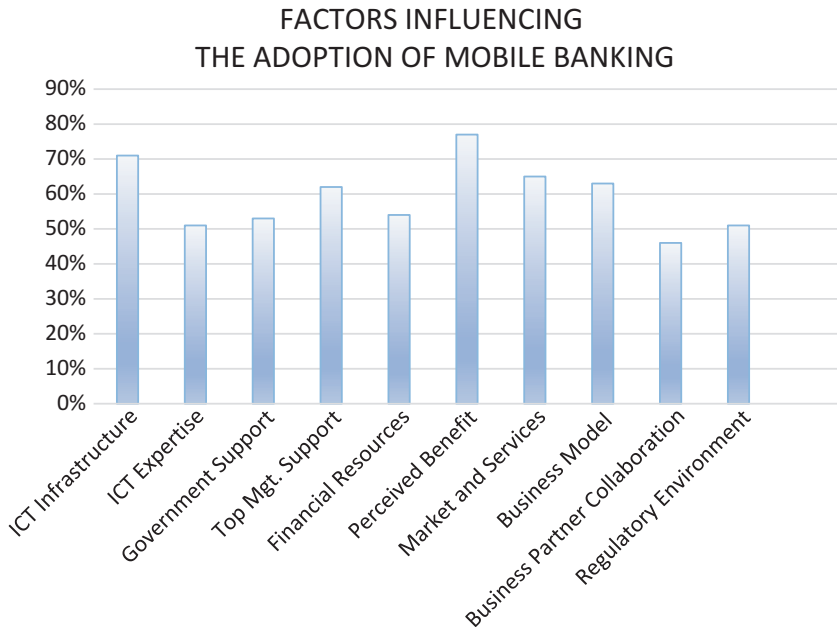
Source: Field Data 2015

followed by loan request (58%), paying utility bills (56%), balance enquiry (52%), payment for services and products (51%), request bank statement (49%), saving (48%), buy airtime (42%), and the least service needed is insurance (34%).

The data also showed that among the respondents, 56% of them own bank accounts, 55% get microfinance services from banks, followed by 34% from MFIs. Only 48% of respondents were aware of mobile banking services, however; a huge proportion (84%) believe that M-banking is important for Sudanese community; 1% of respondents use M-banking; as per customer view, only 1% of the MFPs provide M-banking services.

As shown in Fig. 13.2, the major factors affecting adoption of M-banking from customer perspective are performance expectancy (perceived usefulness) 77%, effort expectancy (perceived ease of use) 72%, and perceived credibility (security and privacy) 71%.

As for moderating effects of gender, age, education, and income, gender significantly moderated the effects of performance expectancy and



**Fig. 13.2** Factors influencing the adoption of M-banking based on microfinance customer perspectives. (Source: Field Data 2015)

social influence, perceived credibility, perceived financial cost, perceived self-efficacy, and awareness to behavioral intention. Age significantly moderated the effects of social influence, perceived credibility, perceived self-efficacy, and banking needs. Education significantly moderated the effects of performance expectancy, effort expectancy, social influence, perceived credibility, perceived financial cost, perceived self-efficacy, and banking needs. Income significantly moderated the effects of performance expectancy, effort expectancy, social influence, perceived credibility, perceived financial cost, perceived self-efficacy, and banking needs.

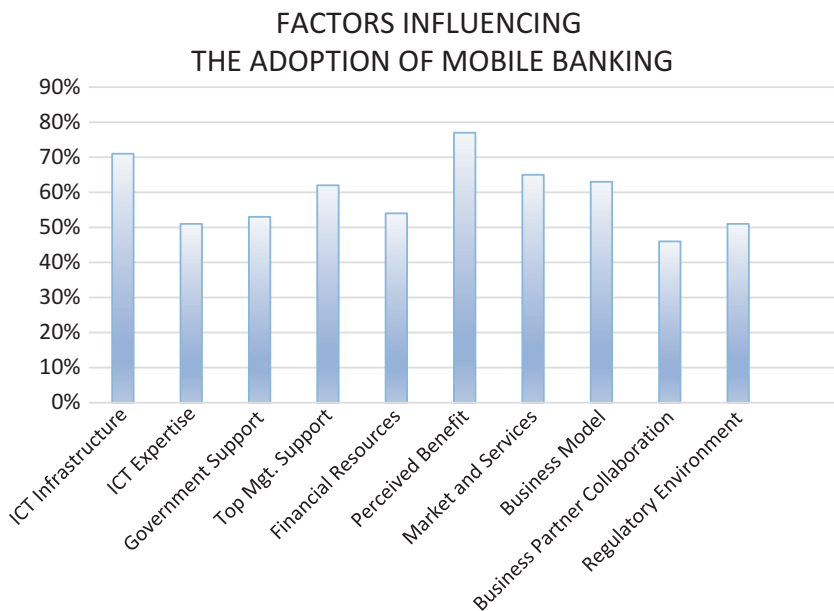
### 13.8.2 *Microfinance Service Providers (MFPs)*

Majority (90%) of the responding MFPs serve in urban areas, 60% of them are banks, 20% are MFIs, 10% are companies, and 7% are NGOs. The majority of the respondents (52%) have more than 15 years in operation, 24% have 6–10 years in operation, and 21% have 1–5 years in operation. Most of

the responding MFPs (52%) have less than 5000 active clients, 26% have more than 30,000 active clients, and 16% have between 5001 and 10,000 active clients. The study revealed that 41% of responding MFPs have between 50 and 200 employees, and 41% have more than 200 employees.

All MFPs use computerized systems in operation; majority (61%) have 100 computers, and 26% have more than 300 computers. The majority of responding MFPs (70%) have more than five years' experience with computers, 20% have between three and five years' experience with computers, and the rest (10%) have less than three years' experience with computer systems. There are 63% of the MFPs that have Management Information System (MIS), 53% have LTS, 53% provide ATM services, and 27% provide M-banking services. Results show that the majority of MFPs (87%) have a web page; 48% of them use it for marketing, 31% for status, 80% for information, and 7% for sales purposes.

The factors affecting adoption of M-banking by MFPs are depicted in Fig. 13.3. Majority of respondents (77%) articulated benefits of M-banking



**Fig. 13.3** Factors influencing the adoption of M-banking based on MFP perspectives. (Source: Field Data 2015)

to their organization as a major factor of adoption, 71% of the respondents testify that their organizations have adequate ICT infrastructure to accommodate M-banking applications, 65% articulated that their organization understands customers' requirements and in which market to announce its products and services. Based on likert, MFPs that have more than 200 employees (measurement of MFP size) give high scores to ICT infrastructure readiness, ICT skills, top management support, financial resources, perceived benefits, market and services, business model, and business partner collaboration.

### 13.8.3 *Interview Interpretation*

Qualitative semi-structured face-to-face interviews were conducted with microfinance senior staff in Khartoum and Kassal states. The main objectives of the interviews were to understand the major problems facing the microfinance sector outreach in Sudan and the role of mobile banking to resolve these problems.

The results reveal that there is a huge market for microfinance in Sudan, but the operating cost is a major problem especially in rural areas due to local population density and poor road infrastructure. Hence, the need for M-banking services is obvious.

Implementing mobile banking would require reliable ICT infrastructure mainly in rural and semi-urban areas. Most of the microfinance providers rely on traditional core banking systems, which are not suitable for the inclusion of the poor and microfinancing activities. There is no significant mobile banking initiative that can be launched in Sudan without ensuring that microfinance service providers are equipped with a stable and scalable MIS such as loan tracking system Loan Initiation System (LIS), managed by competent ICT staff.

There are huge differences in the degree of satisfaction and perception of clients according to the differences in geographical locations, gender types, and age intervals. Hence, the nature of products, their level of sophistications of processes, and technology used should be adapted to the targeted clients; supplying such services will require adapting their organization, products, and processes.

Innovation in products and services in Sudanese microfinance is limited, for example, savings and remittance services are a real need for clients of microfinance, but remain underdeveloped. Respondents claimed that government support is one of the important factors that influence





financial cost, and banking needs were found to have no influence on the microfinance customers' "intention to use M-banking." According to Carlsson et al. (2006), social influence does not seem to be a major factor influencing behavioral intention to use mobile devices/services. Studies from Koenig-Lewis et al. (2010) and Petrova and Yu (2010) suggest that there is no significant relationship between cost and behavioral intention to use technology.

Within the MFP factors, all factors mentioned in the study—except collaboration between stakeholders—ICT infrastructure, ICT expertise, MFP size, top management support, organization financial resources, perceived benefits, government support, market and products, business model, and enabling regulatory environment, were found to have influence on M-banking implementation by MFPs. Many empirical studies support these findings such as studies undertaken by Bultum (2014) in Ethiopia, Muriuki (2009) study in Kenya, and Khattab et al. (2012) in Sudan, which revealed that infrastructure readiness is an essential factor for the success of M-banking. Bultum (2014) and Muriuki (2009) studies consider ICT expertise as a major factor in e-banking implementation. Daghfous and Toufaily (2007) and Zhu and Kraemer (2005) studies support the importance of firm size. Top management support findings are in line with Muriuki (2009) and Zhu and Kraemer (2005) studies. Zhu and Kraemer (2005) and Kuan and Chau (2001) studies support organization financial resources as an influencing factor in the adoption of e-channels. The importance of perceived benefits in technology adoption has been supported by Gibbs and Kraemer (2004). Government support findings are in line with Chong et al. (2010) study in Vietnam. Market and product findings are in line with Yousif et al. (2013) and Ketkar et al. (2012) studies. According to Benjamin (2013) and Ketkar et al. (2012) studies, business model is a major factor in M-banking adoption. Enabling regulatory environment factor was supported by Yousif et al. (2013), Khattab et al. (2012), Ismail and Osman (2012), Bultum (2014), and Zhu and Kraemer (2005) studies.

### 13.9 CONCLUSION AND POLICY IMPLICATIONS

The results of this study will be useful for ICT policy formulation in Sudan as a foundation of knowledge-based economy development. In this context, a comparison of the contributions of ICT to productivity growth in

each of the East Asian countries provides guidelines for the policy makers in Sudan to formulate appropriate national and international ICT policies.

The findings from this study will also help in the policy formulation in promoting ICT investment and in developing the human capital and infrastructure needed to support the effective use of the technology in Sudan. It is possible that Sudan can capitalize on its synergy with the other nations and make full use of the competitive advantages in other countries to overcome its insufficiencies. In that case, Sudan will be able to accelerate the movement toward a technology-savvy nation that is achieved by Japan, South Korea, China, and the rest of East Asia and other countries.

In accordance with the initiatives taken by ASEAN in narrowing the “digital divide” among the ASEAN member countries, the results from this study will provide empirical evidence on the extent of the “digital divide” among Sudan, the East Asia, and other countries, which will help the formulation of appropriate policies to bridge the “digital divide,” if any, among these countries and Sudan. In addition, benchmarking the extent of ICT development allows comparisons between countries and indicates how well countries are doing compared to others in terms of adaptation, mastery, and development. Equating with better-performing countries helps identify policies for further improvement and progression. Furthermore, identifying Sudan lagging behind with respect to ICT adoption and human capital development provides a benchmark to enhance the cooperation between Sudan, the countries in East Asia, and other countries in developing the ICT sector for Sudan and the region as a whole.

The first step of Sudan to move to knowledge-based economy is developing Sudan knowledge economy master plan blueprint to address the policies and developing knowledge economy institutions. The mobile banking for microfinance service providers is one of the important knowledge economy applications beside other knowledge economy applications for the whole economy.

The significant contribution of this study is that this extends UTAUT model with the inclusion of six additional variables, namely, previous experience, banking needs, perceived self-efficacy, awareness, perceived credibility, and perceived financial cost factors, to study MF customers’ intention to use M-banking. The second significant contribution is that TOE framework developed by Tornatzky et al. (1990) was also extended by adding variables related to the adoption of M-banking within the organization and environment contexts in Sudan such as business model, market and products, and partner collaboration. The two extended framework

were combined to identify the factors influencing adoption of M-banking in the Sudanese microfinance sector. The study fills the gaps in both demand and supply of this area of important study, as most of the studies studied them individual.

We notice with optimism that most respondents (microfinance customers and MFPs) had strong intentions to use M-banking. Performance expectancy and effort expectancy were the primary determinants of behavioral intention in our study. This is also related to the education, age, gender, income, mobile phone ownership, and customer's experience with mobile phone. Most of the MFPs (especially banks) have long experience with technology. ICT infrastructure and ICT experts in the country are ready for M-banking. The study results also show that participants are familiar with mobile phone technology. The use of mobile phone in Sudan microfinance sector is high. High usage of mobile phone motivates MFPs to implement mobile banking; in this case, people are familiar with the main tools of mobile banking and can use it efficiently. Moreover, the results also indicate that intention to use M-banking services is predicted by most of the factors that we used in the research models. The existence of e-banking regulations can pave the road for M-banking regulations.

There are several limitations evidenced in this study. These limitations should be considered for future research and improvement. Firstly, the results of this study are collected within a few microfinance communities (three states) in Sudan, and the results may not be generalized and inapplicable to other nationalities. Secondly, most of MFPs contributed in the questionnaire are banks with good organization setup (technical, managerial, and financial). Also, most of the face-to-face interviews were carried out with senior knowledgeable MFP staff; most of them were exposed to microfinance experience inside and outside the country.

Since the adoption and usage of mobile technology are highly varies across countries with different adoption levels and perceptions. Hence, researchers may want to further research on multinationalities through expanding geographical areas to gain better generalizations in future studies.

Based on the study findings, the following are the recommendations to be considered by the concerned groups in this area:

1. There is a need to address security issues associated with M-banking technology so as to ensure success of M-banking technology implementation. More specifically, the issues that need to be addressed in

- the time being are to ensure the security and privacy of existing e-channels such as ATM and EPOS and resolve all network problems.
2. Building customer awareness and informing the public on the benefits and uses of M-banking products and services are required. There should be rigorous marketing campaigns by mobile banking service providers, banks, and Mobile Network Operators (MNOs) alike, especially targeting the urban and rural communities.
  3. Proper regulatory environment, respecting user guidelines, trusts, rights and protections, proper integration and partnership between mobile network operators and MFPs, adequate staff training and introducing client literacy for proper use, developing reliable and adequate ICT infrastructure, and better product and service design are necessary to implement M-banking.
  4. The success of M-banking implementation highly depends on the dedication and specialization of capacities of the MFPs. Microfinance customers need safer, more reliable, affordable, and convenient ways to manage the little money they have. A deep and realistic understanding of financial needs, constraints, and opportunities of the microfinance customers are needed to address in its proper designing.

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# Success Factors of the i-Taajir Micro-Entrepreneurship Model: Lessons for Islamic Banks and Muslim Universities

*Mustafa Omar Mohammed, Mohamed Aslam M. Haneef,  
Norma Md Saad, and Rafe Haneef*

## 14.1 INTRODUCTION

More than half of the world population still has no access to financial services (World Bank global financial development report 2014). The poor are still considered unbankable. Most of the financing products offered by the financial institutions are debt based, which are not easily accessible to the poor. Furthermore, the poor are unable to fulfill debt financing requirements, particularly the collateral, high interest rate and credit

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rationing. Moreover, they usually have low income, few tangible assets, no profitability record and have no audited financial statements to convince financial institutions. It is against such a background that microloan scheme, sometimes called microcredit and later microfinance, was introduced by Muhammad Yunus in 1983. He established the Grameen Bank, meaning “village bank,” in Bangladesh for carrying out the microloan activities. The Grameen methods have been applied in projects in over 58 countries worldwide (Grameen Bank 2018), but with a mixture of success and failure. The success of the method lies in its social capital where group responsibility acts as a collateral for individual loans within the group. The method has been successful in empowering women.

Notwithstanding these successes, the method has also its fair share of criticism. Firstly, studies, for example (Savaş Alpay and Mohamed Aslam 2015), reveal that there is lack of convincing evidences to show that the Grameen methods have been successful in alleviating poverty. Secondly, the interest rates charged by Grameen are exorbitantly high varying with institutions and individual borrowers. Institutional sources are charged interest rates ranging from 15% to 22%, while individuals are charged higher ranging from 33% to 120% which could also go as high as 140% (Mahmood 2006). Thirdly, there has been no concerted effort to improve the human resource quality of the poor participants. They largely have low literacy level and lack entrepreneurial skill (Jaim 1986). Fourthly, there is no proper care for their moral and ethical development.

Nevertheless, over the years, microfinance institutions are seen as important strategy for financial inclusion. For example, in Sudan, the Central Bank puts a requirement on commercial banks to allocate 12% of their annual profit for microfinance activities. In Indonesia, Islamic banks are also expected to be an extension of the government for credit programs aimed at micro, small and medium-sized businesses, that is, small business credit (KUK), farming ventures credit (KUT) and society business credit (KUR), so that the potential of micro, small and medium enterprises are spread evenly and well nourished (Bank Indonesia 2010). To realize this, Bank Indonesia decreed that Islamic banks’ financing for micro, small and medium enterprises can be done directly or through partners (or with linkage programs) with other financial institutions like Baitul Maal Wa Tamwil (BMT). These linkage programs can take the form of several schemes: channeling, executing or joint financing (Bank Indonesia 2010). The crowdfunding platforms as part of the FinTech revolution are playing crucial roles toward financial inclusion.

Most of the studies on microfinance involve the role of microfinance institutions. The roles of universities in the development of financial inclusion have largely been theoretical with few exceptions like the University of Houston in Texas and Gontor University in Indonesia. The former has a microfinance unit that offers zero interest loans, and the latter creates businesses on the campus exclusively for its students and staff. This chapter focuses on the i-Taajir program, which began operations at the beginning of 2018. No work has so far been documented on the rich experience of this program. It is unique in the synergy between CIMB Islamic CSR funding and expertise from the IIUM Centre for Islamic Economics; it involves IIUM students as field trainers, monitors and project evaluators, and it offers four financing modes.

## 14.2 CIE, IIUM-CIMB ISLAMIC ENTREPRENEURSHIP PROGRAM

The pioneers of the idea of the CIE, IIUM-CIMB Islamic Entrepreneurship Program, known in Malay as Program Bimbingan Usahawan Tijari (i-Taajir) or i-Taajir in short, are Prof. Dr. Mohamed Aslam Mohamed Haneef, Prof. Dr. Norma and Assoc. Prof. Dr. Mustafa Omar Mohammed who are presently the staffs of the Department of Economics, International Islamic University Malaysia (IIUM). The three are also affiliated to the IIUM Centre for Islamic Economics (CIE). Prof. Dr. Aslam is the Director of CIE and Prof. Dr. Norma and Assoc. Prof. Dr. Mustafa are both fellows of the Centre. The three are currently the advisors of i-Taajir.

The idea of i-Taajir culminated over a period of nearly ten years. The three pioneers had developed research interest in Islamic microfinance in different capacities. In 2012, Prof. Dr. Mohamed Aslam Mohamed Haneef and Assoc. Prof. Dr. Mustafa Omar Mohammed started working on a project for developing an integrated Waqf-based Islamic microfinance model financed by Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRIC) in Turkey. The model was later tested and validated in three Organization of Islamic Conference (OIC) member countries (Savaş Alpay and Mohamed Aslam 2015). The second phase of validating the model in other three OIC member countries was financed by Islamic Research and Training Institute (IRTI), Islamic Development Bank (IDB) (Mustafa O.M et al. 2015). Thereafter, Prof. Dr. Mohamed Aslam and Assoc. Prof. Dr. Mustafa were contemplating on ways to put their integrated model into practice. Meanwhile Prof. Dr. Norma was involved in a similar research area along with practical engagement with the leading microfinance institution in Malaysia, Amanah Ikhtiar Malaysia or AIM in short.

In the year 2012, the three researchers got involved in a new experience that later had far-reaching implication for the present i-Taajir. It all began when a group of students from the University of Houston, Texas, led by their Professor Dr. Long S. Le, visited Malaysia as part of their educational trips to the South East Asian region. They had earlier contacted our Prof. Dr. Norma Bt Md Saad to arrange for them to visit Amanah Ikhtiar Malaysia (AIM). Prof. Dr. Norma invited Assoc. Prof. Dr. Mustafa Omar Mohammed along with Prof. Dr. Mohamed Aslam Mohamed Haneef to join the visitors for a session with AIM. The team from Houston University was involved in microfinance project called Zero Finance Loan (ZIL). In this project, they provided interest-free loan to the poor but on condition that the borrower would contribute 10% of the loan into a special fund that would be used to help other poor borrowers. Students are involved in the project as part of their community service. The visiting team wanted to examine the extent to which ZIL was closer to Islamic finance. We explained to the team that their project was novel and had a lot of commonality to Islamic finance. The only difference is their idea of the 10% conditional loan, which in Islam is tantamount to *riba* and is thus unlawful.

After the session with AIM, the three IIUM researchers established a good working relation and collaboration with Prof. Dr. Long S. Le, in the areas of research and publication. The first fruit of this collaboration was a joint paper on ZIL and Profit and Loss Sharing (PLS) presented in a conference in November 2013 (Saad et al. 2013). Given their past experiences plus the new experience with Prof. Dr. Long's project, the three researchers developed a new pilot model for Islamic microfinance with four financing modes. They approached AIM to provide a platform with their clients for implementing the new pilot model. The four financing modes were Qard Hasan with Tabarru' Fund, Murabahah, Musharakah Mutanaqisah (Diminishing Partnership) and Mudarabah. The adoption of these modes in practice would differ substantially from the way they were being practiced in the present Islamic finance industry. For example, these modes do not use interest rate benchmark for their pricing, and the pricing does not vary with time. AIM was receptive to the idea and agreed to partner with the three researchers in this new pilot model. Series of discussions followed to iron out the detail including documentation. After seven months of meetings and discussion, the project was ready for implementation. But AIM decided to pull out in the last minute giving the excuse that their system was not designed to cater for the new modes of Islamic financing the researchers proposed. Thereafter, the three researchers started looking

for new sources of fund for implementing the new pilot Islamic microfinancing model.

On 20 March 2017, one of the researchers Assoc. Prof. Dr. Mustafa Omar met the CEO of CIMB Islamic, Mr. Mohamed Rafe Haneef, over breakfast to introduce to him the idea of the new Islamic microfinancing model. The meeting was timely because CIMB Islamic was involved in a CSR microfinance project with Taylor's University in Kuala Lumpur. Mr. Rafe expressed his readiness to fund the project through CSR similar to the one CIMB Islamic was doing with Taylor's University. The meeting with Rafe marked a very important milestone to the birth of i-Taajir, which started operation.

### 14.3 THE PARTNERS IN I-TAAJIR

The two main partners in i-Taajir are: CIMB Islamic and IIUM Centre for Islamic Economics or CIE in short. The Centre was established in 2008. It has two niche areas, research and training. It is motivated to undertake this project for several reasons. Firstly, the research experience it has gained in the area of Islamic microfinance over the years. Secondly, the urge to narrow the gap between theory and practice in implementing the Islamic modes of financing. The existing Islamic financial institutions have largely implemented these modes superficially by using legal tricks. The other motivation is the partnership with CIMB Islamic, especially the dynamism and friendliness of the CEO.

The other partner in i-Taajir is CIMB Islamic established in 2003 as a subsidiary of CIMB Bank Berhad. CIMB Islamic is motivated to provide the financing to fulfill its CSR. Its motivation is also in line with the concept of Environmental, Social and Governance (ESG) and Sustainability Development Goals (SDGs), especially the two goals that relate to poverty and decent life. Finally, CIMB is motivated by the recent concept of Value-Based Intermediation (VBI) initiated by the Central Bank of Malaysia.

### 14.4 THE OBJECTIVES OF I-TAAJIR

1. To develop entrepreneurship among the working local poor (wlp) through training and financial empowerment
2. To ensure improved standard of living among the wlp
3. To provide students with community engagement that becomes part of education process

4. To bridge theory-practice and university-community gaps
5. To train the selected working local poor with the necessary entrepreneurial skills and Islamic ethical values
6. To empower and provide the selected working local poor with financing using the sale-based Murabahah and the PLS modes
7. To enhance the level of amana (trust) and sense of syukur (appreciation) among the selected working local poor so that they are able to donate a portion of their profit to a pool of Tabarru' Fund
8. To conduct an impact study on the success of the project in general and on the effectiveness of using the PLS and sale-based modes for Islamic microfinance
9. To develop policy manuals and guidelines for the current and future similar project

## 14.5 THE I-TAAJIR LOGO

The orange pillars in the background on the left are part of the logo of the International Islamic University Malaysia (IIUM), CIE stands for the Centre for Islamic Economics, which is part of IIUM, and CIMB*i* denotes CIMB Islamic, a partner in i-Taajir that is financing the project as part of its CSR (Fig. 14.1).

## 14.6 I-TAAJIR ORGANIZATIONAL STRUCTURE

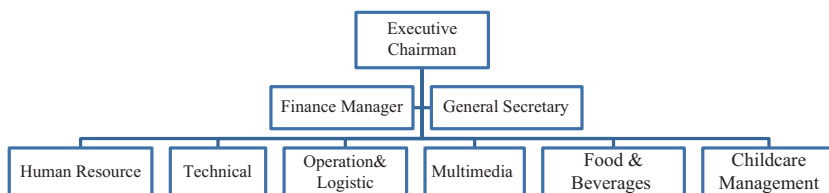
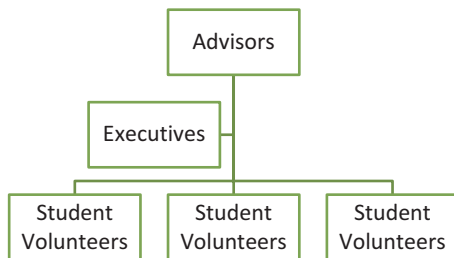
As shown in the logo above, i-Taajir is affiliated to the Centre for Islamic Economics, IIUM. The organizational structure involves three advisors, four executive team members whose leader acts as project manager and over 70 student volunteers. Figure 14.2 shows the organizational structure of i-Taajir.

The advantages of the i-Taajir organizational structure shown in Fig. 14.2 are the following, among others. Firstly, it is simple to allow easy flow of information and easy accessibility of members. Secondly, since all

**Fig. 14.1** The i-Taajir logo



**Fig. 14.2** Organizational structure of i-Taajir



**Fig. 14.3** Major functions of the executives

the members are staff and students of IIUM, they can hold meetings at any time at their conveniences. This also allows them to keep abreast with the activities of the project. Thirdly, the structure is cost saving to the operation of the project. The advisors do not receive any remuneration. Instead, they allocate part of their man-hours to the service of the communities. Only the four executives and the volunteers are paid modest monthly allowances for their services. Much of what they do is translated into community services.

The three advisors who are also the pioneers of i-Taajir are Prof. Dr. Mohamed Aslam Mohamed Haneef, Prof. Dr. Norma and Assoc. Prof. Dr. Mustafa Omar Mohammed. They provide leadership role for i-Taajir. They assist in developing i-Taajir's long- and short-term plans, strategies and activities and oversee their implementations. They also ensure that finances of project are managed within the authorized budget and that there is effective internal controls to ensure the activities are conducted lawfully and ethically and with integrity. They try as much as possible to lead by example and encourage the executives and the volunteers to do the same. The advisors meet the executives regularly to get feedbacks on the activities of the project. Figure 14.3 shows the main functions of the executives. The number of the executives and student volunteers varies with the needs of the project.

## 14.7 FUNCTIONS OF THE EXECUTIVES

The executives function as project managers. They are selected for their basic knowledge and skills related to the planning, organizing and controlling of the project to ensure proper supervision, process improvement and efficient performance management.

The following are the duties of the executives.

### 14.7.1 *Planning*

1. Create a detailed work plan which identifies and sequences the activities needed to successfully complete the project.
2. Develop a schedule for project completion that effectively allocates the resources to the activities.
3. Determine the objectives and measures upon which the project will be evaluated at its completion.

### 14.7.2 *Organizing*

1. Execute the project according to the project plan.
2. Develop forms and records to document project activities.
3. Set up files to ensure that all project information is appropriately documented and secured.
4. Write reports on the project for the advisors and for funders.
5. Manage project funds according to established accounting policies and procedures.

### 14.7.3 *Controlling*

1. Review the project schedule with the advisors and revise it if required.
2. Ensure that the participants' files are properly maintained and kept confidential.
3. Ensure that the project deliverables are on time, within budget and at the required level of quality.
4. Ensure that all financial records for the project are up to date.
5. Monitor cash flow projections and report actual cash flow to the advisors on a regular basis (biweekly/monthly)



#### 14.7.4 *Selection of Participants*

The selections of the clients are long processes that begin from identifying them to the final award of the finance contracts to successful candidates. The selection processes involve the following 12 steps. All potential participants must go through all these steps to be eligible for the financing.

1. The team identifies a location where the poor live. They adopt Amanah Ikhtiar Malaysia's measure of Visual Indicators of the Poor or VIP in short. These indicators include the conditions of their surroundings and dwellings, the sizes of their houses and the assets they own. Below are some of the photos taken from one of the locations, *Rumah Transit Kg Sg Kertas, Gombak*, identified for the program (Fig. 14.4).
2. After identifying the location, the team meets the chairman of the area and explains to him about the project. Announcement is then made through their community centers and in mosques.
3. The team conducted household survey and distributed simple questionnaires to interested potential participants. The information solicited from them include family background, level of income, asset size, level of indebtedness, their areas of business interest, the amount of financing they seek and the duration, their expected monthly repayment and their level of akhlaq and business ethics.
4. They must be Malaysians or Malaysian permanent resident holders.
5. They must not be on other business loans nor bankrupt or have criminal records.
6. The income level for eligibility is below Malaysian Ringgit RM4000, a level that corresponds to the lower income median and the B40.
7. The potential clients are then invited for a soft launch where they formally register for the program. They are required to attend motivation session during the launch. It is one of the conditions for eligibility.
8. They are then required to attend all the training sessions.
9. They will be helped by student volunteers to prepare their business plans.
10. They must present their business plans before panel of experts from IIUM, the industry and CIMB Islamic.



Fig. 14.4 Rumah Transit Kg Sg Kertas, Gombak

11. i-Taajir advisors and the executives will discuss the business plans of successful candidates in detail to determine the appropriate mode of financing, the amount and the duration of repayment.
12. Successful candidates are then invited to receive the award of contracts in an official launch attended by officials from IIUM and CIMB Islamic.

### 14.7.5 *The Soft Launch for Selecting Potential Participants*

The soft launch for the first cycle was held on 21 April 2018 at the community center of Rumah Transit Kg Sg Kertas in Gombak. Present at the event were officials from IIUM and CIMB Islamic in addition to few market professionals (Fig. 14.5).

To encourage the potential participants to attend the event, they were invited with their family members, which include spouses and children. Special facilities were arranged to entertain the children while their parents attended the program. The children were managed by the student volunteers.

Apart from the official launch, the event included motivation sessions to encourage the participants and instill in them the spirit of entrepreneurship. They were also reminded about integrity in business and upholding moral principles and ethical values. Lucky draws were conducted from time to time. At the end of the motivation sessions, the student volunteers conducted interview with the participants for ice breaking, establishing rapport and to know more about their business skills, financial and social status. This additional information would later be triangulated with the information the participants provided earlier in the household survey (Figs. 14.6, 14.7, and 14.8).



**Fig. 14.5** IIUM and CIMB Islamic officials at the soft launch. From left is brother Zaim, Chairman of the i-Taajir Executives; Encik Ken Mohd Faiz, CIMB Islamic Group Head of CSR; Prof. Dr. Aslam and Assoc. Prof. Dr. Mustafa, both i-Taajir advisors; Assoc. Prof. Dr. Mohd Nahar from Economics Department; and Encik Asrul Dahari, KENMS Deputy Dean of Student Affairs. In the photo on the right, in the middle is Prof. Dr. Norma Bt Md Saad, the third i-Taajir advisor, handing over a lucky draw gift to the winner. The lucky draw was conducted between each motivation session



Fig. 14.6 Some of the participants at the soft launch



Fig. 14.7 A trainer conducting a motivation session



Fig. 14.8 Student volunteers conducting interview with the participants

#### 14.7.6 Training

i-Taajir has basically four types of training programs:

1. Training of the participants by experts beginning with the motivation sessions.
2. Training of the trainers among selected IIUM volunteer students. They are trained in various relevant fields such as accounting, business, law and ethics.
3. The third training is provided to the recipients by the trained IIUM volunteer students. These students conduct one-to-one training with the participants in basic skills such as accounting, documentation, entrepreneurship, risk management, Muamalat, sales and marketing, business ethics and akhlaq. The recipients are also trained in the four modes of financing being offered by i-Taajir.
4. Trainings to student enumerators to conduct interviews and evaluate project proposals/applications for funding.





**Fig. 14.9** Facilitators in training sessions

The training is done at weekends covering two half-day sessions. Typically the topics covered by the professional facilitators are introduction to business, financial and accounting management, morality [akhlaq] and business ethics and promotion and sales. Each topic has two parts, theory and practice/applied. Other forms of trainings are later provided by the student volunteers to the participants on a one-to-one basis (Fig. 14.9).

#### *14.7.7 Preparation of Business Proposals*

After the formal training is completed, the participants are asked to brainstorm their business ideas and systematically draft a business proposal with the assistance of the student volunteers. These volunteers act as student coach (SC). Each SC is assigned to two participants. The SC visits participants at their residences, associations and offices to arrange for coaching whose duration ranges between one and five hours. The coaching time is flexible in order to accommodate the study schedule of the SC and the working hours of the participants. The coaching sessions are also part of the due diligence process as the SCs are required to write their observations on the participants' commitment and efforts in preparing the business proposal. There are cases where some participants have literacy issues, but that does not impair their enthusiasm to develop a proposal to run their own businesses. The business proposal must include the type of business, risks involved, rate of success, amount of financing required, tools to be purchased in the case of Murabahah [sale contract] and Musharakah Mutanaqisah [diminishing partnership], duration of financing, estimated monthly repayment amount for Murabahah, Qard Hasan and Musharakah Mutanaqisah.

#### *14.7.8 Preliminary and Final Presentations*

Upon the completion of the business plan draft, the executives liaise with the student volunteers to arrange for the participants to have preliminary presentations before the selected members of staff from IIUM. The main objective of the preliminary presentations is to solicit feedback for refining the proposal before the final presentation. Furthermore, it is a learning curve for the executives, student coaches and volunteers who are involved in training the participants.

The final presentations are conducted in parallel sessions with a panel comprising at least two expert judges in each session. The expert judges are selected staff from IIUM, CIMB Islamic and professionals from the industry. The judges are given two weeks in advance the final business proposals prepared by the participants. The presentations are done in PowerPoint slides in a duration of 20–25 minutes followed by the Q&A from the experts that normally takes 1–2 hours. The results of all the presentation are then forwarded to i-Taajir management for the final selection for award of contracts.

#### *14.7.9 Selection of Successful Candidates for Award of Contracts*

Normally the selection committee for the award of contracts to successful participants comprises the three advisors and at least three executives from i-Taajir management. The committee adopts the following benchmarks for the award of contracts:

1. The participant fulfills all the criteria set for being called poor: visual indicators of poor, level of income and asset size.
2. The participant has attended all the required sessions: motivation, training, coaching and presentations.
3. The participant has obtained a pass for his/her proposal and presentation from the expert judges.
4. Other additional information on the participant obtained from the household survey and through informal interviews and interactions with student coaches and volunteers.
5. The extent to which the business proposal is sound and viable.



**Fig. 14.10** The i-Taajir advisors and executives discussing the selection of successful candidates

The selection committee decides and matches the kind of financing mode suitable for each type of business and the amount of financing applied for. As a rule of thumb, Qard Hasan mode is offered to participants who apply for a financing amount of Malaysian Ringgit RM5000 or less, and the other modes, Murabahah, Musharakah Mutanaqisah and Mudarabah, are offered to those who have applied for RM10,000 financing facility. There are also cases where the committee has offered a hybrid contract of Murabahah and Qard Hasan (Fig. 14.10).

#### *14.7.10 Financing Modes*

As stated previously, i-Taajir offers four financing modes: Qard Hasan, Murabahah, Musharakah Mutanaqisah and Mudarabah. In special cases, it also offers hybrid contracts. These contracts and their steps are discussed below (Figs. 14.11, 14.12, 14.13, and 14.4).

##### *Qard Hasan*

###### *14.7.10.1 Steps*

1. The participant applies for Qard Hasan facility from i-Taajir.
2. i-Taajir provides the Qard Hasan (zero-interest) financing in cash to the participant.



Al-Qard al-Hasan

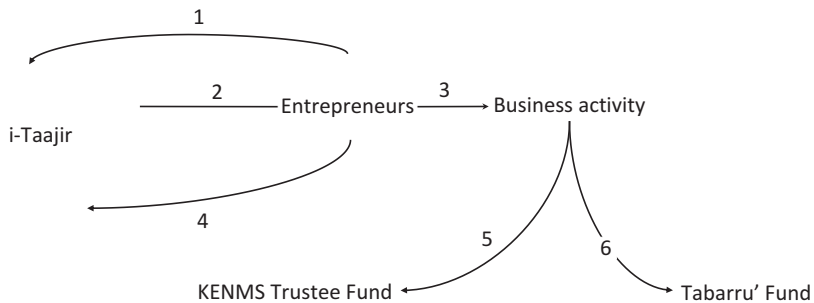


Fig. 14.11 Qard Hasan

Al-Murabahah to the Purchase Orderer

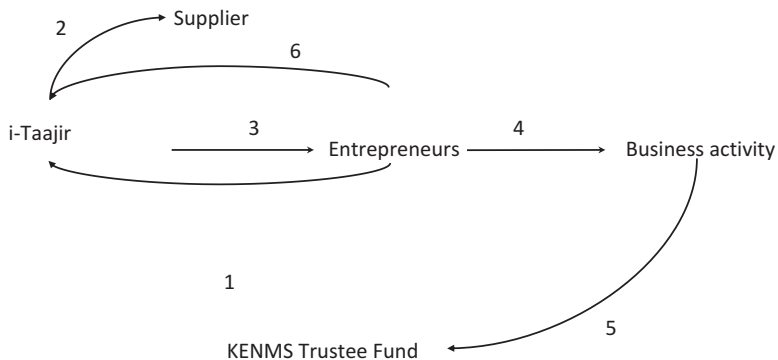
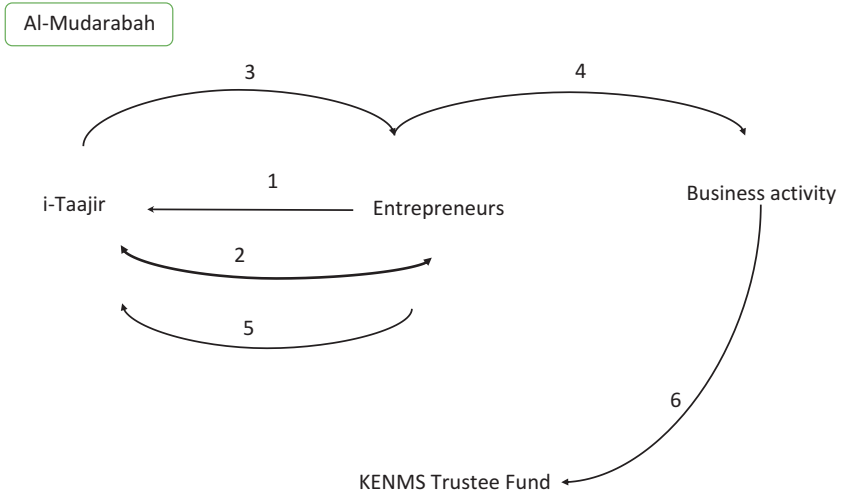
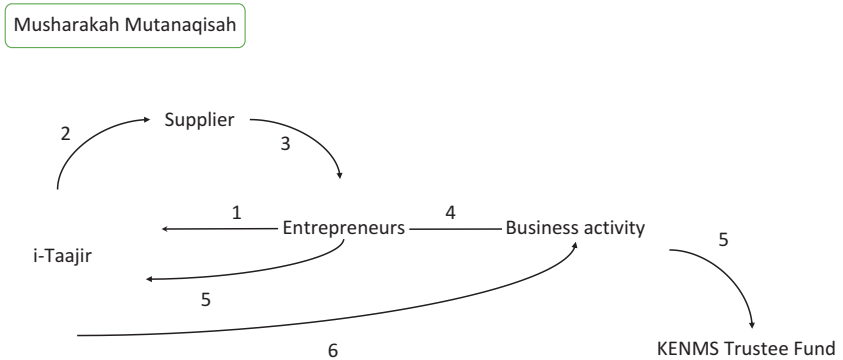


Fig. 14.12 Al-Murabahah to the purchase orderer

3. The participant uses the money for business activity.
4. The participant submits monthly reports to i-Taajir.
5. The participant repays the Qard to a Trustee Fund.
6. The participant is encouraged to contribute/donate at least 10% of his/her profit to the Tabarru' Fund.



**Fig. 14.13** Al-Mudarabah



**Fig. 14.14** Musharakah Mutanaqisah

*Al-Murabahah to the Purchase Orderer*

14.7.10.2 Steps

1. The participant accompanied by volunteer students identifies the tool or materials needed to run the business and obtains invoice from the seller.
2. i-Taajir buys the tools or materials directly from the supplier.

3. i-Taajir sells the tools or materials at cost-plus to the participant.
4. The participant uses the tools or materials for the business activity.
5. The participant pays the selling price by installments to KENMS Trustee Fund.
6. The participant submits monthly reports to i-Taajir.

#### *Al-Mudarabah*

##### *14.7.10.3 Steps*

1. The participant presents the business project to i-Taajir and provides the detail of the amount of financing required.
2. i-Taajir and the participant agree on a profit-sharing ratio, usually 90:10.
3. i-Taajir provides financing to the participant to run the business project.
4. The participant invests the fund in the business activity.
5. The participant redeems i-Taajir capital + share of the profit and submits monthly reports to i-Taajir.
6. i-Taajir capital + share of the profit is redeemed from the business activity periodically to KENMS Trustee Fund.

#### *Musharakah Mutanaqisab*

##### *14.7.10.4 Steps*

1. The participant accompanied by the student volunteers identifies the tools or materials needed for the business and obtains invoice from the supplier.
2. The participant provides 10% of the cost of the tools or materials and i-Taajir provides 90% of the cost.
3. i-Taajir on behalf of the participant buys the tools or materials directly from the supplier and they both jointly own the asset.
4. The supplier delivers the tools or materials to the participant.
5. The participant uses the tools or materials for the business activity.
6. The participant pays periodic rent and purchase of equity in separate contracts to KENMS Trustee Fund and submits monthly reports to i-Taajir.
7. The participant takes full ownership of the asset after a symbolic sale.

The duration of financing for all the four modes is approximately 12 months. The student volunteers are assigned to monitor the business progress of each participant. One participant is handled by two students.

#### 14.7.11 *Launching for the Award of Contracts to Successful Candidates*

After the successful candidates are selected, they are given an award in a launch ceremony attended by the top management of IIUM and the CEO of CIMB Islamic. The participants attend with their children who are entertained in a special program. The main objective of the launch is to appreciate successful candidates and encourage new ones to register for the next cycle (Fig. 14.15).

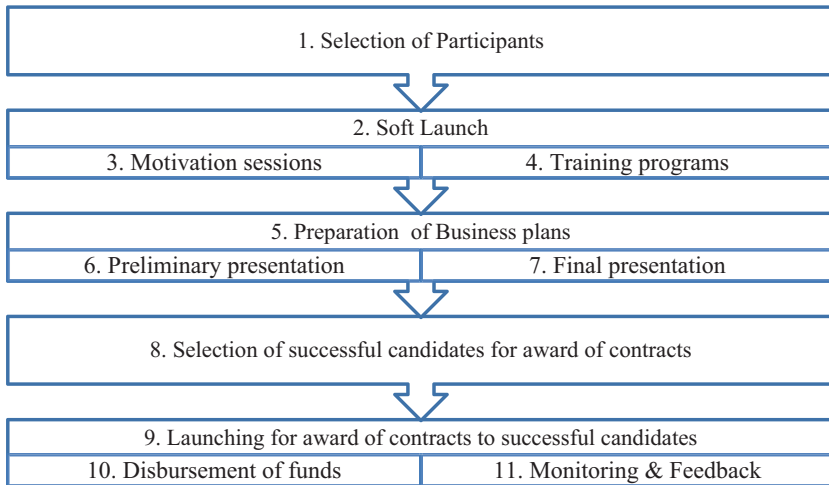
After the launch, the participants are given their respective contracts to sign, and then the fund is disbursed to them. Then the student volunteers begin monitoring the implementation of the business projects. They provide regular feedback to the i-Taajir advisors.

#### 14.7.12 *Summary of i-Taajir Financing Processes*

Figure 14.16 show below:



Fig. 14.15 CIMB Islamic CEO giving speech during the launch



**Fig. 14.16** Summary of i-Taajir financing processes

## 14.8 CONCLUSION

i-Taajir is young and a new entrant into the microfinance industry. Yet the program has tremendously progressed within such a short period of time in terms of continuous support from both IIUM and CIMB Islamic, the number of participation and IIUM student involvements. The success of i-Taajir can be attributed to the following factors. Firstly, the expected recovery rate of the financing is over 90%. Secondly, the standard of living of the participants and their level of income will rise above the Zakat nisab. As a result, they will become Zakat donors rather than recipients. Thirdly, the program tries to close the gap between theory and practice. It offers in practice Islamic modes of financing in a manner that they do not depart from their theoretical principles. Fourthly, it provides opportunities to IIUM students for practical experiences. They interact with the poor to appreciate their difficulties and struggle and also learn the challenges of doing business. Most of the youth are accustomed to the debt-based financing that forces them into indebtedness. This new approach gives them hope of freedom from the debt. Fifthly, the program is imbued with moral and ethical training programs. This will encourage the participants to do good business, reduce trust deficits and minimize the risks of moral hazards. Sixthly, the program provides opportunity for IIUM to develop a

community service curriculum where students become humanistic in their approach to education. This will allow the university to relate well to the local communities.

On the other hand, i-Taajir faces some challenges as it progresses to the next level of its life. Firstly, this program is presently a pilot project being financed by a single source, CIMB Islamic. To sustain the program, there is a need to diversify the sources of funding that could also include social financing such as Waqf and Zakat. Secondly, the operating cost is presently kept low because of the huge participation of volunteers' labor force from IIUM staff and students who are normally temporary. The staffs could resign or go on retirements, and students graduate. Therefore a proper succession plans are very indispensable for the sustainability of the program.

For the way forward, i-Taajir proposes to collaborate with the following departments in the university:

1. Entrepreneurship Development Centre (EDC)
  - Training for student coach and participants
2. Facilities, Food and Services Department (FFSD)
  - Facilitate student business incubator
3. Office of Corporate Communication (OCCM)
  - Liaison office with external and internal media
  - Assist with program marketing
4. Centre for Credited Leadership and Virtues (CLAV)
  - Monitoring students registered with i-Taajir for co-curriculum course

The advisors are also now working on developing community course as part of co-curricular activities on community development for IIUM. Every student that will participate in i-Taajir activities will earn academic credit hours and certificate of participation.

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# An Empirical Study on the Role of Islamic Microfinance in Enhancing Financial Inclusion in Bauchi State, Nigeria

*Aliyu Dahiru Muhammad and Sàadatu Aminu Ibrahim*

## 15.1 INTRODUCTION

One of the key problems faced by the poor especially those that wish to engage in productive or commercial undertakings is access to finance. According to the International Fund for Agricultural Development (IFAD 2016), around 2 billion poor adults remain excluded from the financial system. The majority (72%) come from South and East Asia, the Pacific and sub-Saharan Africa. According to the World Bank (2016), financial inclusion is a key enabler to reduce extreme poverty and boost shared prosperity. And that, as account holders, people are more likely to use other financial services, such as credit and insurance, to start and expand businesses, invest, manage risk and weather financial shocks.

The dearth of access to financial services is mainly due to lack of collateral, financial history and unawareness or unavailability of desirable

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financing mode. According to Abdul Rahman (2013), the lack of asset for collateral and financial records as well as limited credit history has made it almost impossible for the financially excluded to obtain credit from the formal financial institutions. Due to capital constraints, they are tied to low productivity. Microfinance has enabled this segment of the society to expand and diversify their economic activities.

Regardless of the success of conventional microfinance (Abdul Rahman 2013; Shapira 2011), it faces some challenging issues that limit its global acceptance including propensity to boost financial inclusion. Some of the issues include interest charges and adoption of a uniform operational approach, in many instances, notwithstanding environmental, cultural or religious diversity. The uniform operational approach to microfinance presents a quality problem as microfinance products/services may not necessarily match clients' needs. This is aggravated by unsystematic targeting of potential clients which causes mismatch between the demand for and the supply of products being offered. A situation that could diminish the quality of available financial products/services, thereby limiting users' access.

Of particular concern is the fact that conventional microfinance banking products are mainly interest based and thus non-compatible to Islamic principles as interest is forbidden in Islam (Quran 2:275–276, 2:278–279). This prohibition, to a great extent, impedes patronage of conventional microfinance which severely diminishes the capacity of small-scale entrepreneurs particularly in Muslim-dominated communities. Islamic finance with a wider application of equity-based products and services can facilitate greater outreach to individuals as well as micro, small and medium firms to promote sustainable entrepreneurship and value-creating activities. Thus, financial inclusion could benefit from Islamic microfinance products and services, for example, Qard-al-Hassan provides a complementary tool to fight financial exclusion (Iqbal and Shafiq 2015).

However, although studies on financial inclusion are abundant, study that specifically aims to address the role of Islamic microfinance in financial inclusion is limited globally and particularly in Nigeria. Several of the studies centred on the two variables independently or in association with other relevant variables. For example, Islamic microfinance and poverty alleviation, Pramanik et al. (2015); financial inclusion and poverty alleviation, Onakoya and Onakoya (2014); investigation of exclusion factors that impede financial inclusion, Adeyemi et al. (2012); examination of micro-econometric evidence of financial inclusion based on an individual towards

financial services, Efobi et al. (2014). It is therefore desirable to undertake this research to examine enhancing financial inclusion through Islamic microfinance with particular focus on Tijarah Microfinance Bank Limited. The main aim of the study is to find out if Islamic microfinance enhanced financial inclusion particularly among the customers of Tijarah Microfinance Bank. The study is organized into five sections. Section 2 focuses on the related literature review. Section 3 presents the methodology employed by the study. Section 4 consists of findings and finally Section 5 concludes the chapter and offers some recommendations.

## 15.2 LITERATURE REVIEW

This section reviews the relevant conceptual and empirical literature on microfinance, financial inclusion and the role of Islamic microfinance in reducing financial exclusion.

### 15.2.1 *Concept of Microfinance*

Robust economic growth cannot be achieved without putting in place well-focused schemes to reduce poverty through empowering the people by increasing their access to factors of production, especially finance and credit. The latent capacity of the poor for entrepreneurship could be significantly enhanced through the provision of Islamic microfinance services to enable them to engage in economic activities and be more financially inclusive and self-reliant, increase employment opportunities, enhance household income and create wealth.

Microfinance as a concept has no universal definition. Some researchers (Rhyne 2001; Versluysen 1999; Dusuki 2007 citing Ledgerwood 1999; Shapira 2011; Al-Shami et al. 2013) submit to the fact that microfinance is about banking the “unbankable”. It also put emphasis on schemes aimed at mobilizing grassroots savings and providing loan or funding to hitherto people considered as not “credit worthy” and empowering the poor. Fundamentally, microfinance seeks to expand access to banking and financial services for a wider cross section of the population. Microfinance is about providing financial services to the poor who are traditionally not served by the conventional financial institutions. Three features distinguished microfinance from other formal financial products. These are (i) the smallness of the loan, (ii) the absence of asset-based collateral and (iii) simplicity of operations.

### 15.2.2 *Concept of Islamic Microfinance*

Islamic microfinance is fairly a new phenomenon which could be said to have been founded as a continuum of the global microfinance efforts to provide finance and banking services to the low-income and “unbankable” individuals, households as well as micro and small firms. However, unlike its traditional counterpart, Islamic microfinance (IsMF) is Shari’ah-compliant, notably “interest-free” and fundamentally draws its operational guidelines from the Islamic teachings.

Islamic microfinance is the provision of microfinance products and services (deposits, financing, loans and microinsurance) that are strictly in line with the Shari’ah devoid of *riba*, *gharar*, *maysir* and other things prohibited by Islam. It is a financial relationship involving entrepreneurial investment which is based on Shari’ah principles that prohibit uncertainties, interest earning, sinful activities, gambling and speculative trade. Islamic microfinance focuses on providing an ethical financial system with a motive of wealth redistribution. It was founded on the bases of ethical responsibility, economic justice and social transformation (Hamid 2016).

Islamic microfinance banking presents an alternative to conventional microfinance banking by emphasizing mutual benefit through profit, loss and risk sharing. It also underscores the need to encourage people to engage in productive economic activities and embark on saving. In particular, extending cash loan is only permissible in circumstances of necessity to satisfy urgent consumption/welfare need; such a loan is considered as good/virtuous loan (*Qard-al-Hassan*) and is granted essentially at no cost to the beneficiary.

According to Muhammad (2009), based on the central belief that money is not an earning asset in and of itself, different Islamic financing options are available depending on the nature and duration of the venture. There are some general principles that are of importance for Islamic financial products and services which include:

1. There must be some risk, whether funds are used in a commercial or productive venture.
2. A financial transaction needs to have a “material finality”, that is, it should be directly or indirectly linked to real, tangible economic activity as opposed to financial speculation.
3. The product or service that is bought or sold must be clear to both the seller and buyer.

4. There should be no funding of haram or sinful activities such as alcohol and gambling, and funds should preferably finance socially productive activities. In broad terms, Islam forbids all forms of economic activity, which are morally and socially harmful.
5. Financial risk must lie solely with the lenders of the capital and not with the manager/agents who work with the capital. Furthermore, a financial transaction should not lead to the exploitation of any party in the transaction.
6. Interest is forbidden, in that it is a predetermined, fixed sum owed to the lender irrespective of the outcome of the business venture in which the fund is used. This does not imply in any way that capital is free of charge or that it should be absolutely no return on capital. Rather, a return on capital is allowed, provided that capital participates in the productive process and is exposed to business risk.
7. It is not permitted to sell what one does not own—therefore “short-selling”.

### 15.2.3 *Concept of Financial Inclusion*

Many of the definitions of financial inclusion (e.g. Sarma 2008; Ramji 2009; Pearce and Tata 2013; Kama and Adigun 2013) indicate that it emphasizes “all-inclusive finance”. It essentially connotes the desirability of accessibility to finance by all those that need it on a timely and cost-effective manner. By implication, it signifies how easily individuals can access available financial services and products from formal institutions (Demirguc-Kunt and Klapper 2011). It also points to the undesirable effect of ignoring financial inclusion which results in financial exclusion. Financial exclusion manifest in certain groups or individuals who face obstacles to easy access to financial services at affordable cost, thereby being disenfranchised from the formal financial system (Sarma and Pais 2008).

Financial inclusion is defined as the timely delivery of financial services to disadvantaged sections of the society. This simple definition encompasses the concept’s primary focus. That is, financial inclusion refers to a customer having access to a range of formal financial services, from simple credit and savings services to the more complex such as insurance and pensions. It implies that customers have access to more than one financial service provider, which ensures a variety of competitive options. A range

of obstacles could hamper financial inclusion which include geography (limiting physical access), regulations (lack of formal identification proof or of appropriate products for poor households), psychology (fear of financial institution's staff, structures, complicated financial products, etc.), information (lack of knowledge regarding products and procedures) and low financial shrewdness (low income and poor financial discipline), among others (Ramji 2009).

According to Efobi et al. (2014), financial inclusion entails access to and use of bank services, and the two terms are used interchangeably. Also, lack of financial inclusion has numerous adverse macroeconomic effects in an economy which include reduction in aggregate savings and epileptic development of the financial system.

Financial inclusion seeks to ensure that financial services are easily accessible at an affordable cost; and it emphasizes desirability of access to and use of bank services. In fact, access to a bank account is a basic step towards greater financial inclusion as it enables the use of banking and other related financial services such as credit, insurance and payments. As account holders, people are more likely to have access to credit and capital for business startup and expansion. Access to and use of bank account also enable investment opportunities in both financial products and tangible assets such as real estate and commodities, thus leading to possibilities of enhanced livelihood and poverty reduction.

However, according to the World Bank (2016), an estimated 2 billion adults worldwide don't have bank accounts, thereby limiting their financial inclusiveness. With a financial exclusion rate (percentage of financially excluded adults) of 62% in 2016 (EFInA 2016), financial inclusion is limited in the North East Geopolitical Zone of Nigeria. The North East comprises six states including Bauchi State, the location of Tjjarah Microfinance Bank Limited (TMBL). Bauchi is predominantly Muslim, with a Muslim population of 80% (DFID 2009) of the state's population of 4.6 million. TMBL is a licensed state microfinance located in Bauchi Local Government that operates based on Islamic banking principles.

According to Muhammad (2009), diverse channels are needed to get diverse financial services into the hands of a diverse range of people who are currently excluded. It therefore means that unless an alternative finance mode is provided especially for those that repel interest, incidences of voluntary exclusion could persist which would turn to involuntary exclusion due to non-availability and/or non-desirability of financial services. Thus, the operation of Islamic microfinance banks could deepen access to and

use of financial products and services and help in integrating the microfinance sector with the mainstream financial system. Most specifically and for the purpose of this study, the operations of TMBL could provide a diverse channel to enhance financial inclusion among its customers.

#### 15.2.4 *Microfinance in Nigeria*

Microfinance in Nigeria evolved from the long tradition of informal money lending and savings arrangement to a formal industry operating under supervisory and regulatory framework. The informal microfinance arrangements operate under different names: “Esusu” among the Yorubas of Western Nigeria, “Etoto” for the Igbos in the East and “Adashi” in the North for the Hausas. There are also those that exist along the lines of the informal model and involve revolving credit and savings associations (CBN 2011, 2012). The industry has varied formal institutional structures for the provision of microcredit: government oriented, NGO supported, private or a mixture of two or more of these (Muhammad 2009).

The National Microfinance Policy launched in 2005 provided regulatory framework for microfinance institutions operating in the country. The policy was revised in 2011 owing to the positive indication of the performance of the microfinance institutions. The revision was to strengthen the role of the institutions in growing the financial inclusion level of the country (National Financial Inclusion Strategy 2012). The revised policy triggered the emergence of a large number of private-sector-initiated microfinance banks (MFBs) across the country. About 79% of these MFBs are situated in the Southern part of Nigeria, while the Northern part of the country, with over 55% of the nation’s population, has about 21% of the MFBs (Hamid 2016).

From the foregoing, there is a potential for the establishment of more Islamic microfinance institutions to increase the spread of microfinance and consequently enhance financial inclusion for the Muslim majority in Northern Nigeria.

In Nigeria, Islamic Microfinance Banks (IsMFBs) began recently with the operation of Tijarah MFB in Bauchi State, Al-Barakah MFB in Lagos State and licensing of I-Care MFB in Kano State. However, presently in its infancy, Islamic microfinance banking is looking promising particularly given the Muslim population in the country. One factor that might influence the need for Islamic microfinance in Nigeria is the size of the Muslim population (Muhammad 2009). According to the CIA (2016), of the

181,562,056 estimated population of Nigeria, 90,781,030 representing about 50% are Muslims. More so, the demand for Islamic microfinance could benefit from the discountenance of some Muslims to conventional microfinance in protection of their faith. Consequently, there is a potential market for Islamic microfinance banking, and its possibility of enhancing financial inclusion especially in Muslims dominated communities in the country. More so, financial inclusion efforts cannot be effective nor have the desired impact unless all or at least a majority of the population can be reached.

### 15.2.5 *Empirical Literature*

Though an infant industry, there are indications by various studies that put forward the tendency of Islamic microfinance banking to influence inclusive finance. Pramanik et al. (2015), in a cross-country research, indicate positive findings regarding Islamic microfinance and financial inclusion, particularly based on the integrated Waqf-based Islamic microfinance (IWIM). For example, the findings suggest that poor people in Bangladesh have a high awareness of the importance of Islamic microfinance in poverty alleviation.

This is similar to the findings of Onakoya and Onakoya (2014) that show Islamic microfinance promotes financial inclusion and can be applied in alleviating poverty and maintaining sustainable development in Nigeria. They found that religious affiliation is not a critical hindrance to access Islamic microfinance products and services in Ogun State, Nigeria. Specifically, a slim majority of Christian respondents (68%) agreed to patronize Islamic products when provided which attest to the fact that religion is not a constraining factor to access Islamic finance. The result also shows that 78% of the respondents affirmed that Islamic finance creates better value for financial activities. The creation of better value is perhaps through a close link between real economic activities and Islamic finance.

Adeyemi et al. (2012) investigated the various factors that impede both the access to and use of finance with the objective to determine both the voluntary and involuntary factors that cause financial exclusion among microentrepreneurs in Ilorin, Nigeria. The study concluded that voluntary exclusion signals more problem of financial exclusion in Nigeria although both the voluntary and involuntary exclusion barriers independently and collectively frustrate the financial inclusion of microentrepreneurs in

Nigeria. This is because it is a reflection of a lack of use rather than a lack of access to financial services. The authors submit that the findings of the study seem consistent with others such as Corr, regarding the fact that the inability of financially repressed to provide documentation and collateral impedes their access to finance. Also, affordability was found to be a key indicator of involuntary exclusion similar to the findings of Demirguc-Kunt et al. (2013), indicating that price-related barriers frustrate financial inclusion.

Demirguc-Kunt et al. (2013) in a study on Islamic finance and financial inclusion discovered that Muslims are more likely than non-Muslims to report religion as a barrier to account ownership. However, this result is mainly driven by respondents in sub-Saharan Africa and worldwide; just 7% of unbanked Muslims and unbanked non-Muslims cite religion as a barrier to account ownership. Similar to non-Muslims, Muslims are more likely to cite cost, distance and documentation as barriers to account ownership. Also, accessing how prevalent are awareness and use of Sharia-compliant financial products, the study found out that in a limited sample covered in Algeria, Egypt, Morocco, Tunisia and Yemen, only 2% reported using Sharia-compliant banking service although 48% indicated having heard of Islamic banks operating in their country. The study also found out that income and access to information are strongly and positively associated with awareness and use of Sharia-compliant banking products. The findings of the study are based on measuring the use of and demand for formal financial services among Muslim adults and based on a sample of over 65,000 adults from 64 economies.

Mohieldin et al. (2012) studied the role of Islamic finance in enhancing financial inclusion in Organisation of Islamic Cooperation (OIC) countries and found out microenterprises and low-income individuals indicated a preference for Shari'ah-compliant products. However, while for some the lack of Shari'ah-compliant products is an absolute constraint to financial access, for others, this is a preference and they continue to use conventional financial services in the absence of competitive Islamic ones. The studies above present apparently a gap in the literature as most studies are conducted outside Nigeria and/or the data used is beyond five years ago.



### 15.3 RESEARCH METHODOLOGY

The study employs quantitative techniques to achieve its stated objectives. This section also presents the population, sample, survey instruments and model used for the study.

#### 15.3.1 *Population*

According to Bichi (2004, p. 44), the target population is used to refer to all the members of a well-defined group to which the investigation relates. The population for this study comprised all the customers of Tijarah Microfinance Bank Ltd (TMBL) Bauchi. This represents a total population of 3425 as at March 2017.

#### 15.3.2 *The Sampling Technique and Sample Size*

In choosing the sample size, TMBL was purposely selected given that it is the only microfinance bank operating fully based on Islamic principles in Northern Nigeria during the study period. Convenience sampling technique was also used to draw the sample as it allows for administering survey instrument on that part of the population that is readily available. The sample size for this study was obtained using the formula by Yamane (1967) who provided a simplified formula for calculating the sample size given as

$$n = \frac{N}{1 + N(e)^2}$$

where  $n$  = Sample size,  $N$  = Population,  $e$  = Level of precision which is given as 95% confidence level; hence  $e$  is equal to 0.05 ( $P$ -Value = 0.05).

The sample size, rounding it up to the nearest whole number, was to be 358. However, in order to capture as much of the sample as possible, 400 questionnaires were administered and 397 were deemed fit and used for analysis. Thus, sample adequacy was tested using Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, and the KMO value is 0.884 and Bartlett's test is significant as the  $P$ -Value suggests ( $P < 0.000$ ).

### 15.3.3 Model Specification

This study is in conformity with the notion that financial inclusion basically entails access to and use of bank services (Efobi et al. 2014; World Bank 2014). Thus, the study model comprises “Access to and Use of bank services” as proxy for the dependent variable and Awareness, Usage and Quality as explanatory variables.

Following from simple linear regression model of

$$Y = \beta_0 + \beta_1 X + \xi \quad (15.1)$$

where  $Y$  stands for the dependent variable,  $\beta_0$  stands for the intercept of the line at  $Y$ -axis,  $\beta_1$  stands for the slope of the line or the rate of change of  $Y$  with respect to change in  $X$ .  $X$  is the independent variable, while  $\xi$  is the redundant term for other factors affecting  $Y$  which are not explained by  $X$ ; this study has three explanatory variables, hence its model runs as

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \xi \quad (15.2)$$

where  $Y$  = Access to and Use of Bank Services,  $X_1$  = Awareness,  $X_2$  = Usage,  $X_3$  = Quality.

The above is the general form of multiple regression; hence the specific model can be stated as

$$ACU = \beta_0 + \beta_1 AWA + \beta_2 USE + \beta_3 QUA + \xi \quad (15.3)$$

where ACU stands for Access to and Use of Bank Services,  $\beta_0$  stands for the intercept at  $Y$ -axis,  $\beta_1$  is the coefficient of AWA and AWA stands for Awareness.  $\beta_2$  is the coefficient of USE and USE stands for Usage.  $\beta_3$  is the coefficient of QUA and QUA stands for Quality. Finally,  $\xi$  stands for the redundant term or dummy variable, which explains all the other factors affecting Access to and Use of Bank services which may not be explained by the explanatory variables.

### 15.3.4 Methods of Data Collection

For this study a survey method was employed where the data from a primary source was used in this study. The primary data was generated based on the administration of questionnaire. The questionnaire was adopted and modified from related studies (Efobi et al. 2014; Sani 2016) and subjected to face validity. Thus, a group of five experts have validated the questionnaire. The questionnaire is made up of four sections: Section “A”

is about the respondents' demographic information including their type of account. Sections "B", "C" and "D" are about the respondents' awareness of, use of and quality of Islamic microfinance banking products/services offered by TMBL. A five-point Likert scale, ranging from "Strongly Agree" to "Strongly Disagree", was employed to assist the respondents in providing responses to questions in sections "B", "C" and "D".

### 15.3.5 *Techniques of Data Analysis*

Descriptive statistics, frequencies and percentages were employed to describe the demographic characteristics of the respondents in section "A". Also, descriptive and inferential statistics such as factor analysis, correlation and regression analysis as well as analysis of variance (ANOVA) were employed to further analyse responses of sections "B", "C" and "D" of the questionnaire. This is in order to interpret and understand the relationships between the variables and draw conclusion thereof. SPSS version 20.0 was used to conduct the analysis.

Reliability test was conducted to measure the accuracy of measurement before conducting further analysis. Cronbach's alpha was used and it shows that the three variables, that is, Awareness, Usage and Quality, have the values 0.798, 0.805 and 0.802, respectively. This implies a higher internal consistency of the construct (Nunnally 1970).

## 15.4 FINDINGS AND DISCUSSIONS

This section presents the findings for the analysis of both descriptive and inferential statistics.

### 15.4.1 *Socio-economic Characteristics of the Respondents*

Socio-economic characteristics are the measures of an individual's or household's economic and social position based on education, income and occupation. It usually assists in getting a clear understanding of an individual's behaviour as well as providing a clue toward explaining their dispositions. Variables such as gender, age, education, occupation and income were used to measure the socio-economic status (Ayinde et al. 2007).

Gender refers to the culturally and socially constructed difference between men and women. The result in Table 15.1 revealed that 52.90% and 47.10% of the respondents were male and female, respectively. This

**Table 15.1** Distribution of the respondents based on their gender, age, marital status, employment status and vocation

<i>Variables</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>		
Male	210	52.90
Female	187	47.10
Total	397	100.00
<i>Age (years)</i>		
Below 20	110	27.70
20–30	123	31.00
31–40	93	23.40
41–50	53	13.40
51 and above	18	04.50
Total	397	100.00
<i>Marital status</i>		
Married	205	51.60
Single	169	42.50
Widowed	10	02.50
Divorced	13	03.30
Total	397	100.00
<i>Employment status</i>		
Unemployed	161	40.60
Self-employed	165	41.60
Formally employed	46	11.60
Retiree	25	06.30
Total	397	100.00
<b>Vocation</b>		
	<b>Frequency</b>	<b>Percentage</b>
Farming (poultry, animal husbandry/fishery)	144	36.30
Trading	160	40.30
Manufacturing	78	19.60
Civil service	15	03.80
Total	397	100.00

Source: Field Survey, July 2017

indicates that there is a fair representation of both genders in the composition of the customers of Tjjarah Microfinance Bank Ltd (TMBL).

Age is the length of time that somebody or something has existed, usually expressed in years. For the purpose of this study, age describes the years a respondent lives from birth to the present time of the study. The result in Table 15.1 shows that majority (54.40%) of the respondents were within their active service age of between 20 and 40 years. While 27.70% were below 20 years, 13.40% and 4.50% of the respondents were 41–50 and 51 years and above, respectively. The result further indicates that there

is a fair representation of the different age groups among the account holders of TMBL in the study area.

The result in Table 15.1 shows the distribution of the respondents based on their marital status. The result revealed that a great number (51.60%) of the respondents were married and 42.50% were single, while 2.50% and 3.30% were widowed and divorced, respectively. The result also shows a similar pattern of distribution as in the case of the gender and age distribution of the respondents.

The result in Table 15.1 shows the distribution of respondents based on their employment status. It was found that 41.60% of the respondents were self-employed, while 40.60% of the respondents were unemployed. Interestingly, this shows a slim margin between those respondents that are unemployed and those that are self-employed, indicating both groups formed a large portion of the customers. The result also shows that few (11.60% and 6.30%) of the respondents were formally employed and retirees, respectively.

The result in Table 15.1 reveals that most (40.30%) of the respondents have trading as their major vocation for their livelihood sustenance, followed by farming, manufacturing and civil services with 36.30%, 19.60% and 3.80%, respectively.

#### 15.4.2 Correlation Analysis

Correlation analysis using SPSS version 20.0 has also been employed to analyse the association or otherwise between financial inclusion and the reduced factors from principal component analysis.

The result in Table 15.2 reveals that there is a significant association between financial inclusion and the independent variables: Awareness ( $r = 0.714$ ,  $p = 0.000$ ), Usage ( $r = 0.295$ ,  $p = 0.000$ ) and Quality ( $r = 0.631$ ,  $p = 0.000$ ) in the correlation analysis. This significant association, therefore, calls for further analysis to ascertain the strength and direction of the relationship and the appropriate analysis to ascertain this is regression analysis.

Based on the result in Table 15.3, the regression analysis yields an adj.  $R^2$  of 0.995 indicating that 99.5% of variation in the dependent variables is as a result of the independent variables included in the regression model.

The result in Table 15.4 indicates that, for the independent variables, the probability of the t statistics, that is, (constant)  $b_0$  coefficient, is highly significant with a  $P$ -Value of ( $P$ -Value 0.000). This implies that an increase

**Table 15.2** Pearson correlation

		<i>Financial inclusion</i>	<i>Awareness</i>	<i>Usage</i>	<i>Quality</i>
<i>Correlations</i>					
Financial inclusion	Pearson correlation	1	0.714*	0.295*	0.631*
	Sig. (1-tailed)		0.000	0.000	0.000
	N	397	397	397	397
Awareness	Pearson correlation	0.714*	1	0.000	0.000
	Sig. (1-tailed)	0.000		0.500	0.500
	N	397	397	397	397
Usage	Pearson correlation	0.295*	0.000	1	0.000
	Sig. (1-tailed)	0.000	0.500		0.500
	N	397	397	397	397
Quality	Pearson correlation	0.631*	0.000	0.000	1
	Sig. (1-tailed)	0.000	0.500	0.500	
	N	397	397	397	397

Source: Researcher's computation using SPSS version 20.0 (2017)

\*Correlation is significant at the 0.01 level (1-tailed)

**Table 15.3** Model summary

<i>Model</i>	R	<i>R-squared</i>	<i>Adjusted R-squared</i>	<i>Std. error of the estimate</i>
1	0.998 <sup>a</sup>	0.995	0.995	

Source: Researcher's computation using SPSS version 20.0 (2017)

<sup>a</sup>Predictors: (constant), quality, usage, awareness

**Table 15.4** Regression coefficients

<i>Model</i>	<i>Unstandardized coefficients</i>		<i>Standardized coefficients</i>	T	<i>Sig.</i>
	B	<i>Std. error</i>	<i>Beta</i>		
<i>Coefficients<sup>a</sup></i>					
1 (Constant)	8.350	0.004		1942.831	0.000
Awareness	0.866	0.004	0.714	201.203	0.000
Usage	0.357	0.004	0.295	82.933	0.000
Quality	0.764	0.004	0.631	177.611	0.000

<sup>a</sup>Dependent variable: financial inclusion

in the independent variables by 1 will bring a corresponding increase in the dependent variables by a unit. Also, the analysis of Beta shows that Awareness influences financial inclusion by 71.4%, Quality by 63.1% and Usage by 29.5%. The findings from the study therefore reveal that there is a statistically significant relationship between awareness of Islamic micro-finance, usage and quality of products and services of TMBL and financial inclusion among the customers of TMBL.

## 15.5 CONCLUSION AND RECOMMENDATIONS

The study examines the role of Islamic microfinance in enhancing access to and use of financial services, in particular, banking products and services, among the customers of Tijarah Microfinance Bank operating in Bauchi State, Nigeria. The main problem identified by the study centred on the fact that regardless of the success of conventional microfinance in providing financial access, a segment of the society are significantly excluded from access to finance. And that this could be attributable to their uniform operational approach and lack of giving due regard to the cultural and social peculiarities of the target customers, such as prohibition of interest for Muslims. And that this singular peculiarity could severely hamper accessibility and usage of financial services, thereby thwarting financial inclusion efforts. However, the entry of Tijarah Microfinance Bank provides an insight as to the positive role of Islamic microfinance to enhance financial inclusion.

Consequent upon the aforementioned, the study concludes that Islamic microfinance has a significant role for enhancing financial inclusion among the customers of Tijarah Microfinance Bank. This indicates the positive potential of Islamic microfinance to provide an alternative avenue to enhance financial inclusion possibly to a larger segment of the society as the customers of Tijarah Microfinance Bank were found to be diverse in terms of demographic indicators such as gender, age, marital status, education and employment.

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