Edited by
Muhamed Zulkhibri
Turkhan Ali Abdul Manap

Islamic Finance, Risk-Sharing and Macroeconomic Stability

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Muhamed Zulkhibri · Turkhan Ali
Abdul Manap
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Editors
Muhamed Zulkhibri
Islamic Research and Training Institute
Islamic Development Bank
Jeddah, Saudi Arabia

Turkhan Ali Abdul Manap
Islamic Research and Training Institute
Islamic Development Bank
Jeddah, Saudi Arabia

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Preface

The global crisis of 2007–2009 has clearly demonstrated the fallacies and inadequacies of the prevailing financial system and has made policymakers and regulators to rethinking the institutional framework for overseeing the stability of financial systems. Islamic finance underpinned by risk-sharing, real business activity and governance principles has offered itself as a possible alternative solution. Over the last decades, Islamic finance has experienced considerable expansion all over the world. It is promising for Islamic finance to become an integral component of the international financial system. The principles of Islamic economics and finance also promote the well-being of a society, where every individual and organization commits to justice, equity and freedom. Moreover, the risk-sharing principles in Islamic finance may contribute to improving macroeconomic stability. Islamic economics and finance offer an alternative form of financial contracts to support a stable environment for the economy.

This book provides original works and new insights covering the theoretical and empirical issues related to the Islamic financial system, risk-sharing mechanism and macroeconomic stability. In a nutshell, this book addresses some critical issues such as the ideal economic system to allocate economic resources from Islamic perspectives, the market and non-market mechanism and Islamic approach of distribution or redistribution of wealth for economic justice. Most of the contributed studies in this book have been presented and discussed in the IRTI-KAZGUU Research Workshop on "Islamic Finance, Risk-sharing and Macroeconomic Stability: Issues and

Challenges", which was jointly organized by Islamic Research and Training Institute, Islamic Development Bank and KAZGUU University in Astana, Kazakhstan.

We believe that the topic of *Islamic Finance, Risk-Sharing and Macroeconomic Stability* is a subject of great importance for policymakers, academics and practitioners. This book will contribute to contemporary Islamic finance debates, i.e. Islamic finance contribution towards sustainable development in Muslim and non-Muslim countries. Moreover, we hope this book will contribute to furthering the frontier of knowledge pertaining to Islamic economics and finance as well as providing new insights to the various stakeholders and policymakers around the world. We would like to take this opportunity to extend our deepest gratitude academic reviewers as well as those who have provided important contributions and rendered their support for making publication of this book a reality.

Jeddah, Saudi Arabia

Muhamed Zulkhibri
Turkhan Ali Abdul Manap

Contents

List of Contributors

Turkhan Ali Abdul Manap Islamic Research and Training Institute, Islamic Development Bank, Jeddah, Saudi Arabia

Adewale Abideen Adeyemi Institute of Islamic Banking and Finance, International Islamic University Malaysia, Gombak, Malaysia

Azam Ali Policy Division, Islamic Banking Department, State Bank of Pakistan, Karachi, Pakistan

Laily Dwi Arsyianti Bogor Agricultural University, Bogor, Indonesia

Necati Aydin Alfaisal University, Riyadh, Saudi Arabia

Obiyathulla Ismath Bacha International Centre for Education in Islamic Finance, Kuala Lumpur, Malaysia

Mehdi Hadian Department of Economics, Monetary and Banking Research Institute, Central Bank of the Islamic Republic of Iran, Tehran, Iran

Asyraf Abdul Halim Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur, Malaysia

Md. Thowhidul Islam International Islamic University Chittagong, Chittagong, Bangladesh

Salina Kassim Institute of Islamic Banking and Finance, International Islamic University Malaysia, Gombak, Malaysia

M. Khaleequzzaman School of Islamic Banking & Finance, International Islamic University, Islamabad, Pakistan

Tanveer Kishwar Jinnah University for Women, Karachi, Pakistan

Siti Muawanah Lajis Islamic Banking and Takaful Department, Bank Negara Malaysia, Kuala Lumpur, Malaysia

Ummer Farooque Musliyar Kurunkatil Markaz Garden Group of Institutions, Calicut, Kerala, India

Abdussalam Ismail Onagun International Centre of Islamic Economics, Dubai Airport Freezone, Dubai, United Arab Emirates; Advisory Council of Experts, Noor Takaful, Abuja, Nigeria

A. Rashid International Institute of Islamic Economics, International Islamic University, Islamabad, Pakistan

M. A. Rehman Shah Basic Sciences and Humanities Department, University of Engineering and Technology, Taxila, Pakistan

Mohd Edil Abd Sukor Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur, Malaysia

Muhamed Zulkhibri Islamic Research and Training Institute, Islamic Development Bank, Jeddah, Saudi Arabia

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CHAPTER 1

Introduction

Muhamed Zulkhibri and Turkhan Ali Abdul Manap

1.1 Overview

The framework under which macroeconomic policies can be formulated to create a stable economic environment is yet to be addressed. Meanwhile, many important and tenacious questions regarding the relationship between Islamic finance, risk-sharing and macroeconomic stability remain unanswered. This book provides original works and provoking ideas covering the theoretical and empirical issues related to the Islamic financial system, risk-sharing mechanism and macroeconomic stability. It highlights the new contribution of Islamic economics and finance towards economic development and macroeconomic stability. It also discusses the issues and challenges in practice, specifically in terms of their effect on growth, economic stability and economic shocks. In the nutshell, this book addresses some critical issues such as the ideal economic system to allocate economic resources from Islamic perspectives, the view of Islam on market and non-market

M. Zulkhibri (✉) · T. A. Abdul Manap
Islamic Research and Training Institute,
Islamic Development Bank, Jeddah, Saudi Arabia
e-mail: mzulkhibri@isdb.org

T. A. Abdul Manap
e-mail: turkhanali@isdb.org

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mechanism and Islamic approach of distribution or redistribution of wealth for economic justice. On the theoretical fronts, the book compares Islamic economics vis-à-vis mainstream economics, i.e. neoclassical economic and other school of economic thoughts as well as discusses the appropriate rate of return as opposed to interest rate as an equilibrating mechanism of supply and. Finally, the book outlines some major challenges for implementing risk-sharing finance in a dual banking system.

In Part I, Chapter 2 of this book, Aydin discusses the compatibility of capitalism and Islamic economics and finance. He expands the existing arguments for Islamic economics and finance from social justice, equality, morality and *riba*-free system points of view to the need for a new economic paradigm. Chapter 3 by Islam analyses the *Shari'ah* as the principal source of Islamic banking which includes the study of the sources of *Shari'ah*, *Maqasid-al-Shari'ah*, concept of ownership in Islam and distribution of wealth in Islam. In Part II, Chapter 4 by Halim et al. investigate whether the Malaysian *Shari'ah*-compliant firm's capital structure variation exhibits a market timing behaviour as well as the effects of the other dynamic forces behind capital structure variation. Chapter 5 by Onagun studies the regulation of capital adequacy requirements proposed by IFSB and compares it with Basel standards for commercial banks. Chapter 6 by Hadian proposes nominal GDP targeting (NGDPT) regime as an efficient monetary policy framework, which is also consistent with Islamic economics.

In Part III, Shah et al. (Chapter 7) explore the determinants of financial leverage in the Islamic banking industry of Pakistan. Chapter 8 by Manap estimates the systemic contribution of Malaysian listed banks (Islamic and conventional) and measures an individual bank's contribution to systemic risk. Chapter 9 by Ali et al. examines the relationship between credit risk and performance of Islamic banks in Pakistan using bank-specific characteristics. In Part IV, Arsyianti et al. (Chapter 10) examine low-income households' perspective on regular charity-giving behaviour using theory of social production function and theory of planned behaviour. Chapter 11 by Kurunkatil addresses the issues of Islamic financial system to tackle financial exclusion and promote resilience in minority Muslim countries like India. Finally, Chapter 12 by Lajis considers the misconceptions of risk-sharing and the reasons risk-sharing should be the business model for contemporary Islamic finance.

1.2 The Nature of Islamic Economics and Macroeconomic Stability

Islamic economics is a scientific body of knowledge in that it admits the use of reason and analogy to establish 'causality' of relationships. In fact, the *Quran* does not shun rationality, where the scripture contains many statements about positivism. Based on religion, Islamic economics has a necessity of a dominant normative aspect. Since Islam prescribes a way of living in this world, it avoids idle theorizing. Principles of Islamic economics are essentially the principles of economic policy. The subject holds both positive and normative contents and prescribes programmes to achieve Islamic ends. In this context, it is suggested that mainstream economics is value neutral, while Islamic economics is value based. Values are implicit in their basic assumptions—freedom of enterprise, private ownership of property, market arbitration, competition, non-intervention and so on. These assumptions exist because of social approval and can also be changed or modified through a social agreement. In Islamic economics, values are God ordained; human beings can convey them with limited interpretive flexibility; they cannot abolish or replace them. Thus, both economic disciplines have values; the difference lies in their source and the extent of human discretion in the matter. Hence, Islamic economics does make a difference.

The modern and post-modern streams have encircled Islamic economics such that Islamic economics does not allow differences in theory making and universalize itself through proposing its peculiar centricity and rationality assumptions, which methodologically does not differ from the mainstream economics. It takes nourishments from Eurocentrism and Western rationality—rejecting heterodox economic schools. The current state of the Islamic economics is to what Kuhn would have termed as 'pre-paradigm', and it is yet to establish itself as a distinct paradigm. Therefore, a paradigm shift was impossible. Islamic economics in its present state lacks a clear-cut subject matter, well-organized body of knowledge, methodology to appraise theories and systematic accumulation of knowledge.

Islamic economics and finance have attracted some attention as a possible alternative paradigm. However, Aydin (Chapter 2) argues that after few decades of its development, Islamic economics is still in its early stage. It is also not clear whether it would be an old (morally improved) capitalism or a new economic paradigm. Most literature on Islamic

economics in recent years is largely research about Islamic financial instruments and institutions. This gives an impression as if the main difference between conventional and Islamic economics is in the instrumental aspect, rather than fundamental. Similarly, Islam (Chapter 3) proposes to revisit the understandings of *Shari'ah* as the foundation of Islamic banking. The Islamic financial system, therefore, cannot be implemented by only eliminating *riba*, but by adopting the Islamic principles of social justice, equity and fairness. Nevertheless, both authors conclude that if Islamic economics would offer an alternative paradigm, it has to contradict with the existing ones.

1.3 Islamic Bank Capital and Financial Regulation

Given the ambiguity and impreciseness associated with defining financial stability, most authors associated the loss of stability with excessive risk, crisis and negative externalities (Gadanecz and Jayaram 2009; Agenor et al. 2013). Hence, attempting to clearly define what financial instability is, it has to look into its driving sources and identify when the financial system is losing its stability and function in a way that adversely impacts economic conditions. Houben et al. (2004) suggest that both macro- and micro-theoretical approaches can explain the reasons behind the occurrence of financial instability. In the macroeconomic approach, two key drives are thought to trigger instability. These are intense fluctuations in prices and over-leveraging in the economy. Hence, it becomes clearer that for the financial system to function well and promote further growth in the economy, it needs to maintain stability.

The issue capital of Islamic financial institutions becomes more relevant given the above situations. However, when the scope is narrowed to a specific treatment of Islamic banking operations, the issue in question appears to be of relevance in the case of equity relationships created by the bank on *Musharakah* and *Mudarabah* contracts. The *Shari'ah* perspective of capital in the equity financing could differ based on the Islamic mode employed, which appears to be more often in the case of *Musharakah*, either partially or in totality. Schools of Islamic law agree on the fundamental issue that, for the validity of all capital-based partnerships as well as *Mudarabah*, the capital should necessarily be existent and available, although there is a difference of opinion regarding the details of transaction. Therefore, a debt does not qualify as capital, nor does wealth that is absent or is not under the control of the partners.

In the context of Islamic banks' capital in Malaysia, Halim et al. (Chapter 4) suggest that the Market Timing Theory and Pecking Order Behavior may not play a significant role in determining *Shari'ah*-compliant firm's capital structure behaviour. However, the findings may indicate that the Trade-Off Theory plays a dominant role in *Shari'ah*-compliant firm's capital structure. In the case of the United Arab Emirates (UAE), Onagun shows that capital adequacy ratio (CAR) serves as an important purpose to promote stability and efficiency in the UAE's financial system. However, since the Islamic and conventional banks are somewhat different in terms of the nature of their operations, the Basel II framework for the measurement of the risk-weighted assets is not compatible and does not address the risks relevant to the nature of the Islamic banks' operation and activities. On the other hand, Hadian (Chapter 6) finds that NGDPT regime provides more stability to output. NGDPT is associated with the lowest volatilities of benchmark rate, which leads to a substantial reduction in output fluctuations as a robust feature of NGDPT. Therefore, NGDPT distributes the risk of real sector activities and supports the stabilizing feature of PLS principles in Islamic economics.

1.4 Financial Leverage and Risk-Sharing in Islamic Banking

Islamic financial industry as a part of the global financial system requires a standardized and internationally recognized set of regulations. Many countries have tried to develop their own regulatory framework applied to the Islamic banking operation alongside the conventional counterpart. The development of Islamic financial industry may vary from one country to others since they must accommodate its operational characteristics resulting from different interpretations of *Shari'ah* issues. One country may have a set of permissible products, which may not be acceptable to other countries. That has been the main reason for having a number of international initiatives seeking for a higher level of compatibility of the Islamic financial operation and eventually the international regulatory framework. An international initiative has established a number of international institutions to help the industry achieve a higher level of regulatory convergence. There are AAOIFI, IFSB, IIFM and IILM, all dealing with accounting standard, prudential regulations, financial product development and liquidity market development, respectively.

The determinants of financial leverage have been investigated by several researchers. However, there is no unifying theory of financial leverage particularly for Islamic banks, even after decades of serious research, which leaves the topic of financial leverage open for further research. Financial leverage is basically a mix of a company's debt and equity that it uses to finance its assets. In the case of Islamic banks in Pakistan, Shah et al. (Chapter 7) argue that bank-specific variables, namely bank size tangibility, and growth are positively related to the financial leverage decisions of Islamic banking industry, whereas the profitability of banks, liquidity and the CAR is negatively related to the financial leverage decisions. The results also suggest that non-debt tax shield (NDTS) does not have a significant impact on Islamic banks' financial leverage decisions.

Although there is no consensus regarding the concept of financial stability and systemic risk, the manifestation of systemic risk during the recent global financial crisis indicates that the financial safety net and the size of financial institutions were significantly underestimated. Manap (Chapter 8) provides the estimates of systemic risk within the Malaysian banking sector with particular attention to Islamic bank by including Islamic bank in the analysis. The findings point to the facts that Bank Islam Berhad is the largest contributor to the banking sector's systemic risk. The results are some sort of surprising because Bank Islam Berhad is the smallest bank in terms of asset size in the sample. The findings also indicate that the contribution of banks to other bank's risk is linked to the size of the banks, with the larger banks contributing more than the smaller ones to other banks, but this result does not apply to the banking system. Similarly, Ali et al. (Chapter 9) find that the causes of credit risk may include components of credit assets, which is dependent on bank-specific factors. Moreover, the results also suggest that the credit risk of bank-specific variables lowers bank profitability. Therefore, the results support the statement that 'credit risk is negatively related to bank performance' in the case of banking sector in Pakistan.

1.5 Islamic Finance for Socioeconomic Development

Financial exclusion refers to 'a process whereby people encounter difficulties accessing and/or using financial services and products in the mainstream market that are appropriate to their needs and enable them to lead a normal social life in the society in which they belong'

(European Commission 2008, p. 9). Financial exclusion does not exclusively refer to being denied access to financial services, as it may also refer to excluding oneself from using a financial product due to its inappropriate features or conditions (Kempson and Whyley 1999). A study by Kurunkatil (Chapter 11) provides some evidences of the role of Islamic finance in addressing the issues of financial exclusion in the minority Muslim countries, like India, through a set of questionnaires. The study suggests that Islamic finance system is preferred by those who do not have good employment, particularly Muslims and those who are poor.

Arsyianti et al. (Chapter 10) study low-income households' perspective on regular charity-giving behaviour in Indonesia. They show that subjective norm has a weakness in its influence towards regular charity-giving behaviour, which is indicated by a negative error variance on its initial model. Informal financing institution affects regular charity-giving behaviour (indirectly) negatively through attitude and perceived behavioural control. Meanwhile, financial education is proven to be positively affecting the behaviour of giving charity regularly indirectly through perceived behavioural control (experiences) if subjective norm (other important parties perceived by respondents) is included, but negatively affects the behaviour if subjective norm is excluded. The regular charity-giving behaviour, eventually, positively affects financial ratios and satisfaction in lifestyle.

Finally, Lajis (Chapter 12) provides interesting debates on the adoption of risk-sharing mechanism in Islamic finance. The paper highlighted the challenges in operationalizing risk-sharing and recommends for the development of technology-enabled virtual marketplace as a means to facilitate the adoption of risk-sharing concept. To pave the way for further research on the wider application of risk-sharing in Islamic finance, the study recommends for the development of technology-enabled virtual marketplace as a means to facilitate the adoption of risk-sharing concept taking into account the low level of trust in the society. To this end, the study proposes for the development of digital platform/marketplace as the delivery channel for risk-sharing-based financial intermediation, social finance, trade finance and discretionary mutual takaful.

1.6 Conclusion

It is important to note that despite few decades of works, scholars of Islamic economics are still at the beginning of a long path to go in order to present Islamic economics as a new economic paradigm. Islamic

economics is not merely theology, it is a social science. Islamic economists should be able to identify any differences between Islamic economics and its counterparts. Furthermore, scholars should be able to appreciate the flexibility of the *Shari'ah* in responding to changes in social dynamism. Islamic economics may survive, but it is likely to be increasingly subsumed by the conventional.

In moving the Islamic financial industry to the next level, it is required to further develop the international regulatory standards. In most instances, the industry may still use the existing regulatory framework wherever it is still relevant. The development of the regulatory standards needs to also involve the conventional counterparts to build up a mutual understanding between the two systems. The development of appropriate tools for complementing the existing assessment framework is also needed since the assessment process should cover the whole financial system including the conventional and the Islamic.

References

Agenor, P., Alper, K., & da Silva, L. P. (2013). Capital Regulation, Monetary Policy and Financial Stability. *International Journal of Central Banking*, 9(3), 190–237.

European Commission. (2008). *Financial Services Provision and Prevention of Financial Exclusion*. Brussel: European Commission.

Gadanecz, B., & Jayaram, K. (2009). Measures of Financial Stability: A Review. *IFC Bulletin No. 31*, Proceedings of the IFC Conference on Measuring Financial Innovation and Its Impact. Basel: Bank for International Settlements, 365–380.

Houben, A., Kakes, J., & Schinasi, G. (2004). Towards a Framework for Safeguarding Financial Stability. *IMF Working Paper No. 04/101*. Washington, DC: International Monetary Fund.

Kempson, E., & Whyley, C. (1999). *Kept Out or Opted Out? Understanding and Combating Financial Exclusion*. Bristol: The Policy Press.

PART I

The Nature of Islamic Economics and Macroeconomic Stability

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CHAPTER 2

Islamic Economics: "New Paradigm" or "Old Capitalism"?

Necati Aydin

2.1 Introduction

Capitalism which started in Europe a few centuries ago has become the dominant economic system across the world since the fall of its rival economic system promoted by former Russia. The conventional financial system has grown within the capitalist framework. It is hard to imagine them separately. The story is not much different for Islamic finance which has flourished within the capitalist economic system in the last decade. Even though Islamic economics defines itself as an alternative to capitalist economics, Islamic finance is very much collaborative with capitalist finance.

Indeed, rather than dealing with foundational axioms which define Islamic finance, the overwhelming majority of studies focus on financial products to draw the line between conventional and Islamic finance. They try to offer *Shari'ah*-compliant financial instruments as an alternative to conventional capitalist ones without delving into the core paradigm in Islamic world view. They seem to be quite successful if the assessment was done according to the industrial growth in the last

N. Aydin (✉)
Alfaisal University, Riyadh, Saudi Arabia

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decade. However, the ultimate success of Islamic economics and finance will be determined by the compatibility of materialist/capitalist and Islamic values. In other words, even if Islamic finance becomes successful in terms of generating greater profit, it will be considered a failure if it derails people from the prophetic path.

For that matter, it is imperative to examine the compatibility of capitalism and Islamic economics and finance by asking the following questions: What are the fundamental paradigms behind capitalism and Islamic economics and finance? Are they compatible? How do they define human nature? What do they produce as the ultimate outcome? What values do they promote in society? This chapter attempts to answer these questions. This chapter also expands the existing arguments for Islamic economics and finance from social justice, equality, morality, and *riba*-free system points of view to the need for a new economic paradigm. After briefly discussing the paradigmatic differences between the two economic systems, the paper will discuss the key axioms of Islamic economics.

2.2 Redefining Islamic Economics and Finance

Islamic economics has been a key subject matter among diverse pool of Muslim scholars such as commentators of the *Quran*, jurists, historians, and social, political, and moral philosophers. In last few decades, discussions on Islamic economics have intensified. Muslim economists have been discussing the need for Islamic economics as a new discipline. Even though there is a great consensus among scholars that Islamic world view differs from its secular counterpart, "the debate on 'nature' of and 'need' for Islamic economics and finance as an alternative paradigm is not settled yet" (Iqbal et al. 2007, p. 4). Despite significant progress in the discussion, there is still argument even on the very definition of Islamic economics.

The distinctive features of Islamic economics come from the Islamic world view, particularly its ontological, epistemological, and teleological differences from the materialist world view. Therefore, it is important to highlight multidimensional well-being goals and morally guided market mechanism in definition: "Islamic economics foresees an economic system based on the Islamic worldview aiming to realize spiritual, moral, intellectual, social, and material well-beings of individuals in this life and

the hereafter through allocation and distribution of scarce resources in a morally guided market system". Thus, the answers to the core questions could be as follows: What to produce? Produce goods and services which help human beings to excel spiritually, intellectually, morally, and socially. What to produce? Produce the basic goods and services for everyone, but others for those who could afford. Accumulate spiritual, moral, and social capital in addition to physical and financial capital. How to produce? Produce through efficient and fair market mechanism. Likewise, Islamic financial instruments should be based on the *Tawhidi* paradigm. Their *Shari'ah* compatibility should not be defined only according to *riba*, haram, gambling, and speculation. Rather, they should be assessed based on their ultimate outcome in terms of their contribution to human moral, intellectual, and spiritual excellence.

2.3 Axiomatic Reasons for Islamic Economics and Finance to Be a "New Paradigm"

As discussed above, the difference between Islamic economics and free market capitalism is not limited to the prohibition of interest and haram activities. It is not instrumental; rather it is fundamental factors requiring Islamic economics to be a new economic paradigm. As Gregory and Stuart (1985) state "in order to distinguish one economic system from another, we need to focus on and compare their fundamental elements".[1] This section discusses ten axiomatic differences between the two.

2.3.1 Islamic Economics and Finance Pursue Different Goals as Ultimate End/Outcome

As well argued by Aristotle, the ultimate end or final good is what we should care about. For that matter, it is important to understand how the final good in Islamic economics differs from that of conventional one. Islamic economics offers God-centred (G-donic) happiness model, rather eudonic, or hedonic models. G-donic happiness model is based on the comprehensive understanding of human nature from the Islamic

[1] Gregory, P. R., & Stuart, R. C. (1985), *Comparative Economic Systems*, Houghton: Mifflin, p. 12.

perspective. Understanding and commanding our inner nature are very important in the pursuit of happiness. As Toynbee et al. (1946) argue that "the command over non-human nature, which science has in its gift, is of almost infinitely less importance to Man than his relations with himself, with his fellow man, and with God".[2] In fact, Toynbee goes to the extent of saying that "a crushing victory of science over religion would be disastrous for both parties, for reason as well as religion is one of the essential faculties of human nature".

From Islamic perspective, happiness is not a destination to reach. It is the experience while driving on the happiness highway. Happiness is the by-product of living according to the God's pleasure. We can define happiness as overall life satisfaction for the residents of the recreational vehicle (RV), while driving on the straight path (*siratul mustakim*). In other words, happiness is to drive the RV to under the collaborative command of the King (heart), Judge (conscience), and Wazir (mind). It is to drive towards excellence in sincere spiritual, intellectual, and moral intentions and actions. It is to keep the Elephant (animal soul), Dog (anger), and Showman (egoistic self) under the command of the King, Wazir, and Judge.

While the G-donic model provides guidance to nourish heart, mind, and intellect, it also highlights the danger of being slave to the animal soul, ego, and anger. It warns people that if not trained, the elephant, showman, and dog will dominate the RV and urge for certain irrational actions despite any objection from the King, Wazir, and the Judge. The G-donic model provides nourishment for the King who has the capacity for love, compassion, and inspiration. It guides people on how to find authentic and lasting love in life for the fulfilment of the King. It discusses the role of loving mates, children, friends and jobs in the pursuit of happiness. The G-donic model notes that the inner Judge (conscience) always makes judgement about what we do to others. If we treat someone unfairly, he causes us to be aware of this injustice and feel guilty for being unfair. If we treat others fairly, we receive spiritual pleasure experienced through the fulfilment of the Judge. The G-donic model presents the food station for the Wazir who is thirsty for knowledge and meaning. Finding meaning in life is very important for the Wazir because as the navigator, he needs to know where to go. Life without meaning

[2] Toynbee et al. (1946, p. 99).

is like driving without knowing the destination. The G-donic model also offers a guide on how to keep the animal soul, showman, and god under control. It suggests moderation in consumption and warns about the poisons present in some food. It makes some recommendations for pleasure maximization under restraints of the "law of diminishing marginal utility", "adaption principle", and the "hedonic treadmill".

2.3.2 Wealth Is "Preferred Indifference" for Islamic (G-Donic) Happiness Model

In the G-donic model, it is necessary to have basic means for nurturing the body and soul. However, it is not necessary to be wealthy even though there is nothing wrong to be so.[3] For that matter, wealth is "preferred indifference". In other words, for the desired outcome of life, wealth is not necessary because it is just a means. As it is stated by the Prophet (pbuh), at the end what really matters is the deeds: "Certainly God looks not at your faces or your wealth; instead He looks at your heart and your deeds".[4]

If it is available, wealth might be desired because it provides certain convenience in this life. Of course, one could argue for the importance of wealth particularly at this time to help people learning and pursuing sincere and virtuous deeds. We are talking about wealth as means for convenient worldly life. For instance, working to be rich and live a virtuous and sincere life is possible. Abdurrahman bin Auf, a companion of the Prophet, was very rich before becoming Muslim. He kept doing business and earning enormous amount of wealth even after converting to Muslim. He was one of ten companions who had been told by the Prophet that they would go to the paradise. This means that wealth is not obstacle for the best outcome in life. However, it is important to note that Abdurrahman bin Auf did not want and use wealth mainly for his personal convenience. He used for himself and his fellows to flourish in moral, spiritual, and social aspects.

Ibn al-Qayyim says since the life is a test and trial, it does not matter whether the questions come through the form of poorness and wealth. As the possession of wealth is not a sign of God's favour, the lack of

[3]Wealth is defined in Merriam Webster dictionary as "An abundance of valuable material possessions or resources".

[4]Muslim (1987, vol. 4, p. 34).

wealth is also not the sign of His disfavour.[5] In other words, the goal in life is not be rich, rather it is to live a virtuous and sincere life to earn God's pleasure. According to Ibn al-Qayyim, wealth is preferable provided that it accompanies thanksgiving to Allah and help to fulfil one's duties and obligations towards fellow human beings.[6]

Another reason for wealth being preferred indifference is the ability of achieving high level of happiness in this life even without wealth. For instance, according to Al-Ghazali, happiness is a skill of making gold from chemicals. Therefore, the happy person is the one who knows the alchemy of making gold. Such a person does not need gold. He could make gold whenever he needs. He could turn everything into gold. Even if he is in prison, he could establish a palace for himself and live happy life. If a person "retain the alchemy of happiness with him, he would get out of the status of the animals and reach the stature of the angels. But if he comes a prey to the world and the worldly desires, the dogs and the swine would be better than him, because they would be dissipated but the man would remain submerged in *Azab* (the punishment)" (Gaz, p. 47). Nursi agrees with Al-Ghazali. He would argue that the alchemist is the one with real and verified belief in God. Since God is All-Present, All-Powerful, Most Merciful, Most Kind, the one who establishes relationship with God could get whatever he wants and needs. Furthermore, God as described in the *Quran* is the sole power over everything. Therefore, Nursi considered himself perfectly happy even when he was in prison.

2.3.3 Islamic Economics Is Not Based on Self-Interest Alone

In my view, "self-interest" in conventional economics consists of two key elements of human nature. "Self" refers to "ego (the showman)" and "interest" refers to the desires of "animal spirits (the elephant)". According to Adam Smith (1976), the market mechanism determines what and how much to produce if we simply let everyone act based on his or her "self-interest". Individuals will demand and supply the optimum amount of goods and services to boost their ego and fulfil the

[5] Islahi, A. (1984), *Economic Thought of Ibn Al-Qayyim*, International Centre for Research in Islamic Economics, p. 2.

[6] Islahi, A. (1984), *Economic Thought of Ibn Al-Qayyim*, International Centre for Research in Islamic Economics, p. 4.

desires of their animal spirits. Thus, supply and demand driven by self (ego) and (animal spirits') interest work like an invisible hand pushing the market mechanism towards an efficient production and consumption. From an Islamic perspective, we could talk about different interests, not just one single interest (self-interest) due to its comprehensive understanding of human nature. What is called self-interest in capitalist free market economy includes only the interests of animal soul (elephant) and ego (showman). Islamic world view cares about the intellectual, spiritual, moral, and social interests more than animal and egoistic interests. Indeed, it suggests controlling animal and egoistic interests if they are in conflict with other interests.

The rational "economic man" of capitalist system is urged to freely pursue his self-interest. "Individual self-interest in turn became identified with the maximization of wealth and want satisfaction, independent of its impact on the well-being of others".[7] Chapra (1996) argues that it is Adam Smith first equating self and social interests by arguing the pursuit of self-interest in a competitive market serves best to the well-being of the whole society. Indeed, since the late nineteenth century, the dominant assumption in conventional economics is the following: "human beings are essentially utility-maximizing creatures whose pursuit of individual self-interest somehow yields mutually beneficial outcomes and produces both personal and collective welfare" (Pabst, p. 1).[8]

The capitalist system considers the distribution through free market system as the best way to use scarce resources efficiently, therefore, it "gave little attention to redistribution in the sense of reaching a certain level of social justice and equity".[9] The socialist system considers free market capitalism as exploitative and unjust but offers central planning as an alternative solution for social justice and equity. Al-Jarhi and Zarqa argue that Islamic economics provides optimum balance between self and social interests, while dealing with exploitation and injustice in free markets

[7] Chapra, U. (1996), *What Is Islamic Economics*, IDB Prize Winner Lecture Series No. 9. Jeddah: Islamic Research and Training Institute.

[8] Pabst, A. (2011), *Beyond Well-Being and Happiness: The Moral Market and the 'Good Life'*, Presented at the Conference on Market and Happiness, Universita Milano, June 8–9, 2011.

[9] Al-Jarhi, M. A., & Zarqa, M. A. (2007), Redistributive Justice in a Developed Economy: An Islamic Perspective, in *Advance in Islamic Economics and Finance, Volume I, Proceedings of 6th International Conference on Islamic Economics and Finance*, Islamic Research and Training Institute, Jeddah, p. 44.

through its moral and justice principles.[10] In their views, it is not possible to redistribute wealth in free market capitalism due to the fear of efficiency loss. They think Islamic economics requires redistribution in favour of the least.

Islamic economics gives high priority to the fulfilment of basic needs for everyone. Any person who fills his stomach while his neighbour is hungry is not a true Muslim.[11] This Hadith clearly sets social responsibility to eradicate poverty. The fulfilment of the fundamental needs is necessary condition for the success of God's human project. According to Al-Ghazali, the basic needs are three, food, cloth, and shelter. The *maqasid* al-*Shari'ah* is defined by many Muslim scholars based on the *Quran* and the Hadith. Al-Ghazali outlines the objective of the *Shari'ah* as the promotion of "the well-being of the people, which lies in safeguarding their faith (*dīn*), their self (*nafs*), their intellect (*'aql*), their offspring (*nasl*), and their wealth (*mal*). Whatever ensures the safeguard of these five serves public interest and is desirable, and whatever hurts them is against public interest and its removal is desirable".[12]

As explained in the next section, helping others does not necessarily result in the decline of well-being for the helper. From the anthropological perspective of Islam, those who help others help themselves in both this world and in the hereafter. This is because of comprehensive nature of human being, which enjoys acts of compassion and fairness.

2.3.4 Islamic Economics Values Social, Moral, and Spiritual Capitals

Due to its understanding of human nature, Islamic economics includes moral and spiritual capital in the list of resources needed for individual and societal well-being. In other words, from an Islamic perspective,

[10] Al-Jarhi, M. A., & Zarqa, M. A. (2007), Redistributive Justice in a Developed Economy: An Islamic Perspective, in *Advance in Islamic Economics and Finance, Volume I, Proceedings of 6th International Conference on Islamic Economics and Finance*, Islamic Research and Training Institute, Jeddah, pp. 43–68.

[11] Al-Bukhari, *Al-Adab al-Mufrad*, p. 52, No. 112.

[12] Al-Ghazali, *al-Mustasfā min 'ilm al-uṣūl*, 1937, Vol. 1, al-Maktabah al-Tijārīyah al-Kubrā, pp. 139–140, quoted from the following study: Chapra, U. (2008), *The Islamic Vision of Development in the Light of the Maqasid Al-Shari'ah*, Islamic Research and Training Institute, Jeddah, p. 5.

human is not just animal with higher thinking ability. Human has multiple dimensions including intellectual, moral, and spiritual ones. Therefore, moral and spiritual values are as important as physical resources in the goal of fulfilling the needs and desires of humans. From this perspective, ignoring moral and spiritual needs would have economic consequences as seen in the recent crisis.

According to Al-Ghazali, intellectual and spiritual nourishment, particularly the knowledge and belief in God, are necessary food for human happiness. Those who lost their desire for such food and pursue sensual and egoistic pleasure resemble "a sick person who has lost his appetite and instead of having a regular meal wants to eat dust …. Such wretched persons are sure to die. Also, since all the desires and the components of their satiation emanate from the body, hence these desires and their sensations will cease to exist as soon as he dies. As such, all his hard work and labour for the fulfilment of these desires will be wasted away. The ecstasy of the *Marafat* of Allah is related to the heart and engrained in it, hence it does not die, rather it is doubled after the death of the man".[13]

Al-Ghazali also claims that spiritual pleasures are the most supreme among all other pleasures. He again makes his argument from anthropological perspective. According to Al-Ghazali, human being is created with a certain nature search for the truth. He likes to know about the reality of things he is interested in. "When he comes to know it, he feels really happy and proud of it. For example, if one likes to learn to play chess. It may perhaps not be in his interest to do so but he feels highly pleased and proud when he learns to do so". The more the object of interest is desired, the more pleasure will be experienced in learning about it. "Hence, since Allah is the most supreme of all things and the grand emperor of all kingdoms of the universe, all beauty and beneficence emanate from Him. The wonders of all the worlds are on account of Him. Hence, obviously the '*Marafat*' of other thing than of Him can be more pious and more blissful to the heart. The thought of His '*Deedar*' surpasses everything coveted".[14]

[13] Ghazali, p. 40.

[14] Ghazali, pp. 39–40.

2.3.5 *Islamic Economics Offers Moral and Spiritual Filters*

Islam is not against free market system as long as it functions under certain spiritual and moral filters. There are several reasons for the conformity of free market system with Islamic economics. First, private ownership is the main pillar of free market system. Second, price is determined by demand and supply in the free market. If morally guided, free market system is efficient tool for well-being of individuals and society. Third, profit motive is recognized by Islam. Indeed, the prophet of Islam himself was a businessman. People are allowed to buy and sell in market for making profit as long as they avoid any form of cheating and fraud. This is because profit is a great incentive for people in terms of using scarce resources efficiently. Asutay (2007) states that "market exchange is the main feature of economic operation in the Islamic system; however, this system is filtered through an Islamic process that produces a socially concerned environmentally friendly system".

Islamic economics does not reject the right of private property as done by communism nor does it prevent individuals from pursuing their self-interest through free market economy. However, it provides moral and spiritual filters in addition to market filter.[15] Moral filter aims to shape human preferences and tastes before being exposed to the price filter. For instance, morally guided consumers would not demand wasteful and unnecessary products. They would not ask for spiritually and physically harmful goods and services. Chapra (1996) urges that the moral filter needed because "harmony does not necessarily exist between self-interest and social interest, as erroneously assumed by conventional economics. The moral filter tries to create such harmony by changing individual preferences in accordance with social priorities and eliminating or minimizing the use of resources for purposes that do not contribute to the realization of normative goals".

Schweitzer, a Nobel Laureate, has rightly emphasized that "if ethical foundation is lacking then civilization collapses even when in other directions creative efforts of the strongest nature are at work".[16] Therefore,

[15]The following verse clearly states the boundary set by God: "O you who believe! Do not hold as unlawful the pure, wholesome things that God has made lawful to you, and do not exceed the bounds (either by making forbidden what is lawful, or by over-indulgence in the lawful). God does not love those who exceed the bounds" (*Quran* 5:87).

[16]Schweitzer, A. (1949, p. xii).

according to him, "moral control over men's disposition is much more important than control over nature".[17]

Aydin (2011) argues that the 2008 financial crisis was essentially a moral crisis of capitalism with its root going back as far as the Enlightenment. He forcibly asserts that during the crisis, the "invisible hand" of free market turned to "stealing hand" through market games driven by the irrational and irresponsible behaviours of politicians, creditors, and consumers. He concludes with that "As the Great Depression revealed the imperfection of free market economy and forced economists to redefine the role for government, the 2008 financial crisis also revealed the predictable irrational and immoral aspects of individuals and forced us to acknowledge the need for moral values for efficient market system" (Aydin 2011). Chapra (1979) also points to the important role of government in bringing morality to market: "unless there are moral checks on individuals accompanied by effective regulations by a morally oriented government, competition may not necessarily eliminate the inefficient, reward socially useful behaviour, enforce social and economic justice and foster an equitable distribution of income".[18]

As explained before, human nature consists of several competing elements. From Islamic point of view, it is not right to assume that human beings follow their minds and choose whatever they think is good for them. The animal soul, ego, and anger are not checked, a person could do injustice to others for his/her own benefits/pleasures. The understanding of laissez-faire from the secular perspective does not leave any room for moral sentiments in preference formation. However, if the Islamic perspective on human nature is true, then, freedom does not mean only to be free from external oppressors, it would also mean to gain freedom from the internal ones. As constitutional laws protect human freedom from external aggressors, moral and spiritual laws (filters) should protect human freedom from internal aggressors such as animal soul and ego.

Islamic economics perceives spiritual and intellectual pleasure as the highest kind of pleasure. Therefore, it guides individuals towards spiritual pleasure rather than sensual pleasures. Thus, the spiritual filter takes precedence over the market filter in shaping preferences. According

[17]Schweitzer, A. (1949), *The Philosophy of Civilization*, New York: Macmillan, pp. 76 and 92–93.

[18]Chapra, U. (1979), *Objectives of the Islamic Economic Order*, p. 26.

to Al-Ghazali, the contentment of the heart is possible through the knowledge, belief, and remembrance of Allah. The spiritual pleasure is greater than any bodily pleasure. For every faculty of human being, there is certain duty. Their pleasure is within their fulfilment according to their nature. "For instance, the pleasure of eyes from beautiful things is greater than the pleasure of nose from nice scent. Similarly, within the heart of human, there is a faculty called our intellect. This is an ability to understand what is beyond sighting and hearing. The nature of intellectual power is to comprehend the unknown by eyes and ears. Its pleasure is in with its fulfilment in this way. The pleasure of heart is greater than the pleasure of body and senses. The evidence for this is the following: a person who plays chess might not eat anything for the whole day while playing. If he is told to give up playing and eat, he would reject it. This means that playing chess could give pleasure greater than the pleasure of eating. This is clear from the player's preference. The evidence for greater pleasure between two things becomes clear when they both are offered to a person. A rational person would choose whatever provides greater pleasure" (Al-Ghazali, s. 917–919). If a person is offered the choice of delicious food or conquering enemy and becoming king, he would choose the latter. This means that the pleasure of honour is greater than the pleasure of eating. Likewise, pleasure of learning is greater than other pleasures. The highest knowledge is the knowledge about Allah (*marifatullah*). The highest pleasure lies in gaining such knowledge. According to Al-Ghazali, the pleasure of *marifatullah* is even greater than sensual pleasure of paradise.

2.3.6 Islamic Economics Eliminates Duality in Favour of Spirituality

Materialist world view denies spiritual reality while moralist paradigm separates spiritual and material reality and creates duality. The Islamic world view rejects duality in favour of spirituality. There is no duality in Islam in terms of materialist and spiritual domains. All human efforts are considered spiritual as long as they are done within the value system of Islam. They are directly or directly serving to the *maqasid* al-*Shari'ah*. Working for livelihood is a form of worship as long as it is done to support a moral life. Likewise, spending for family member is considered charity. For that matter, the whole life of a believer has spiritual outcome if it is spent within the moral and spiritual guidance of the *Quran* and

the *Sunnah*. Ideal behaviour does not mean pursuing spiritual interest at the expense of material interest. It means to pursue the interest of all elements of human nature in balanced and harmonious manners.

Max Weber argues that "Protestant ethics" is the spirit of capitalism because it unites material and spiritual dimensions. He claims that capitalism emerged when the Protestant ethic influenced people to consider work as a moral duty, rather than secular acts. Affected by reformation, large number of people in Northern Europe engaged in business development, trade, and accumulation of wealth through investment. In other words, Protestant ethics (particularly Calvinism) eliminated the dichotomy of Orthodox Christianity in terms of secular and religious dimensions of life. People began considering working for this life as sacred as working for the hereafter. That is why, according to Weber, capitalism emerged in Christian Europe, rather than Buddhist China, or Muslim Middle East.

Weber was not accurate on his assessment of Islam. Indeed, from Islamic perspective, there is no dichotomy between this life and hereafter or secular and spiritual life. They are like two faces of same coin. Therefore, there is no need to separate life into secular and spiritual domains. A Muslim who adheres to the *Quranic* principles and *Prophetic* tradition (*Sunnah*) does not need to compromise between his/her worldly life and hereafter. Indeed, the prophet of Islam was a businessman. His wife was a businesswoman. The *Quran* clearly states that "human has only that for which he works" (*Quran* 53:39). It also encourages business: "O you who believe! Do not consume one another's wealth in wrongful ways (such as theft, extortion, bribery, usury, and gambling), except it be dealing by mutual agreement; and do not destroy yourselves (individually or collectively by following wrongful ways like extreme asceticism and idleness. Be ever mindful that) God has surely been All-Compassionate toward you (particularly as believers)" (*Quran* 4:29). The prophet confirms that same message through his acts and words. For instance, he said, "It is better that a person should take a rope and bring a bundle of wood on his back to sell so that Allah may preserve his honour, than that he should beg from people, (regardless of) whether they give to him or refuse him" (al-Bukhari and Muslim). He also said, "Charity is halal neither for the rich nor for the able bodied" (al-Tirmidhi).

It is important to study the *Quranic* verses and *Hadith* in totality in order to understand true Islamic perspective of worldly life. Otherwise,

one might see Islam with strict duality between secular and religious life. As stated by Said Nursi, there are three dimensions of the worldly life. The first one is the reflection of the names of God manifesting the divine names. In this regard, everything is a mirror in which the beautiful divine names are manifested. The second dimension looks to the hereafter in terms of being farm for the eternal life producing outcome for the hereafter. In other words, since life is trail, everything is a test question. People are supposed to answer them through the guidance of *Quran* and *Sunnah*. The third dimension is the playground for the *nafs*. The verses and Hadiths denigrating the worldly life are related to third dimension. In other words, people could pursue and love the worldly life in terms of its first two dimensions; however, they are warned about the third dimension while fulfilling their mission in this life.

Working for this life is considered to be a kind of worship as long as one stays within the boundaries of *Quran* and *Sunnah*. The outcome of his/her works is considered charity no matter as stated in the following Hadiths: "when a Muslim plant a plant or cultivates a crop, there is no bird or human being eats from it without its being accounted as a (rewardable) charity for him" (al-Bukhari and Muslim), "when a Muslim plant a plant, anything eaten of it or stolen from it, until the Day of Resurrection, is accounted as a charity for him" (Muslim). Once when the Prophet was sitting with his companions and they happened to see a young man busy working in the early hours of the morning. The companions watched him and commented on how beneficial it would be if he put his effort in worshipping Allah instead. When he heard this, the Prophet said to them: "Do not say that! Because he is working to be independent and self-sufficient, it is in the way of Allah. Even if he were striving to earn a living in order to support his family, it would still be a noble act. It is only when a person takes pride in his efforts and money that he is working in way of *Shaitan*" (Taberani). Al-Ghazali defines abstention from the world based on the following quote attributed to Ali, the fourth *Caliph* of Islam: "if a man obtains the wealth of the whole earth of Allah Almighty (with the objective and) for the sake of Allah, he is an abstinence (*zuhud*); despite being the richest of the world; and if he discards the wealth of the whole earth but not for the sake of Allah, he is not an abstinence although outwardly he remains attentive to worship and the hereafter".[19]

[19] Al-Ghazali, pp. 973–974.

As working is considered to be a form of worship, even eating is considered worship if it is done for thanksgiving rather than pure sensual pleasure. According to Al-Ghazali, it is done for the sake of God, "all acts like taking food, drink, and even going to ease oneself become acts of worship. Hence intention should correct and valid".[20] That is why a Muslim is supposed to begin eating with *zikr* by saying *bismillah*. By doing so, he would remind himself that the sustenance comes to him from *al-Razzak* (the Provider). While eating, he would contemplate on whatever he is eating to better comprehend the power, mercy, and kindness of God. At the end, he would say *Alhamdulillah* (All praise is due to Him alone) offering his sincere thanksgiving for His bounties and blessing. Thus, his act of eating would be a form of worship producing good deeds for him. For that matter, a believer is supposed to seek pleasure not for the sake of pleasure, but for the sake of experiencing the divine bounty and offering sincere thanksgiving. By doing so, his entire life would be worship earning good deeds for him.

2.3.7 Islamic Economics Offers an Antidote to Material Indulgence

No doubt that capitalism has been successful in production and consumption. However, it failed to bring the promised paradise. Indeed, free market capitalism driven by self-interest and pursuit of pleasure has resulted in many paradoxes. This is what some called the "progress paradox" or "American paradox". According to Polanyi (1971), free market system dehumanizes human beings by turning him and his natural environment to "fictitious commodities". He argues that the system alienates and separates human beings from both their surroundings and from their own powers that they exercise in their life activity. This commodification process turns human beings in society homoeconomics. In other words, the free market system destroys the noneconomic and social nature of man and turns him to an individual who acts on the basis of only two motives, the fear of starvation and the hope of profit.

The Means-End Chain Theory suggests that consumer behaviour is either consciously or unconsciously goal-directed (Reynolds et al. 1986).

[20] Al-Ghazali, p. 974.

Consumers buy goods to achieve certain goals that are shaped by personal, social, or moral values such as to belong, to protect, to be useful, not just to be happy. The attributes of goods are the "means", and values are the "ends" that consumers would like to achieve. People choose goods with certain attributes which will help them to reach the "ends". The Theory of Reasoned Action suggests that consumers behave according to their attitudes and beliefs about the outcome of their behaviour. They assign relative importance to the outcome based on their related belief (Fishbein and Ajzen 1975).

Some consumer scholars divide consumption into two parts, functional and positional. In their views, we do not consume goods just to fulfil our functional needs, but for what they represent for us and others. The goods play a vital symbolic role in our lives in communicating personal, social, and cultural messages (McCracken 1988). For that matter, consumption becomes part of our personal and collective identity as stated by William James: "A man's Self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes, his friends, his wife and children, his ancestors, his reputation and works, his lands and yacht and bank account".[21]

Indeed, in global consumer society, people across the world are engaged in constant process of reconstructing their identity through material consumption in the form of positional symbols. As Cushman (1990), consumer culture is constantly filling up the "empty self" of consumer through increasing material consumption. Global companies are working hard to deliver positional goods and services to conspicuous consumers. They do not sell products only, they sell dreams, status, visions, and prestige (Klein 2001).

Despite some objections, mainstream consumer theory still assumes that individuals rationally maximize their utility through consumption (Aydin 2010, 2011). Jeremy Bentham (1748–1822), the father of capitalist consumer theory, argued the main purpose of consumers is to maximize pleasure and minimize pain (Bentham 2007). He came up with a utility calculator to help people in estimating their pleasure and pain to maximize their utility through material consumption. The formula for his hedonic happiness model is quite simple: the more you consume goods and services, the happier you will be. Exploiting the greedy nature

[21] James (1950, pp. 291–292).

of the animal soul and prestige-seeking ego in human nature, consumer culture creates unsustainable consumption trend which threatens both health of human being and physical nature.

Islamic economics provides antidote for material indulgence and conspicuous consumption.[22] There are many verses of the *Quran* and *Hadiths* of the Prophet (pbuh) warning believers against the danger of material indulgence. For instance, *Suratul Takaathur* first mentions the greedy nature of human being: "Rivalry in worldly increase (seeking and then boasting of the acquisition of things, wealth, pedigree, and posterity) distracts you (from the proper purpose of life), Until you come to the graves" (*Quran* 102:1–2). Another surah also explicitly warns about the ultimate price of material indulgence: "O you who believe! Let not your wealth nor your children (distract and) divert you from the remembrance of God. Those who do so, they are the losers" (*Quran* 63:9).

Likewise, the Prophet warns believers for material indulgence in *Hadiths*. For instance, once the Prophet (pbuh) was asked about the state of Muslims in the future, he replied as follows: "after me a people will raise up who would eat multiple kind of delicious food and wear multiple kind of fine dresses and will be fan of beautiful woman and will make arrangement of very valuable horses. Their bellies will not fill by eating a little. They will not be content even on much. All of their struggle will be spent in seeking the wealth. They would make the world their goal and will do everything for its sake. I, Muhammed, command you that whosever among your children come across such people should neither extend salutations nor go to ask for their patients nor join the funeral prayer, nor respect the elders of such people. Whosever did not follow this recommendation, he would be considered as their helper in the deration of Islam" (Al-Ghazali, p. 924). The Prophet said that "all things relating to man become old but the desire to have long life and

[22] Islam is not against making money if it is not done at the cost of human's main mission. Indeed, the *Qur'an* clearly states that believers should seek for their share in this world as well: "Eat and drink of that which God has provided, and do not go about acting wickedly on earth, causing disorder and corruption" (*Qur'an*, 2:60). "And when the Prayer is done, then disperse in the land and seek (your portion) of God's bounty, and mention God much (both by doing the Prayer and on other occasions), so that you may prosper (in both worlds)" (*Qur'an*, 62:10). "But seek, by means of what God has granted you, the abode of the Hereafter (by spending in alms and other good causes), without forgetting your share (which God has appointed) in this world. …" (*Qur'an*, 28:77).

the passion of love of wealth always remain young". He also said "if a man possesses gold of the quantity of equal to two valleys, he will be still greedy of the third valley. It is the dust alone that fills his bally" (Al-Ghazali, p. 940).

Al-Ghazali also refers to a saying of Prophet (pbuh) to address the trap of material indulgence for believers: "Holy Prophet (pbuh) has said that on the Day of Judgment, the angels will present this world in the shape of an ugly old woman for all to behold and learn a lesson. Her eyes will be green and she will have uncouth protruding teeth. People will see her and exclaim "God forbid. Who is this black faced ugly women?" The angels will answer, "this is the same world symbolized for you which you liked so much, for which you used to be jealous and quarrel with each other." Then this world, will be thrown in to Hell. The Hell will ask God "where are my friends?" Then they will also be thrown into it" (Al-Ghazali, p. 84).

Al-Ghazali resembles wealth to the snake that possesses both poison and the panacea. He argues that those who do not know how to handle it will end up hurting himself. He refers to the following Hadith to support his argument: "Two hungry wolves do not create mischief in a herd of goats as the love of esteem wealth destroys the faith of man" (Al-Ghazali, p. 924). Al-Ghazali mentions the knowledge of why wealth is created as the main antidote for the poison material indulgence. He argues that as those who use appetizers end up harming their bodily health, those who overindulge in sensual pleasure will damage their soul and eternal life. He argues that people will not be satisfied with material gains no matter how much they acquire: "The Prophet Isa, the Holy Christ (pbuh), has said that the seeker of this world is like that man who has his lips attached to the shore of the sea and he is eagerly absorbed in quenching his thirst from it unabatedly. His thirst seems to increase. The more he drinks the more he desires to do so. Ultimately, he dies in this useless pursuit, yet unsatiated" (Al-Ghazali, p. 86).

The negative impact of indulgence in material consumption is confirmed by many studies in recent decades. Some studies found out that relatively strong extrinsic aspirations are negatively associated with mental health indicators while relatively strong intrinsic aspirations are positively correlated with the same indicators (Kasser and Ryan 1993, 1996). Studies also reported positive correlation between intrinsic aspirations

and subjective well-being and negative correlation for the negative aspirations and subjective well-being (Sheldon and Kasser 2008; Kasser and Ryan 1993). Another study Brown et al. (2009) find that higher mindfulness lessens financial desire discrepancy, thus creating greater subjective well-being. The same study also showed that with mindfulness therapy, it is possible to decrease financial desire discrepancy and increase subjective well-being.

Aydin and Manusov (2012) conducted a comprehensive survey among a spiritual Muslim group to measure the level of their aspiration for material well-being and hedonic pleasure versus intellectual and spiritual pleasure. The questions were designed to capture the values and goals of individuals within 14 different domains. This measurement allows for the assessment of the relative centrality of particular goals/values within an individual's personal goal/value system. The study found that the more people involve in spiritual activities, the less they pursue materialist and hedonic goals. Similarly, the more they advance in spirituality the more they become satisfied with their life.

2.3.8 Islamic Economics Offers Moderation in Fulfilment of Sensual and Egoistic Desires

As stated before, Islam offers different perspective from anthropological point of view compared to capitalism. There are two sides of human nature and capabilities, one serves for goods while the other desires for bads. Muslims are supposed to control the negative sides and enrich the positive one. For that matter, *nafs*, animal soul, is considered the greatest enemy of humankind along with Satan. *Nafs* is the source of negative desires; therefore, it is supposed to be controlled, rather than obeyed. The struggle against the desire of *nafs* is considered to the greatest *Jihad* according to the following narration: When the Prophet was coming back from the Battle of *Badr,* the most important battle of Islam, he told his companions that they are now back to the bigger *jihad*, the one against the *nafs.* According to Al-Ghazali, there are three reasons that the *jihad* with the *nafs* is greater than the conventional *jihad*. First, *jihad* with the *nafs* lasts for the whole life, while the other *jihad* lasts only for a certain period. Second, *jihad* with the *nafs* is done with the inner enemy while the other with the outer enemy. Third, if you lose the *jihad* the

enemy by getting killed, you will be martyr. However, if you lose the *jihad* with *nafs*, you lose eternal happiness.[23]

According to the *Qur'an*, no one including the prophets was not safe against the evil desires of *nafs*. When the Prophet Joseph was tempted by a woman, he did not say that I am a prophet; therefore, I am not going to do any wrongdoing. Rather, he said, "Yet I do not claim myself free of error, for assuredly the human carnal soul always commands evil, except that my Lord has mercy (which saves us from committing evil acts). Surely my Lord is All-Forgiving, All-Compassionate (especially toward His believing servants)" (*Quran* 12:53).

Islam provides certain methods to train *nafs* and control its desires. This is one of wisdom behind one-month mandatory fasting every year. During this month, Muslims are required to stay away from even permissible (*halal*) and necessary desires of *nafs* such as eating and drinking. They are also forbidden from sexual relationships with their partners. The *Quran* mentions fasting as mandatory worship for all believers since the first human and prophet. Great scholars observe fasting in other months as a way to control their *nafs* and make spiritual advancement. Indeed, Sufism (*tasawwuf*), the mystical dimension of Islam, requires fasting and abstention from social from social life in order to overcome the evil desires of *nafs*. According to Al-Ghazali "taming the '*Nafs*' is like taming the eagle. In doing so his eyes are blind folded sot that he remains away from the home, unaware of its confines at a safe distance from its inmates. Then, his food is gradually increased, so that he may become used to his master, till he can fly aloft to greater heights to find its designated prey".[24] In other place, Al-Ghazali presents the similarities between illness of body and that of soul. He argues that their treatments also bear some resemblance. "Just as cold is the antidote for heat and heat for the cold, in the same manner a person who is suffering from arrogance should take the potion of fear Allah and meekness".[25]

Capitalism does not make any distinction among human desires. Indeed, one of the secrets of capitalism comes from its service for *nafs*. Capitalism ignites animal soul and offers toys and tools to please it. It

[23] Ghazzali (Translation by Abdulhalik Duran), Kalplerin Kesfi, Yeni Safak Kultur Armagani (2005), pp. 39–40.

[24] Al-Ghazali, p. 751.

[25] Al-Ghazali, p. 741.

prepares five-star hotels/gazebos to please *nafs* with every kind of entertainment rather than placing in a cave to train it. Capitalism offers carnal pleasure as paradise to its followers while Islam puts emphasize on spiritual and moral pleasure.

Islam is a holistic religion dealing with every aspect of life. Islamic law (the *Shari'ah*) deals with human-God and human-human relationships. Muslim scholars mention several goals pertaining to these domains. The first and foremost goal is to understand the Oneness of God (*Tawhid*) and live accordingly. This is not just a simple acceptance of God's oneness. It is rather confirmation and bear witnessing as clearly stated in the *Shahadah* statement (declaration of faith). A person is supposed to first bear witness the signs *ayat* (evidences) for the existence and oneness of God and then confirms and adheres it as a believer. As God governs the universe through His laws, He ordains laws to govern human life too. According to Muslim scholars such as Al-Ghazali and Nursi, human being is created with certain potential to do good and bad as he wills. Three key faculties such as reason, animal soul, and anger are not naturally restrained. Islam provides guidance to bring them to moderation.

The moderation for the *nafs* which is the source of animal desires is to desire what is permissible (*halal*) and stay away what is not permissible (*haram*). The moderation for the anger is to fight for his essential human rights without any fear while fearing the divine punishment in order to not transgress his rights. The moderation for the mind is to seek for wisdom and avoid demagogy and falsehood. Since there is no natural constraint on these faculties, from the Islamic perspective, the *Shari'ah* which comes from All-Knowing provides the best guidance on how to achieve moderation. According to Al-Ghazali, "The middle course is the best course. To go overboard, indulge in extremism and ignore the norms of prescribed behaviour is very harmful".[26] However, it is not easy to strike the middle. Only with the divine guidance and restriction, it would be possible to keep animal soul and anger under control and live with harmony with others: "By using the *Quvate Ilm'* (the power of knowledge and learning) and *Khashm* (authority and control), over the undesirable traits, specially over *Shahwat* (sensual urges: the base desires) to establish *Adl'* (justice) and its resultant unbiased humane

[26] Al-Ghazali, *Alchemy of Happiness*, p. 735.

behaviour with one and all, to give the term *husnul al-akhlaq* (the beauty of character and behaviour) its meaning of pleasing conduct with human beings".[27]

2.3.9 Islamic Economics Assumes That Human Is "Predictably Irrational"

Free market capitalism assumes that individuals make rational decisions to maximize their interests. In other words, they use their minds to make the best decisions for themselves. A rational person will choose the desirable option if he is provided the freedom to do so. In other words, if such a rational person thinks action A will result in X and action B will result in Y, and if X is more desirable (or more valuable) in the eyes of that person, he will choose A over B. It will not be rational for that person to choose B. The capitalist system assumes both consumers and producers are rationally seeking to maximize their utility in the market system. They reveal their rational decisions through their own preferences. Indeed, according to the rational choice theory, people only take drugs because drugs maximize their utility. Since the time of Adam Smith, David Ricardo, and Alfred Marshall, the capitalist system has assumed that competition in the marketplace among economic participants is governed by their rational self-interest. Therefore, they are against government intervention with a few exceptions.

Rational choice theory suggests that our preferences are the outcome of our rational deliberations for maximizing our expected utility. It assumes that we weigh the expected benefits and costs of the choices we have and choose the one that brings the highest net expected benefit (utility). Subjective expected utility takes this assumption further and argues that consumer behaviours are a function of expected outcomes and their assigned values. Rational choice theory is widely used across many social science fields, including economics, in which cost-benefit analysis and utility maximization are nothing more than a quantitative form of the rational choice model (Becker 1978; Elster 1986).

The mainstream economic theory of consumer preferences assumes that consumers rationally maximize their utility in the market based on the available income, price of goods, and their tastes (McConnell and

[27] Al-Ghazali, *Alchemy of Happiness*, p. 733.

Brue 2008). The theory suggests that consumers are rational in their decisions. This is the same assumption embedded in the rational choice model. The rational choice model is also used to explain consumer preferences for non-marketed goods, such as time, gifts, appreciation, and charity.

Beginning with the works of Nobel Laureate Herbert Simon debates erupted among economists about whether or not people are actually rational in their decisions (Simon 1982). Ultimately, they would move from perfect rationality to "bounded rationality" under certain circumstances. Bounded rationality means that people are not perfectly rational. Their rationality is limited by the information they have, the cognitive limitations of their minds, and the time they have to make decisions. Even though eventually most economists acknowledge that we are not always rational, they have resisted incorporating this change into economic modelling and expectations. With the works of some psychologists such as Dan Ariely, it seems like we are moving further away from rationality theory. Ariely (2008) argues that we are not only irrational, but "predictably irrational".

As discussed before, from the anthropological perspective of Islam, it is not hard to conclude that human beings are not rational always. Indeed, due to the recognition of animal souls and ego, Muslim scholars have made strong cases regarding the predictably irrational of human beings. Islam provides some guidance to overcome the influence of animal soul and ego and follow the heart and mind in decision-making.

2.3.10 Islamic Economics Offers Antidote Against Alienation and Animalization Through Capitalism

As initially claimed by Karl Marx and later argued by critical theorists, capitalism results in alienation. Following Kantian concepts, we can talk about two outcomes of capitalist culture: first, by killing morality for the sake of profit maximization, it turns human being to animality. Second, by solely focusing on skill development while ignoring or destroying moral development, it turns human being to robotic means used in the production and consumption process. Adorno eloquently points out the dire consequences of capitalism for humanity: "It has long ceased to be a matter of the mere sale of the living [that is, of living labour]. Under a priori saleability the living has made itself, as something living, a thing, and equipment. The ego consciously takes the whole

man into its service as a piece of apparatus. In this reorganization the ego as business-manager delegates so much of itself to the ego as business mechanism, that it becomes quite abstract, a mere reference-point: self-preservation forfeits itself. Character traits, from genuine kindness to the hysterical fit of rage, become capable of manipulation, until they coincide exactly with the demands of a given situation. With their mobilization they change. All that is left are the light, rigid, empty husks of emotions, matter transportable at will, devoid of anything personal".[28]

Indeed, what capitalism offers is not progress for humanity, it is regress towards animality. Even though the system is credited for great economic and technological advancement, it is also being blamed for moral, spiritual, and social regress. From the Islamic perspective, this is not success, it is big failure for humanity. In this regard, it is not just alienation project, it is animalization project. It focuses upon the animal side of human beings and ignores our spiritual side. It serves the animal spirit while it is killing the human spirit. It offers a lifestyle not much different from that an animal's life. For that matter, even the evolution theory is a scientific declaration of this animalization project.

Islamic economics could not aim for what capitalism aims as ideal outcome. If it does, even if it succeeds in economic and technological term, it is big failure in the *Quranic* terms. For that matter, free market capitalism offers nice looking and apparently pleasant "animal pills" and "robotic pills" which taste nice in the short term, but convert those who take them regularly to animals and/or robots in the long run. Indeed, the *Quran* points to human regress towards animality and says that those who pursue animal and egoistic pleasures, but ignore learning the truth and living by it will be even worse than animals: "… They have hearts with which they do not seek the essence of matters to grasp the truth, and they have eyes with which they do not see, and they have ears with which they do not hear. They are like cattle (following only their instincts) rather, even more astray (from the right way and in need of being led). Those are the unmindful and heedless" (*Quran* 7:179).

According to the *Quran*, human is created in the best form and superior to all creatures. This means that our characters should be superior to theirs too. For that matter, we could not compete with animals in eating

[28] Adorno (1974, p. 230).

and fighting. For instance, "the camel is well known for its quality o to consume huge quantities of food and water, whereas the pig and the sow have above-normal carnal capabilities. How come then that the man is regarded higher in status to them? Also, the drive overcomes and subjugates others is due to a rising temper, the anger. This nature's phenomenon is also present, it may be argued, in the grazing animals and wild creatures of the forests. Hence, again how come the man is superior to them? Where is the difference, the distinction? The answer is self-explanatory vis despite it, the redeeming quality the man has in comparison is, that the man in Supra-creation is blessed with ration, with which he also recognizes his Supreme Master, Allah. It also enables him to voluntarily appreciate and admire His handiwork, His creative genius. It also helps him to defeat his mortal enemies, the human wrath and the greed. These are the characteristics of the angels. Their very qualities make him rise above the birds, the beasts and the animals. He is superior to all things created" (Gaz, p. 18).

Capitalism makes people to prefer being animal satisfied rather human being human but dissatisfied. Those who are affected by conspicuous consumer culture perceive fun/pleasure as primary, if not only, purpose of their life. For Muslims, being human being is always preferable even if that means a life full of misery because the purpose is self-pleasure, rather God's pleasure through sincere and virtuous deeds. In his famous hypothetical thought experiment, Nozick asks us to imagine a machine which could make us to feel whatever desirable or pleasurable experiences we would like to have.[29] After all, according to neuroscience, feeling is just the outcome of chemical reactions in our brain. Assuming that neuropsychologists find out a way to stimulate our brain to create pleasurable experiences which are not different than the ones induced by real-life experiences, Nozick then asks, would we prefer to hook in the experience machine over real-life experience? Nozick argues that if we value pleasure as the only desired outcome from life, we would prefer the machine. However, he says, there is something more than pleasure people pursue in life; therefore, they would choose the machine. Many people around the world are hooking these machines every day. They are not connected 24/7 for two reasons: first, for now there is not a single

[29] Nozick, R. (1974), *Anarchy, State, and Utopia*, New York: Basic Books, pp. 42–45.

machine providing every kind of pleasure. Therefore, people have to surf among different machines. Second, people to work to make money first in order to be given the privilege to access these machines.

2.4 Conclusion

The chapter presents foundational principles of Islamic economics from ontological, epistemological, anthropological, and teleological perspectives. It presents axiomatic reasons for the need of Islamic economics as a new economic paradigm. Even though free market capitalism has been very successful in the use of scarce resources, the paper strongly argues that the ultimate outcome of capitalism is not progress towards human excellence as projected by the God's human project in the *Quran*, rather it is regress towards animality. This is why the system has failed to bring authentic happiness. Indeed, the more progress it makes, the more it takes us away from such happiness. This reminds us the Seneca's opening words in *De Vita Beata:*

> To live happily, my brother Gallio, is the desire of all men, but their minds are blinded to a clear vision of just what it is that makes life happy; and so far from its being easy to attain the happy life, the more eagerly a man strives to reach it, the farther he recedes from it if he has made a mistake on the road; for when it leads in the opposite direction, his very speed will increase the distance that separates him.

According to the *Tawhidi* anthropology, we cannot talk about our needs and desires with a singular voice. They are originated from six different sources. Our authentic happiness depends on how to fulfil the needs and desires of the key elements of our nature. From the Islamic perspective, we could not reach happiness by pursuing the interests of animal soul and self-centric ego. Rather, we should give priority to our spiritual, intellectual, and moral needs. We should learn the ways to control our animal and egoistic desires while nurturing our spiritual, intellectual, and moral potential.

It is important to note that despite few decades of works, scholars of Islamic economics are still at the beginning of a long path to go in order to present Islamic economics as a new economic paradigm. Furthermore, recent rise of Islamic finance is moving towards "disguised capitalism" rather than the new economic system based on Islamic values. There are

many tasks ahead of those who work to develop Islamic economics and finance into an alternative economic paradigm as follows:

- Need to go beyond the existing paradigm and create their own concepts and models whenever it is necessary. They need to go beyond narrowly defined *maqasid* al-*Shari'ah* by establishing *Tawhidi* paradigm based on Islamic ontological, epistemological, anthropological, and theological perspectives.
- Need to begin from microeconomics. As Yalcintas (1986) pointed out over two decades ago "construction of microeconomic theory under the Islamic constraints might be the most challenging task for Islamic economics".[30] Hence, "a separate theory of consumer behaviour and a separate theory of firm in the context of Islamic economics".[31] This should not be just the relabelling the existing microeconomics literature.
- Need examine the existing empirical and theoretical studies to gather evidence for new concepts and models of Islamic economics and finance.
- Need to conduct experimental and empirical studies to gather data and test economic assumptions and models from Islamic perspective. Scholars of Islamic economics now have more measurement tools to gather qualitative data in order to test concepts, assumptions, and models from the Islamic economics.
- Need to expand certain tools such as human development index to measure the outcome of economic system in terms of contributing to human excellence based on Islamic world view.
- Need develop moral, intellectual, and spiritual responsibilities index in additional to corporate social responsibility index to assess Islamic financial institutions and other economic entities.
- Need to comparatively study the impact of materialist versus spiritual and moral values to provide evidence regarding virtuous and moral life being the path to happiness in this world as well. It is even to possible to use functional MRI to examine the brain

[30]Yalcintas, N. (1986), *Problems of Research in Islamic Economics: General Background*, Islamic Research and Training Institute, Jeddah, p. 38.

[31]Ahmed, K. (1986), *Problems of Research in Islamic Economics with Emphasis on Research Administration and Finance*, Islamic Research and Training Institute, Jeddah, p. 79.

activities of people with different lifestyles to see the impact of moral and spiritual values on subjective well-being.
- Need to define Islamic financial instruments based their expected outcome within the *Tawhidi* paradigm, not just based on prohibition of *riba* and gambling.

References

Adorno, T. W. (1974). *Notes to Literature*. New York: Harper.

Ahmed, K. (1986). *Problems of Research in Islamic Economics with Emphasis on Research Administration and Finance*. Jeddah: Islamic Development Bank; Islamic Research and Training Institute.

Al-Ghazali, I. (2001). *Kimiyay-i Saadat (Alchemy of Happiness)* (M. A. Bilal Trans.). Lahore: Kazi.

Al-Ghazali, I. (2007). *The Alchemy of Happiness* (C. Field Trans.). London: Forgotten Books.

Al-Ghazali, I., & Winter, T. J. (1997). *Al-Ghazali on Disciplining the Soul: Kitab Riyadat al-Nafs; and on Breaking the Two Desires: Kitab Kasr al-Shahwatayn: Books XXII and XXIII of the Revival of The Religious Sciences: Ihya Ulum al-Din*. Cambridge: Islamic Texts Society.

Al-Jarhi, M. A., & Zarqa, M. A. (2007). Redistributive Justice in a Developed Economy: An Islamic Perspective. In *Advance in Islamic Economics and Finance, Volume I, Proceedings of 6th International Conference on Islamic Economics and Finance*. Jeddah: Islamic Research and Training Institute.

Ariely, D. (2008). *Predictably Irrational: The Hidden Forces That Shape Our Decisions* (1st ed.). New York: Harper.

Aristotle. (1944). *Aristotle in 23 Volumes, Vol. 21, Translated by H. Rackham*. Cambridge, MA: Harvard University Press.

Aristotle. (1999). *Nicomachean Ethics*. Translated, With Introduction, Notes, and Glossary by T. Irwin. Indianapolis, IN: Hackett Publishing.

Asutay, M. (2007). A Political Economy Approach to Islamic Economics: Systemic Understanding for an Alternative Economic System. *Kyoto Bulletin of Islamic Area Studies*, 1–2, 3–18.

Aydin, N. (2010). Sustainable Consumption and Subjective Well-Being. *International Journal of Environmental, Cultural, Economic and Social Sustainability*, 6(5), 133–148.

Aydin, N. (2011). 2008 Financial Crisis: A Moral Crisis of Capitalism. *African Journal of Business Management*, 5(22), 8697–8706.

Aydin, N., & Manusov, E. (2012). Materialism, Hedonism, Spirituality, and Subjective Well-Being: An Empirical Study of *Risale-i Nur* (RN) Readers.

Al-Shajarah: Journal of The International Islamic Institute of Islamic Thought and Civilization, 19(2), 251–284.
Becker, G. S. (1978). *The Economic Approach to Human Behaviour*. Chicago and London: University of Chicago Press.
Bentham, J. (2007). *An Introduction to the Principles of Morals and Legislation*. New York: Dover.
Brown, K. W., Kasser, T., Ryan, R. M., Linley, P. A., & Orzech, K. (2009). When What One has is Enough: Mindfulness, Financial Desire Discrepancy, and Subjective Well-being. *Journal of Research in Personality*, 43(5), 727–736. https://doi.org/10.1016/j.jrp.2009.07.002.
Chapra, U. (1979). *Objectives of the Islamic Economic Order*. Leicester: The Islamic Foundation.
Chapra, U. (1996). *What Is Islamic Economics*. Jeddah: Islamic Research and Training Institute.
Chapra, U. (2008). *The Islamic Vision of Development in the Light of the Maqasid Al-Shari'ah*. Jeddah: Islamic Research and Training Institute.
Cushman, P. (1990). Why the Self Is Empty. Toward a Historically Situated Psychology. *American Psychologist*, 45(5), 599–611.
Elster, J. (1986). *Rational Choice*. New York: New York University Press.
Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behaviour: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley.
Gregory, P. R., & Stuart, R. C. (1985). *Comparative Economic Systems*. Houghton: Mifflin.
Iqbal, M., Ali, S. S., & Muljawan, D. (2007). Advance in Islamic Economics and Finance. *Proceedings of 6th International Conference on Islamic Economics and Finance*. Jeddah: Islamic Development Bank; Islamic Research and Training Institute.
Islahi, A. A. (1984). *Economic Thought of Ibn al-Qayyim*. Jeddah: International Centre for Research in Islamic Economics.
James, W. (1950). *The Principles of Psychology*. New York: Dover.
Kasser, T. (2002). *The High Price of Materialism*. Cambridge, MA: MIT Press.
Kasser, T., & Ryan, R. M. (1993). A Dark Side of the American Dream: Correlates of Financial Success as a Central Life Aspiration. *Journal of Personality and Social Psychology*, 65(2), 410–422.
Kasser, T., & Ryan, R. M. (1996). Further Examining the American Dream: Differential Correlates of Intrinsic and Extrinsic Goals. *Personality and Social Psychology Bulletin*, 22(3), 280–287.
Khan, M. A. (1994). *An Introduction to Islamic Economic*. Islamabad: International Institute of Islamic Thought and Institute of Policy Studies.
Klein, N. (2001). *No Logo*. London: Flamingo.
Marx, K., & Lederer, H. (1958). *On the Jewish Question*. Cincinnati: Hebrew Union College-Jewish Institute of Religion.

McConnell, C. R., & Brue, S. L. (2008). *Economics: Principles, Problems, and Policies*. Boston: McGraw-Hill.
McCracken, G. (1988). *Culture and Consumption*. Bloomington, IN: Indiana University Press.
Muslim ibn al-Hajjaj. (1987). *Shahih Muslim* (Vol. 1). Beirut: Mu'assasat 'Izz al-Din. p. 34.
Nozick, R. (1974). *Anarchy, State, and Utopia*. New York: Basic Books.
Nursi, S. (1996a). *The Flashes* (S. Vahide Trans.). Cairo: Sozler Publications.
Nursi, S. (1996b). *The Letters* (S. Vahide Trans.). Cairo: Sozler Publications.
Nursi, S. (1996c). *The Words* (S. Vahide Trans.). Cairo: Sozler Publications.
Pabst, A. (2011). Beyond Well-Being and Happiness: The Moral Market and the 'Good Life'. Paper Presented at the Conference on Market and Happiness. Università Milano, June 8–9.
Polanyi, K. (1971). *Primitive, Archaic, and Modern Economies: Essays of Karl Polanyi*. Boston: Beacon Press.
Reynolds, T. J., Gutman, J., & Institute for Consumer Research. (1986). *Developing a Complete Understanding of the Consumer: Laddering Theory, Method, Analysis, and Interpretation*. Dallas: Institute for Consumer Research.
Schweitzer, A. (1949). *The Philosophy of Civilization*. New York: Macmillan.
Sheldon, K. M., & Kasser, T. (2008). Psychological Threat and Extrinsic Goal Striving. *Motivation and Emotion*, 32(1), 37–45.
Simon, H. A. (1982). *Models of Bounded Rationality*. Cambridge: MIT Press.
Smith, A. (1976). *The Wealth of Nations*. Indianapolis: Liberty Classics.
Stuart, H. (1989). *The Arkana Dictionary of New Perspectives*. London: Penguin Group.
Toynbee, A. J., Somervell, D. C., & Royal Institute of International Affairs. (1946). *A Study of History. Abridgement of Volumes I-X by D.C. Somervell*. London and New York: Oxford University Press.
Yalcintas, N. (1986). *Problems of Research in Islamic Economics: General. Background*. Jeddah: Islamic Development Bank; Islamic Research and Training Institute.

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CHAPTER 3

The Theological Foundations of Islamic Banking: A Critical Review

Md. Thowhidul Islam

3.1 Introduction

Islam is not simply one of the greatest monotheistic religions, signifying submission to the will of Allah, but a system of life in entirety. It prescribes a complete code of conduct for every day human life in all its spheres and manifestations (Memon 2007). The prescribed Islamic code of conducts is generally referring to *Shari'ah* or Islamic law. Thus, the principal basis of every code of conduct in Islam including economic activities is the *Shari'ah*. The aim of *Maqasid al-Shari'ah* (objectives of *Shari'ah*) is to attain the total welfare of the Muslim nation in particular and the human being at large. The objective of Islamic economic code of conduct is to establish the economic justice in the society based on the *Quranic* concept of social justice for the welfare of mankind. Thus, the aim of Islamic economics is not only the elimination of interest-based transactions, but also the establishment of just and balanced social order free from all kinds of exploitation.

The best use of economic activities through permissible ways of Islam has ultimately been resulted in the development of Islamic banking

Md. T. Islam (✉)
International Islamic University Chittagong, Chittagong, Bangladesh

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industry (Ahmad 2002). Islamic banking is a financial system which conducts its operations in accordance with the laws of Islamic *Shari'ah* to ensure equitable distribution of resources in the society. Today, *Shari'ah*-compliant financial assets are estimated at roughly US$2 trillion, covering bank and non-bank financial institutions, capital markets, money markets and insurance. Besides having well-established conventional interest-based banking system, the emergence and expansion of interest-free Islamic banking means there has been a growing demand for an alternative financial system to the Muslim people in particular, whose preference is for financial products and services which are consistent with Islamic *Shari'ah*. Thus, the Islamic banking offers an integration of Islamic faith with the financial system (Iqbal and Molyneux 2005).

Major financial markets are discovering solid evidence that Islamic finance has already been mainstreamed within the global financial system and that it has the potential to help address the challenges of ending extreme poverty and boosting shared prosperity.[1] Essentially, Islamic banks have a strict requirement for their transactions, products and services to follow the principles which are laid down by *Shari'ah* in Islam. The objective of this chapter is to understand the *Shari'ah*, sources of *Shari'ah*, objectives of the *Shari'ah*, Islamic ethics, norms and restrictions regarding economic transactions and activities and banking as well such as prohibition of *riba* (interest), *gharar* (uncertainty), *maysir/qimar* (gambling/games of chance), promotion of trade-based activities, profit–loss sharing, welfare approach, free marketing, fair pricing and transparency.

3.2 *Shari'ah*: The Foundation of Islamic Banking

The term *Shari'ah* is an Arabic word derived from the verb *Shara'a*, which literally means "to chalk out or mark out a clear path to water" (Wehr 1976). Literally, the word "*Shari'ah*" can be translated as "the path that leads to the spring" (Ramadan 2004) and "path leading to the water". It also means "a clear path to be followed and observed" (Visser 2009). It is "a system of divine law; a way of belief and practice" in the *Quran*. It is a set of provisions and rules that govern every aspect of a

[1]World Bank, Islamic Finance, 31 March 2015, Retrieved July 24, 2018 from http://www.worldbank.org/en/topic/financialsector/brief/islamic-finance.

Muslim's life (Ayub 2007). It is "the way which directs a person's life to the right path" (Rahman 1982). *Shari'ah*, though understood narrowly by some as Islamic law, is in reality a complete and comprehensive code of behaviour, governing the moral, ethical, spiritual, social as well as legal dimensions of a Muslim's private and public dealings (Anwar 2008). *Shari'ah* is the main guiding principles for all operations and products of Islamic banking. Its provisions are derived from the *Quran* and the *Sunnah* (Ahmad 2000). *Shari'ah* is the path not only leading to God, but also the path believed by all Muslims to be the path shown by God, through God's Messenger Prophet Muhammad (pbuh) (Ahmad 2002). The concept of *Shari'ah* not only governs human beings in conducting their lives in order to realize the divine will, but also includes all forms of human activities be it spiritual, mental or physical. Therefore, the *Shari'ah* principles are more than law, not only covering the total way of life that includes both faith and practices, but also all personal behaviour, legal and social transactions (Haron 1997). *Shari'ah* has five differing degrees of provisions as follows:

(a) *Fard* or *Wajib* (obligatory) an obligatory duty, the omission of which is punishable.
(b) *Manduh* or *Mustahab* (desirable) which is rewarded, but the omission of which is not punishable.
(c) *Jaiz* or *Mubah* (indifferent) which is permitted and to which the law is indifferent.
(d) *Makruh* (undesirable) which is disapproved of, but which is not a punishable offence, though its omission is rewarded.
(e) *Haram* (forbidden) which is absolutely forbidden and punishable (Venardos 2005).

Shari'ah derives primarily from the *Quran* and the *Sunnah* or *Hadiths*. The other sources of the *Shari'ah* include: *Ijtihad* (intellectual exertion), *Ijma* (collective reasoning/consensus of Muslim jurists), *Qiyas* (analogical reasoning), *Istihsan* (juristic preference), *Maslahah Mursalah* (public interest), and *Urf* (customary practice). *Shari'ah* defines the relationship of people to God, to society and to the universe. *Shari'ah* determines what may be done and what is not permissible (Hassan and Lewis 2007). The establishment of banking and financial activities led to the fulfilment of the need of Muslims to ensure that the economic activities

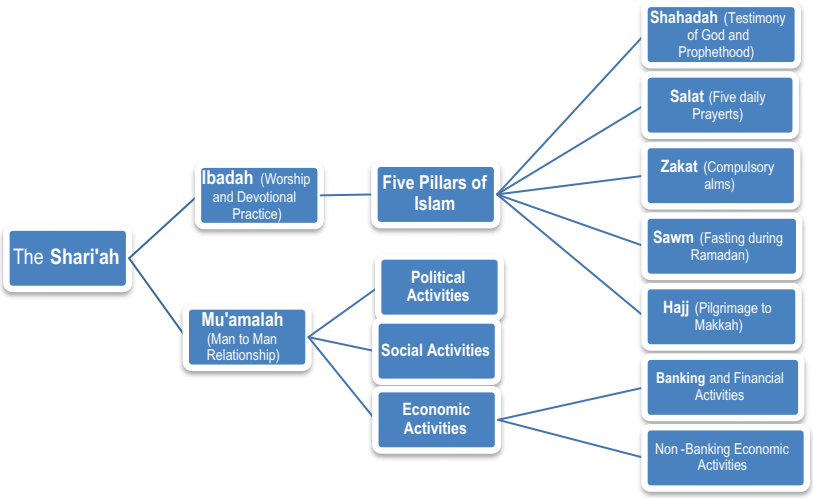

Fig. 3.1 *Shari'ah* as the source of Islamic banking

of the *Ummah*[2] are managed smoothly. Thus, it is explained that Islam does not recognize the separation between spiritual and temporal affairs, considering commerce as a matter of morality and subject to the precepts of the *Shari'ah* (Karim 2001). The revealed principles of the *Quran* and the principles inferred from the *Qur'an* and *Sunnah* for business affairs should be practised together without any confusion. The overall aim of the Islamic banking system is the realization of *Maqasid al-Shari'ah* (Objectives of *Shari'ah*) (Siddiqi 2004). Hence, Islamic banks, like other Islamic business organizations, are established with the mandate to carry out their transactions in strict compliance with *Shari'ah* rules and principles.

The relationship between the *Shari'ah* and the Islamic banking is explained in Fig. 3.1. It comprises with *Ibadah* (worships and devotional practices), which related to Allah and *Mu'amalah* (man to man practice),

[2] *Ummah* is an Arabic word meaning "community" or "nation". It is commonly used to mean either the collective nation of states. In the context of Islam, the word *ummah* is used to mean the diasporas or "Community of the Believers" (*ummat al-mu'minin*) and thus the whole Muslim world. For details, see Peter G. Mandaville, Reimagining the *Ummah*, Ali Mohammadi (ed.), *Islam Encountering Globalization*, New York, 2005, p. 62.

which related to society. *Mu'amalah* includes every activity of society such as political, economic or social.

3.3 Concept of Ownership in Islam

Ownership is the inherent right of a person to exercise his rights over the property within his possession and control with obligations connected therewith in the property acquired, such as to use, to transfer and to extinguish his right by way of transfer. According to Hibert, "Ownership involves four rights and those are the right of using the thing, excluding others from using it, the disposal of the thing and the destruction of the thing" (Mahajan 1991). According to Austin, full ownership is defined as "a right indefinite in point of user, unrestricted in point of disposition and unlimited in point of duration".

In Islamic jurisprudence, the word used for ownership is *Milkiyah* or *al-Milk* and that used for property is *Maal* and for the owner is *Malik*. *Milkiyah* or ownership is defined by Muslim jurists as: "the relationship that exists between a person and a thing that gives absolute control and right of disposal over it to the exclusion of others". Some of them defined it as "the relationship between man and property that has been established by the *Shari'ah* through which he exercises exclusive control and right of disposal over it as long as there is no *Shari'ah* restriction".

Ahmad (2002) summarizes the rules of *Shari'ah* in regard to the conduct of the owner of private property. They are:

(a) The non-use of property is not allowed in Islam because it is wasteful and impoverishes the owner as well as the community as a whole. In this situation, the state has the right to intervene and deprive them of ownership. The general rule is that property should be used at all times and in a rightful way for the benefit of the individual and of the community as well. According to the *Quranic*, injunction wealth must be remain in constant circulation among all sections of the community and should not become the monopoly of the rich.[3]
(b) The owners of the property must pay *Zakat* in proportion to the property they own.

[3] See verse 59 of Surah 7 of the Qur'an.

(c) The utilization of property must in all causes benefit the community as a whole and be conductive to its prosperity and welfare. It is always relative to the needs of the community and values of life, and changes with changing circumstances.
(d) The owners of the property are not permitted to use their property in such a way as to cause harm to others or to the community. The state should take active steps to prevent undue concentration of property in the hands of a few persons by legislation (Mannan 1980).
(e) All unlawful means of acquiring property are prohibited such as acquisition of wealth through falsehood and cheating. In that case, state enjoys full power to take actions against dishonest activities.
(f) The owners of the property must use the property in a balanced way. In other words, they should be neither extravagant not niggard in its use.
(g) The use of property should be for the purpose of securing the owners' due benefits. It is observed that in practice, many people utilize their property for securing for themselves undue special benefits neglecting the large interest of the community. In Islam, the state must ensure that property is never used for the attainment of such selfish objective.
(h) The last rule set out by *Shari'ah* in regard to the conduct of the owners of private property is the rightful application of Islamic law of inheritance for the sake of the interest of the living.

3.4 Distribution of Wealth in Islam

The distribution of wealth is one of the most important issues concerning the economic life of a person as well as a society. Islam views livelihood as a necessary, but not as the true purpose of human life. According to the *Quranic* view, the means of livelihood are nothing but only stages on man's journey towards the destination that is either the *Jahannam* (the hell) or the *Jannah* (the paradise) in the life hereafter. The fundamental purpose of human life is the attainment of the benevolence of Allah to get *Jannah* in the life after death. But one cannot attain this without traversing the path of this world, and so, all the necessary things for this worldly life are essential for human being. As long as the

means of livelihood are being used as a path leading towards the final destination, they are the benevolence of Allah, but as soon as man gets lost in the mazes of this pathway and forgets his real destination, the very same means of livelihood turn into a "temptation, or trial".[4]

From the injunctions of the *Quran*, it would appear that the Islamic distribution of wealth envisages three objectives (Usmani 2002):

(a) The distribution of wealth in Islam would be the means of establishing a natural and practicable system of economy in the world which, without using any compulsion or force, allows every individual to function in a natural way according to his ability, aptitude and choice, so that his activities may be more fruitful, healthy and useful.[5]
(b) It is aimed at enabling everyone to get his due rights. According to the Islamic point of view, not only those who have directly participated in the production of wealth but those to whom Allah has made it obligatory upon others to help are the legitimate sharers in wealth. Hence, the poor, the needy, the paupers and the destitutes have a right to wealth too.
(c) Islam views that wealth, instead of becoming concentrated in a few hands, should be allowed to circulate in the society as widely as possible, so that the distinction between the rich and the poor should be narrowed down as far as is natural and practicable. Islam has not permitted any individual or group to have a monopoly over the primary sources of wealth, but has given every member of the society an equal right to derive benefit from them.

Of these three objects of the distribution of wealth, the first distinguishes Islamic economy from socialism, the third from capitalism, and the second from both at the same time.

[4] "And know that your possessions and your children are but a trial" (see verse 28 of Surah 8 of the Qur'an). "Seek the other world by means of what Allah has bestowed upon you" (see verse 77 of Surah 28 of the Qur'an).

[5] "We have distributed their livelihood among them in worldly life, and have raised some above others in the matter of social degrees, so that some of them may utilize the services of others in their work" (see verse 43 of Surah 32 of the Qur'an).

3.5 Principles of Islamic Economics and Banking

Islamic economics is based on the concept of economic well-being, universal brotherhood and justice, equitable distribution of income and freedom of the individual within the context of social welfare (Chapra 1979). The principles of Islamic economics promote for a society of well being, where every individual and organization commits to justice, equity and freedom. With a view to attaining these objectives, Islamic economics prohibits from certain forms of transaction and activities, while it promotes transactions within the permissible framework.

3.5.1 Differences Between Riba and Profit

In Islam, *riba* is strictly prohibited and profits through means of business are allowed. Though profit is, sometimes, explained or seen as like *riba*, but there are fundamental differences between *riba* and profit from Islamic viewpoint. In Table 3.1, the basic differences between *riba* and profit are shown in brief (Ahmad 2012).

Table 3.1 Differences between *Riba* and Profit

Riba	*Profit*
Riba is pre-fixed (guaranteed in advance) and thus always positive. It is always tied to the time period and the amount of the loan. *Riba*, however, can at best be very low or zero	Profit is post-determined, and thus its amount is not known until the activity is done. Profit, however, can be zero, positive or possibly negative
Riba, by definition, is an increment in a loan or debt "paying money for the use (rent) of money", whether this applies to consumption loans or production loans	Profit, by definition, is the recognized reward for capital when capital employed only in permissible productive business. It represents the effort and the risks undertaken by the supplier of capital in an enterprise
Riba means effortless profit or "surplus value without counterpart", and thus, lending on interest does not add value. It transfers only the use of funds temporarily from one person to another	Profit can only be claimed in the instance where either risk of loss has been assumed or effort has been expended

Source Author

3.5.2 *Ethics for Acceptable Economic Forms in Islam*

The *Shari'ah* principles of the rulings of *Ibadat* (worshiping activities) are that anything which is not validated by the *Shari'ah* is taken as prohibited, whereas the opposite is true for *Mua'malat* (social activities) in which everything is permitted except those explicitly forbidden by the *Shari'ah*. Kamali (1989) explains that all Islamic commercial laws should be accepted on the basis of permissibility as long as they are not in contradiction to the principles of *Shari'ah*. Besides the major prohibitions discussed above, the *Shari'ah* has developed a set of principles for economic activities and financial transactions. Principles enunciating justice, mutual help, free consent and honesty on the part of the parties to a contract, avoiding fraud, misrepresentation and misstatement of facts and negation of injustice or exploitation provide grounds for valid contracts (Ayub 2007). Islam laid down some ethical principles for all kinds of economic activities for being accepted in *Shari'ah*. Some important norms are discussed below.

Trade-Based Activities

The economic activities in Islam are not only based on the prohibition of *riba*, but also deal with the application of trade-based activities. Trade is a means of doing business transactions to avoid *riba*. The *Quran* says in this regard: "Allah has permitted trading and forbidden *riba*".[6] Islam not only permits but also encourages trading activities. Prophet (pbuh) said: "The truthful and trustworthy businessman will be in the company of Prophets, saints and martyrs on the Day of Judgment". Basically, trade is allowed in Islam because it assumes acquiring profits through equivalent countervalue (*iwad*), which consists of risk, work, effort and liability, while acquiring profits from a loan (i.e. *riba*) rejects the idea of risk-sharing and risk-taking (Rosly 2005). A predetermined return on an amount of money (i.e. interest) is forbidden, a variable return on capital provided for business purposes is compatible with the *Shari'ah*; provided that the proportions in which the profits will be shared among the parties of the contract are agreed in advance and losses, if any, are shared in strict proportion to the capital contributed by each party. Through the operations of Islamic banks, trade-based activities are used to replace interest-based activities through various underlying the *Shari'ah* principles.

[6] See verse 275 of Surah 2 of the Qur'an.

Profit and Loss Sharing

Islam does not allow gain from financial activities unless the beneficiary is subject to the risk of potential loss. The principles of *Shari'ah* promote a profit–loss-sharing framework as an ideal mode of financing. Under the financing model, both capital provider (i.e. lender) and entrepreneur (i.e. borrower) should jointly share the risks of the business through profit and loss. Profit should not be predetermined and fixed, but be uncertain and variable, and may even be negative. It should also consist of risk, work, effort and liability (Rosly 2005). Islam teaches that money must be used in a productive manner and the rewards of wealth should be derived from profit-and-loss-sharing arrangements that imply risk-sharing. It is expected that the owner of capital who participates in a venture by providing credit to the entrepreneur on a profit-and-loss-sharing basis will be more concerned with the use of his funds than if he lends them at fixed interest rates. Furthermore, the profit and loss sharing may lead to a more efficient and optimal allocation of resources than does the interest-based system. In addition, this framework is expected to reduce significantly the inequitable distribution of income and wealth and is likely to control inflation to some extent.

Halal Instruments

In *Shari'ah*, there are some commodities that are forbidden to eat or use. The people should not use, trade, finance, enterprise, manufacture or exchange these forbidden items as a means of trade. To name a few, Islam prohibits the sales of alcohol, gambling, casino activities, drugs, pork production, pornographic production, etc. The *Quran* says: "O you who have believed, indeed, intoxicants, gambling, [sacrificing on] stone alters [to other than Allah], and divining arrows are but defilement from the work of *Satan*, so avoid it that you may be successful".[7] The aim of *Shari'ah* in this regard is to promote ethical investment that does not affect the people and society adversely.

Welfare Approach

The economic activities in Islam should be dealt with honesty and equity, to carry out trading activities in a faithful and beneficial manner and to perform work with honest efforts. The Prophet (pbuh) said, "Religion

[7] See verse 90–91 of Surah 5 of the Qur'an.

(*din*) is sincerity (*nasiha*) (corrective advice, good counsel and sincere conduct)".[8] He also said: "Allah says: I am a one third partner of a two-man partnership until one of them acts dishonestly to his partner, and, in such an event, I then leave them".[9] The business activities in Islam should be based on the ethical values of Islam and any investments in unlawful businesses are prohibited (Ali 2000). Any business activities that aim at earning a profit through hoarding, black-marketeering, profiteering, short weighting and hiding the defects of merchandise are prohibited. Prophet (pbuh) said: "No one hoards but the traitors (i.e. the sinners)". He further said: "The importer [of an essential commodity] into the town will be fed [by Allah], and the hoarder will have [Allah's] curse upon him".[10] Islamic business can maximize profits only within the framework of social and moral conducts. Thus, the Islamic economic activities as well as the operation of Islamic banking should be directed to the achievement of the socio-economic objectives of an Islamic society and that is welfare of the Muslim community and human being as a whole.

Justice and Fair Dealing

Justice and fair dealing with all are among the important principles of economic activities in Islam. The *Quran* says: "…And let not the enmity and hatred of others make you avoid justice. Be just; that is nearest to piety".[11] The point is clear from the verses mentioned that whoever believes in Allah has to be just with everyone and be fair in conducts. The Islamic financial system cannot be introduced merely by eliminating *riba* but only by adopting the Islamic principles of social justice and introducing laws, practices, procedures and instruments which help in the maintenance, dispensation of justice, equity and fairness (Haron 2000). All revelations require Muslims to uphold justice and virtue as principles in managing their business dealings. Justice can be achieved by prohibiting all sources of unjustified transactions. Unjustified

[8] Al-Nawawi, Y. I. S. (1991). *Forty Hadith of Al-Nawawi*, Al-Basheer Publications and Translations, USA, p. 7.

[9] Abu-Dawood, S. I. A. (1999). *Sunan Abu-Dawood*, Darus Salam Publications, Riyad, KSA, Hadith No. 3383.

[10] Al-Hajjaj, M. I. (1999). *Sahih Al-Muslim*, Darussalaam Publishers, Riyad, KSA, Hadith No. 1605.

[11] See verse 8 of Surah 5 of the Qur'an.

transactions will result in an unjustified means of profit and wealth creation. Businesses should also be fair to the other party and rule out unjust dealings and oppression, and deceit or fraud.

Honesty and Gentleness

Honesty, truthfulness and care for others are among the basic lessons of Islam. The *Quran* says: "And measure full when you measure. And weigh with an even balance. This is better and its end is good".[12] The Prophet (pbuh) said: "Whosoever sells a defective product without disclosing its defect to the purchaser, shall earn the permanent anger of Almighty Allah and the angels continuously curse such a person".[13] Cheating others and telling lies are considered among the great sins in Islam. The *Quran* says: "Woe to those that deal in fraud. Those who, when they have to receive by measure from men, exact full measure. But, when they have to give by measure or weight to men, give less than due. Do they not think that they will be called to account?"[14] Similarly, misappropriation or defrauding others in specifying the goods and their prices are prohibited with a view to ensuring that the seller supplies the commodity as per its known and apparent characteristics and charges the fair price. The *Quran* says: "Fill the measure when you measure, and weigh with a perfectly right balance".[15]

Free Marketing and Fair Pricing

Islamic economic principles only accept a free market where prices are determined fairly and justly. The seller and buyer should act freely without any interference. The Prophet (pbuh) said: "The seller and the buyer have the right to keep or return the goods as long as they have not parted or till they part; and if both the parties spoke the truth and described the defects and qualities (of the goods), then they would be blessed in their transaction, and if they told lies or hid something, then the blessings of their transaction would be lost". The price of commodity should be rational and reasonable so that none of buyer or seller is to be cheated. If a person sells his goods at less than the cost price, he

[12] See verse 35 of Surah 17 of the Qur'an.

[13] Ibn-Majah, A. A. M. (1999). *Sunan Ibn-Majah*, Darussalaam Publishers, Riyad, KSA, Hadith No. 2247.

[14] See verses 1–4 of Surah 83 of the Qur'an.

[15] See verse 35 of Surah 17, verse 1–6 of Surah 86 of the Qur'an.

will ultimately be creating problems for others, which may create problems in the supply of that commodity. That is why *Caliph* Umar asked a trader who was selling at less than the market price to raise the rate to the market level or leave the market. Islam only promotes the genuine businesses.

Prohibition of Najash and Khalabah

Najash is bidding up the price without an intention of buying the commodity. The Prophet (pbuh) said: "A *Najish* (one who serves as an agent to bid up the price in an auction) is a cursed taker of *riba*".[16] He also said: "If anyone interferes in the market to create a rise in prices, God has right to cast him face down in Hell". The Prophet (pbuh) said: "Do not go in advance to meet *Rukb'an* (grain dealers coming to the town to sell goods) to buy their goods, nor should one of you sell over the head of another nor increase the price to excite another to buy *Najash*". This practice is not only prohibited in Islam but also unethical and harmful for the society creating disorders in the market. *Khalabah* means misleading, like misguiding unconscious clients by overprojecting the quality of a commodity. It is also prohibited in Islam. The Prophet (pbuh) said: "Refrain from swearing much while selling or doing business, for it may increase business (in the beginning) but brings destruction (ultimately)".[17] Thus, misleading advertisements are also not permitted in Islam.

Disclosure, Transparency and Facilitating Inspection

Information plays a vital role in the market. The client must be provided with enough genuine information of the commodity. False, misleading or deceitful information is forbidden. The client must be given enough opportunity to see and check the commodity. The Prophet (pbuh) said: "Deceiving a *Mustarsal* (an unknowing entrant into the market) is *riba*".[18] Concealing any vital information is considered as tantamount to the violation of contract, and the disadvantaged party has the right to rescind the contract. The Prophet (pbuh) once was passing by a man

[16]Ibn Hajar (1981) (Bab al-Najash). Ayub, M. (2007). *Understanding Islamic Finance*, Wiley, p. 66.

[17]Ayub, M. (2007), *Understanding Islamic Finance*, Wiley, p. 66.

[18]Suyuti, al-Jami'al-Saghir, under the word ghabn; Kanz al-'Ummal, Kitab al-Buyu', 2, p. 205.

who was selling grain. He asked him: "How are you selling it?" The man then informed him. The Prophet (pbuh) then put his hand in the heap of grain and found it wet inside. Then he said: "He who deceives other people is not one of us".[19] Hence, the Islamic ethics require that all information relevant to the valuation of the commodity should be disclosed to the client. Thus, disclosure of proper information, transparency and facilitating the client to inspect of the commodity are among the ethical principles of Islamic economic system.

Fulfilling the Covenants and Paying Liabilities

The *Quran* says: "And keep the covenant. Lo! Of the covenant it will be asked".[20] "O you who believe! When ye deal with each other, in transactions involving future obligations in a fixed period of time, reduce them to writing. Let a scribe write down faithfully as between the parties".[21] The Prophet (pbuh) said that one of the symbols of hypocrites is that they do not fulfil their promises. He also said: "After the major sins which must be avoided, the greatest sin is that someone dies in a state of debt and leaves behind no asset to pay it off".[22] So, the fulfilment of liabilities by the liable parties as per the contract is compulsory in Islamic business ethics. If the promisor does not fulfil the promise, the promisee has the right to recover the actual loss incurred by him due to the breach of promise.

Mutual Cooperation and Removal of Hardship

Mutual cooperation and solidarity are the important norms of Islamic ethics. Islam inspires to help others and prohibits from any harmful action to others. The *Qur'an* says: "Assist one another in the doing of good and righteousness. Assist not one another in sin and transgression, and keep your duty to Allah".[23] The Prophet (pbuh) said: "The Believers, in their affection, mercy and sympathy towards each other are like one human body – if one of its organs suffers and complains, the entire body responds with insomnia and fever". He also said: "Whoever

[19] Ayub, M. (2007), *Understanding Islamic Finance*, Wiley, p. 68.

[20] See verse 34 of Surah 17 of the Qur'an.

[21] See verse 282 of Surah 2 of the Qur'an.

[22] Malik-ibn-Anas (1999). *Al-Muwatta*, Darussalaam Publishers, Riyad, KSA, Hadith No. 1494.

[23] See verse 5 of Surah 2 of the Qur'an.

removes from a Believer a hardship from the hardships of this life, Allah will remove from him a hardship from the hardships of the Day of Judgment And whoever makes a difficult affair easy, Allah will make things easy for him in this life and the Hereafter And whoever covers a Muslim, Allah will cover him in this life and the Hereafter And Allah comes to the help of His servant as long as (or as much as) the servant comes to the help of his brother".[24] The Prophet (pbuh) said: "If anyone would like Allah to save him from the hardships of the Day of Resurrection, he should give more time to his debtor who is short of money, or remit his debt altogether".[25] He further said: "May Allah's mercy be on him who is lenient in his buying, selling, and in demanding back his money [or debts]".[26] Thus, mutual cooperation, removal of hardship and sympathy to the weaks are among the Islamic ethical principles.

3.6 Concept of Money and Capital in Islam

Islam does not treat money as a commodity as it cannot perform any function by itself; rather, Islam treats money as a medium of exchange and a store of value. Money has no intrinsic value; it becomes useful only when it is exchanged with a real asset or when it is used to buy a service. Money cannot be sold nor rented out to generate "surplus value by itself". Therefore, money in Islam can only be exchanged for goods and services; it cannot be sold or bought on credit. It can only be generated through lawful trade and investment where parties share the risks and rewards. Money only becomes capital when combined with other factors of production. Money, by itself, has no opportunity cost. A creditor cannot lend money for compensation for the credit period. Islam totally negates the idea of time value for money. The concept of money in Islam is that money has no intrinsic value but only a medium of exchange; all units of money of the same denomination are 100% equal to each other; the transactions of sale and purchase of commodity can only be affected

[24]Ibn-Majah, A. A. M. (1999). *Sunan Ibn-Majah*, Darussalaam Publishers, Riyad, KSA, Hadith No. 4303.

[25]Al-Hajjaj, M. I. (1999). *Sahih Al-Muslim*, Darussalaam Publishers, Riyad, KSA, Hadith No. 1563.

[26]Al-Bukhari, M. (1999), *Sahih Al-Bukhari*, Darussalaam Publishers, Riyad, KSA, Hadith No. 2076.

on an identified and specific commodity. Money has standard of value, which measures the relative different goods and services.

Islam recognizes capital and its role in the process of production. Islam recognizes its share in national wealth only to the extent of its contribution, to be determined as a variable percentage of the profits earned rather than a fixed percentage of the capital. Because, in Islam, capital is productive in the sense that labour with capital produces more than without capital. Again, profits are the result of investments in production. Profit motive induces an individual to save and invest as capital. Thus, the Islamic concept of capital seems to be more realistic, more comprehensive and more ethical than the modern concept of capital. It is realistic, because the productivity of capital, which is subject to change, is related to the realities of production, which is supposed to be mobile in the dynamic setting of growth. It is comprehensive, because it takes note of all variables like currency, population, inventions, habits, tastes, living standards, time-lag and so on. It is ethical, because the variable share or capital in an Islamic society must be just and equitable and must be free of exploitation of other agents of production, which contribute to the creation of national wealth.

3.7 Trust and Accountability in Islam

Trust is an important element of a social system. It is extremely efficient; it saves a lot of trouble to have a fair degree of reliance on other people's word (Arrow 1974). In Islamic view, man is responsible for the resources entrusted to him from Allah as His *khalifah* (vicegerent). Human being is a trustee for managing the resources and should act according to the principles *Shari'ah* and Islamic ethical values, particularly through the values of *halal* and *haram*, brotherhood, socio-economic justice, equitable distribution of income and wealth and fostering the common good. In the context of Islamic banking activities, the stakeholders trust Islamic banks to employ the resources in accordance with the *Shari'ah*. It needs to guarantee that all aspects of the operation, management, products and services are in compliance with *Shari'ah*. The expectation of the bank's stakeholders towards the management is seen as a form of trust. Thus, trust is believed as a divine symbol in the context of Islamic banking.

Another concept that arises from the responsibilities entrusted to mankind is accountability. One of the basic beliefs of Islam is that all are accountable to Allah on the day of judgement for all of their deeds. It

is understood that all humans are accountable to Allah for their deeds, and they will be rewarded or punished based on their good or evil deeds. Thus, humans are accountable for the use of the resources in the good or bad ways for themselves or for the society. This concept of accountability to Allah represents a different dimension of accountability beyond private and societal accountability unlike in the Western economic system. It implies a greater scope of accountability as it extends towards the society. In the context of Islamic banking, its management is accountable to the depositors in this world and in the hereafter if they fail to keep the trust invested in them. Hence, accountability in Islamic banks needs to be carefully managed in order to improve business performance and create sustained trust of shareholders, stakeholders, society and Allah.

3.8 Conclusion

The chapter focuses on some vital concepts of Islam relating to economic activities such as ownership, distribution of wealth and *zakat* system, on which Islamic economy practically based. In Islam, the absolute ownership of everything belongs to Allah, the Almighty God, as the creator and sustainer, and man is God's *caliph* or vicegerent on earth, and thus the man enjoys certain rights of usufruct in respect of certain things which have been created for the benefit of man. Thus, the human being is holding these things as a trustee. All the wealth should be spent following the divine instructions of Allah for the greater welfare of the society.

Besides these, Islam gives a number of ethical instructions for economic activities, which includes some prohibitions and some compulsions. Prohibition from *riba* (interest) is the very basic of Islamic banking, while prohibition from uncertainty, gambling and forbidden commodities are important. Islamic instructions promote trade-based activities, sharing in profit and loss, dealing in a just and fair manner, marketing freely, pricing fairly through very transparent ways of covenants, without any secrets, harms and hards. Essentially, the concept of money and capital in Islam explained.

The chapter also highlights the Islamic views towards trust, morality and accountability. In Islam, humans are accountable to Allah in the after world for all their deeds good or bad. They will be rewarded for good deeds or punished for evil deeds. This unique concept of accountability in Islam makes the individuals self-accountable and self-responsible.

Thus, human being is expected to be just towards mankind as well as the entire society in managing the resources. Mankind is also responsible for the universe, environment, wealth and other creatures, and this responsibility should be based on trust and justice.

References

Ahmad, A. (2012). Ethical Banking and Finance: A Theoretical and Empirical Framework for the Cross-Country and Interbank Analysis of Efficiency, Productivity, and Financial Performance, Unpublished thesis, Stuttgart: The University of Hohenheim.

Ahmad, A. U. F. (2002). *Islamic Banking in Bangladesh*, Unpublished thesis, University of Western Sydney, School of Law.

Ahmad, K. (2000). Islamic Finance and Banking: The Challenge and Prospects. *Review of Islamic Economics*, 9(1), 57–82.

Ali, M. (2000). Equity and Morality in Islamic Banking. In A. Siddiqi (ed.) *Anthology of Islamic Banking*. London: Institute of Islamic Banking and Insurance.

Anwar, H. (2008). *Islamic Finance: A Guide for International Business and Investment*. London: GMB Publishing.

Arrow, K. J. (1974). *The Limits of Organization*. New York: W. W. Norton.

Ayub, M. (2007). *Understanding Islamic Finance*. Chichester: Wiley.

Chapra, M. U. (1979). *Objectives of the Islamic Economic Order*. Leicester: The Islamic Foundation.

Haron, S. (1997). *Islamic Banking: Rules and Regulations*. Kuala Lumpur: Pelanduk Publications.

Haron, S. (2000). The Philosophy of Islamic Banking. In A. Siddiqi (ed.) *Anthology of Islamic Banking*. London: Institute of Islamic Banking and Insurance.

Iqbal, M., & Molyneux, P. (2005). *Thirty Years of Islamic Banking: History, Performance and Prospect*. New York: Palgrave Macmillan.

Kabir, H., & Lewis, M. (2007). *Handbook of Islamic Banking*. Cheltenham: Edward Elgar Publishing.

Kamali, M. H. (1989). *Principles of Islamic Jurisprudence*. Cambridge: Islamic Texts Society.

Karim, R. A. A. (2001). International Accounting Harmonization, Banking Regulation, and Islamic Banks. *The International Journal of Accounting*, 36(2), 169–193.

Mahajan, V. D. (1991). *Legal Theory and Justice*. New Delhi: Orient Longman (P) Ltd.

Mannan, M. A. (1980). *Islamic Economic: Theory and Practice*. New Delhi, India: Idarah-i-Adabiyat-i-Delhi.

Memon, N. A. (2007). Islamic Banking; Present and Future Challenges. *Journal of Management and Social Science*, 3(1), 1–10.

Rahman, F. (1982). *Islam and Modernity: Transformation of an Intellectual Tradition*. Chicago: Center for Middle Eastern Studies.

Ramadan, T. (2004). *Western Muslims and the Future of Islam*. New York: Oxford University Press.

Rosly, S. A. (2005). *Critical Issues on Islamic Banking and Financial Markets*. Kuala Lumpur: Dinamas.

Siddiqi, M. N. (2004). *Riba, Bank Interest and the Rationale of its Prohibition*. Islamic Research and Training Institute, Islamic Development Bank, Jeddah, KSA, 18.

Venardos, A. (2005). *Islamic Banking and Finance in South-East Asia: Its Development and Future*. Singapore: World Scientific.

Visser, H. (2009). *Islamic Finance: Principles and Practices*. Cheltenham: Edward Elgar Publishing.

Usmani, M. I. A. (2002). *Meezan Bank's Guide to Islamic Banking*. Karachi: Darul-Ishaat Urdu Bazar.

Wehr, H. (1976). *A Dictionary of Modern Written Arabic*. New York: Spoken Language Services.

PART II

Risk-Sharing, Islamic Bank Capital and Financial Regulation

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CHAPTER 4

Capital Structure and *Shari'ah* Compliance Firms: Malaysian Evidence

Asyraf Abdul Halim, Mohd Edil Abd Sukor and Obiyathulla Ismath Bacha

4.1 Introduction

In the literature of corporate finance, there exists alongside others, an age long inquiry into the behaviour and determinants of corporate capital structure. The study into capital structure behaviour was pioneered by Modigliani and Miller (1958, 1963) and which is still widely research today. Despite years of research, much are still unknown to us, which determinants are reliable explanator of capital structure variations across firms and time. In 1984, Stewart C. Myers officially introduced the "Capital Structure Puzzle" in his American Finance Association Presidential Speech. The capital structure puzzle at its heart asks the

A. A. Halim · M. E. A. Sukor (✉)
Faculty of Business and Accountancy, University of Malaya, Kuala Lumpur, Malaysia
e-mail: mohdedil@um.edu.my

O. I. Bacha
International Centre for Education in Islamic Finance, Kuala Lumpur, Malaysia

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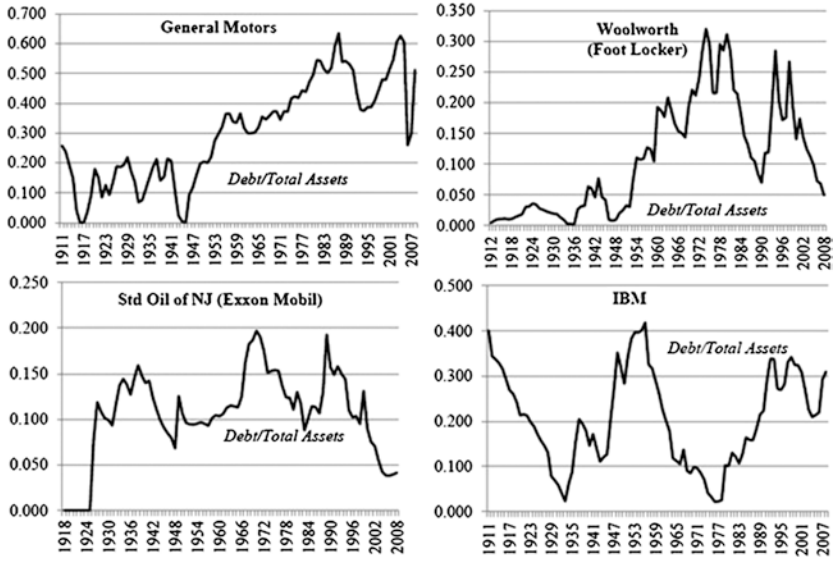

Fig. 4.1 The typical capital structure variation of US blue-chip firms (*Source* DeAngelo and Roll 2015)

question of how do firms decide and manage their capital structure? Figure 4.1 demonstrates how the debt-to-total assets ratio (one of the more prominent variables used in capital structure studies) varies across different firms, different industries and different times. What factors go into deciding these variations across firms and time?

The most significant and widely discussed theories are the Static and Dynamic Trade-Off Theory, the Peking Order Theory and the Market Timing Hypothesis. Although there are a number of other theories often labelled as "Managerial Theories" such as the Incentive-Signalling Approach (Ross 1977), Managerial Discretion (Stulz 1990) and Discretionary Expenses Approach (Myers 1977). A special recognition must be given to Jensen and Meckling (1976) for their excellent work on agency costs of equity and debt. The Trade-Off Theory suggests that in an imperfect capital markets with interest tax shields, there exists an optimum mixture of debt and equity whereby the weighted average costs of capital is at its minimum. More importantly however, the Trade-Off Theory predicts that the historical variation in capital structure seen

across capital markets are as a result of the cumulative movements of firm's trying to achieve the target capital ratio from a non-optimum capital structure position. There, however, exists a disagreement amongst the scholars on the efficacy of the aforementioned prediction of the Trade-Off Theory. Firms after all may actually have a static or dynamic target capital ratio, however, due to fluctuating firm-specific factors, (such as net income, financial slack, growth opportunities and such) as well as external market factors (such as the costs of equity and debt) the firm may well be derailed from ever achieving its target capital ratio and thus rendering the balancing act between interest tax shield benefits and leverage-related costs irrelevant.

Myers and Majluf (1984) seek to provide an alternative explanation for historical capital structure variation. They proposed that the historical capital structure variation seen in across capital markets is a direct result of firms' managers following the Peking Order Hierarchy, as a way to protect the interests of old shareholders as well as to reduce the costs of asymmetrical information. The Peking Order Hierarchy prioritises internal funds, then external debt and finally external equity, in that particular order when they are in need of funds in order to pursue positive-NPV projects. Unfortunately, the Peking Order Theory suffers a serious predicament in explaining historical capital structure variation. Firstly, any incident whereby the firm issues securities in a way that is not in accordance with the Peking Order Hierarchy would serve as an evidence against it, Employee Share Ownership Plans are particularly relevant here. There is also evidence that the Pecking Order Theory is biased towards mature firms.

While the Trade-Off Theory and the Peking Order Theory focuses more on firm-specific behaviour, Baker and Wurgler (2002) introduce the Market Timing Hypothesis which places more focus, if not all attention to the conditions of the external equity and debt capital markets as a means to explain the historical capital structure variation. Specifically, the Market Timing Hypothesis posits that the historical capital structure variation is as a direct result of the cumulative actions of firm timing their debt and equity issuance when conditions of external capital markets are favourable for them to do so. However, notwithstanding the fact that the empirical evidence in support of the Market Timing Hypothesis is prevalent with methodological and variable issues, the Market Timing Hypothesis also puts unduly high focus on only external capital market conditions and almost completely zero attribution to internal firm-specific conditions. This explains why there does not exist a unanimous agreement amongst

the scholars of the notion that the Market Timing Hypothesis may provide a holistic explanation of the historical capital structure variation. In summary, the three main theoretical arguments briefly demonstrated beforehand are able to partially explain the behaviour of historical capital structure variation for certain segments of firms and at a certain period of times. However, it is difficult to defend the notion that any of the three, or a combination of them, is able to provide an exhaustive explanation of the historical capital structure variation, and thus, the capital structure puzzle may be arguably, theoretically, unanswered.

Although there exist exploratory works on capital structure behaviour in the Malaysian capital markets, there have not been, as far as we know, any empirical study that specifically analyse market timing behaviour in the Malaysian context. However, since 80% of the Malaysian publicly listed firms are *Shari'ah*-compliant, combined with the fact that Malaysia is at the forefront of the Islamic Finance industry, our analysis extends further than an explanatory inquiry into the Malaysian Market. It instead is the first study to investigate market timing behaviours in the most advanced *Shari'ah*-compliant capital markets in the world. Our findings suggest that the market timing variables may not play a significant role in determining *Shari'ah*-compliant firm's capital structure behaviour. The same may be said to be true for Peking Order Behaviour as well. Our findings also suggest an existence of the target capital ratio and a significantly fast Speed of Adjustments (SOA). The latter findings, coupled with the lack of evidence supporting the Market Timing Hypothesis and the Peking Order Theory, may indicate that the Trade-Off Theory play a dominant role in *Shari'ah*-compliant Firm's capital structure.

This chapter is outlined as follows. Section 4.2 describes the literature review. Section 4.3 exhibits out methodology. Section 4.4 discusses the results, and finally, Sect. 4.5 provides a summary of our findings and conclusion.

4.2 Literature Review

4.2.1 Trade-Off Theory

The Trade-Off Theory, introduced by Modigliani and Miller (1958), posits that in an imperfect capital markets with tax shield benefits, there should exist an optimum mix of debt and equity, or in other words an optimum capital ratio, which minimises the costs of capital of the firm

and subsequently increases the firm's value. The optimum capital ratio is obtained as a result of the firm balancing the benefits of additional interest tax shields as more debt is taken against increasing leverage-related costs borne when the firm takes on more debt (leverage-related costs include, but not limited to, added bankruptcy risks and agency costs of debt). When the marginal benefit of the interest tax shield is exactly balanced out by the marginal leverage-related costs, the firm is said to have achieved an optimal capital structure. The exact optimum capital ratio depends on firm-specific characteristics such as size, tangibility, profitability and so forth. Therefore, the Trade-Off Theory predicts that there should exist a cross-sectional relationship between a firm's target capital ratio (another name for the optimal capital ratio) and firm-specific variables.

4.2.2 The Pecking Order Theory

The Pecking Order Theory, pioneered by Myers and Majluf (1984), offers the exact alternative force behind capital structure variation. It posits that the firm's managers, in an effort to minimise the costs of asymmetrical information that they have over outside investors and the adverse selection that investors may make, follows a pecking order hierarchy when they are in need of funds. Suppose a firm is granted an opportunity to invest in a positive-NPV project. If it does not take this project, its competitors will, and so it is in the firm's interest to take this project. But how will the firm finance this investment? The Pecking Order Theory posits that the firm will first rely on any retained earnings that it may have. If it does not have any retained earnings, it will rely on external debt. If external debt too is not available (due to a variety of reasons, for example, the interest expense could be too expensive, or the debt covenant could be too rigid, or the firm may face a severe downgrade in its rating if it takes on more debt), only then will it resort to issuing external equity. The Pecking Order Theory theorise that the cumulative effect of the firm's behaviour of following this specific financing hierarchy is what causes the historical capital structure variation we see today.

4.2.3 The Market Timing Hypothesis

Baker and Wurgler (2002) introduced the Market Timing Hypothesis as a way of explaining capital structure variation. The Market Timing Hypothesis postulates that firms time their securities issuance to external

capital market conditions. For example, firms may issue more debt when the current debt market conditions are favourable, even though they may not have the financing need to do so. The firm, thus, simply grows financial slack to be used in the future when investment opportunities arise. The same could be argued for equity issuance. This concept is largely inspired by Graham and Harvey's (2001) survey on CFOs across the USA that suggests that they practise the market timing behaviour on a regular basis. The hypothesis further posits that the historical capital structure variation observed is as a result of the accumulation of firms following the market timing behaviour. Therefore, past studies on market timing goes beyond simply demonstrating the presence of market timing behaviour in capital structure regressions, they emphasise the demonstration of the persistence of market timing effects on the firm's capital structure over a long period of time. This is done to rule out the suggestion that market timing behaviours are only transitory in nature and disappear over long periods of time.

4.2.4 Firm Fixed Effects

The next advancement in the study of capital structure begins with Flannery and Rangan (2004), who show how firm fixed effects, has significant explanatory power in explaining capital structure variation. Subsequently, Lemmon et al. (2008) affirm this finding alongside a number of other papers such as Mackay and Phillips (2005), Parsons and Titman (2008), Rauh and Sufi (2011) and Graham and Leary (2011). Together, these papers suggest that when firm fixed effects are included in capital structure regressions, the traditional determinants of capital structure (such as size, tangibility, research and development expense, financing deficits and so forth) start to become insignificant. Thus, although it is not technically a theory, there seems to be a consensus amongst capital structure scholars that firm fixed effects are the main explanator of capital structure variation. Firm fixed effects are time invariable determinant whose effects apply to the specific firm without the consideration of time. The capital structure puzzle has apparently been solved.

4.2.5 Empirical Evidence in Developed and Developing Nations

Rajan and Zingales (1995) provide the earliest forays of capital structure analysis in developed nations other than the USA. Their analysis yielded

the evidence that demonstrates that much of the traditional trade-off variables (specifically sales, size, market-to-book ratio, tangibility and profitability) that are found to be significant in the USA, also play a similar role in the capital structure of firms in the G-7 countries. Huizinga et al. (2007), on the other hand, develop a theoretical framework on international debt shifting and their subsequent empirical analysis offers supporting evidences of the notion that multinational firms with European subsidiaries tend to have their subsidiaries' capital structure in a relationship with the subsidiaries home country's corporate tax rate policies. These two papers exhibit strong empirical evidence for the Trade-Off Theory for firms in the developed nations. However, papers, such as Antoniou et al. (2008) who show evidence for the Trade-Off Theory, Peking Order Theory and even Market Timing Hypothesis, question the dominance of the Trade-Off Theory alone.

In developing nations, on the other hand, Booth et al. (2001) demonstrate how firms in developing and developed countries share the same important variables in their capital structure determinant. However, they also document significant differences amongst 10 developing countries which they attribute to different institutional factors such as the rule of law and tax framework. Nonetheless, the paper did remark on how profitability consistently has a negative relationship with leverage levels, which provide support for the Trade-Off Theory in developing countries. However, papers such as De Jong et al. (2008) reminds us of how much is still unknown to us as to what exactly are the determinants of capital structures in developing countries since the paper exhibit evidences that capital structure factors may not be so homogenous amongst developing countries, which starkly challenge the findings of the papers previously.

4.2.6 The Malaysian Context

In the case of Malaysia, many studies try to document the determinants of capital structure with mixed results. Some studies such as Baharuddin et al. (2011) exhibit a negative relationship between profitability and leverage levels, and a positive relationship amongst size, growth opportunities and assets with leverage levels. These findings are also supported by Ting and Lean (2011) where profitability is recorded to have a negative relationship with leverage levels amongst both government-linked companies (GLCs) and non-GLCs. However, their results suggest a negative

relationship between size and leverage amongst GLCs, in contrasts with Baharuddin et al. (2011).

On the other hand, there are a number of papers who do not attempt to investigate capital structure determinants from a wide perspective; instead, they focused on specific aspects of capital structure behaviour. Studies such as Haron and Ibrahim (2012) and Ting (2016) focused on determining whether a target capital structure exists amongst Malaysian publicly listed firms. They confirm that there indeed exists a target capital ratio.

4.3 Methodology

4.3.1 Data Description

We first comprehensively mapped out all firms that were *Shari'ah*-compliant from the inception of the *Shari'ah*-stock Screening Framework in 1997–2016. We then filter these firms to identify those that remain publicly listed, survive in their business (i.e. the firm did not shutdown or go bankrupt) and remain *Shari'ah*-compliant for the entire duration. We end up with 77 firms with 1540 panel firm-year observations. We require our data sample to go through this very stringent filter due to the fact that we needed the longest time period possible in order to gain the most robust estimation of the relationships amongst our variables. Our data sample includes only those firms that are 100% of the time between 1996 and 2016 *Shari'ah*-compliant. This means that they have never lost their *Shari'ah*-compliant status since the inception of the *Shari'ah* Stock Screening Filter. It is well known that *Shari'ah*-compliant status of certain firms tend to be attained, lost and reattained again relatively often, as often as every 6 months. We opined that the behaviour of firms who repetitively lose and gain their *Shari'ah*-compliancy status are poor reflections of the behaviour of genuinely and consistently *Shari'ah*-compliant firms. Therefore, we exclude these firms and include only those firms whom are *Shari'ah*-compliant for the entire duration of the study to ensure that whatever relationship we discover amongst our variables are true reflections of capital structure behaviour of *Shari'ah*-compliant firms.

Table 4.1 describes the summary statistics for our all our main variables. It is evident that book debt amongst *Shari'ah*-compliant firms tends to be relatively low in terms of mean and volatility. This is in line with

Table 4.1 Summary statistics

Variable	*Mean*	*Standard deviation*
Book debt	0.001	0.104
Market debt	0.475	0.239
CAPEX	0.042	0.043
Tangibility	0.400	0.201
GDP	0.021	0.176
OIBD	0.102	0.074
Financing deficit	0.645	0.106
Hot debt market	0.582	0.493
Hot equity market	0.531	0.499
Q-ratio	0.845	0.719
Effective tax rate	0.244	0.421
R&D expenses	0.914	0.280
Equity risk premium	0.018	0.015
EFWAMB	7.281579×10^6	2.35×10^7
Sales	0.812	0.440

the view that *Shari'ah*-compliant firms and institutions tend to be more risk averse and conservative in their debt policy coupled with the fact that *Shari'ah*-compliant firms may not access to cheap long-term debt since the Malaysian *Sukuk* market may not be as liquid as the global conventional bond market. Market debt on the hand has a higher mean and almost double the volatility. This could be due to the fact that the inclusion of market equity in the calculation of market debt causes market debt to be a function of volatile floated public shares. All the firm-specific variables such as Sales, CAPEX, Tangibility, Operating Income before Depreciation (OIBD), Effective Tax Rate and R&D Expenses are relatively low in volatility, reflecting the conservative nature of *Shari'ah* compliant firms. Only the Q-ratio is significantly higher in volatility amongst the firm-specific factors. This may be attributed to the inclusion of market equity in the calculation of the Q-ratio.

Market timing variables such as the External Financing Weighted Average Market-to-Book Ratio (EFWAMB), Hot Debt and Equity Market and the Equity Risk Premium (ERP) on the other hand suffers significantly high volatility compared to firm-specific variables, particularly for the EFWAMB. Only the implied ERP seemed to have a stable volatility for the entire duration of the study. The instability of the market timing variables reflect the fundamental flaws of each variable. It is

well known in studies such as Hovakimian (2006), Hovakimian et al. (2004) and Alti (2006) that market timing variables suffer heavily from statistical bias and limitations, as well as inferential problems. Suffice to say that we rely and adhere to previous literatures' methodology of calculating these variables in order to access market timing behaviours on *Shari'ah*-compliant firms' capital structure.

Lastly, the Peking Order variables such as the OIBD and the Financing Deficits are shown to have enduring stability throughout this study.

4.3.2 Model Specification

We begin our analysis with the specification of our model. We regress the following model first with the Fixed Effects Regression and subsequently with Dynamic GMM Regression.

$$Y_t = Y_{t-1} + \text{EFWAMB}_{t-1} + \text{ERP}_{t-1} + \text{HotEq}_t + \text{HotDebt}_t + X_{t-1} + u_t + \eta_i \tag{4.1}$$

where Y_t are four different measures of leverage as defined by previous literatures. They include the change in book and market leverage, as well as level book and market leverage. It is acknowledged in the literature that there exist no single measurements of leverage that can suit all capital structure analysis (Graham and Leary 2011). Different measurements of leverage could lead to different results. We therefore utilise the four most common measurements of leverage to obtain robustness in our results.

EFWAMB is introduced by Baker and Wurgler (2002) whom argue that it is a better measurement of market timing behaviour compared to the usual Market-to-Book Ratio. The ERP is pioneered by Damodaran (2013). It is a variable that measures the difference in risk and returns required between a corporate's safe debt and its risky equity. The variable HotEq_t & HotDebt_t is a variation the Hot-Market variable utilised in Alti (2006). In Alti (2006), total IPOs (equity issuances) across all firms are collected over the duration of their study. The variable X_{t-1} are a collection of the "usual" determinants of leverage as established by previous literatures such as Rajan and Zingales (1995), Flannery and Rangan (2004), Hovakimian et al. (2004) and Fama and French (2002). They include Sales, CAPEX, Tangibility, the Q-ratio, OIBD (which is also known as profitability), Effective Corporate Tax Rate, Financing Deficit and the R&D Expenses. It is crucial that these variables be included

in our regression since omitting them would increase the likelihood of model misspecification. Lastly, we include the time-invariant firm fixed effects, measured by the variable η_i, since it has been shown by Flannery and Rangan (2004) as well as Lemmon et al. (2008) that firm fixed effects may in fact be a crucial determinant of capital structure variation. Therefore, including them in our model is crucial to avoid the pitfalls of model misspecification.

The focus of our model is to observe the market timing variables, EFWAMB, ERP and both the Hot-Market variables for equity and debt. If they are significant with correct positive or negative signs, then it is evidence of market timing behaviour amongst *Shari'ah*-compliant firms. We should also investigate the significance of the traditional determinants of capital structure to see if they hold water. Lastly, we should pay extra attention to the lagged dependent variable as it allows us to discover whether a target capital ratio exists and whether the SOA towards the target capital ratio is significantly fast.

4.4 Results

Table 4.2 provides the result of the empirical estimation, based on four different dependent variables: book leverage and market leverage, both of which are at level first difference. The book leverage and market leverage are expressed as a fraction of the firm's total assets, respectively.

4.4.1 Efficacy of the Market Timing Hypothesis

Table 4.2 demonstrates how market timing variables EFWAMB, Hot Market for debt and equity and the ERP holds little explanation across all four measurements of leverage. EFWAMB, the bulwark of the Market Timing Hypothesis, is not significant in all four of our models. The coefficients it has is also extremely small. This may suggest that the effects of the EFWAMB on *Shari'ah*-compliant firm's capital structure are statistically and economically insignificant. This perhaps reflects the fundamental flaws in the EFWAMB in terms of its calculation and also its self-imposed over limitation. For example, in the calculation of the EFWAMB, all values less than zero or more than 10, will be forced to be set at zero. This leads to the diminution of the effects of the EFWAMB has on the firm's capital structure. In any case, the EFWAMB could not provide evidence for the Market Timing Hypothesis in our study.

Table 4.2 Fixed effect estimation

Variables	*Book leverage*	*ΔBook leverage*	*Market leverage*	*ΔMarket leverage*
Sales_{t-1}	−0.00468	−1.46***	−0.0451***	−0.0379**
	(0.652)	(0.001)	(0.002)	(0.015)
EFWAMB_{t-1}	-1.74×10^{-11}	4.84×10^{-9}	3.61×10^{-10}	4.07×10^{-10}
	(0.950)	(0.705)	(0.357)	(0.327)
CAPEX_{t-1}	0.239***	−8.805***	0.0247	−0.0260
	(0.000)	(0.002)	(0.779)	(0.786)
Tang_{t-1}	−0.0286	1.182	0.0893***	0.0262
	(0.204)	(0.204)	(0.005)	(0.425)
GDP_{t-1}	–0.109***	−2.143***	0.243***	0.312***
	(0.000)	(0.003)	(0.000)	(0.000)
OIBD_{t-1}	0.0142	3.867***	−0.125**	−0.0338
	(0.699)	(0.000)	(0.017)	(0.572)
DEF_{t-1}	0.000231	−3.44***	−0.0369**	−0.0314
	(0.983)	(0.001)	(0.042)	(0.375)
$\text{Hot Debt Mkt}_{t-1}$	−0.0191***	−0.232	−0.00604	−0.00876
	(0.001)	(0.400)	(0.470)	(0.321)
Hot Eq Mkt_{t-1}	−0.00299	0.126	0.005	0.00347
	(0.525)	(0.550)	(0.452)	(0.618)
Q_{t-1}	−0.00159	−1.183***	0.0317***	0.0768***
	(0.753)	(0.000)	(0.000)	(0.000)
Tax Rate_{t-1}	−0.00662	0.0303	0.00613	0.00694
	(0.171)	(0.896)	(0.367)	(0.354)
RDD_{t-1}	0.00197	−1.528**	−0.0292	−0.00926
	(0.924)	(0.039)	(0.327)	(0.764)
$\text{R\&D Expense}_{t-1}$	-4.26×10^{-14}	2.98×10^{-12}	3.71×10^{-13}***	4.49×10^{-13}***
	(0.696)	(0.526)	(0.006)	(0.003)
ERP_{t-1}	0.204	8.236	0.301	0.407
	(0.285)	(0.356)	(0.269)	(0.158)
Leverage_{t-1}	0.770***	4.167***	0.699***	0.198***
	(0.000)	(0.000)	(0.000)	(0.000)
η	0.627**	−0.268	0.134***	−0.0602
	(0.012)	(0.772)	(0.000)	(0.109)
R^2	0.623	0.329	0.470	0.135

Figures in parentheses indicate *p*-values
***indicates significance at 1% confidence level
**indicates significance at 5% confidence level

4.4.2 Peking Order Variables

The result from Table 4.2 indicates that Peking Order variables have mixed results. Only for the first difference book leverage and the level market leverage variable have the significant Peking Order variables.

The Peking Order variables have a mixed consequence towards leverage. OIBD has a strong positive relationship with the first difference book leverage, which offers significant evidence against the Peking Order Theory, since a higher OIBD should imply a higher profitability, which should contribute to a higher accumulation of financial slack, in turn reduce the firm's need to raise debt in order to meet their investment needs. However, results suggest that the exact opposite relationship, in which higher OIBD results in increases in debt. On the other hand, when using fixed effect regressions, it tends to underestimate the coefficient of independent variables.

4.4.3 Firm-Specific Variables

Interestingly, sales show a consistently negative relationship in all four models, with three of them being significant. This is against the theoretical prediction that with more sales firms' taxable income will increase, which in turn increases the interest tax shield incentives, and entice the firm to take up more debt. This result suggests that *Shari'ah*-compliant firms tend to accumulate financial slack over time and release them when they are facing financial deficit, thus, more sales leads to lesser need of leverage across time. Furthermore, CAPEX, Tangibility and the Q-ratio have a mixed relationship, while R&D Expenses have a positive relationship with leverage, suggesting that *Shari'ah*-compliant firms fund their research and development expenses with leverage.

4.4.4 Firm Fixed Effects

In 3 out of 4 of our models, firm fixed effects η, are significant and with a consistently positive relationship with leverage (except for the last model with first differenced market leverage, however the coefficient is only mildly negative, the underestimation of firm fixed effects regression may cause a bias in the coefficient, and the coefficient might me mildly positive after all). Our results concur with the findings of Flannery and Rangan (2004) and Lemmon et al. (2008) that give support for firm fixed effects as an explanator of capital structure variation.

4.4.5 Target Leverage and the Speed of Adjustments (SOA)

Our results show that the *Shari'ah*-compliant firms do indeed have a target capital ratio as evidenced by the consistently significant lagged

dependent variable in all four of models. The coefficient of the lagged dependent variable for book leverage and market leverage suggests that a SOA of roughly 23–30%, which is relatively fast compared to other studies (Huang and Ritter 2009). The evidence of the target capital ratio means that *Shari'ah*-compliant firms make incremental changes in their capital structure to reach their optimal capital structure, which maximises the value of the interest tax shield and the value of the firm. The 30% SOA suggests that *Shari'ah*-compliant firms reduced the gap between their current sub-optimal capital structures to an optimum one by 30% per year. This means that the firm's capital structure has a half-life of less than 2 years and would reach the optimum point by year 3.

4.5 Conclusion

This study aims to examine the capital structure behaviour of *Shari'ah*-compliant firms who maintains the longest continuous *Shari'ah*-compliancy and survivability with a special focus on market timing behaviour as well as the other theories of capital structure. This study demonstrates that the Market Timing Hypothesis holds little explanatory power over the capital structure variation of *Shari'ah*-compliant firms. In addition, this study does not support the arguments that *Shari'ah*-compliant firms timing their securities issuance with respect to capital market conditions. This may stem from the relative lack of depth, liquidity and flexibility of the Islamic capital markets compared to the conventional capital markets.

Although Peking Order variables are consistently significance, the magnitude of coefficients is not consistent with the theoretical predictions. Thus, the result indicates a weak support for the Peking Order Behaviour amongst *Shari'ah*-compliant firms. Moreover, there exists a target capital ratio amongst *Shari'ah*-compliant firms, reaffirming the findings in Islamic literature on capital markets (Haron and Ibrahim 2012). A significantly high SOA with the most conservative estimation suggesting SOA is between 23 and 68.7%. The existence of the target capital ratio and a fast SOA serves as a significant evidence for the Trade-Off Theory. Hence, the study confirms that the longest surviving *Shari'ah*-compliant firms follow the Trade-Off Theory in terms of their capital structure behaviour.

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References

Alti, A. (2006). How Persistent is the Impact of Market Timing on Capital Structure? *The Journal of Finance*, 61(4), 1681–1710.

Antoniou, A., Guney, Y., & Paudyal, K. (2008). The Determinants of Capital Structure: Capital Market Oriented Versus Bank Oriented Institutions. *Journal of Financial and Quantitative Analysis*, 43(1), 221–243.

Baharuddin, N. S., Khamis, Z., Mahmood, W. M. W., & Dollah, H. (2011). Determinants of Capital Structure for Listed Construction Companies in Malaysia. *Journal of Applied Finance and Banking*, 1(2), 115–132.

Baker, M., & Wurgler, J. (2002). Market Timing and Capital Structure. *The Journal of Finance*, 57(1), 1–32.

Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital Structures in Developing Countries. *The Journal of Finance*, 56(1), 87–130.

Damodaran, A. (2013). Equity Risk Premium (ERP): Determinants, Estimation and Implication—The 2012 Edition. In O. Roggi & E. I. Altman (eds.) *Managing and Measuring Risk Emerging Global Standards and Regulations After the Financial Crisis*. Singapore: World Scientific.

DeAngelo, H., & Roll, R. (2015). How Stable Are Corporate Capital Structures? *The Journal of Finance*, 70(1), 373–418.

De Jong, A., Kabir, M. R., & Nguyen, T. T. (2008). Capital Structure Around the World: The Role of Firms and Country Specific Determinants. *Journal of Banking and Finance*, 2(9), 1954–1969.

Fama, E., & French, R. (2002). Testing Trade-Off and Pecking Order Predictions About Dividends and Debt. *Review of Financial Studies*, 15(1), 1–33.

Flannery, M., & Rangan, K. (2004). Partial Adjustment Toward Target Capital Structures. *Journal of Financial Economics*, 79(3), 469–506.

Graham, J., & Leary, M. (2011). A Review of Empirical Capital Structure Research and Directions for the Future. *Annual Review of Financial Economics*, 3(1), 309–345.

Haron, R., & Ibrahim, K. (2012). Target Capital Structure and Speed of Adjustments: Panel Data Evidence on Malaysia *Shari'ah* Compliant Securities. *International Journal of Economics, Management and Accounting*, 20(2), 87–107.

Harvey, G. (2001). The Theory and Practice of Corporate Finance: Evidence from the Field. *Journal of Financial Economics*, 60(2–3), 187–243.

Hovakimian, A. (2006). Are Observed Capital Structures Determined by Equity Market Timing? *Journal of Financial and Quantitative Analysis*, 41(1), 221–243.

Hovakimian, A., Hovakimian, G., & Tehranian, H. (2004). Determinants of Target Capital Structures: The Case of Dual Debt and Equity Issues. *Journal of Financial Economics*, 71(3), 517–540.

Huang, R., & Ritter, J. R. (2009). Testing Theories of Capital Structure and Estimating the Speed of Adjustment. *Journal of Financial and Quantitative Analysis*, 44(2), 237–271.

Huizinga, H., Laeven, L., & Nicodème, G. (2007). Capital Structure and International Debt Shifting. *Journal of Financial Economics*, 88(1), 80–118.

Jensen, M., & Meckling, W. (1976). Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360.

Lemmon, M., Roberts, M., & Zender, J. (2008). Back to the Beginning; Persistence and the Cross-Section of Corporate Capital Structure. *The Journal of Finance*, 63, 1575–1608.

MacKay, P., & Phillips, G. M. (2005). How Does Industry Affect Firm Financial Structure? *The Review of Financial Studies*, 18(4), 1433–1466.

Modigliani, F., & Miller, M. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *American Economic Review*, 48(3), 261–297.

Modigliani, F., & Miller, M. (1963). Corporate Income Taxes and the Cost of Capital. *American Economic Review*, 53(3), 433–443.

Myers, S. C. (1977). Determinants of Corporate Borrowings. *Journal of Financial Economics*, 5(2), 147–175.

Myers, S. C. (1984). The Capital Structure Puzzle. *Journal of Finance*, 39(3), 575–592.

Myers, S. C., & Majluf, N. (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *The Journal of Financial Economics*, 13(2), 187–221.

Parsons, C., & Titman, S. (2008). Empirical Capital Structure: A Review. *Foundations and Trends in Finance*, 3(1), 1–93.

Rajan, R., & Zingales, L. (1995). What Do We Know About Capital Structure? Some Evidence from International Data. *The Journal of Finance*, 50(5), 1421–1460.

Rauh, J., & Sufi, A. (2011). Explaining Corporate Capital Structure: Product Markets, Leases, and Asset Similarity. *Review of Finance*, 16(1), 115–155.

Ross, S. (1977). The Determination of Financial Structure: The Incentive-Signalling Approach. *The RAND Journal of Economics (AKA The Bell Journal of Economics)*, 8(1), 23–40.

Stulz, R. (1990). Managerial Discretion and Optimal Financing Policies. *Journal of Financial Economics*, 26(1), 3–27.

Ting, I. W. K. (2016). Estimating Dynamic Panel Model of Leverage Decision: Evidence from Malaysia. *Procedia Economics and Finance*, 35, 263–273.

Ting, I. W. K., & Lean, H. H. (2011). Capital Structure of Government Owned Companies in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 7(2), 137–156.

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CHAPTER 5

Capital Regulatory Requirements for Islamic Banks in the UAE: A Comparative Analysis

Abdussalam Ismail Onagun

5.1 Introduction

A good quality capital is important to be addressed and considered as it is an essential component during times of financial crisis. International regulations and standards such as Basel and IFSB define regulatory capital for financial institutions. This study discusses the regulatory definition of bank capital in both the conventional and Islamic financial institution. However, capital adequacy ratio serves as an important purpose to promote stability and efficiency in the financial system as it tends to absorb a reasonable level of losses before the bank becomes insolvent. This gives the depositors and investors a level of confidence that their funds are being protected. Thus, the higher the level of capital adequacy ratio leads to a higher level of protection for the depositors.

A. I. Onagun (✉)
International Centre of Islamic Economics,
Dubai Airport Freezone, Dubai, United Arab Emirates
e-mail: dr.abdussalam@icie.ae

A. I. Onagun
Advisory Council of Experts, Noor Takaful, Abuja, Nigeria

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Due to the fact that the Islamic and conventional banks are somewhat different in terms of the nature of their operations, they are exposed to different types of risks. The Basel II has issued a detailed framework for the measurement of the risk-weighted assets. However, this framework is not compatible and does not address the risks relevant to the nature of the Islamic banks' operations and activities. Unlike the conventional banks, the Islamic bank may act as an investor, an agent, an adviser and a trader depending on the situations and the customer's demands which as a result every role the bank imposes has its own risk characteristic.

5.2 Regulatory Capital as Defined in Islamic Banks

Islamic banking adopts the *Shari'ah* rules and principles when conducting their operation and transaction activities and banking. The concept that the *Shari'ah* principles adopt for Islamic banks is that Islamic banks follow the profit and loss sharing concept and they are fees based. In terms of sourcing their funds, Islamic banks rely on equity and capital, deposits that do not bear any risk or yield any return and investment deposits that bear risks. Similar to the definition of capital in conventional bank, Islamic bank capital is defined as the amount of money that is involved in developing the banking business such as paid-up capital for the Islamic bank. While equity is commonly known as the retained earnings of the bank during their operational period.

In accordance with the Islamic Financial Service Board, IFSB-15, the Islamic financial institution components of capital consist of Tier-1 and Tier-2 capital. Tier-1 capital is divided into two categories which are: Common Equity Tier-1 (CET1) and Additional Tier-1 (AT1). IFSB has described the core capital as the "highest quality capital for institutions offering Islamic financial services (IIFS)". The CT1 capital includes retained earnings, common equity share and some reserves. While the AT1 capital includes *Shari'ah*-compliant instruments that carry a high degree of loss absorbency and some other reserves. The sum of the Tier-1 capital is considered as a going-concern capital that absorbs the losses faced by the Islamic financial institutions while it is still solvent. However, Tier-2 capital is considered as a gone-concern capital that absorbs additional losses than Tier-1 in the case that the financial institution is non-feasible. Tier-2 capital consists of *Shari'ah*-compliant instruments, general provision or reserves and any premium paid on the issuance of the instrument (IFSB 2013).

The IFSB-15 has stated in their guidelines some specific criteria for common equity which includes that it should be loss absorbent on a going-concern basis, its issuance should not mention that the instrument would be canceled, redeemed or bought back in their contract terms, it is perpetual in nature in terms of its principal amount and not paid back only in case of liquidation, it's paid amount should be described as equity capital and it is unsecured in nature. Furthermore, the IFSB standard mentions specific criteria related to AT1 capital. The criteria are that the *Sukuk Musharakah* issuance after the *Shari'ah* approval should be able to absorb losses, the instrument is issued and paid-up and neither the IIFS or related party exercises control or significant influence over the instruments in terms of purchasing or funding the purchase of the instrument directly or indirectly, the *Sukuk Musharakah* instrument is perpetual in nature with no maturity date and the amount paid is unsecured in nature nor guaranteed by IIFS or by a related party. Moreover, there are criteria set for Tier-2 capital (additional capital) described in the IFSB standard such as that for IIFS to issue Tier-2 capital instrument it should be in compliance with the *Shari'ah* and the instruments comes in the form of *Sukuk Mudarabah* or Wakalah of which would be convertible into share of common equity at the point of insolvency. Similarly, to Tier-1 and AT1 capital, the criteria of Tier-2 are that the instrument is issued and paid-up capital and the amount paid is unsecured in nature and not guaranteed by IIFS or any related party. Other criteria of Tier-2 capital are that the original minimum maturity shall be at least five years and that the distribution of profits is not linked to the credit rating of the IIFS whether in part or wholly. Table 5.1 summarizes the criteria of the regulatory capital components.

5.2.1 Dubai Islamic Bank: A Case Study of Regulatory Capital

Dubai Islamic bank is considered to be the first Islamic bank that was established in 1975 to incorporate the rules and principles of *Shari'ah* in it practices and in its dealings. In addition, it is considered to be the largest Islamic bank in UAE. Thus, in accordance with Dubai Islamic Bank Annual Report (Table 5.2), it illustrates their source of funds in the equity section of the balance sheet report. Table 5.2 shows that the Islamic bank capital does consist of Tier-1 and Tier-2 capital. The Tier-1 capital includes retained earnings, share capital, statutory reserves and general reserves. While, Tier-2 capital includes exchange translation

Table 5.1 The criteria of the regulatory capital components

Common equity	*Additional Tier-1 (AT1)*	*Tier-2 capital*
Losses are absorbed on the basic of ongoing concern	Issue of *Sukuk Musharakah* with the ability to absorb losses	Issue of *Sukuk Muḍarabah* or *Wakalah* with the ability to absorb losses
Issued and paid-in	Issued and paid-up	Issued and paid-up
An expectation or a statement should not be created by IIFS that the instrument will be redeemed, canceled or bought back under any circumstance in the contractual terms	Neither the IIFS nor a related party over which the IIFS exercises control or significant influence can purchase the instrument, or fund its purchase, either directly or indirectly	Neither the IIFS nor a related party over which the IIFS exercises control or significant influence can purchase the instrument, or fund its purchase, either directly or indirectly
Most subordinated claim in case of liquidation of the IIFS	Perpetual in nature and has no maturity date	Original minimum maturity shall be at least five years and if the instrument is callable then issuer is allowed to exercise a call option only after five years
The principal amount is perpetual in nature and is never paid back unless in the case of liquidation	Neither secured nor guaranteed by the IIFS or any related entity	Neither secured nor guaranteed by the IIFS or any related entity
No conditions make distribution of profits (or payment of dividends) is obligatory	Distribution of profits must not be linked to the credit rating of the IIFS, either wholly or in part	Distribution of profits must not be linked to the credit rating of the IIFS, either wholly or in part
The paid amount is classified as equity capital in the IIFS balance sheet		
The paid amount in at issuance is neither secured nor guaranteed by the IIFS or its related entity		

Source Author

reserves, investment fair value reverse and hedging reserves. It is commonly stated and considered that share capital (common equity) will represent the most subordinated claim in the event of liquidation while the Tier-2 known as the additional capital will be ranked as the next highest quality capital that can absorb losses after common equity. One of the main differences in Tier-2 is that it includes *Shari'ah*-compliant

Table 5.2 Extract of Dubai Islamic Bank balance sheet

Equity	
Share capital	29
Statutory reserve	30
Donated land reserve	30
General reserve	30
Exchange translation reserve	30
Investment fair value reserve	30
Hedging reserve	31
Retained earnings	33
Equity attributable to equity holders of the Parent	
Non-controlling interests	35
Total equity	

Source Dubai Islamic Bank

instruments. In addition, a conflict arises between ranking of instruments such as common equity and equity-based *sukuk*.

5.3 Regulatory Capital as Defined in Commercial Banks

The current banking system requires having capital regulation because it is considered to be an important and popular instrument due to its involvement of minimum capital requirement. The main reason for capital regulation to be adapted in the banking systems is to limit the probability of default as they require the banks to maintain a certain amount of capital by measuring it to the percentage of the total assets. Having adequate amount of capital acts as a buffer and a guarantee ensuring the bank maintains enough capital and funds available, giving the bank the capability to pay back to their creditors and depositors if a financial crisis occurs as well as to reduce the chance of insolvent risk occurring. Regulators bind the measurement of risk-weighted average of assets in determining the minimum capital requirement. Commonly, banks fund their capital through deposits and investments. However, nowadays the banks are engaging in international activities and are competing with banks from various jurisdictions to fund their capital. Thus, a regulation was developed by the Basel committee known as Basel Capital Accord of 1988 which required some banks locally and internationally to hold an eight percent minimum capital ratio in relation to the risk-weighted

assets. Furthermore, in 1993 the Capital Accord was implemented in the EU that all banks whether international or national must adapt the Basel capital requirements. The 1988 Basel Capital Accord was criticized for its shortcomings as it exhibits that the capital requirements do not link to the economic risk resulting from the opportunity of the opening of capital regulatory arbitrage. In June 2004, the Basel Committee on Banking Supervision developed a revised version of Basel Accord 1988 known as Basel II that consists of three pillars (Stolz 2007).

Financial institutions particularly banks whether Islamic or conventional that holds adequate amount of capital will be able to respond against unexpected losses. Creating an incentive for banks to manage their capital in order to reduce the risk of their owner's equity in the event of a loss occurring. Bank capital is not considered as an asset in which the bank set aside but rather it is a source of fund to absorb losses, liquidity risks and unexpected failures in the operation or business. In terms of sourcing their funds, conventional banks will include a large amount of debt whether in form of retail deposits or wholesale funds as well as risky loan which is referred to as liabilities and combine it with the bank's capital. In short, capital is defined as the bank's own funds or money, for example, retained earnings and share capital in which the money is not being borrowed or obliged to be repaid back by the bank to a lender. One of the characteristics of capital that differs from liabilities is that capital is perpetual which means that as long as the bank's business is continuing, the bank will not be obligated to pay to its capital investors. In addition, another characteristic of capital is that the dividends are distributed to the shareholders depending on the bank's profitability (Farag et al. 2013).

The bank capital in conventional banks is usually defined and divided into categories or tiers in which it includes the retained earnings, shareholder equity, hybrid capital instruments, reserves and subordinated loans or debts. However, the main factor of the bank's capital resource is their equity. Capital ratios are calculated as a percentage of the bank's capital to the risk-weighted average assets or the bank assets.

The structure of the bank's capital consists of Tier-1, which is referred to as the core capital or CET1, additional capital and Tier-2 which is referred to as the supplementary capital. Usually, the Tier-1 capital is

considered to be "a going concern capital" which will absorb the losses while the bank remains to operate and is insolvent. However, Tier-2 defines the "gone-concern capital" that will absorb the losses when Tier-1 capital has been used up and the bank no longer operates and in insolvent. In short, the main aspect of Tier-1 is that it tends to absorb the banks losses before any of the other tier capital and Tier-2 acts as a buffer in order to protect the depositors against the bank's decision to discontinue their operations and liquidate their assets. Tier-1 capital includes the paid-up capital, share premium, capital and special reserves and any other reserves. Furthermore, the Tier-2 capital includes the hybrid capital instrument, subordinated debt, revaluation reserves, provision on standard assets and special and investment reserve (Basel II Disclosures). Another component was introduced to be included in the bank capital which is Tier-3 which consists of subordinated loan capital with maturity of at least two years also known as short-term subordinated loan.

5.3.1 Commercial Bank of Dubai: A Case Study of Regulatory Capital

In contrast to Islamic banking, Commercial Bank of Dubai is one of the largest conventional banks in the United Arab Emirates. Thus, based on their annual report of year 2013 (Table 5.3), a study was conducted to illustrate the components of the bank capital that is summed up in total equity. Table 5.3 shows that the bank capital total regulatory capital does consist of Tier-1 capital or CET 1 which is the core capital, and the Tier-2 capital. The Tier-1 capital in Commercial Bank of Dubai is share capital, legal reserve, capital reserve and general reserve. The supplementary capital in Commercial Bank of Dubai is cumulative changes in fair values of AFS investments. Furthermore, the annual report reflects the order on how the respective capital components will be deducted in case of losses starting from the going-concern capital components (Tier-1 and AT1 capital) to the gone-concern capital components (Tier-2). Thus, when the bank faces losses while it continues its operation and is solvent, their common shareholders tend to be the first to bear and tolerate the losses after the usage of all the bank's profit and reserves.

Table 5.3 Extract of Dubai Islamic Bank balance sheet 2013

Equity		
Share capital	17	2,038,352
Legal reserve	17	1,379,813
Capital reserve	17	38,638
General reserve	17	1,100,000
Cumulative changes in fair values of AFS investments	17	54,712
Reserve for proposed bonus issue	17	203,835
Proposed cash dividend	17	611,506
Proposed directors' remuneration	17	11,000
Retained earnings		1,778,533
Equity attributable to equity holders of the Parent		7,216,389
Non-controlling interests		–
Total equity		7,216,389

Source Dubai Islamic Bank

5.4 Difference Between Islamic and Commercial Banks Capital Structure

In contrast to commercial banks whose cost of capital is represented by the cost of debt and equity, Islamic banks represent their cost of capital through profit and loss sharing by equity and depositors. Commercial banks finance their investment with the use of both debt and equity, while Islamic banks use the customer deposits, accounts and their equity financing to finance their investments.

Unlike conventional banks, the capital structure of Islamic financial institution includes the shareholders' equity as well as deposits that are divided into three categories which are current, restricted investment and unrestricted investment. According to Basel committee regulation, the capital structure is divided into three categories in which one of the categories is capital adequacy ratio in which the committee requires from bank to hold a minimum of 8% of capital in relation to the bank's total risk-weighted assets. This capital requirement was mainly set for the conventional financial institutions and services due to the fact that the conventional banks are well capitalized in order to hold a minimum total capital of at least 8% of the risk-weighted assets. Thus, for Islamic financial institution and services the Tier-1 capital is almost the same as for

Table 5.4 Difference between conventional and Islamic banks capital structure

	Conventional financial institution	*Islamic financial institution*
Cost of capital	Cost of debt and equity	Profit and loss sharing by equity and depositors' holders
Finance of investment	Both debt and equity	Customer deposits accounts and their equity
Capital structure	Shareholder equity, deposits and loans for a fixed reward (interest)	Shareholders equity as well as deposits that are divided into three categories which are current, restricted investment and unrestricted investment
Components of regulatory capital	Tier-1, Additional Tier-1 capital and Tier-2 capital	Core Capital (Tier-1) and additional capital (Tier-2)
Financial transactions	Debt-based transactions	Asset-backed transaction

Source Author

the conventional financial institution and services because it consists of the paid-up capital, retained earnings and reserves. However, the main difference between the conventional and Islamic banks regarding the capital structure is in Tier-2 capital of conventional banks it includes hybrid capital instruments and subordinated debts in which it contradicts to Islamic banks *Shari'ah* rules and principles. Therefore, Tier-2 capital in Islamic banks is *Shari'ah* capital instruments. Moreover, another difference is reflected by (IFSB 2012) in terms of categorizing the components of capital as they are defined as Core Capital and Additional Capital instead of distinguishing them between Tier-1, AT1 and Tier-2. The following table summarizes the differences of regulatory capital between the conventional and Islamic financial institutions (Table 5.4).

5.5 Comparing Regulatory Capital: Basel II, Basel III and IFSB

Table 5.5 illustrates and explains the comparison between the Basel II capital adequacy framework that is implemented in UAE as per Central Bank of UAE guidelines, IFSB capital adequacy framework (IFSB 2005) and Basel III the latest Accord guidelines issued by Basel committee.

Table 5.5 Regulatory Capital: Basel and IFSB

	BASEL II	*IFSB*
Pillars	Pillar1: Minimum Capital Requirements Pillar2: Supervisory Review Process Pillar3: Market Discipline	Pillar1: Minimum Capital Requirements The standard is divided into seven sections where it covers for both credit and market risks are set out for each of the *Shari'ah*-compliant financing and investment instruments: *Murabahah* and *Murabahah*, *Salam* and Parallel *Salam*, *Istisna*' and Parallel *Istisna*', *Ijarah*, *Musharakah* and Diminishing *Musharakah*, *Muḍarabah*; and *Sukuk* held as investment – Treatment of Profit Sharing Investment Account (PSIA) is set
Risk-sensitive capital	Market risk, Operational risk and Credit risk	Credit risk, Equity position risk, Market risk Liquidity risk, Rate of return risk and Operational risk
Approaches	Credit risk: – Standardized approach and internal rating based Market risk: – Standardized and internal mode Basic indicator case to case bases Operational risk: – Standardized, Basic indicator and advanced measurement	Credit risk: – Standardized approach Market risk: – Mark to-market and mark-to-model valuation for trading in *Sukuk* General market risk: – "Maturity" or the "duration" method Operational risk: – (a) Basic indicator approach (BIA), standardized approach (TSA); or (ii) the alternative Standardized approach (ASA)
Capital adequacy ratio	Minimum ratio will 12%. Tier-2 capital will only be considered to a maximum of 67% of Tier-1 capital	Minimum ratio should be 8%. IIFS shall maintain CET1 capital of at least 4.5% of RWA at all times. Tier-1 capital (CET1 plus AT1) must be at least 6.0% of RWA at all times. Total capital (Tier-1 capital plus Tier-2 capital) must be at least 8.0% of RWA at all times

(continued)

Table 5.5 (continued)

	BASEL II	*IFSB*
Components of regulatory capital	**Tier-1 capital** • Paid-up share capital, • Published reserves (including post-tax retained earnings), • Share premium, • Legal reserves, • General reserves, • Hybrid Tier-1 Instruments (approval from central bank UAE) • Minority interests in the equity of subsidiaries less than wholly-owned **Tier-2 capital** • General provisions • Un-disclosed reserves • Asset revaluation reserves/ Cumulative changes in fair value • Hybrid (debt/equity) capital instruments • Subordinated term loan **Tier-3 capital** • Short-term subordinated debt but requires prior approval from CBUAE for banks to employ Tier-3	**Tier-1 capital** • Common shares issued by the IIFS • Stock surplus • Retained earnings • Other disclosed reserves and comprehensive income, including interim profit or loss • Common shares issued by consolidated subsidiaries of IIFS • Regulatory adjustments/deductions applicable to CET1. **Additional Tier-1** • Instruments issued by IIFS that meet the • Premium received on the issue of instruments included in AT1 capital, and which is not included in CET1 • Instruments or qualifying capital issued by consolidated subsidiaries of the IIFS to third-party investors **Tier-2 capital** • Instruments issued by IIFS investors that meet the criteria of T2 capital • General provisions or reserves held against future • Premium paid on issue of T2 capital instruments • Instruments or qualifying capital issued by consolidated subsidiaries of an IIFS to third-party

Source Author

5.6 Analysis Between the Capital Adequacy Ratio of Islamic and Commercial Banks in the UAE

The banks in the United Arab Emirates whether Islamic or conventional under the guidelines of central banks are implementing the regulation developed by the Basel committee effective from the date of circulars which are the Notice 3735/2006 "Basel II Implementation in the UAE" dated August 27, 2006 and Notice 4004/2009 "Capital Adequacy". The circulars focus on the specific issues relevant for the UAE banking community with the complete guidelines of Basel II which includes the following documents "International Convergence of Capital Measurement and Capital Standards", June 2006 and "Enhancements to the Basel II Framework", July 2009, Bank for International Settlements (collectively referred to as "the Accord").

Moreover, they apply the same standards of Basel II and take into consideration the measurement of capital adequacy ratio which is the ratio of the capital base over the risk-weighted assets. In addition, both banks take into account the market, operational and credit risk exposure when calculating the capital adequacy. Both foreigners' banks and banks in the United Arab Emirates have the same purpose for implementing the Basel II standards which are to improve the risk management incentives, to introduce a new capital charge which is operational risk and to increase the risk-weighted sensitivity for credit. Similarly, both banks have the defined the regulatory capital according to criteria for capital components under Basel standards and are comprised into three levels of tiers of capital. The criteria under Basel for the capital components are the capability of banks to absorb their losses based on an ongoing basis, the subordination to depositors and other creditors and permanence. Similarly, to foreigner banks, banks in the United Arab Emirates include in their Tier-1 capital components disclosed reserves, paid-up equity and non-cumulative perpetual preferred stocks. Moreover, both include the same capital components for Tier-2 capital such as undisclosed reserves, subordinated debt and hybrid debt equity capital instruments. Furthermore, both are permitted to include Tier-3 capital in their capital charge if it needed to take into consideration the proportion of the capital requirement of market risk. In addition, both banks use standardized approach as their method to calculate the risk charges for credit, market and operational risk. In terms of the standardized approach method for credit risk, both banks apply a fixed risk weighting to asset on the basis of

type of entity such as bank, corporates, retails and other as well as based on a credit rating such as AA and BBB.

There are few differences between the Central Bank of UAE guidelines and the international banks guidelines when implementing the capital adequacy ratio. First, for foreigner's banks under the Basel II Accord of capital, it stated that the total capital ratio must be at least eight percent and that the Tier-2 capital is limited to 100% of Tier-1 capital. However, in accordance with the Central Bank of UAE, the minimum capital adequacy ratio should be at least 12% and that the Tier-2 capital is limited to 67% of Tier-1 capital. Unlike the foreigner banks in terms of the Tier-3 capital to be included in the capital base, the banks in the United Arab Emirates need to take approval from the central bank prior to their decisions. In contrast to the foreigner banks, central bank has issued guidelines related to the methods of calculating the risk charges only for standardized approaches and internal rating-based approach. While in foreign banks, there are other guidelines provided for other methods such as the value at risk approach for calculating the risk charge for market risk.

5.7 Conclusion

Central Bank of UAE should instruct and direct all Islamic financial institutions, particularly Islamic banks in the UAE to implement IFSB standards and guidelines for capital adequacy requirements.

- Capital adequacy ratio serves as an important purpose to promote stability and efficiency in the financial system. It tends to absorb a reasonable level of losses before the bank becomes insolvent. This gives the depositors and investors a level of confidence that their funds are being protected. Thus, the higher the level of capital adequacy ratio leads to a higher level of protection for the depositors. Due to the fact that the Islamic and conventional banks are somewhat different in terms of the nature of their operations, they are exposed to different types of risks. The Basel II has issued a detailed framework for the measurement of the risk-weighted assets. However, this framework is not compatible and does not address the risks relevant to the nature of the Islamic banks' operation and activities.
- Unlike the conventional banks, the Islamic bank may act as an investor, an agent, an adviser and a trader depending on the situations and the customer's demands which as a result every role the bank imposes has its own risk characteristic.

- CBUAE should require Islamic banks in the UAE to implement capital adequacy framework for Islamic banking proposed by Islamic Financial Services Board (IFSB) in the "Capital adequacy standard for Institutions (other than insurance institutions) offering only Islamic financial services" issued in December 2005 and revised in 2012.
- The activities of Islamic banking differ from those of the conventional banks as shown in the balance sheet of Islamic banks. The liabilities side includes a mixture of contract with investment deposits that are quasi-equity in nature and in which these deposits are in accordance with the profit and loss sharing principles.
- Thus, in order for Islamic banks to determine a proper CAR it needs to measure these risks as well in which IFSB standard provides a guideline for measurement of risks.
- The Basel II Accord framework does not consider the risk of those Islamic financial institutions when measuring the risk-weighted asset while in IFSB standards it provides guidance to Islamic banks on the methods of measuring those risks in order to compute a proper capital charge. In addition, IFSB standards have adjusted the factors of credit risk mitigation which includes *Urbu*n and *Hamish Jiddiyyah* and are different from the conventional banks credit risk mitigation reflected in Basel standards.

References

Farag, M., Harland, D., & Nixon, D. (2013). Bank Capital and Liquidity. *Bank of England Quarterly Bulletin*, 53(3), 201–215.

IFSB. (2005). *IFSB-1: Capital Adequacy Standard for Institutions Offering Islamic Financial Services.* Kuala Lumpur: Islamic Financial Service Board.

———. (2012). *IFSB-12: Guiding Principles on Liquidity Risk Management for Institutions Offering Islamic Financial Services.* Kuala Lumpur: Islamic Financial Service Board.

———. (2013). *IFSB-15: Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services (IIFS)*. Kuala Lumpur: Islamic Financial Service Board.

Stolz, S. M. (2007). *Bank Capital and Risk-Taking: The Impact of Capital Regulation, Charter Value, and the Business Cycle*. Heidelberg: Springer.

CHAPTER 6

Monetary Management in a Dual Banking System: A Nominal-GDP Targeting Approach

Mehdi Hadian

6.1 Introduction

Generally, monetary policy has been practiced as the main tool to achieve macroeconomic goals, including price stability and economic growth. Depending on its performance in response to various shocks, monetary policy regime has been modified throughout the time. In this regard, over the last two decades, inflation targeting (IT), supported by leading economists such as Svensson, Mishkin, and Bernanke, has been applied as the dominant framework of monetary policy by numerous central banks presuming that price stability and economic growth is well achieved. The occurrence of Global Financial Crisis (GFC), however, cast serious doubts on the efficiency of this framework to bring stability to the overall economy. As a result, nominal-GDP targeting (NGDPT) has been advocated recently as an alternative monetary policy.

M. Hadian (✉)
Department of Economics, Monetary and Banking Research Institute, Central Bank of the Islamic Republic of Iran, Tehran, Iran
e-mail: M.Hadian@mbri.ac.ir

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Since its resurgence in the 1960s, Islamic finance, on the other hand, characterized by unique features, has experienced considerable expansion in its activities all over the world, especially in Middle East region. Even, the GFC, which affected major banks in the conventional financial system, has not declined this trend. Thus, it is promising for Islamic finance to become an integral component of the international financial system. According to IMF reports, Islamic banking assets grew at a double-digit rate, from about US$200 billion in 2003 to US$1.8 trillion by the end of 2013 (Kammer et al. 2015, p. 11). Additionally, despite the economic and political disorders in the region, Islamic finance participation assets raised from US$490 billion in 2010 to US$890 billion in 2014, corresponding with a growth rate of 16% annually. To ensure such growth in Islamic finance, it's necessary to adopt monetary instruments compatible with *Shari'ah* law and avoid those of conventional system resulted in frequent financial crises. Given the adverse effects of the recent financial crisis, developing monetary policy regime that is in line with Islamic rules while maintaining macroeconomic stability is of great importance.

Monetary policy in form of IT or flexible inflation targeting (FIT) is usually conducted by Taylor rule which is based on the manipulation of a benchmark interest rate to achieve macroeconomic goals. The condemnation of *riba* in Islamic finance, however, eliminates all form of interest-based contracts and, therefore, brings about a fundamental challenge to implement monetary policy in Islamic economics. Generally, profit–loss-sharing (PLS) contracts and markup contracts have been introduced and applied in Islamic retail banking to cope with the needs of Muslims in their financial transaction. But, to manage monetary policy within the interbank market, the use of benchmark interest rate has been faced with some controversial obstacles that are needed to be addressed in Islamic monetary economics. The difficulty in defining a *Shari'ah*-consistent benchmark rate has limited the ability of Islamic banks to manage liquidity effectively and led to a high portion of liquid assets in their portfolios. Moreover, the difficulty in designing *Shari'ah*-compliant instruments has constrained the central bank to provide liquid facilities for Islamic banks and control monetary aggregates efficiently to achieve its goals. The problem becomes even more challenging in an economy with dual banking system due to the impacts of conventional benchmark rates on the deposits of Islamic banks which cause the potential arbitrage of funds between the two segments of financial system.

In this chapter, we propose NGDPT framework as an efficient and *Shari'ah*-compliant monetary policy in Islamic economy. We argue that it is not only applicable in Islamic banking but also applicable in a dual banking system. Therefore, it may address the problems of liquidity management in Islamic banks and fund arbitrage in dual banking systems. To do this, we first review the theoretical ground of NGDPT setting followed by the fundamental of monetary policy in Islamic economics. Then, we apply a canonical macroeconomic model within the context of New Keynesian dynamic stochastic general equilibrium (DSGE) models to assess the performance of macroeconomic variables in response to different shocks under three monetary regimes including NGDPT, IT, and FIT. Based on our findings, the risk-sharing nature of NGDPT is similar to the PLS principles of Islamic finance at the macro-level and also NGDPT outperforms IT and FIT in response to various shocks. The results provide theoretical and empirical evidence to apply NGDPT as an efficient and *Shari'ah*-consistent framework in Islamic monetary economics. Moreover, we suggest the adoption of governmental *sukuk* whose return depends on NGDPT benchmark as an effective instrument for Islamic banks to overcome the problems of liquidity management and fund arbitrage in dual banking systems.

The remainder of this chapter is as follows. Section 6.2 presents literature review and empirical studies on monetary policy and Islamic finance. Section 6.3 discusses the methodology and provides a DSGE model with different monetary policies. Section 6.4 presents model simulations and the results. Research implications are discussed in Sect. 6.5. The last section offers concluding remarks and gives some potential directions for future studies.

6.2 Literature Review

6.2.1 NGDPT as a New Framework for Monetary Policy

Monetary policy is one of the challenging parts of economic literature. Bindseil (2004) gives a broad overview of the evolution of monetary policy and argues that the overall strategy of monetary policy has changed fundamentally in the course of the twentieth century. Monetary policy has developed from the gold standard to money supply targeting and then to Taylor rule. Every new framework emerges due to the failures of its precedent and hence makes policymakers to rethink for a new

monetary policy framework. As a result, the search for a monetary policy that helps policymaker achieve their macroeconomic goals is a continuous agenda.

Since the 1990s, an increasing number of central banks have implemented IT regime to achieve macroeconomic goals. Within IT framework, the central bank announces a target for consumer prices and then sets a path for interest rate as the policy instrument to achieve its target. Indeed, the conduct of IT is not usually "pure" and may be "flexible." Thus, FIT central banks also put some weight on output gap to stabilize the real sector. It has been argued that IT simplifies the implementation and monitoring of monetary policy (Svensson 1997), increases the monetary policy discipline, and makes monetary policy more coherent and transparent (Bernanke and Mishkin 1997). The recent financial crisis, however, once again showed the limitations of the current monetary policy and shook the central banks on how to conduct monetary policy (Blanchard et al. 2013). It indicated that the dynamic of the financial sector plays an important role in the transmission mechanism of monetary policy, known as financial accelerator mechanisms and affect the real sector. These raised doubts about some of the theoretical foundations of IT and implied that it may not be efficient to achieve macroeconomic goals. As a result, in response to the failures of IT policy, and the need for new frameworks, switching to NGDPT has been introduced lately as an alternative monetary policy. Although NGDPT was appeared earlier even before IT by Meade (1978), Tobin et al. (1980), and Bean (1983),[1] it has been seriously advocated after the GFC and, hence, most of the analysis regarding the merits and desirability of NGDPT is more recent.

Romer (2011) believes that the Federal Reserve should change the policy framework and, instead, target a reasonable path for nominal GDP. He states that this new framework would be a simple, sensible, and powerful communication tool, not only during the recession but also for long after the economy recovers. Moreover, Woodford (2012) considers NGDPT as an alternative framework which is easy to explain to the general public while preserving the advantages of IT framework. He suggests that the Fed should change its policy rate to maintain a steady growth of nominal GDP. Therefore, as long as nominal GDP remains below its target, the Fed may hold the policy rate at its lower bound,

[1] Other studies include Sumner (1989), Hall and Mankiw (1994), McCalum and Nelson (1999), and Jensen (2002).

on the other hand, while IT involves lack of robustness in response to terms-of-trade and supply shocks (Frankel 2012, 2013) also support the advantages of NGDPT especially during a crisis. However, unlike Woodford (2012), he states that central banks are reluctant to switch form IT framework to the new one since they have learned little from the crisis about how to conduct monetary policy. Despite this unwillingness, Sumner (2015) criticizes central banks on the ground that they were not effective to stabilize nominal expenditure trend. He holds that setting a target for growth in nominal GDP could improve monetary policy performance significantly. Sumner further argues that within this framework, the appropriate level of monetary base and benchmark interest rates would be determined by a nominal GDP prediction market.

By reviving the idea of NGDPT, further empirical research has been done recently. One of the main questions is about how the central bank might achieve a nominal objective of GDP in practice. Based on a modified P-Star model, Belongia and Ireland (2015) find that the trend velocities of divisia monetary aggregates exhibit the stability required to make NGDP on a long-run path consistent with potential income. Therefore, they suggest that the Fed can control these aggregates to achieve a NGDPT. Moreover, since inflation is not the only important macro variable, McCallum (2015) proposes NGDPT as an attractive monetary policy. But how to conduct the new framework, i.e., based on level or growth rate of NGDP, is also a matter of question. By applying a New Keynesian model, he finds that adopting the former suits for timeless perspective optimality while the later suits for discretionary optimality. Finally, one may like to compare the performance of different monetary policies. Within the context of a New Keynesian model incorporating price and wage rigidity, Garín et al. (2016) evaluate the welfare properties of NGDPT in comparison with IT. The results indicate that NGDPT is associated with smaller welfare losses and significantly outperforms IT. Especially, given supply shocks and when wages are sticky relative to prices, he finds that NGDPT has the best performance relative to IT.

In sum, given the inability of IT to appropriately respond to the current crisis, the critiques imply that the change of monetary policy framework is inevitable. Moreover, the theoretical and empirical evidence suggests that NGDPT, relative to IT, could possibly help the central bank to effectively improve economic performance and enhance macroeconomic stability. Now, we review the subject of monetary policy in an Islamic financial system.

6.2.2 *Islamic Finance and Monetary Policy*

Generally, Islamic finance offers an alternative form of financial contracts that is argued to be conducive to realize a stable environment for the economy. Accompanied with the prohibition of contractual uncertainty (*gharar*) and speculative activity (*maysir*), the basic tenet of Islamic banking and finance is the prohibition of interest (*riba*) in all transactions (Hossain 2015). That is because Islam recognizes and appreciates the essential role of finance in supporting the stability of the real sector. Due to the condemnation of interest-based contracts, Islamic finance has introduced a variety of instruments in line with their functions in the real economy to serve the needs of its customers in financial transactions. These are categorized into two general contracts, namely PLS-based contracts and markup-based contracts. The former, however, is considered as the preferred mode of finance in Islamic economy. It has been established by various theoretical research that when an economy comes under pressure, Islamic banking and finance, being based on PLS principles, makes the economy more resilient than the conventional interest-based system (Zarqa 1983; Chishti 1985; Khan 1986; Chapra 2007; Shafique et al. 2012).

Providing that there is no substantial divergence between the ideal and practiced version of Islamic finance and that the whole aspects of Islamic finance operation almost reflect the very true essence of *Shari'ah* principles, the contribution of Islamic finance would be noticeable toward the objective of *Shari'ah*. To some scholars, this compatibility has been achieved more or less in retail banking and, thus, the applied financial contracts in contemporary Islamic banking are in line with *Shari'ah* principles to some extent. Nonetheless, in wholesale banking or the management of monetary policy, there are conflicting views on *Shari'ah*-compliancy of benchmark rate for monetary policy. In other words, the implemented benchmark rate is fundamentally a conventional interest rate which is not *Shari'ah*-consistent for Islamic banks and does not contribute to the socioeconomic justice in the economy (Husin 2013). This imposes interest rate risks for Islamic banking and exposes it to the failures of conventional banking (Bacha 2008; Hadian and Davoudi 2016).

Ariff (1982) recognizes three main goals of Islamic monetary policy as follows: (i) economic well-being with full employment and optimum rate of economic growth; (ii) socioeconomic justice and equitable distribution of income and wealth; and (iii) stability in the value of money.

In comparison, Chapra (1992) states that a strategy which regulates money demand in Islamic economics should meet these criteria: (i) a socially agreed filter mechanism; (ii) a strong motivating system to induce the individual to render his best in his own interest as well as in the interest of society; (iii) restructuring of the whole economy with the objective of realizing the *maqasid* (aim) in spite of scarce resources; and (iii) a positive and strong goal-oriented role for the government. According to these set of guidelines, some conventional instruments of monetary policy such as changes in reserve requirements and monetary base through management of foreign reserve, as well as credit controls, are consistent and may be adopted by Islamic monetary authority. They can be as effective in an Islamic system as they are in the conventional Western system (Khan and Mirakhor 1994). But, what we can say about other instruments and especially the determination of benchmark rate? Khan and Mirakhor (1989) argue that Islamic economy rejects the concept of a predetermined interest rate and permits an uncertain rate of return based on trade and profits. Also, Chapra (1996) states that discount rate and open market operations in interest-bearing government securities would not be available in an Islamic economy. Consequently, open market operations should be conducted with securities that do not bear a fixed rate of return. Specifically, Choudhry and Mirakhor (1997) propose the application of equity-based government securities as an indirect instrument for monetary policy which is *Shari'ah*-compatible and its rate of returns depends on budgetary surplus. In addition to these solutions, changes in profit-sharing ratio directly by the central bank have been suggested by some scholars (Khan 1996). Nonetheless, Chapra (1996) disagrees with this tool on the basis that the unilateral changes of a contractually determined ratio might not be appropriate for the central bank.

Subsequent studies have tried to address the issue of benchmark rate in Islamic monetary policy by the issuance of governmental *Sukuk*, i.e., Islamic bond securities. In this regard, adopting an instrument that highlights the role of government and promotes risk sharing increases the effectiveness of monetary policy and therefore the stability of macroeconomic environment (Mirakhor and Othman 2014). This line of studies is done mainly in two aspects. One approach relates the monetary policy as a mean to finance government budget deficit (Iqbal and Khan 2004). The other introduces the role of monetary policy in developing the capital market. In this approach, Haque and Mirakhor (1999) propose

an equity instrument to be sold by governments with its rate of return indexed to the domestic rate of return in Islamic countries. These instruments not only provide their governments with a significant source of non-interest-based financing (Askari et al. 2014) but also could enhance monetary policy by promoting risk sharing (Mirakhor 2010). Moreover, Rizvi et al. (2016) state that open market operation is possible in an Islamic finance through a similar mechanism for *sukuk*. Nonetheless, the risk-return profile of *sukuk* depends on the underlying asset rather than the issuer, and, thus, it is very different from that of conventional bonds.

Recently some authors have linked the return of *sukuk* with the performance of GDP. This idea was originally proposed by Shiller (1994, 1995, 2009) and then followed by Muslim scholars. In this view, GDP-linked securities, also called macro-market instruments, are perpetual claims on a fraction of a country's GDP. These instruments can be designed to share and diversify the risks of macroeconomic shocks within a country (Borenzstein and Mauro 2004). In Islamic finance, Diaw et al. (2012) propose GDP-linked *sukuk* structured on the principle of forward ijarah. In a broader view, Bacha and Mirakhor (2013) conceptually explore a GDP-linked *sukuk* and highlight their immense potential which may serve for the indebted Islamic countries. Further, their advantages over alternative bonds have been noted by some authors. Among them are reducing the likelihood that debt/GDP paths become explosive (Borensztein and Mauro 2004), stabilization of government expenditures during the business cycles (Griffith-Jones and Sharma 2006), superior performance to other high-quality bonds in a risk return framework (Kamal and Lashgari 2012), making fiscal policy less pro-cyclical, and reducing the probability of defaults and debt crises (Rizvi et al. 2016).

Reviewing the theoretical literature, we found that most of the studies in the 1980s and 1990s describe the properties of monetary policy in Islamic finance and provide Muslim scholars with the main directions for future studies. As a result, the subsequent studies in the 2000s focus mostly on the issuance of *sukuk* as an alternative for conventional bonds and also as an instrument for Islamic monetary policy. In the following, we review empirical studies that evaluate the transmission of monetary policy mechanism and its effects on macroeconomic performance in an Islamic economy as well as the impact of conventional interest rate on Islamic banks in a dual banking system.

In assessing the transmission of Islamic monetary policy, Said and Ismail (2008) analyze a panel data set of Islamic banks in the context of Malaysia. They support the impact of lending channel in Islamic banks by finding that current changes in Islamic interbank rate as a monetary policy instrument could be reflected in the supply of loans in the next year. Likewise, Sukmana and Kassim (2010) apply cointegration test and variance-decomposition analysis over a sample of macro-financial data of Malaysian economy during 1994–2007 to evaluate the importance of Islamic banks in the monetary transmission process. Their results show that both Islamic banks' financing and deposit are statistically significant in linking the monetary policy indicator to the real output. This implies that Malaysian monetary authority should consider the Islamic banks in the implementation of monetary policy. In contrast, Ascarya (2012) applied Granger causality and Vector Autoregression (VAR) methods on monthly data of Indonesian banking, during the period of January 2003 to December 2009. The results show that the changes in the conventional interest rate, credit, and interbank rate affects output and inflation negatively and permanently, whereas the shock of PLS financing and Islamic interbank PLS, interestingly, give positive and permanent impacts on inflation and output. Additionally, Abdullah (2015) investigates the effect of monetary policy and banking practices on the Malaysian economy by analyzing the data of money supply, GDP, interest rates, and prices. His findings reveal that the monetary policy has negative impacts not only on Islamic financial system but also on its conventional counterpart which ensure financial instability. Based on this study, Yungucu and Saiti (2016) suggest that in order to achieve the price stability goal in the economy, we should redefine the medium of exchange properly by eliminating time value of money and impose a genuine 100% reserve system. Otherwise, they argue that the same consequences such as more credit creation and more financial instability will be repeated.

In evaluating the impact of monetary management in a dual banking system, Haron and Ahmad (2000) apply an adaptive expectation model for Malaysia and show that there is a clear relationship between the profit rates of interest-free deposits in Islamic banks and the interest rates of fixed deposits in the conventional banks. Moreover, they find that an increase in conventional interest rate significantly decreases the amount interest-free deposits. The results imply on the arbitrage of funds

between two segments of market in case of different changes of the rates. Similarly, Cevik and Charap (2011) use monthly data of conventional bank deposit rates and the rate of return on retail Islamic PLS investment accounts in Malaysian and Turkish dual banking system from 1997 to 2010. They find that the two rates exhibit long-run cointegration, and, specifically, the former is Granger causality of the latter. In addition, they show that the time-varying volatility of conventional bank deposit rates and PLS returns are significantly correlated. Their results imply that, in a dual system, the rate of return on PLS accounts is implicitly linked to conventional interest rates through debt-like instruments. This is also verified by Ergeç and Arslan (2013) in which they examined the response of Islamic and conventional deposits and loans to the changes in interest rates. By applying a vector error correction model (VECM) during 2005:9–2010:7, they find that, contrary to the theoretical foundation, Islamic banks in Turkey are visibly influenced by interest rates. Additionally, Basu et al. (2015) assess evidence of market segmentation across Islamic and conventional banks in the Gulf Cooperation Council (GCC). They argue that due to a general lack of *Shari'ah*-compliant instruments, the problem of excess liquidity leads to an uneven playing field for Islamic banks that might affect their growth. They suggest building Islamic liquid interbank and money markets by deepening Islamic government securities and developing *Shari'ah*-compliant money market instruments.

In sum, the empirical studies highlight the dominant role of interest rate in implementing monetary policy in Islamic banking. Furthermore, in a dual banking system, they verify the negative effect of conventional interest rate on the performance and expansion of Islamic banks. Therefore, given the growing importance of Islamic financial system, designing and conducting a practical monetary policy which is *Shari'ah*-consistent deserve careful study. Moreover, we found that the theoretical works on Islamic monetary policy have developed to a stage of supporting GDP-linked *Sukuk*. However, to our knowledge, they lack a theoretical ground to relate the return of *sukuk* to the issue of Islamic monetary policy and also the determination of benchmark rate for monetary management, especially in a dual banking system. Therefore, the search for a viable framework of benchmark rate needs more collective thinking. In this paper, we try to fill the gap in between by proposing NGDPT

as an efficient framework which is also consistent with Islamic monetary economics.

Finally, we may conclude that the evolution of monetary policy in the conventional system and Islamic system has become close to each other. On the one hand, conventional economics recommend NGDPT as an alternative framework for monetary policy in which the benchmark rate should be determined based on the real sector. On the other hand, Islamic finance advocates the use of GDP-Linked *sukuk* to implement monetary policy. Therefore, they both highlight the role of real sector activities to conduct monetary policy. In the following, we try to argue that NGDPT, as the new framework for monetary policy, is a turning point toward the realization of risk sharing in Islamic monetary economics. Therefore, in the next section, we analyze the effectiveness of NGDPT in comparison with alternative regimes, i.e., IT and FIT, and argue its relevance for Islamic finance.

6.3 Methodology

In this section, we proceed by comparing the economic performance of different monetary policies, including IT, FIT, and NGDPT regimes. Based on their targets, we formulate these policies and apply them in a canonical New Keynesian DSGE model, which may be found in textbooks of Woodford (2011), Gali (2015), and Walsh (2017). We argue that in contrast to IT and FIT, the distinct feature of NGDPT is appropriately considering the risk of real sector activities which is also the main feature of PLS principles in Islamic finance. Then, by calibrating the parameters of the model, we are able to assess the dynamics of the model in response to various shocks. The analysis relies on comparing the Impulse Response Functions (IRFs) of macro variables in each of the three regimes following specific shocks, including demand shock and supply shock. The occurrence of shocks deviates variables from their steady-state values. Since it takes time to return to the equilibrium, depending on the fluctuations of variables following the exogenous shocks and also the convergence speed of the model, the adjustment process may be fast or slowly. Therefore, we describe macroeconomic stability in terms of lower deviations of objective variables and their ability to return faster to the equilibrium. As a result, the preferred regime for

monetary policy would be the one that is associated with the lowest volatilities of macroeconomic variables.

6.3.1 Model

The canonical DSGE model is constructed by three main equations, including aggregate demand, aggregate supply, and monetary policy. Equations (6.1) and (6.2) specify aggregate demand and aggregate supply, also known as IS curve and Philips curve, respectively.

$$y_t = Ey_{t+1} + \frac{1}{\sigma}(R_t - \pi_t) + v_t \tag{6.1}$$

$$\pi_t = \beta Ey_{t+1} + \kappa(R_t - \pi_t) + u_t \tag{6.2}$$

In these equations, y_t is output gap $(Y_t - Y)$, where Y_t is actual output and Y is the value of output in steady state, R_t is gross nominal interest rate, and π_t is inflation index which is equal to $\frac{P_t}{P_{t-1}}$, where P_t is general price level. Furthermore, v_t and u_t are the exogenous shocks to IS and Philips curve, correspondingly. Also, β is discount factor, $\frac{1}{\sigma}$ is substitution elasticity of intertemporal consumption, and κ are the slope Philips curves.

Finally, the third equation describes the behavior of central bank in response to changes in its targets. Equations (6.3)–(6.5) are related to three different settings, comprising IT, FIT, and NGDPT sequentially.

$$\frac{R_t}{R} = \left(\frac{\pi_t}{\pi}\right)^{\delta} \tag{6.3}$$

$$\frac{R_t}{R} = \left(\frac{\pi_t}{\pi}\right)^{\theta}\left(\frac{y_t}{y}\right)^{\eta} \tag{6.4}$$

$$\frac{R_t}{R} = \left(\frac{P_t Y_t}{PY}\right) \tag{6.5}$$

where δ, θ, and η are the response parameters of each monetary policy to its target variables.

6.3.2 *The Relevance of NGDPT for Islamic Monetary Policy*

The main macroeconomic instabilities are movements of inflation and output. Depending on the importance of each one in monetary policy regime, the central bank manipulates the benchmark rate, R_t, to decrease macroeconomic instabilities and achieve its target. According to Eq. (6.3), in an IT regime the target variable is inflation, while in FIT regime the central bank puts some weight on output as well. In contrast, for NGDPT the overall variation in price and output is the target of central bank.

In case of NGDPT, we set the changes of benchmark rate equal to the changes of nominal income, which could be also replaced by total output or total expenditure as well. This setting indicates that the benchmark rate depends on the condition of the real sector. It means that when there is a boom period, in which the investment projects are profitable, the real interest rate should be positive proportionate to economic growth. In contrast, when there is a recession and investment projects are losing, the real interest rate should be negative to meet the reality of the real sector. We may also interpret R_t as a rate which regulates the flow of funds between savers (households) and borrowers (firms) to realize macroeconomic equilibrium. In this view, households are the stakeholder of firms. Therefore, similar to a corporate share traded in the stock market, the return on their shares depends on two sources, i.e., capital gain, due to stock price changes, and also dividends, due to company's net operations income in the real sector. Now, IT regime just considers the price changes while NGDPT considers both sources of changes, and FIT is somehow in between. In other words, NGDPT responses to the overall risks of returns and, hence, the lender also shares in the risk of real sector activities. In contrast, IT responses solely to price risk, and, hence, the risk of real sector activities should be borne exclusively by the borrower.

Intuitively, if $P\Upsilon$ is assumed as the steady state of economic activities, then $\frac{P_t Y_t}{P\Upsilon}$ shows the growth of economic activities either from price movements or output movements. Hence, in NGDPT setting, $\frac{R_t}{R}$ indicates the overall return of economic activities. In other words, in this case, the benchmark rate would be a reflection of the expected return in the real sector. Consequently, at macro-level, or wholesale banking,

NGDPT shares the risk of real sector activities and, hence, is consistent with PLS principles. But, as it can be inferred, this interpretation is not satisfied with IT or FIT frameworks. Equation (6.3) suggests that central bank should change nominal interest rate in response to inflation strictly and not to output condition. Moreover, according to Taylor principle, to ensure a unique equilibrium, the related parameter (δ) should be greater than one. Therefore, the real interest rate does not reflect the expected return of the real economy. Also, even with FIT framework, since the response parameters (θ and η) are not necessarily equal to one, the real interest rate is still different from the return of activities in the real sector of economy. Moreover, when we assume the goals of Islamic monetary policy according to Ariff (1982) and the criteria of regulating money according to Chapra (1992), both of which discussed in Sect. 6.2, we also recognize that NGDPT is generally consistent with these features. Therefore, given the advantages of PLS principles in providing macroeconomic stability for Islamic finance, we may also expect that NGDPT outperforms IT and FIT in response to different shocks.

6.3.3 Calibration

In order to evaluate the performance of different monetary policies, we calibrated the parameters of the model according to Table 6.1. To be realistic and feasible, these parameters have been calibrated based on established values from previous studies in Iran economy. However, we then check for result robustness by doing sensitivity analysis.

Table 6.1 Parameter calibration

Parameter	*Value*	*Description*
σ	1.5	Inverse of the elasticity substitution of intertemporal consumption
κ	0.054	Inverse of IS slope
β	0.98	Discount factor
δ	1.5	The response of IT to inflation
θ	1.5	The response of FIT to inflation
η	0.5	The response of FIT to output gap

6.4 Simulations and Results

Now, we turn to explore the dynamics of the model in response to various shocks. To assess the dynamics of macroeconomic variables in the three settings of monetary policy, we assume unanticipated shocks, both from the demand side and supply side of the economy. We characterize these incidents as unfavorable shocks reflecting the commonly observed phenomenon of economic disorders. The dynamics of the model will show that following an unfavorable shock, under which monetary setting the variables are less deviated from their steady-state values and, therefore, converge faster to the equilibrium. Based on these responses, we will conclude that the monetary policy in which macroeconomic variables are less affected is more efficient and preferable to the other ones. To do this, we analyze IRFs of model variables in response to the shocks. Figure 6.1 illustrates the summarized IRFs of the model in the three regimes following common negative shocks, including demand shock and supply shock. The vertical axis of IRFs indicates the percent of deviation of each variable from its steady state following the shocks. The horizontal axis, also, shows these responses over 10 quarters. Therefore, the less deviation, the better performance.

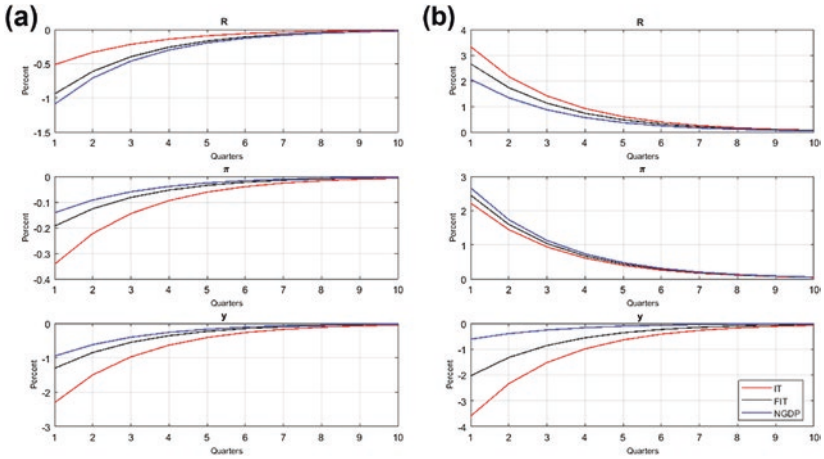

Fig. 6.1 The effects of supply and demand shocks of three monetary policies

Figure 6.1a presents the dynamics of variables in response to a negative demand shock that may be assumed as a reduction in aggregate demand due to a fall in consumption, investment, or government expenditures. As we expect, following this shock, output and inflation decline. However, the amount of reduction is different in three frameworks. It is the least in case of NGDPT and the most in case of IT. In other words, in terms of macroeconomic fluctuations, NGDPT provides more stability to output by reducing the depth of the recession, and thus, it is associated with better performance in contrast to FIT and IT. However, to achieve this performance, it needs a higher decline in the benchmark rate. This is mainly related to the distribution of risk in the three settings. As it was discussed earlier, NGDPT responds to the output movements as well as price movements. Therefore, unlike IT, NGDPT shares the risk of real sector activities. Consequently, during a recession in which investment projects are losing, NGDPT requires further reduction in benchmark rate to distribute the negative effects of real sector activities and transfer some of its losses from borrowers to creditors. Sharing the risk of output causes the acceleration of adjustment process and returning to the steady state in NGDPT, compared with IT and FIT.

Figure 6.1b simulates the dynamics of the model following a negative supply shock. This may be supposed as a markup shock or a negative productivity shock. As we know, inflation rises and output falls in response to this shock. The percent of deviation from steady state, however, is different in the three settings. Similarly, to the case of demand shock, the decline of output in response to the negative supply shock is clearly the least in case of NGDPT which indicates the role of NGDPT to reduce the depth of the recession and provides more stability to output. However, the response of inflation in NGDPT setting is a bit higher than that of IT and FIT. Nonetheless, the response of benchmark rate in NGDPT is associated with the lowest increase in contrast to that of IT and FIT. This could be interpreted also as the risk-sharing nature of NGDPT which decreases the burden of output loss on borrowers by making the lowest rise in the benchmark rate. In this regard, unlike IT and FIT, we may accept a moderate inflation of NGDPT in case of a supply shock.

All in all, the important feature inferred from Fig. 6.1 is that following unfavorable shocks, the process of macroeconomic adjustment is relatively faster in NGDPT regimes compared with the other ones. Likewise, we may assess the dynamics of the model in the three settings

Table 6.2 Standard errors of variables in different regimes

	IT (%)	*FIT (%)*	*NGDPT*	*NGDPT vs FIT (%)*	*NGDPT vs IT (%)*
R	4.48	3.73	3.07	−18	−31
π	2.93	3.20	3.47	8	18
y	5.71	3.25	1.61	−50	−72

Source Author

by comparing the volatilities of macroeconomic variables presented in Table 6.2.

By using the standard error as a volatility index of model variables in different regimes, Table 6.2 indicates on several points. Firstly, NGDPT decreases the volatilities of output gap up to 50% compared with FIT and also up to 72% compared to IT. Therefore, NGDPT provides more stability to GDP by reducing the amplitude of business cycles. Secondly, NGDPT decreases the volatilities of benchmark rate by 18 and 31% in comparison with FIT and IT, respectively. In other words, by distributing the risk of real sector activities, NGDPT smoothes the path of benchmark rate which is conducive for long-term investment and therefore results in more stability of macroeconomic environment. Thirdly, NGDPT rises the volatilities of inflation by 8 and 18% compared with FIT and IT correspondingly. Although it should be taken into account for countries suffering high inflation rate, it may be interpreted as a moderate increase in inflation due to trade-off costs.

Finally, it should be mentioned that to assess the sensitivity of the results, we considered a reasonable range of different values for all parameters. The results once again confirm that, in response to different shocks, NGDPT is associated with lower volatiles for output. Thus, the reported results are robust to changes in the initial conditions, and we can draw its implications.

6.5 Implications

In the numerical analysis, we found that in contrast to IT and FIT, NGDPT is associated with the lowest volatilities of benchmark rate, which results in substantial reduction of output fluctuations as a robust feature of NGDPT. The results imply that NGDPT increases the resilience of the economy in response to unanticipated shocks and therefore

improve the performance of the economy by decreasing the vulnerabilities of the real sector. Now, what are the implications of these results for conducting monetary policy in Islamic economics?

As discussed earlier, within the framework of NGDPT the benchmark rate is set to maintain the actual output on its equilibrium associated with the balanced-growth path. On the one hand, when the economy is in the recession, in which investment projects are not profitable, NGDPT decreases the benchmark rate to a level which meets the reality of the real sector. On the other hand, when the economy experiences a boom, the benchmark rate will increase so that it shows the expected profitability of investment projects in the real sector. Therefore, by adjusting the benchmark rate based on the expected conditions of the economy, NGDPT distributes and shares the risk of the real sector, similar to the PLS contract in Islamic finance. This decreases the volatility of the benchmark rate and provides more stability for the real sector. In contrast, IT focuses only on inflation as the main element, and, thus, the movement of benchmark rate is not related to the expected profitability of activities in the real sector. Moreover, even though the output is considered in FIT setting, but, nor it is necessarily weighted as equal as inflation, neither their response parameters are equal to one. Consequently, as the first implication, we may state that NGDPT framework is the closest setting to PLS principles in Islamic economics.

Secondly, in the presented model, the superior performance of NGDPT is clearly to depend not on religious orientation, but on the efficiency of considering the risk of real sector activities which is also a feature of PLS principles in Islamic finance. Since the real sector is the main determinant of benchmark rate, the risk of economic activities is distributed between lender and borrower and as a result promotes productive investment and output stability. Therefore, a truly Islamic finance is likely to perform even better when taking into account for being religious in nature which follows fundamental principles of Islamic economics like ethics and social justice and disapproval of *gharar* and *maysir*.

Thirdly, since the theoretical foundation for NGDPT is rooted in mainstream economists, and it is consistent with PLS principles, NGDPT is not only applicable in a pure Islamic banking, but also in a dual banking system. Implementing one monetary policy in such a system has several advantages. Considering the problems of Islamic banks in a dual banking system discussed in Sect. 6.2, NGDPT prevents market segmentation and removes the potential arbitrage possibilities between Islamic

and conventional financial. Moreover, it contains the negative effect of conventional interest rate on the performance and expansion of Islamic banks. Therefore, besides promoting Islamic finance, NGDPT enhances central bank accountability and its control over the whole financial system, i.e., not just one segment either Islamic or conventional part.

An important question, though, is how to implement NGDPT in practice, especially in an Islamic financial system? We may assume that the monetary instrument developed for NGDPT should be related to macroeconomic conditions of that country. Therefore, the instrument could be a governmental *sukuk* whose rate of return would be the benchmark rate of NGDPT setting, which is an expected rate of return in the real sector of the economy according to Eq. (6.5). In other words, the results of this study provide a theoretical ground and empirical evidence in supporting the GDP-linked *sukuk*. In this regard, as the fourth implication, the adoption of *sukuk* to implement NGDPT approach to monetary policy has other advantages as well. It allows Islamic banks to efficiently manage their liquid asset. The existence of *sukuk* with an expected rate of return based on real sector activities provides Islamic banks with an interbank market instrument which is *Shari'ah* compliant and helps them to effectively use their liquid funds toward realizing the objective of *Shari'ah* and avoid high portion of liquidity in their portfolios. Moreover, it provides the government with efficient and compatible instruments to finance its development expenditure expanding human capital through health and education services and enhancing physical capital through improvement of roads, railways, ports, and other infrastructure.

6.6 Conclusion

The occurrence of Global Financial Crisis and the inability of current monetary policy to bring macroeconomic stability reminded us that we need efficient monetary policies which are able to decrease the vulnerabilities of the real sector. Consequently, in response to the failure of IT as the dominant regime of monetary policy, it has been argued that to determine the benchmark policy rate the overall movements of the economy and not just the fluctuations of inflation should be taken into account. As a result, switching to NGDPT has been recently advocated by mainstream economists as an alternative framework for monetary policy.

Islamic finance, on the other hand, has experienced tremendous growth over the last decade which makes it more appealing in global financial system. The condemnation of *riba*, however, has brought controversial debates on *Shari'ah* compatibility of some conventional monetary instruments, especially the determination of benchmark rate to manage monetary policy in Islamic finance. The lack of *Shari'ah*-compliant policy rate has resulted in the difficulty of liquidity management in Islamic banks and arbitrage possibilities of funds between conventional and Islamic banks. These problems contain the potential expansion of Islamic finance and increase the difficulty of monetary management to achieve macroeconomic goals in a dual banking system.

In this paper, based on theoretical and empirical evidence, we proposed NGDPT setting as an operational version of PLS principles in Islamic finance to conduct monetary policy. By reviewing theoretical studies on monetary policy and Islamic finance, we argued that due to the risk-sharing nature of NGDPT, it is the closest alternative to realize PLS principles in Islamic wholesale banking. In other words, the common features of these approaches are that they both consider the risk of real sector activities, and therefore at the macro-level, the benchmark rate in NGDPT and the rate of return in PLS principles both depend on the state of the real sector. Consequently, in compared with other monetary policies, we expect the outperformance of NGDPT framework in response to various shocks. By applying a canonical New Keynesian DSGE model, we compared the performance of different monetary policies, including NGDPT, IT, and flexible IT (FIT) in response to negative demand and shocks. Based on the dynamic of macroeconomic variables, we found that NGDPT provides more stability to output through reducing the depth of the recession. Moreover, by comparing the standard deviation of the variables we found that in contrast to IT and FIT, NGDPT is associated with the lowest volatilities of benchmark rate, which leads to substantial reduction of output fluctuations as a robust feature of NGDPT. Since NGDPT distributes the risk of real sector activities, the results also support the stabilizing feature of PLS principles in Islamic economics.

Given that NGDPT is advocated by mainstream economists, it is not only applicable in Islamic banking but also in a dual banking system. Therefore, it enhances central bank accountability and its control over the whole financial system. Moreover, to implement NGDPT framework, we suggest the adoption of governmental *sukuk* whose return depends

on NGDPT policy rates. This will also help Islamic banks to overcome the problem of liquidity management.

Finally, the model presented in this paper is a simplified one as astarting point for further analysis. In the presented model, the effect of benchmark rate's volatility reduction on containing speculative motivation and improving investment stability is inferred implicitly. For future studies, we suggest applying extended models defining households, firms, government, and banking system to include the role of *sukuk* as a financial asset, analyze the dynamics of consumption, investment, and output in different regimes, and assess the welfare effect of NGDPT.

References

Abdullah, A. (2015). Economic Security Requires Monetary and Price Stability: Analysis of Malaysian Macroeconomic and Credit Data. *Al-Shajarah*: *Special Issue in Islamic Banking and Finance*, 205–247.

Ariff, M. (1982). Monetary Policy in an Interest-Free Islamic Economy: Nature and Scope. *Monetary and Fiscal Economics of Islam, Jeddah: International Center for Research in Islamic Economics, King Abdulaziz University*, 287–302.

Ascarya, A. (2012). Transmission Channel and Effectiveness of Dual Monetary Policy in Indonesia. *Bulletin of Monetary Economics and Banking*, 14(3), 269–298.

Askari, H., Iqbal, Z., Krichenne, N., & Mirakhor, A. (2010). *The Stability of Islamic Finance: Creating a Resilient Financial Environment for a Secure Future*. Singapore: Wiley.

Askari, H., Iqbal, Z., & Mirakhor, A. (2014). *Challenges in Economic and Financial Policy Formulation: An Islamic Perspective*. New York: Palgrave Macmillan, St. Martin's Press LLC.

Bacha, O. (2008). The Islamic Interbank Money Market and a Dual Banking System: The Malaysian Experience. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(3), 210–226.

Bacha, O., & Mirakhor, A. (2013). *Islamic Capital Markets: A Comparative Approach*. Singapore: Wiley.

Basu, R., Prasad, A., & Rodriguez, S. (2015). Monetary Operations and Islamic Banking in the GCC: Challenges and Options. *IMF Working Paper No. 15/234*. Washington, DC: International Monetary Fund.

Bean, C. R. (1983). Targeting Nominal Income: An Appraisal. *The Economic Journal*, 93(372), 806–819.

Belongia, M. T., & Ireland, P. N. (2015). A "Working" Solution to the Question of Nominal GDP Targeting. *Macroeconomic Dynamics*, 19(3), 508–534.

Bernanke, B. S. & Mishkin, F. S. (1997). Inflation Targeting: A New Framework for Monetary Policy? *Journal of Economic Perspectives*, 11(2), 97–116.

Bindseil, U. (2004). *Monetary Policy Implementation: Theory, Past, and Present*. Oxford: Oxford University Press.

Blanchard, O. J., Dell'Ariccia, M. G., & Mauro, M. P. (2013). Rethinking Macro Policy II: Getting Granular. *Staff Discussion Notes No. 13/03*. Washington, DC: International Monetary Fund.

Borensztein, E., & Mauro, P. (2004). The Case for GDP-Indexed Bonds. *Economic Policy*, 19(38), 166–216.

Cevik, S., & Charap, J. (2011). The Behavior of Conventional and Islamic Bank Deposit Returns in Malaysia and Turkey. *IMF Working Paper No. WP/11/156*. Washington, DC: International Monetary Fund.

Chapra, M. U. (1992). Islam and the Economic Challenge. *Islamic Economic Series No. 17*. Herndon: International Institute of Islamic Thought (IIIT).

Chapra, M. U. (1996). Monetary Management in an Islamic Economy. *Islamic Economic Studies*, 4(1), 1–34.

Chapra, M. U. (2007). The Case Against Interest: Is It Compelling? *Thunderbird International Business Review*, 49(2), 161–186.

Chishti, S. U. (1985). Relative Stability of Interest-Free Economy. *Journal of Research in Islamic Economics*, 3(1), 3–12.

Choudhry, N. N., & Mirakhor, A. (1997). Indirect Instruments of Monetary Control in an Islamic Financial System. *Islamic Economic Studies*, 4(2), 27–66.

Diaw, A., Bacha, O. I., & Lahsasna, A. (2012). Incentive Compatible *Sukuk Musharakah* for Private Sector Funding. *ISRA International Journal of Islamic Finance*, 4(1), 39–80.

Ergeç, E. H., & Arslan, B. G. (2013). Impact of Interest Rates on Islamic and Conventional Banks: The Case of Turkey. *Applied Economics*, 45(17), 2381–2388.

Frankel, J. A. (2012). The Death of Inflation Targeting, VoxEU.org, 19 June 2012.

Frankel, J. (2013). Nominal-GDP Targets, Without Losing the Inflation Anchor. In Richard Baldwin & Lucrezia Reichlin (eds.) *Is Inflation Targeting Dead: Central Banking After the Crisis*. London: Centre for Economic Policy Research.

Galí, J. (2015). *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework and Its Applications*. Princeton, NJ: Princeton University Press.

Garín, J., Lester, R., & Sims, E. (2016). On the Desirability of Nominal GDP Targeting. *Journal of Economic Dynamics and Control*, 69, 21–44.

Griffith-Jones, S., & Sharma, K. (2006). GDP-Indexed Bonds: Making It Happen. In Suhas Ketkar & Dilip Ratha (eds.) *Innovative Financing for Development*. Washington, DC: The World Bank.

Hadian, M., & Davoudi, P. (2016). Interest Rates and Financial Instability. *Journal of Islamic Finance*, 5(1), 1–11.

Hall, R. E. & Mankiw, N. G. (1994). Nominal Income Targeting. In N. Gregory Mankiw (ed.) *Monetary Policy*. Chicago: University of Chicago Press.

Haque, N. U., & Mirakhor, A. (1999). The Design of Instruments for Government Finance in an Islamic Economy. *Islamic Economic Studies*, 6(2), 27–43.

Haron, S., & Ahmad, N. (2000). The Effects of Conventional Interest Rates and Rate of Profit on Funds Deposited with Islamic Banking System in Malaysia. *International Journal of Islamic Financial Services*, 1(4), 1–7.

Hossain, A. A. (2015). *Central Banking and Monetary Policy in Muslim-Majority Countries*. Cheltenham: Edward Elgar Publishing.

Husin, M. M. (2013). Efficiency of Monetary Policy Transmission Mechanism Via Profit Rate Channel for Islamic Banks in Malaysia. *Journal of Contemporary Issues in Business Research*, 2(2), 44–55.

Iqbal, M., & Khan, T. (2004). *Financing Public Expenditure: An Islamic Perspective*. Jeddah: Islamic Research and Training Institute, Islamic Development Bank.

Jensen, H. (2002). Targeting Nominal Income Growth or Inflation? *American Economic Review*, 92(4), 928–956.

Kamal, L., & Lashgari, M. (2012). Comparing GDP Indexed Bonds to Standard Government Bonds. *Journal of Applied Business and Economics*, 13(2), 116.

Kammer, M. A., Norat, M. M., Pinon, M. M., Prasad, A., Towe, M. C. M., & Zeidane, M. Z. (2015). *Islamic Finance: Opportunities, Challenges, and Policy Options. Staff Discussion Notes No. 15/5*. Washington, DC: International Monetary Fund.

Khan, M. S. (1986). Islamic Interest-Free Banking: A Theoretical Analysis. *Staff Papers of the IMF*, 33(1), 1–27.

Khan, M. S., & Mirakhor, A. (1989). The Financial System and Monetary Policy in an Islamic Economy. *Journal of King Abdulaziz University: Islamic Economics*, 1(1), 39–57.

Khan, M. S., & Mirakhor, A. (1994). Monetary Management in an Islamic Economy. *Islamic Economics*, 6(1), 3–21.

Khan, M. F. (1996). A Simple Model of Income Determination Growth and Economic Development in the Perspective of an Interest-Free Economy. In M. A. Mannan (ed.) *Financing Development in Islam*, 79–108. Jeddah: Islamic Research and Training Institute and Islamic Development Bank.

McCallum, B. T. (2015). Nominal GDP Targeting: Policy Rule or Discretionary Splurge? *Journal of Financial Stability*, 17, 76–80.

McCallum, B. T., & Nelson, E. (1999). Nominal Income Targeting in an Open-Economy Optimizing Model. *Journal of Monetary Economics*, 43(3), 553–578.

Meade, J. (1978). The Meaning of Internal Balance. *The Economic Journal*, 88(351), 423–435.

Mirakhor, A. (2010). Whither Islamic Finance? Risk Sharing in An Age of Crises. Paper Presented at the Inaugural Securities Commission Malaysia (SC)-Oxford Centre for Islamic Studies (OCIS) Roundtable on Developing a Scientific Methodology on *Shari'ah* Governance for Positioning Islamic Finance Globally, Kuala Lumpur, March 15.

Mirakhor, A., & Othman, A. (2014). Risk Sharing and Public Finance. *Journal of Islamic Business and Management*, 4(1), 55–72.

Rizvi, S. A. R., Bacha, O. I., & Mirakhor, A. (2016). *Public Finance and Islamic Capital Markets: Theory and Application*. New York: Palgrave Macmillan.

Romer, C. D. (2011). Dear Ben: It's Time for Your Volcker Moment. *New York Times*, 29(10).

Said, F. F., & Ismail, A. G. (2008). Monetary Policy, Capital Requirement and Lending Behaviour of Islamic Banking in Malaysia. *Journal of Economic Cooperation Among Islamic Countries*, 29(3), 1–22.

Shafique, A., Faheem, M. A., & Abdullah, I. (2012). Impact of Global Financial Crises on the Islamic Banking System: Analysis of Islamic financial System During Financial Crunch 2008. *Arabian Journal of Business and Management Review (OMAN Chapter)*, 1(9), 124–134.

Shiller, R. J. (1994). *Macro Markets: Creating Institutions for Managing Society's Largest Economic Risks*. Oxford: Oxford University Press.

Shiller, R. J. (1995). Aggregate Income Risks and Hedging Mechanisms. *The Quarterly Review of Economics and Finance*, 35(2), 119–152.

Shiller, R. J. (2009). *The New Financial Order: Risk in the 21st Century*. Princeton, NJ: Princeton University Press.

Sukmana, R., & Kassim, S. H. (2010). Roles of the Islamic Banks in the Monetary Transmission Process in Malaysia. *International Journal of Islamic and Middle Eastern Finance and Management*, 3(1), 7–19.

Sumner, S. (1989). Using Futures Instrument Prices to Target Nominal Income. *Bulletin of Economic Research*, 41(2), 157–162.

Sumner, S. (2015). Nominal GDP Futures Targeting. *Journal of Financial Stability*, 17, 65–75.

Svensson, L. E. (1997). Inflation Forecast Targeting: Implementing and Monitoring Inflation Targets. *European Economic Review*, 41(6), 1111–1146.

Tobin, J., Phelps, E. S., Poole, W., Feldstein, M., Houthakker, H., Modigliani, F., & Fellner, W. (1980). Stabilization Policy Ten Years After. *Brookings Papers on Economic Activity*, 1980(1), 19–89.

Walsh, C. E. (2017). *Monetary Theory and Policy*. Cambridge, MA: MIT Press.

Woodford, M. (2011). *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton, NJ: Princeton University Press.

Woodford, M. (2012). Methods of Policy Accommodation at the Interest-Rate Lower Bound. *Proceedings—Economic Policy Symposium—Jackson Hole, Federal Reserve Bank of Kansas City*, 185–288.

Yungucu, B., & Saiti, B. (2016). The Effects of Monetary Policy on the Islamic Financial Services Industry. *Qualitative Research in Financial Markets*, 8(3), 218–228.

Zarqa, M. A. (1983). Stability in an Interest-Free Islamic Economy: A Note. *Pakistan Journal of Applied Economics*, 2(2), 181–188.

PART III

Financial Leverage and Risk-Sharing in Islamic Banking

CHAPTER 7

Determinants of Financial Leverage in Islamic Banks

M. A. Rehman Shah, A. Rashid and M. Khaleequzzaman

7.1 Introduction

How do Islamic banks decide about their financial leverage? How should they finance their operations? What bank-specific factors influence these decisions? These are important questions which should be addressed explicitly. Several studies like Misman and Ahmad (2011), Gropp and Heider (2010), Ali (2011), Amidu (2007), Vitor and Badu (2012), Houston et al. (1997), Jayaratne and Morgan (1999), Akhavein et al. (1997), Ali et al. (2011), Koziol and Lawrenz (2009), and Gul et al. (2012) have explored

M. A. Rehman Shah (✉)
Basic Sciences and Humanities Department,
University of Engineering and Technology, Taxila, Pakistan
e-mail: a.rehman@uettaxila.edu.pk

A. Rashid
International Institute of Islamic Economics,
International Islamic University, Islamabad, Pakistan
e-mail: abdulrashid@iiu.edu.pk

M. Khaleequzzaman
School of Islamic Banking & Finance,
International Islamic University, Islamabad, Pakistan

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the empirical determinants of the financial leverage of conventional banks. Further, some studies have also examined the impact of macroeconomic factors, such as GDP, inflation, interest rates, and taxes, on conventional banks' financial leverage (Bellinetti 2009; Scholes et al. 1990; Graham et al. 1998; Antoniou et al. 2008; Alper and Anbar 2011). However, the focus of these studies was on conventional banks rather than Islamic banks. Overall, these studies have documented that the bank-specific variables, namely bank size and the tangibility of banks, are positively related to the financial leverage of banks, whereas the profitability and liquidity of banks are negatively correlated with banks' financial leverage. These studies, in general, have also shown that macroeconomic variables, such as GDP, inflation and interest rates, are significant in explaining conventional banks' financial leverage.

However, when we look at the literature on Islamic banking, we find only a handful studies like Rajhi and Hassairi (2012), Ahmed (2007), Al-Deehani et al. (1999), and Nagano (2009) that discussed the financial leverage of Islamic banks. The latter two have examined empirically the determinants of Islamic banks' financial leverage, while the former two have discussed theoretically the issues related to the financial leverage of Islamic banks/firms. Thus, our understanding of how, what, and to which extent bank-specific and macroeconomic variables affect the financial leverage decisions of Islamic banks is relatively limited. Yet, in principle, the financial leverage of Islamic banks significantly differs, in terms of resources of funds as well as uses of funds, from the financial leverage of conventional banks. Therefore, it is worth exploring to know the factors that are significant in determining the financial leverage decisions of Islamic banks.

According to the trade-off theory of financial leverage, a company balances tax savings from debt financing against the cost of borrowing such as bankruptcy costs and financial distress. However, according to the pecking order theory of financial leverage, due to the presence of asymmetric information and adverse selection problems, a company first opts to use internally generated funds, then debt financing and only in extreme circumstances issues new equity to finance its investment and other capital needs.

Besides theoretical developments in the area of financial leverage, a significant progress has been made empirically in understanding the determinants of financing decisions resulting in voluminous empirical studies, which tested various financial leverage theories. For instance,

Bradley et al. (1984), Smith and Watts (1992) on the application of trade-off theory in financial leverage; Myers and Majluf (1984), Opler and Titman (1994), and Shyam-Sunder and Myers (1999) on the application of pecking order theory and financial leverage; Baum et al. (2013) on the impact of macroeconomic variables and business risks upon financial leverage decisions; Baker and Wurgler (2007) on the market forces and financial leverage; Scholes et al. (1990) and Graham et al. (1998) on the tax advantage of debt financing; Beattie et al. (2000) and Rashid (2013) on risks and financing decisions in the energy sector; and Yan (2006) on the lease-debt substitutability. However, our understanding of the financial leverage decisions of firms is mainly based on non-financial firms. Yet, financial firms including banks are also important.

Financial intermediaries play an important role in enhancing economic activities by facilitating the borrowing and lending opportunities in an economy. Therefore, it is worth exploring to know as to how the financial firms, particularly the commercial banks, determine their financial leverage. Studies such as Vitor and Badu (2012), Gul et al. (2012), Alper and Anbar (2011), Misman and Ahmad (2011), Ali et al. (2011), Ali (2011), Gropp and Heider (2010), Bellinetti (2009), Amidu (2007), and Koziol and Lawrenz (2009) have particularly focused on exploring the determinants of financial leverage in conventional banking.

These studies have identified several bank-specific factors that are important in explaining financial leverage choices of conventional commercial banks. However, these studies have left two gaps in the literature. First, most of the prior studies on the financial leverage decisions in banking sector have focused on developed countries. Therefore, we know relatively less as to how the financial leverage of banking sector in developing countries is determined. Second, none of the empirical studies has examined this issue for Islamic banking. As a result, our understanding of financial leverage decisions in banking sector remains incomplete.

Over the decade, banking problems have been a major issue in many countries, and several countries have experienced banking disasters. Parashar and Venkatesh (2010) have explored many reasons leading to the banking crisis. Unlike conventional banks, the operations of Islamic banks are not interest-based, which are primarily governed by the *Shari'ah*-laws that prohibit interest transactions. Islamic banks mainly turn to the creation of equity through profit-loss-sharing (PLS) financial transactions. Therefore, there is a need to look into the financial leverage

of Islamic banks. Further, it is also useful to know how macroeconomic conditions and policy variables such as interest rates and taxes affect the financial leverage decisions of Islamic banks.

Several studies have examined the impact of macroeconomic conditions on financial leverage decisions of non-financial firms (Cook and Tang 2010; Levy and Hennessy 2007; Hackbarth et al. 2006; Korajczyk and Levy 2003). However, only a few studies, for example, Alper and Anbar (2011), Bellinetti (2009) and Antoniou et al. (2008), have examined the impact of macroeconomic factors on the financial leverage decisions of banks.

The main objective of this study is to explore the determinants of financial leverage in the Islamic banking industry of Pakistan. The study also aims at exploring the effects of macroeconomic conditions and policy variables, namely interest rates and taxes on the financing decisions of Islamic banking industry. The study attempts to seek the answer to the following question: (i) What are the determinants of financial leverage of the Islamic banking industry in Pakistan? and (ii) Do macroeconomic conditions and policy variables affect the financial leverage of Islamic banking industry?

Since the inception of modern Islamic finance in the 1970s, Islamic economics and finance industry has come a long way to be recognized as a viable alternate to conventional finance. Islamic banking has evolved from its relatively modest size to a vibrant industry with an increasing global footprint. Currently, Islamic financial institutions are offering wide range of services to both Muslim and non-Muslim communities throughout the world with a size of US$1.8 trillion and annual growth rate of more than 17% per year. The growth of Islamic finance industry can be associated with efforts of dedicated regulatory, *Shari'ah*, and academic institutions. Over the globe, there are diversified players in the field, i.e., Islamic banks, investment banks, Islamic fund management companies, *Takaful* companies, Islamic brokerage companies, etc. Especially, the introduction of *Sukuk* and Islamic stock market indices has also rooted in the Islamic financial markets. These *Shari'ah*-compliant financial instruments have proved to be a powerful tool in building their confidence in Islamic finance while fulfilling the financing needs of public and private sectors. The Islamic financial industry now comprises 430 full-fledged Islamic banks and financial institutions and around 191 conventional banks having Islamic banking windows operating in more than 75 countries.

Since its inception, Pakistan has been a key member of International Islamic Financial institutions established to develop legal, regulatory, supervisory, and *Shari'ah* compliance infrastructure for Islamic financial institutions and hosted a chain of conferences and other intellectual forums promoting Islamic banking and finance. The Ministry of Finance, the State Bank of Pakistan (SBP), and the Security and Exchange Commission of Pakistan (SECP) are continuously engaged with Islamic Financial Services Board (IFSB), the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), Islamic Research and Training Institute (IRTI), and the International Islamic Financial Market (IIFM). The collaborations with other central banks and institutions of other Islamic countries have helped the growth of Islamic banking industry both locally and at the global level.

In Pakistan, Islamic banking industry is growing since 2002 with 8% share of the banking system. As of September 30, 2013, there is a network of 1161 branches and over 500 windows across the future outlook is also very positive. The Islamic financial industry with its rapidly growing acceptability both among the providers and users of financial services is likely to increase its share in the banking system to 15% during the next five years (2013–2017). Encouragingly, the sustained growth of Islamic banking in the country during the last decade has also started catalyzing growth and development of Islamic capital markets, mutual funds, *Takaful* companies, etc. Presently, there are five *Takaful* operators and about 30 Islamic mutual funds.

7.2 Literature Review

This section is divided into three segments. The first part deals with theories of financial leverage, while the second part addresses prior studies related to financial leverage decisions. The final and third part discusses the important variables explored in the previous studies on financial leverage.

7.2.1 Theories of Financial Leverage

What are the determinants of a firm's financial leverage choice? In the field of corporate finance, researchers have devoted extensive time both theoretically and empirically to answer this question. After the publication of seminal papers by Modigliani and Miller (1958, 1963), this

question acquired a special significance. The determinants of financial leverage have been investigated by several researchers. However, still there is no unifying theory of financial leverage even after decades of research, which leaves the topic of financial leverage open for further research. Financial leverage is basically a mix of a company's debt and equity that it uses to finance its assets. It is necessary for every firm that the financial leverage decision must be handled carefully otherwise the firm can face the problem of bankruptcy and financial distress.

A number of theories have been advanced to explain the financial leverage of firms. However, a single theory is not able to explain the observed time-series and cross-sectional patterns of firms' financial leverage. Below we briefly review the two fundamental theories of financial leverage.

7.2.2 The Trade-Off Theory

The trade-off theory proposed by Modigliani and Miller (1963) explains that the most favorable level of financial leverage can be determined by balancing the benefits and costs associated with debt financing. This would be more like a balance between the tax shield from interest expense and the cost associated with financial distress. The trade-off theory of financial leverage expects that organizations with better profitability should favor to exercise debt financing rather equity financing in order to take benefits from the tax shield.

Taxes, agency costs, and financial distress are the three main factors that influence a firm's optimal financial leverage according to the trade-off theory. Firms will use large amount of debt in their financial leverage because debt provides them a tax shield, improving their profitability. However, using higher debt will increase bankruptcy costs. Thus, creditors will demand extra risk premium increasing costs of debt (Baxter 1967).

7.2.3 The Pecking Order Theory

The second dominant theory regarding the financial leverage of firms is the pecking order theory (Myers 1984; Myers and Majluf 1984). Asymmetric information problems arise in corporate finance when firm insiders have or more information than people outside the firm such as investors or debt issuers (Myers and Majluf 1984). The pecking order

theory maintains that because of information asymmetries firms have a preferred sequence of financing. Firms will first seek to fund projects with internal funding (retained earnings or internal debt), move to external debt markets when internal funding is not available, and, finally, raise funds in external equity markets when other funding resources have been depleted. There are multiple reasons for these preferences but they can be fundamentally thought of as ease of administration and an effort to limit the financial impact on equity holders.

7.2.4 Empirical Studies on Financial Leverage

Banks' financial leverage fundamentally differs from one of the non-financial firms since it includes deposits, a source of financing generally not available to non-financial firms. Moreover, much of the empirical research for firms was performed using long-term debt divided by assets rather than total liabilities divided by assets. Therefore, bank liabilities can be decomposing into deposits and non-deposits liabilities. Non-deposit liabilities can be viewed as being closely related to long-term debt for firms (Gropp and Heider 2010). The financial leverage of banks is, however, still a relatively under-explored area in the banking literature. Thus, there is no clear understanding of how banks choose their financial leverage and what factors influence their corporate financing behavior. Houston et al. (1997) find that lending at large banks is less subject to changes in cash flow and capital. Jayaratne and Morgan (1999) found that shifts in deposit supply affect lending at small banks that do not have access to the large internal capital market. Akhavein et al. (1997) also pointed out that large banks tend to decrease their capital and increase their lending after mergers. Bank size seems to allow banks to operate with less capital and at the same time engage in more lending (Amidu 2007).

A significant relation of bank size, profitability, tangibility, and liquidity is found with the leverage. Non-tax shield is found to have a positive but insignificant relationship with the leverage of the banking sector of Pakistan (Ali et al. 2011). Gul et al. (2012) also provided the evidence of the financial leverage theories pertaining to a developing country. Specifically, they examined the determinants of financial leverage for the firms in the banking and insurance sectors of Pakistan. Doing so, they find out the financial pattern of firms in these sectors and identify the financial leverage theory followed by the firms. They found that both

the pecking order theory and the trade-off theory are pertinent theories to the companies' financial leverage, whereas there was little evidence to support the agency cost theory. One should note that the above-cited studies have focused on only conventional banks.

Size

The size of an organization has a positive association with debt ratios. Larger firm diversification advantage reduces bankruptcy chances therefore relationship between the size and leverage is positively correlated (Titman and Wessels 1988). Several empirical studies including Frank and Goyal (2004), Kayhan and Titman (2007), Sayilgan et al. (2006), and Rajan and Zingales (1995) have reported a positive and statistically significant relationship between size and leverage. Concerning bank financial leverage, studies, such as Gropp and Heider (2010) and Ali et al. (2011), have also reported a positive impact of bank size on the leverage. These findings for size are contradicting with those of Shah and Hijazi (2004) and Shah and Khan (2007) because they find a negative and insignificant relationship between size and leverage, respectively.

Profitability

Myers and Majluf (1984) argue that high profitable companies will always go for using their internal funds first and then go for external funds. However, the tax trade-off models show that profitable firms will employ more debt since they are more likely to have a high tax burden and low bankruptcy risk (Sayilgan et al. 2006). Myers (1984) prescribes a negative relationship between debt and profitability on the basis that successful companies do not need to depend so much on external funding. They, instead, rely on their internal reserves accumulated from past profits. Titman and Wessels (1988) argue that firms with high profit rates, all things being equal, would maintain relatively lower debt ratio since they are able to generate such funds from internal sources. Most of the previous empirical studies found a negative relationship between profitability and debt financing. Examples of these studies are Myers (1984), Rajan and Zingales (1995), Sayilgan et al. (2006), Shah and Khan (2007), and Frank and Goyal (2004). Similarly, studies like Booth et al. (2001), Gropp and Heider (2010), Ali et al. (2011), and Ali (2011) have reported a negative relationship between debt and profitability in financial sector.

Tangibility

The trade-off theory of financial leverage predicts a positive relationship between tangibility and leverage decisions of firms (Shah and Khan 2007). However, some of the financial leverage theories posit a negative link of tangibility with the use of leverage. On empirical grounds, studies have provided evidence in favor of both these theories of financial leverage. For example, Frank and Goyal (2004), Shah and Khan (2007), Rajan and Zingales (1995), Fauzi and Locke (2012), and Ali et al. (2011) have found a positive and significant relationship between tangibility and leverage. On the other hand, some empirical studies, like Booth et al. (2001), Ali (2011), Sayilgan et al. (2006), have found a negative statistically significant relationship between tangibility and firms' leverage decision.

Liquidity

Diamond and Rajan (2000) argue that the financial leverage of a bank trades off the ability to create liquidity and credit against stability. This suggests that banks' financial leverage is a function of the degree to which the banks' customers rely on liquidity and credit. Hence, the stable cross-sectional variation in financial leverages documented in their research paper may reflect that banks cater to different clienteles, a factor that tends to vary little over time. Most of the previous empirical studies found a negative relationship between liquidity and debt financing decisions of firms (Ali et al. 2011; Taleb and Shubiri 2007; Gul et al. 2012).

Non-debt Tax Shield

Trade-off theory of financial leverage predicts negative association of non-debt tax shield with debt. The non-debt tax shield is a substitute for the tax benefits of debt financing, and a firm with large non-debt tax shield is likely to use less debt financing in its financial leverage. Most of the previous empirical studies found a negative relationship between non-debt tax shield and debt financing. Examples of these studies are Afza and Hussain (2011) and Sayilgan et al. (2006). On the flip side, some empirical studies found a strong and significant positive relationship between firms' debt level and non-debt tax shield which is not in with the trade-off theory (Sayilgan et al. 2006; Ali et al. 2011). Similarly, for insurance and banking sectors of Pakistan, Gul et al. (2012) found that the relationship between depreciation and leverage is insignificant. These findings are not in line with the trade-off theory. It means the

firms do not substitute their debt ratios by non-debt tax shield to save themselves from paying high taxes.

Capital Adequacy Ratio

Banks hold capital because they are required to do so by regulatory authorities. Because of the high costs of holding capital, bank managers often want to hold less bank capital than is required by the regulatory authorities. In this case, the amount of bank capital is determined by the bank capital requirements (Mishkin 2000). The argument that capital regulation constitutes the overriding departure for banks from the Modigliani–Miller benchmark depends on (incorrectly priced) deposits insurance providing banks with incentives to maximize leverage up to the regulatory minimum (Gropp and Heider 2010).

Capital regulation and buffers may only be of second-order importance in determining the financial leverage of most banks. Gropp and Heider (2010) shed new light on the debate whether regulations or market forces determine banks' financial leverages. Barth et al. (2005), (2008), and Brewer et al. (2008) observed that levels of bank capital are much higher than the minimum required level imposed by regulatory authorities. This could be explained by banks holding capital buffers in excess of the regulatory minimum. Raising equity on a short notice in order to avoid violating the capital requirement is costly. Banks may therefore hold discretionary capital to reduce the probability that they have to incur this cost. Banks hold a minimum amount of capital, based on the risk embedded in their asset holding. Accordingly, banks with relatively risky assets would hold a higher amount of capital than those banks with less risky assets (Grais and Anoma 2008).

Hall et al. (2004) combined modern banking theory and principal-agent analysis to develop a framework for an optimal financial leverage for Islamic banks. Their proposed capital regulation includes a minimum risk-based equity capital cushion (as required under the Basel Accord), a prudent assets-liabilities (capital) structure (i.e., appropriate proportions of PLS- and non-PLS-based assets and liabilities) and a minimum "financial participation" requirement. They inferred from the analysis that such capital adequacy requirements will improve the soundness of current Islamic banking practice, thus paving the way for the wider use of PLS by Islamic banks in the long run.

Despite the fact that Islamic finance holds global appeal in its provision of Shariah-compliant financial services for both Muslims and

non-Muslims, the Basel III has so far often failed to make a distinction between conventional and Islamic finance. Currently, the emphasis seems to be placed on a greater collaboration between the Basel committee and Islamic standard and regulatory bodies such as the IFSB and Accounting and Auditing Organization of Islamic Financial Institution (AAOIFI). The majority of Islamic banks already maintain capital levels well above the current regulatory minimum (Harzi 2012).

Growth of Bank

Titman and Wessels (1988) have mentioned that equity-controlled firms have a tendency to invest sub-optimally to expropriate wealth from the firm's bondholders. The cost associated with this agency relationship is likely to be higher for firms in growing industries, which have more flexibility in their choice of future investments. Expected future growth should thus be negatively related to long-term debt levels. Myers (1984), however, noted that this agency problem is mitigated if the firm issues short-term rather than long-term debt. This suggests that short-term debt ratios might actually be positively related to growth rates if growing firms substitute short-term financing for long-term financing. Myer and Majluf (1984) predict that the growth variable and debt ratios are positively related. This is because of that debt has no asymmetric problems. Therefore, when outside funds are needed, firms will go for debt against equity, because for growing firms, their internal funds might not be sufficient to meet their requirements. Thus, they will require more funds to spend on research and development in order to expand their business and finance their positive investment projects.

Empirically, Fauzi and Locke (2012), Shah and Hijazi (2004), Korner (2007), Ali (2011), Taleb and Shubiri (2007), and Sayilgan et al. (2006) have found a significant positive coefficient for growth irrespective the models used in the empirical analysis. Likewise, Gul et al. (2012) and Bellinetti (2009) have found that the debt levels and growth were significantly positively correlated banking in banking sector.

According to the pecking order theory, growing firms' investment, in general, exceeds their internally generated funds. Consequentially, firms with high growth will tend to look for external funds to finance the growth. Therefore, firms would look to short-term, less secured debt than to longer-term, more secured debt for their financing needs. Myers (1977) has confirmed this and concluded that firms with a higher proportion of their market value accounted for by growth opportunity will have

debt capacity. Michaelas et al. (1999) found that future growth is positively related to firm leverage and long-term debt, while Chittenden et al. (1996) and Jordan et al. (1998) found mixed evidence (Amidu 2007).

Interest Rates

The economic environment, nature of institution, corporate governance practices, interest rate patterns, fiscal and monetary policies, exposure to markets, and overall security to investors and capital invested all play a vital role in structuring capital of any financial firm (Antoniou et al. 2008).

Staking and Babbel (1995) have explored that the market value of equity at first grows in the insurance industry and then declines as there is found an increase in leverage, while interest rate risk has an opposite effect. First equity value declines with interest rate risk but then rises at high levels of interest rate risk. These results are in line with the prediction that financial institutions will expand scarce resources to mitigate risk in order to protect the market value firms' equity. Bellinetti (2009) finds that interest rate was considered regularly correlated but not as negatively correlated as expected in his study on financial leverage of Nordic banking sector.

Inflation

According to market timing hypothesis, one can expect a positive relationship between inflation and firms' use of debt financing in their financial leverage. Specifically, higher inflation decreases the interest rate, which leads to an increase in borrowing debt. Frank and Goyal (2004) confirmed the prediction of market timing theory by providing empirical evidence of a significant and positive impact of inflation on US publicly traded firms.

Gajurel (2006) has also observed that the inflation rate is negatively related to total debt ratio and short-term debt ratio, whereas it is positively related to long-term debt ratio. It implies that increasing inflation supports to increase long-term debt and decrease short-term debt. To some extent, in short run, the higher inflation decreases the interest rate, which could foster long-term borrowing.

Ali (2011) has explored a significant impact of inflation on leverage. It is positive and negative in textile and engineering sectors, respectively, when estimating fixed effects model. During 2003–2008 in every subsequent period, the inflationary trend in Pakistan indicating more inflation, and any delay in issuing total debt means more cost of debt would be

borne by the borrower. Therefore, it is rational decision of firm managers to borrow today instead of in future especially due to continuous increase in inflation.

Gross Domestic Product (GDP)
Bellinetti (2009) have found a positive relationship between GDP and the level of debt in Nordic banking sector which is in line with the trade-off theory. Cook and Tang (2010) have developed a model to estimate the impact of macroeconomic factors on the financial leverage. Their sample consisted of US firms for a period of 20 years. The GDP growth rate is considered one of the macroeconomic factors. The authors' argument to avail this was that a recession is traditionally defined by the decrease in the GDP. They have further explored that the market indicates the recession periods or expansion based on the GDP of the countries. Based on this argument, the GDP shouldn't explain the increase of debt. Hence, changes in debt can be explained in term of the changes in the cost of capital. In expansionary policy, lower interest rate will encourage to borrow more for financing firms' operations.

Hackbarth et al. (2006) have developed a contingent model for analyzing the impact of macroeconomic conditions on dynamic financial leverage choice. Allowing for dynamic financial leverage adjustments, they concluded that firms should adjust their financial leverage faster in booms than that of in recessions.

Gajurel (2006) found that the GDP growth rate is negatively related to total debt ratio and short-term debt ratio. However, he also found that the GDP growth rate is positively related to long-term debt ratio. It implies that higher economic growth tends to cause firms to use more long-term debt and less short-term debt in their financial leverage. Since the contribution of short-term debt on total leverage is significantly high, the evidence is obvious. This evidence implies that the Nepalese companies prefer long-term debt securities and rely less on short-term borrowing when the economic growth is higher.

7.2.5 Financial Leverage and Islamic Banks

Rajhi and Hassairi (2012) have presented comparative differences and similarities in between interest-based and non-interest-based Islamic financial institutions, and they also discussed risk profile of Islamic banks and its relationship with financial leverage. The focus of their study was

mainly upon the capital adequacy framework for Islamic banks compared to the setting up of the Basel II capital adequacy framework.

Ahmed (2007) has examined corporate finance decisions of firms from an Islamic perspective and provided a theoretical basis of determining its financial leverage. The basic concepts are derived from contemporary theories of financial leverage, then, developed theoretical basis for determining the financial leverage in Islamic firms. He also described the nature and the cost of financing instruments to Islamic firm. He has also outlined the pecking order theory of determining the choice of different debt and equity instruments that eventually determines the financial leverage in firms. The firm minimizes the total cost of financing when choosing among the different available financing alternatives, is the underlying assumption of this theory. Thus, the financial leverage of firms depends on various internal and external factors available to the firm. While internal factors relate to the size and profitability of the firm, the external factors are concerned with the availability of instruments and institutions, which provide funding to financial institutions.

Al-Deehani et al. (1999) argue that the concept of financial risk, on which modern financial leverage theories are based, is not more relevant to Islamic banking industry as it is to its conventional counterpart. Islamic banks are established with the mandate of conducting all their transactions inconformity with Islamic precepts which prohibit, among other things, the receipt and payment of interest. Unlike conventional commercial banks, Islamic banks mobilize funds primarily via investment accounts using profit-sharing contracts. They tested the theoretical prediction by estimating and testing the model on annual accounts drawn from a sample of 12 Islamic banks. In the case of Islamic banks' operation, these theoretical and empirical results provide a new dimension to the theory of financial leverage based on a mixture of only debt and equity financing.

Nagano (2009) suggests that users of *Sukuk* and Islamic bank borrowing are different. Accordingly, purpose and funding order of these financial schemes is also different. He investigates firms using Islamic finance in Malaysia and Middle East countries. The comparative analysis of Islamic finance and conventional finance users reveals that Islamic bond issuers preferentially choose the Islamic bond issuance prior to bank borrowing and other external financing tools. Islamic bond issuance is not related to the issuer's internal funds, whereas Islamic bank borrowing is influenced by the internal funds in industry, suggesting that Islamic bond issuers do not always choose to issue bonds based on

information cost, but Islamic bank borrowers always do so. Moreover, the Islamic bond issuance contributes to an increase in the issuer's stock returns and total factor productivity. This empirical result suggests that Islamic bond issuance is preferred because of this unique benefit which standard external financing does not have. In such a way, the financial leverage of Islamic banking industry is tested partially, and yet there is a need to explain empirically.

In empirical literature, at our best, we do not find any study, which has explored the determinants of the financial leverage decisions of Islamic banks in a comprehensive way. Overall, Al-Deehani et al. (1999) and Nagano (2009) have tried to examine the determinants of Islamic banks' financial leverage empirically but, Al-Deehani et al. (1999) adopted the methodology which is impossible to test in current Islamic banks whereas, Nagano (2009) focused upon the determinants of *Sukuk* issuance and Islamic bank borrowing rather than financial leverage decisions in Islamic banks. Rajhi and Hassairi (2012) and Ahmed (2007) have discussed theoretically the issues related to the financial leverage of Islamic banks/firms.

7.3 Data and Empirical Framework

This section presents the empirical framework to examine how bank-specific and macroeconomic variables affect leverage decisions in Islamic banking sector. Econometric methods that are implemented to estimate the empirical model are also discussed in this section. Data and data sources are also described in this section.

7.3.1 Data Description

In this study, panel data are used to examine the financial leverage decisions of Islamic banking industry of Pakistan. Specifically, quarterly panel data during the period 2006–2012 are taken from financial statements of ten Islamic banks (five full-fledged Islamic banks and five Islamic branches of conventional banks) practicing in Pakistan. The financial statements (disclosure) prepared by the banks are standardized according to the requirements of the central bank—the SBP. Based on the requirements of the central bank, both conventional and Islamic banks follow the same accounting standards which make possible for analysis across banks and over time. Table 7.1 presents the name of the

Table 7.1 Sample of selected banks

Al Baraka Bank (Pakistan) Limited	Islamic Banks
BankIslami Pakistan Limited	
Burj Bank Limited	
Dubai Islamic Bank Pakistan Limited	
Meezan Bank Limited	
Askari Bank Limited Bank	Islamic Branches of Conventional Banks
Alfalah Limited	
Habib Bank Limited	
MCB Bank Limited	
Bank Al Habib Limited	

banks. Panel data involve the pooling of observations on a cross section of units over several time periods and facilitate identification of effects that are simply not detectable in pure cross-sectional or pure time-series studies.

Quarterly data of inflation are collected from the State Bank of Pakistan. Data on interest rate and Industrial Production Index (IPI) are collected from the International Financial Statistics (IFS) database by International Monetary Fund (IMF). The IPI is an economic indicator that is released on monthly basis. It measures the amount of output from the manufacturing, mining, electric and gas industries. Investors and researchers use the IPI of various industries to examine the growth in the respective industry. If the IPI is growing month-over-month for a particular industry, this is a sign that the companies in the industry are performing well. Therefore, we have used data of IPI instead of GDP, which is not available on quarterly basis in our analysis.

7.4 Results and Simulations

7.4.1 Empirical Framework

The main objective of the study is to explore the determinants of leverage while examining the effects of bank-specific variables. We also include macroeconomic variables into the specification. Our choice of bank-specific and macroeconomic variables is based on prior empirical studies which examine the determinants of leverage in corporate firms, for instance, see Frank and Goyal (2004), Sayilgan et al. (2006) and

in conventional banks, for instance, see Amidu (2007) and Gropp and Heider (2010). We estimate the following model.

$$\begin{aligned} \text{Lev}_{it} = {} & \beta_1 + \beta_2 \text{Size}_{it-1} + \beta_3 \text{Profit}_{it-1} + \beta_4 \text{Tang}_{it-1} + \beta_5 \text{Liq}_{it-1} \\ & + \beta_6 \text{NDTS}_{it-1} + \beta_7 \text{CAR}_{it-1} + \beta_8 \text{Grw}_{it-1} + \beta_9 \text{RIR}_{t-1} \\ & + \beta_{10} \text{Inf}_{t-1} + \beta_{11} \ln(\text{IPI})_{t-1} + \varphi_i + \mu_{it} \end{aligned} \tag{7.1}$$

In Eq. (7.1), the subscript "i" represents the cross-sectional dimension and "t" denotes the time-series dimension. The left-hand (dependent) "Lev" is leverage, which is defined as: leverage = 1 − (book value of equity/book value of assets). The argument for using leverage rather than debt as the dependent variable is that leverage, unlike debt, is well defined in banking sector because a bank's financial leverage is different from non-financial firms' financial leverage since it includes deposits, a source of financing generally not available to firms. This fundamental difference decomposes bank liabilities into deposit and non-deposit liabilities. Moreover, leverage defined as one minus the equity ratio; the dependent variable can be directly linked to the regulatory view of banks' financial leverage (Gropp and Heider 2010). We can derive the equation of leverage from a typical financial leverage equation.

$$\text{BVA} = \text{BVD} + \text{BVE} \tag{7.2}$$

where BVA is book value of asset, BVD is book value of debt, and BVE is book value of equity.

Dividing by BVA, both sides of equation

$$\frac{\text{BVA}}{\text{BVA}} = \frac{\text{BVD}}{\text{BVA}} + \frac{\text{BVE}}{\text{BVA}}$$

$$1 = \frac{\text{BVD}}{\text{BVA}} + \frac{\text{BVE}}{\text{BVA}}$$

where,

$$\text{Leverage} = \frac{\text{BVD}}{\text{BVA}}$$

hence,

$$\text{Leverage} = 1 - \frac{\text{BVE}}{\text{BVA}}$$

The right-hand variables "Size" is bank size and defined as logarithm of total assets normalized by Consumer Prices Index (CPI); "Profit" is profitability, which is defined as return on assets; "Tang" is tangibility, which is defined as the ratio of fixed operating assets to total assets; "Liq" is liquidity, which is defined as the ratio of capital to total assets; "NDTS" is non-debt tax shield that is defined as the ratio of depreciation expenditures to total assets; "CAR" is capital adequacy ratio prudentially required to comply with the capital adequacy framework of the SBP; "Grw" is growth defined as annual percentage change in logarithm of total assets; "RIR" is the real interest rate; "Inf" is inflation, which is defined as log difference between CPI of current and previous year; "IPI"[1] is the log of industrial production index; "$_i$" is bank-specific fixed effects; and "μ" denotes error term.

7.4.2 *Estimation Methods: Fixed Versus Random Effects Models*

In panel data, two basic approaches, fixed effects and random effects models, are applied generally. In order to identify whether fixed or random effects estimator provides more efficient estimates, we apply the Hausman's (1978) specification test where the null hypothesis is that the preferred model is random effects vs. the alternative the fixed effects. It basically tests whether the unique errors "$_{it}$" are correlated with the regressors (x_{it}) or not, the null hypothesis is that they are not correlated.[2] Specifically, we test the following hypothesis:

$$H_0 : \quad _{it} \text{ are uncorrelated with } x_{it}$$

$$H_1 : \quad _{it} \text{ are correlated with } x_{it}$$

Based on the results of the Hausman's (1978) specification test, we select fixed effects model because the estimated value of chi-squared is

[1] IPI is an economic indicator which measures changes in output for the manufacturing, mining, and utilities on monthly basis. Although these sectors represent only a small portion of GDP, they are highly sensitive to interest rates and consumer demand. IPI is an important tool for forecasting future GDP and economic performance. The SBP also uses IPI to measure inflation because high levels of IPI would lead to uncontrolled levels of consumption and rapid inflation (http://www.tradingeconomics.com/pakistan/industrial-production).

[2] Greene, William H. (2008). *Econometric Analysis* (6th ed.). Upper Saddle River, NJ: New York University, Prentice Hall.

greater than critical value at the 5% level of significance. Therefore, we apply the fixed effects estimator in our empirical analysis.

7.4.3 Estimates of Fixed Effects Model

Fixed effects model is selected to analyze the impact of bank-specific and macroeconomic variables on the leverage of Islamic banking industry. The results are presented in Table 7.2. The results strongly indicate that Islamic banks significantly take into consideration both bank-specific and macroeconomic variables when they decide on their optimal level of leverage. The results of both the bank-specific and macroeconomic variables are elaborated separately in the following section.

Size

The results indicate a statistically significant positive relationship between bank size and the leverage decisions of the bank. Specifically, the results suggest that the bigger the bank, the higher the leverage ratio. That is, large bank is more likely to use debt in their financial leverage. One reason is that larger banks are more diversified and hence have lower variance of earnings, which enables them to manage high debt ratios. The providers of debt capital are more willing to lend to larger banks, as they are perceived to have lower risk levels. On the other hand, smaller banks may find it relatively costlier to resolve issues of information asymmetries with the providers of capital debt. Thus, they prefer lower debt ratios. This result supports the trade-off theory and is consistent with the empirical evidence reported in Frank and Goyal (2004), Kayhan and Titman (2007), Sayilgan et al. (2006), and Rajan and Zingales (1995). These studies have also reported a positive and statistically significant relationship between size and leverage. Concerning banks' financial leverage, studies such as Gropp and Heider (2010) and Ali et al. (2011) have also reported the positive impact of bank size on the leverage of banks.

Profitability

The estimates regarding profitability show a negative relationship between the banks' profit and leverage. This negative association suggests that profitable banks are likely to use less debt in their financial leverage. The impact of profitability on leverage is consistent with the Myers' (1984) prediction that successful companies do not need to

depend so much on external resources to finance their capital needs. They, instead, rely on their internal reserves accumulated from past profits. Most of the previous empirical studies found a negative relationship between profitability and debt financing. Examples of these studies are Myers (1984), Rajan and Zingales (1995), Sayilgan et al. (2006), Shah and Khan (2007), and Frank and Goyal (2004). Similarly, studies like Booth et al. (2001), Gropp and Heider (2010), Ali et al. (2011), and Ali (2011) have also documented a negative relationship between debt and profitability in financial sector.

Tangibility

In line with the trade-off theory, the coefficient of tangibility is positive, suggesting that the amount of fixed assets (buildings, furniture, machines, and land) is effective for enhancement of debt financing. Banks can achieve easily funds for structuring their capital because fixed assets are good securities to fund providers. Our finding for tangibility is generally consistent with the previous empirical work including studies Titman and Wessels (1988), Frank and Goyal (2004), Shah and Khan (2007), Fauzi and Locke (2012), and Ali et al. (2011) that have found a positive relationship between tangibility and leverage.

Liquidity

Regarding the impact of liquidity on the leverage decisions of Islamic banking industry, the results presented in Table 7.2 suggest that there is a negative and statistically significant relationship between liquidity and leverage. This negative impact is consistent with the pecking order theory, which predicts a negative association between liquidity and leverage because high liquidity firms can generate sufficient cash inflows and therefore the excess cash inflows can be used to finance investment and operating activities. Most of the previous empirical studies also found a negative relationship between liquidity and debt financing (Ali et al. 2011; Taleb and Shubiri 2007; Gul et al. 2012).

It is found that the association of variable NDTS with the dependent variable is almost insignificant in Islamic banking industry of Pakistan. Our finding is in line with Titman and Wessels (1988), who explain that empirically, the substitution effect has been difficult to measure as finding an accurate proxy for tax reduction that excludes the effect of economic depreciation and expenses is tedious. Our result is also in line with Gul et al. (2012), who have reported that tax rate does not fluctuate

Table 7.2 Estimates for Islamic banking industry's leverage

Regressors	*Coefficient*	*t-statistics*	*p-value*
Panel A: Estimation results			
Size	0.026	4.6***	0.000
Profitability	−0.128	−2.7***	0.006
Tangibility	0.678	1.9**	0.053
Liquidity	−0.582	−12.7***	0.000
NDTS	6.986	1.6*	0.110
CAR	−0.002	−2.9***	0.003
Growth	0.001	3.1***	0.002
Real interest rate	−0.003	−1.3*	0.177
Inflation	−0.003	−1.7*	0.075
IPI	0.036	0.7	0.428
Constant	0.351	1.4	0.158
Panel B: Basic Information			
Fixed-effects (within) regression			
Number of observations		238	
Number of groups		10	
R^2: within		0.842	
Between		0.565	
Overall		0.7115	
F-statistics		116.39 (0.00)	
Panel C: Diagnostic tests[a]			
sigma_*u*		0.062	
sigma_*e*		0.043	
rho		0.675 (fraction of variance due to *u_i*)	
F test that all *u_i*=0:		$F(9, 218) = 6.12$	Prob > *F*=0.000

Notes ***, **, * represent statistical significance at the 1%, 5%, 10% levels, respectively

[a]67.5% of the variance is due to differences across panels. 'rho' is known as the intra class correlation. sigma_*u*=standard deviation of residuals within groups ui and sigma_*e*=standard deviation of residuals (overall error term) $\text{erho} = \frac{(\text{sigma\_}u)^2}{(\text{sigma\_}u)^2+(\text{sigma\_}e)^2}$

with the income level because there is a constant rate of tax in Pakistan. Therefore, companies do not use non-debt tax shield (depreciation) as a substitute to debt ratio to stop net income from going into a next high tax bracket. The trade-off theory of financial leverage predicts the negative association of non-debt tax shield with debt. Examples of these studies are Afza and Hussain (2011) and Sayilgan et al. (2006). A possible explanation of negative relationship is that non-debt tax shields are a substitute for the tax benefits of debt financing. Non-debt tax shield proxies should be negatively related to leverage. However, studies such

as Ali et al. (2011) have document evidence of the positive impact of non-debt tax shield on leverage decision.

Capital Adequacy Ratio

Our results also suggest that capital adequacy ratio has a significant impact on the leverage decisions of Islamic banks. As capital holding bears a substantial cost, therefore, bank's management tries to hold less capital than required by central bank (Mishkin 2000). Our finding is in line with the previous findings which also have explored also a negative relationship between capital adequacy ratio and leverage. Grais and Anoma (2008) have explored that the banks hold a minimum amount of capital, based on the risk embedded in their asset holding. Accordingly, banks with relatively risky assets in their operations would hold a higher amount of capital than those banks with less risky assets.

Growth

We find that the growth and leverage decisions are significantly and positively correlated in Islamic banking industry of Pakistan. Thus, this result supports the pecking order theory, which predicts that the growth of a firm and its use of debt are positively related. The reason is that debt has no asymmetric problems therefore when outside funds are needed firms will go for debt against equity because for a growing firm their internal funds might not be sufficient to meet their requirements, therefore they will require more funds to spend on research and development in order to expand their business and to finance their positive investment projects. Our finding for growth is generally consistent with the previous empirical work including studies Fauzi and Locke (2012), Shah and Hijazi (2004), Korner (2007), Ali (2011), Taleb and Shubiri (2007), and Sayilgan et al. (2006) that have found significant positive coefficient for growth irrespective to models used. Likewise, Gul et al. (2012) and Bellinetti (2009) have found that the debt level and growth were significantly positively correlated banking in banking sector.

Real Interest Rate

The empirical evidence supports negative relationship of real interest rate with significant effect upon leverage in line with Korajczyk and Levy (2003) assumptions, of the negative correlation. Ariccia et al. (2013) have also explored that banks can adjust their financial leverages with reductions in real interest rates. The decline in real interest rate leads to

greater leverage and higher risk for any downward sloping loan demand function.

Inflation
The empirical evidence supports negative relationship of inflation with significant effect upon leverage. The empirical result also supports partially Gajurel (2006) who concluded that the inflation rate is negatively related to total debt ratio and short-term debt ratio, whereas it is positively related to long-term debt ratio. It implies that increasing inflation supports to increase long-term debt and decrease short-term debt. To some extent, in short run, the higher inflation decreases the interest rate, which could foster long-term borrowing.

Industrial Production Index
We observed that the relationship of IPI with leverage is positive. Yet it is insignificant statistically. Similar to our finding, Gajurel (2006) has also showed that the GDP growth rate is positively related to long-term debt ratio whereas it has a negative relationship to total debt ratio and short-term debt ratio. In other words, higher economic growth means more long-term debt and less short-term debt. Overall, our results regarding the role of bank-specific variables on leverage are in line with the literature. Hence, we do not further comment on these variables.

7.5 Conclusion

A number of financial facilities are offered in corporate and retail banking sectors of Pakistan. Offering several financial products and services, banking sector of Pakistan significantly serves the economy of the country. Since 2002, Islamic banking industry is growing rapidly and now its share is over 8% of the country's banking industry as of June 30, 2013. This study builds a framework for analyzing the financial leverage decisions of the Islamic banking industry in Pakistan. For empirical analysis, the study uses quarterly panel data covering the period from 2006 to 2012. The fixed effect estimator is used to estimate the empirical model.

The empirical results of the study reveal that bank-specific variables, namely bank size tangibility, and growth are positively related to the financial leverage decisions of Islamic banking industry, whereas the

profitability of banks, liquidity, and the capital adequacy ratio (CAR) are negatively related to the financial leverage decisions. These findings suggest that bank-specific variables play a significant role in explaining the financial leverage decisions of Islamic banks in Pakistan. The results also suggest that non-debt tax shield (NDTS) does not have a significant impact on Islamic banks' financial leverage decisions. On the other hand, the results pertaining to macroeconomic variables indicate that both the real interest rate and inflation are negatively related to banks' leverage, while IPI is positively and statistically significantly related to the financial leverage decision of the Islamic banking industry of Pakistan during the examined period. The results presented in this study are generally consistent with the theories developed in finance to explain financial leverage, including the trade-off theory and the pecking order theory of financial leverage.

There could be several recommendations based on our empirical analysis that might be useful for financial leverage and other financial decisions of Islamic banks in Pakistan. The results suggest that the central bank should respond to motivate economic changes when choosing their policy stance as macroeconomic conditions leave a significant impact of banks' financial leverage decisions. Capital adequacy ratio (CAR) is especially analyzed to explain the banks' leverage and appeared as a significant potential variable which is a good guide for risk management while enforcing minimum capital requirements. It is also important for bank supervisors to bear in mind while assessing the safety and soundness of banks. The study recommends that macroeconomic policy variables might be considered by the board of directors of the commercial banks while deciding financial leverage. Asset liability management (ALM) department of commercial banks can also focus on these variables while using portfolio management techniques through coordinated process. There is a need to devise Islamic instruments at the SBP as currently Islamic banks are compensated against statutory liquidity ratio (SLR) by maintaining smaller than conventional banks. Although certain proportion of demand and time liabilities can be invested in *Sukuk*, yet Islamic banks cannot earn profit on statutory liquidity reserves and remain disadvantaged as compare to conventional banks.

During the course of research, a number of exogenous factors came to the knowledge of researchers. One being important from viewpoint of banks financial leverage appears to be the varied and diversified *Shari'ah* verdicts (*fatwa*) around the globe. There is need that harmonization in

this respect should be achieved to strengthen building financial leverage of Islamic banking industry. Accounting and Auditing Organization of Islamic Financial Institution (AAOIFI) and IFSB can play a significant role in this respect. The study has utilized fixed effect model while explaining the impact of bank-specific and macroeconomic variables on financial leverage decisions. However, for future work, a dynamic model of leverage can be formalized and Generalized Method of Moments (GMM) estimator can be used. System GMM estimator effectively mitigates the problem endogeneity as well. A comprehensive analysis can be done using the country-level panel data. The impact of global variables such as world GDP and trade openness can also be examined in the future.

References

Afza, T., & Hussain, A. (2011). Determinants of Capital Structure Across Selected Manufacturing Sectors of Pakistan. *International Journal of Humanities and Social Science*, 1(12), 254–262.

Ahmed, H. (2007). *Issues in Islamic Corporate Finance: Capital Structure in Firms*. IRTI Occasional Papers No. 226. Jeddah: Islamic Research and Teaching Institute.

Akhavein, J. D., Berger, A. N., & Humphrey, D. B. (1997). The Effect of Bank Megamergers on Efficiency and Prices: Evidence From the Profit Function. *Review of Industrial Organization*, 11, 95–139.

Al-Deehani, T., Karim, R., & Murinde, V. (1999). The Capital Structure of Islamic Banks Under the Contractual Obligation of Profit Sharing. *International Journal of Theoretical and Applied Finance*, 2(3), 243–283.

Ali, I. (2011). *Determinants of Capital Structure: Empirical Evidence from Pakistan*. Master thesis, Enschede: University of Twente Enschede.

Ali, K., Akhtar, M. F., & Sadaqat, S. (2011). Practical Implication of Capital Structure Theories: Empirical Evidence from the Commercial Banks of Pakistan. *European Journal of Social Sciences*, 23, 165–173.

Alper, D., & Anbar, A. (2011). Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: Empirical Evidence from Turkey. *Business and Economics Research Journal*, 2(2), 139–152.

Amidu, M. (2007). Determinants of Capital Structure of Banks in Ghana: An Empirical Approach. *Baltic Journal of Management*, 2(1), 67–79.

Antoniou, A. Guney Y., & Paudyal, K. (2008). The Determinants of Capital Structure: Capital Market-Oriented Versus Bank-Oriented Institutions. *Journal of Financial and Quantitative Analysis*, 43(1), 59–92.

Ariccia, G. D., Laevena, Luc, & Marquez, R. (2013). Real Interest Rates, Leverage, and Bank Risk-Taking. *Journal of Economic Theory*, 41, 1–35.

Baker, M. & Wurgler, J. (2007). Investor Sentiment in the Stock Market. *Journal of Economic Perspectives*, 21(2), 129–151.

Barth, J., Caprio, G. & Levine, R. (2005). *Rethinking Bank Regulation: Till Angels Govern*. Cambridge: Cambridge University Press.

Baum, C. F., Caglayan, M. & Rashid, A. (2013). *Capital Structure Adjustments: do Macroeconomic and Business Risks Matter*? Boston College Working Papers in Economics 822. Boston: Boston College Department of Economics.

Baxter, N. D. (1967). Leverage, the Risk of Ruin and the Cost of Capital. *Journal of Finance*, 22(3), 395–403.

Beattie, V., Goodacre, A., & Thomson, S. (2000). Operating Leases and the Assessment of Lease-Debt Substitutability. *Journal of Banking and Finance*, 24, 427–470.

Bellinetti, J. V. (2009). *Capital Structure Pattern and Macroeconomics Conditions; A Study on the Nordic Banking Sector 2003–2008*. Umeå: Umeå School of Business.

Berger, A., DeYoung, R., Flannery, M., Lee, D. & Özde O. (2008). How Do Large Banking Organizations Manage Their Capital Ratios? *Journal of Financial Services Research*, 34(2), 123–149.

Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital Structures in Developing Countries. *Journal of Finance*, 56(1), 87–130.

Bradley, M., Jarrell, G. A., & Kim, E. H. (1984). On the Existence of An Optimal Capital Structure: Theory and Evidence. *Journal of Finance*, 39(3), 857–878.

Brewer, E., Kaufman, G., &, Wall, L. (2008) Bank Capital Ratios Across Countries: Why Do They Vary? *Journal of Financial Services Research*, 34(2), 177–201.

Chittenden, F., Hall, G., & Hutchinson, P. (1996). Small Firm Growth, Access to Interest on Corporate Capital Structure. *Journal of Finance*, 43(2), 271–281.

Cook, D. O. & Tang, T. (2010). Macroeconomic Conditions and Capital Structure Adjustment Speed. *Journal of Corporate Finance*, 16(1), 73–87.

Diamond, D. W. & Raghuram G. R. (2000). A Theory of Bank Capital. *Journal of Finance*, 55(6), 2431–2465.

Fauzi, F., & Locke, S. (2012). Board Structure, Ownership Structure and Firm Performance: A Study of New Zealand Listed-Firms. *Asian Academy of Management Journal of Accounting of Finance*, 8(2), 43–67.

Frank, M. Z., & Goyal, V. K. (2004). Capital Structure Decisions: Which Factors Are Reliably Important? *Financial Management*, 38(1), 1–37.

Gajurel, D. P. (2006). *Macroeconomic Influences on Corporate Capital Structure*. Master degree thesis, Kathmandu: Tribhuvan University.

Graham, J. R., Lemmon, M. L., & Schallheim, J. S. (1998). Debt, Leases, Taxes, and the Endogeneity of Corporate Tax Status. *Journal of Finance*, 53(1), 131–162.

Grais, W., & Kulathunga, A. (2008). Capital Structure and Risk in Islamic Financial Services. *Islamic Finance: The Regulatory Challenge*. Singapore: John Wiley and Sons, 418 pp.

Greene, W. H. (2008). *Econometric Analysis* (6th ed.). Upper Saddle River, NJ: New York University, Prentice Hall.

Gropp, R., & Heider, F. (2010). The Determinants of Bank Capital Structure. *Review of Finance*, 14(4), 587–622.

Gul, S., Khan, M. B., Razzaq, N., & Saif, N. (2012). How Firm Characteristics Affect Capital Structure in Banking and Insurance Sectors (The Case of Pakistan). *European Journal of Business and Management*, 4(12), 6–16.

Hackbarth, D., Miao, J., & Morellec, E. (2006). Capital Structure, Credit Risk and Macroeconomic Conditions. *Journal of Financial Economics*, 82(3), 519–550.

Hall, M. J., Dar, H. A., & Muljawan, D. (2004). A Capital Adequacy Framework for Islamic Banks. *Applied Financial Economics*, 14(6), 429–441.

Harzi, A. (2012). The Impact of Basel III on Islamic banks: A Theoretical Study and Comparison with Conventional Banks. Paper Presented at the Research Chair Ethics and Financial Norms of University Paris, September 12, Paris.

Hausman, J. A. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6), 1251–1271.

Houston, J., James, C., & Marcus, D. (1997). Capital Market Frictions and the Role of Internal Capital Markets in Banking. *Journal of Monetary Economics*, 35(3), 389–411.

Jayaratne, J. & Morgan, D. P. (1999). Capital Market Frictions and Deposit Constraints on Banks. *Journal of Money, Credit and Banking*, 32(1), 74–92.

Jordan, J., Lowe, J., & Taylor, P. (1998). Strategy and Financial Policy in UK Small Firms. *Journal of Business Finance and Accounting*, 25(1), 1–27.

Kayhan, A., & Titman, S. (2007). Firms' Histories and Their Capital Structures. *Journal of Financial Economics*, 83(1), 1–32.

Korajczyk, R., & Levy, A. (2003). Capital Structure Choice: Macroeconomic Conditions and Financial Constraints. *Journal of Financial Economics*, 68(1), 75–109.

Korner, P. (2007). The Determinants of Corporate Debt Maturity Structure: Evidence from Czech firms. *Journal of Economics and Finance*, 57(3–4), 142–158.

Koziol, C., & Lawrenz, J. (2009). What Makes a Bank Risky? Insights From the Optimal Capital Structure of Banks. *Journal of Banking and Finance*, 33(5), 861–873.

Levy, A., & Hennessy, C. (2007). Why does Capital Structure Choice Vary with Macroeconomic Conditions? *Journal of Monetary Economics*, 54(6), 1545–1564.

Michaelas, N., Chittenden, F., & Poutziousris, P. (1999). Financial Policy and Capital Structure Choice in UK SMEs: Empirical Evidence from Company Panel Data. *Small Business Economics*, 12(2), 113–130.

Mishkin, F. (2000). *The Economics of Money, Banking and Financial Markets* (6th ed.). New York: Addison Wesley.

Misman, F., & Ahmad, W. (2011). Loan Loss Provisions: Evidence from Malaysian Islamic and Conventional Banks. *International Review of Business Research Papers*, 7(4), 94–103.

Modigliani, F., & Miller, M. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *American Economic Review*, 48(3/4), 261–297.

Modigliani, F., & Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review*, 53, 433–443.

Myers, S. C. (1977). Determinants of Corporate Borrowing. *Journal of Financial Economics*, 5(2), 147–175.

Myers, S. C. (1984). The Capital Structure Puzzle. *Journal of Finance*, 39(3), 575–592.

Myers, S. C., & Majluf, N. (1984). Corporate Financing and Investment Decisions When Firms have Information Investors Do Not Have. *Journal of Financial Economics*, 13(2), 187–221.

Nagano, M. (2009). *Islamic Finance and the Theory of Capital Structure*. Discussion Papers in Economics No. 501. Nagoya: Society of Economics Nagoya City University.

Opler, T. C., & Titman, S. (1994). Financial Distress and Corporate Performance. *Journal of Finance*, 49, 1015–1040.

Parashar, S. P., & Venkatesh, J. (2010). How Did Islamic Banks Do During Global Financial Crisis? *Banks and Bank Systems*, 5(4), 54–62.

Rajan, R. G., & Zingales, L. (1995). What Do We Know About Capital Structure? Some Evidence from International Data. *Journal of Finance*, 50(5), 1421–1460.

Rajhi, W., & Hassairi, S. A. (2012). Capital Structure and Financial Risks in Non-conventional Banking System. *International Journal of Economics and Finance*, 4(4), 252–265.

Rashid, A. (2013). Risks and Financing Decisions in The Energy Sector: An Empirical Investigation Using Firm-Level Data. *Energy Policy*, 59(8), 792–799.

Sayilgan, G., Karabacak, H., & Küçükkocaoglu, G. (2006). The Firm-Specific Determinants of Corporate Capital Structure: Evidence From Turkish Panel Data. *Investment Management and Financial Innovations*, 3(3), 125–139.

Scholes, M., Wilson, P., Wolfson, M. (1990). Tax Planning, Regulatory Capital Planning, and Financial Reporting Strategy for Commercial Banks. *Review of Financial Studies*, 3(4), 625–650.

Shah, A. & Hijazi, T. (2004). The Determinants of Capital Structure of Stock Exchange-Listed Non-Financial Firms in Pakistan. *Pakistan Development Review*, 43(4), 605–618.

Shah, A., & Khan, S. (2007). Determinants of Capital Structure: Evidence from Pakistani Panel Data. *International Review of Business Research Papers*, 3(4), 265–282.

Shyam-Sunder, L., & Myers, S. C. (1999). Testing Static Tradeoff Against Pecking Order Models of Capital Structure. *Journal of Financial Economics*, 51(2), 219–244.

Smith, C., & Watts, R. (1992). The Investment Opportunity Set and Corporate Financing, Dividend and Compensation Policies. *Journal of Financial Economics*, 32, 263–292.

Staking, K. B., & Babbel, D. F. (1995). The Relation Between Capital Structure, Interest Rate Sensitivity, and Market Value in the Property-Liability Insurance Industry. *Journal of Risk and Insurance*, 62(4), 690–718.

Taleb, G. A., & Shubiri, F. N. (2007). Capital Structure Decisions and Debt Maturity Structure: An Empirical Evidence from Jordan. *Journal of Commerce*, 3(4), 49–60.

Titman, S., & Wessels, R. (1988). The Determinants of Capital Structure Choice. *Journal of Finance*, 43(1), 1–19.

Vitor, D. A., & Badu, J. (2012). Capital Structure and Performance of Listed Banks in Ghana. *Global Journal of Human Social Science* 12(5), 56–62.

Yan, A. (2006). Leasing and Debt Financing: Substitutes or Complements? *Journal of Financial and Quantitative Analysis*, 41(3), 709–731.

CHAPTER 8

Measuring Systemic Risk in Dual Banking System: The Case of Malaysia

Turkhan Ali Abdul Manap

8.1 Introduction

The global crisis of 2007–2009 has made policymakers and regulators reconsider the institutional framework for overseeing the stability of financial systems. The crisis has clearly demonstrated that even though individual risks may be forecast and limited, financial shocks to single institutions can quickly spread across a large number of institutions and markets, threatening the whole system. For instance, the Lehman Brothers bankruptcy in 2008 showed how the collapse of a single, big enough and financial institution could jeopardize financial stability almost to the level of bringing the entire financial system on its knees. Before the global financial crisis, banking regulation was solely based on idiosyncratic risk measures, as implemented in the Basel I and Basel II Accords. Basel I and II were mainly concerned with limiting risk of individual institutions by making sure that banks have adequate capital to cushion against unexpected losses.

T. A. Abdul Manap (✉)
Islamic Research and Training Institute,
Islamic Development Bank, Jeddah, Saudi Arabia
e-mail: turkhanali@isdb.org

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These events not only highlighted the tremendous externalities that can hit the real economy when the financial system does not function properly but also highlighted the fallacies and inadequacies of banking regulation, micro-prudential and macro-prudential policies. The policy agenda has since shifted towards the macro-prudential approach to bank regulation, which focuses on the soundness of the financial system as a whole. It is not surprising that regulation authorities have moved towards a new regulation framework, such as Basel III, that incorporates macro-prudential policies which focus on the mitigation of systemic risks. However, the major challenge for academic researchers and policy makers has been to define and measure systemic risk. This study aims to contribute to most recent efforts of quantifying systemic risk.

Due to the huge negative impact of the financial crisis on the economy of the world as a whole, it has reignited researchers and regulators' interests in this subject and pushes towards public authorities paying the more attention to the financial stability in a macro-prudential policy (Borio 2003), which aims to mitigate the risk of the financial system as a whole (systemic risk) and to stabilize the financial system. However, a key challenge for the effective implementation of macro-prudential regulation is how to assess and measure the systemic risk. An effective recognition, assessment and measurement are the premise of effective implementation of macro-prudential supervision. As a result, there has been an unparalleled growth of interest in academia and regulators in defining and measuring systemic risk.

Although there is no consensus regarding the concept of financial stability and systemic risk,[1] the materialization of systemic risk during the recent global financial crisis demonstrated that the financial safety net and financial institutions significantly underestimated it. Systemic risk turned out to be much more than just the composition of individual types of risks affecting financial institutions. While credit risk, liquidity risk, operational risk, etc. can be directly attributed to a given institution, systemic risk can only be attributed indirectly.

Systemic risk is most commonly seen from the serious consequence it brings to the whole (financial) system due to the failure of one or more institutions rather than its impact on the individual institution.[2]

[1] Systemic risk and financial stability are often used interchangeably.

[2] It is important to know that systemic risk is different with systematic risk. Systematic risk is the macroeconomic or aggregate risk that cannot be avoided through diversification.

When a bank fails, not only will its depositors lose money, but it is also likely to default its obligations to other financial institutions. The financial pressure of both the depositors and the other institutions are then likely to lead to further failures of both banks and other businesses too. The resulting ripple effect has significant negative implications for both financial and real economy. Therefore, controlling the systemic risk is a major concern for regulators.

Irrespective of the ambiguity of the definitions of systemic risk, a growing number of empirical and theoretical papers seek to address the issue of proper systemic risk measurement. For instance, among others, Adrian and Brunnermeier (2016) propose CoVaR as a general measure of systemic risk, while Acharya et al. (2017) propose the systemic expected shortfall approach (SES) that is based on the marginal expected shortfall (MES) methodology. Brownlees and Engle (2017) proposed the systemic risk index (SRISK) while Huang et al. (2009) propose the distressed insurance premium (DIP) approach that utilizes data on credit default swap (CDS) premia to determine systemic riskiness of financial institutions. Other measures included Drehmann and Tarashev (2013), Dungey et al. (2012), Moore and Zhou (2012), and Tarashev et al. (2010). Regulation institution such European Central Bank (2010a, b) provides quantitative measures of systemic risk and tools for identification and assessment of systemic risk, leveraging on these various tools available, there is proliferation of empirical studies on quantifying systemic risk have been carried out in different sectors ranging from banking to sovereign debt markets.

In this chapter, we estimate the systemic contribution of Malaysian listed banks for the period 2000–2017 following the methodology proposed by Adrian and Brunnermeier (2016) and measure an individual bank's contribution to systemic risk. Our study contributes to the academic literature in a number of ways. First, there is a bundle of studies available on quantifying systemic risk in different sectors ranging from banking to sovereign debt markets for different countries. However, research on measuring systemic risk and its consequences are still scarce

In the perspective of risks, it is exogenous, since the sources of systematic risk are the exposures to the macro/aggregate shocks which are out of control by individual market participants (Hansen 2012). Systemic risk has gained the extensive attention after the recent financial crisis and the systemic risk is endogenous. Due to this endogenous, there is a room for regulators to measure, monitor and control the systemic risk and stabilize the financial system as whole.

in developing economies. Our study seeks to address this gap by empirically analysing systemic risk in the Malaysia banking sector with the aim of identifying the most systemically important banks and the most vulnerable ones. Second, although the international financial architecture has recognized neither the existence nor importance of it, Islamic banking has grown into an international reality by moving from periphery to the financial centres with double digit growth rates over the years. Malaysia is considered as the leader of Islamic banking as it has succeeded in creating a full fledge Islamic banking system parallel to the existing conventional system. Malaysia has a dual banking system with both conventional and Islamic banks operating side by side. Though each system operates theoretically within its own sphere, it is inevitable that given a common macro-environment, the two systems interact. This offers a good opportunity to study the two types of bank together. Empirical studies in general have been limited on Islamic banking and finance, and in particular studies on systemic risk and its contribution to financial stability. This study, hence, contributes empirically by analysing how Islamic banks contribute to the bank systemic risk.

The remainder of the chapter is structured as follows: Sect. 8.2 discusses the existing literature, while Sect. 8.3 describes the methodology. Sections 8.4 and 8.5 present the results and the conclusion, respectively.

8.2 Literature Review

8.2.1 Defining Systemic Risk

Systemic risk and financial stability are often used interchangeably. Despite the apparent ubiquity of the term, literature review by Galati and Moessner (2013) concludes that despite the wealth of research on the subject, there is still no consensus on the definition of systemic risk. Early research on systemic risk focused primarily on the problem of contagion and was, to a large extent, motivated by serial bank failures in emerging markets during the 1990s. Rochet and Tirole (1996), for example, define systemic risk as essentially contagion or the risk of financial distress spreading from financial institution to institution. Kaufman and Scott (2003) define systemic risk in broad terms as the probability that disruptions occur on a systemic level rather than affecting only particular parts of the system, while systemic risk in banking is characterized by high correlation

of banks' asset returns and numerous banks failures. A more succinct definition by Borio (2003) interprets systemic risk as an event or a process, by which an initial distress of a financial institution (endogenous event) or a macroeconomic shock (exogenous event) spreads throughout the financial system via specific transmission channels that include balance sheet links and overreaction to bad news by individual institutions and investors.

Nonetheless, the scope of the literature dealing with the problem of systemic risk has been steadily growing in the years prior to the global financial crisis and has received additional impetus in its aftermath. The Financial Stability Board (FSB) during the G20 in 2009 defines systemic as the risk of disruption to financial services that is (i) caused by an impairment of all or parts of the financial system and (ii) has the potential to have serious negative consequences for the real economy (IMF/BIS/FSB 2009).[3] Fundamental to the definition is the notion of negative externalities from a disruption or failure in a financial institution, market, or instrument. Adrian and Brunnermeier (2016) define systemic as the risk that institutional distress spreads widely and distorts the supply of credit and capital to the real economy. What they mean that systemic risk arises because of the spillovers across institutions which can be due to direct contractual links or, indirectly, to price movements and liquidity drains. When these spillovers reach critical levels, it is possible that also the real economy is affected through the credit channel.[4]

8.2.2 Measurement of Systemic Risk

Although the precise definition of systemic risk is still quite vague as different researchers and organizations define systemic risk by looking at

[3] This definition is very close to that of Trichet (2009), who defines systemic risk as the threat that developments in the financial system can cause a breakdown of the financial system and massive damages to the real economy.

[4] Brownlees and Engle (2017) apply a definition similar to that of Adrian and Brunnermeier (2016), but Brownlees and Engle (2017) focus more on the undercapitalization of large financial institutions, as the main source of systemic risk. They argue that, when the system is under-capitalized, it is not able to fulfil its basic functions.

different aspects of it. However, a lack of consensus in the literature and the complex nature of systemic risk do not stop the proliferation of various measures and principles to measure it. For instance, a few complementary measures of systemic risk were proposed. Here, we just briefly describe a few models which are in the same spirit of the model we used in this paper. For a comprehensive overview of the literature on the systemic risk measures, please refer Bisias et al. (2012).

VaR is extensively used to analyze the risk of a firm in isolation but it could not be used to measure the systemic risk. Creatively, Adrian and Brunnermeier (2016) propose CoVaR as a general measure of systemic risk, which is the value at risk (VaR) of the overall financial system conditional on an individual institution being under distress. Then, an institution's contribution to systemic risk is defined as the difference between CoVaR conditional on the institution being under distress and the same measure in the median state of the institution. This difference, ΔCoVaR, is the marginal measure of systemic contribution that gauges the extent to which the distress of an individual institution measured by its VaR, spills over to the financial system.

Another pioneering systemic measure which also uses equity returns and has many similarities with CoVaR is MES developed by Acharya et al. (2017). They develop an approach whereby banks can be taxed according to the sum of their expected default losses and their expected contribution to a systemic crisis. The latter is equal to the expected amount a bank is undercapitalized in a future systemic event and referred to as SES, and this can be estimated from MES and leverage. MES in turn is defined in their report as the average return on the 5% worst days of the market. From this definition, it is clear that the conditioning is reversed from that used by Adrian and Brunnermeier (2016) in CoVaR (analogous to what they refer to as Exposure-CoVaR).

A potential drawback of MES approach to systemic risk estimation, according to Brownlees and Engle (2017), is the fact that final institutions' contribution to systemic risk during severe financial crisis can only be analysed ex-post. They further developed the ideas in Acharya et al. (2017) and proposed the SRISK as a more flexible upgrade of the SES approach. The SRISMK index of a single financial institution is comprised of its estimated MES, size and leverage. The sum of the individual institutions' contribution to systemic risk, or aggregate SRISK, provides

a systemic-wide estimate of potential capital shortfalls in the event of a systemic crisis.[5,6]

Alternatively, Huang et al. (2009) and Huang et al. (2010, 2012) propose the deposit insurance premium (DIP) measure which is a bank's expected loss conditional on the financial system being in distress exceeding a threshold level. Dungey et al. (2012) propose a network-based methodology to rank systematically important institutions with encompassing some firms' characteristics. Another paper accounting for firms' characteristics is Moore and Zhou (2012).

8.2.3 Empirical Studies

Adrian and Brunnermeier (2016) calculated the risk value at risk (CoVaR) of a financial institution under stress conditions (fall into a crisis condition), based on the difference (CoVaR) between value at risk (CoVaR) and normal condition of the entire financial system value at risk (VaR) to measure the marginal contribution of individual financial institutions to systemic risk, in order to assess the level of importance of each financial institution.

Adrian and Brunnermeier (2016) adopts quantile regression to calculate ΔCoVaR on the basis of 1269 financial institutions data. The study not only has realized to list the importance of financial institutions but also to consider the CoVaR quantile regression coefficient as the basis for different additional capital for SIFIs, thus to solve the problem of the procyclical effect. Adrian and Brunnermeier (2016) obtain the results that there is an inverse relationship between forward ΔCoVaR and spot ΔCoVaR, so it can consider forward ΔCoVaR as countercyclical regulatory tools.

Among these studies are Girardi and Ergun (2013) who use the CoVaR method within a multivariate GARCH setting to measure systemic risk in US financial sector and find that the largest firms such as investment banks contribute the most to systemic risk. Girardi and Ergun (2013) use a slightly modified CoVaR where the distress event is

[5]Therefore, aggregate SRISK can be used as a benchmark by regulators to estimate recapitalization needs of the financial system when market conditions deteriorate significantly.

[6]A comprehensive analysis by Benoit et al. (2013) indicates that ΔCoVaR and SRISK are particularly suitable for constructing systemic risk rankings of financial institutions.

defined as the institution experiencing losses worse than the VaR, rather than losses exactly at the VaR level. This modification has useful mathematical properties, allowing backtesting of CoVaR using a simple Kupiec test similar to the procedure for VaR.

Lopez-Espinosa et al. (2012) use an asymmetric CoVaR, differentiating between contracting and growing balance sheets to study 54 international financial institutions. They find strong evidence for asymmetry and that short-term whole-sale funding contributes strongly to systemic risk. While, Drehmann and Tarashev (2013) use the Shapley values to quantify the contribution of banks to systemic risk and they find that a bank's contribution largely depends on its role in the interbank market (i.e. whether it is a net lender or a net borrower).

The bulk of these studies have been undertaken in developed economies. One of the exceptions is that of Roengpitya and Rungcharoenkitkul (2011) who use the CoVaR technique in Thailand's banking industry and find that the largest banks con tribute the most to systemic risk. Specifically, they study the ΔCoVaR of the equity prices of 6 major Thai banks, based on stock market data stretching from 1996 to 2009, which notably includes the 1997 Asia financial crisis. The state variables used are the prices and volatility of the Stock Exchange of Thailand (SET) index at different lags. They give a slightly different definition of ΔCoVaR: the difference between the distress state CoVaR and the unconditioned VaR of the system is used, instead of the difference between the distresses state CoVaR and the median state CoVaR used by Adrian and Brunnermeier (2016). They further use the properties of CoVaR to calculate a financial linkage metric and to measure spillover effects.

Nevertheless, research on measuring systemic risk and its consequences on the broader economy is still scarce in developing economies, let alone the Islamic banking sector. There are a few studies interested to measure and compare the financial stability in the Islamic and conventional banks, especially using quantitative methods.

For instance, Cihak and Hesse (2010) concluded on the basis of a large-scale panel study that small Islamic banks tend to be more stable than both their conventional counterparts and large Islamic banks, which in turn seem to be less stable than large conventional banks. This suggests that careful case studies of individual banks may provide insights not possible with panel modelling, which requires some homogeneity assumption.

Hashem and Giudici (2016) investigate whether and how Islamic financial services support financial stability, based on how they affect the country level systematic risk. Using a correlation network approach based on graphical Gaussian models applied to the Middle East and North Africa (MENA) region banking sector for both conventional and Islamic banks, they find that the Islamic banking model to enhance financial and economic stability, but with strong cross-country variability.

8.3 Methodology

This section presents the methodology used in this paper. The first part of this section explains concepts of CoVaR which we use to measure the systemic risk. The second part briefly discusses the estimation methods employed to estimate our systemic risk measures.

8.3.1 CoVaR and ΔCoVaR

CoVaR refers to the value of VaR assessed under the condition that a certain financial institution is at risk. Here, Co means conditional, co-movement, contagion, and contribution of individual banks to systemic risk.

Recall that the value at risk of an institution at the q percentile is defined as:

$$\Pr\left(X^i \leq \text{VaR}_q^i\right) = q \tag{8.1}$$

where X^i denotes the asset return value of institution i and VaR_q^i is the q% VaR of institution i.

In an analogous manner, Adrian and Brunnermeier (2016) define $\text{CoVaR}_q^{j|i}$ as the VaR of institution j or the whole the financial system conditional on institution i being in distress, $X^i = \text{VaR}_q^i$.

$$\Pr(X^j \leq \text{CoVaR}_q^{j|i} | X^i = \text{VaR}_q^i) = q \tag{8.2}$$

Adrian and Brunnermeier (2016) further define CoVaR^i as the difference between the VaR of the financial system conditional on the distress of a particular financial institutions i and the VaR of the financial system conditional on the normal state of the institution i. Thus, ΔCoVaR^i quantifies institutions i's contribution to the overall systemic risk:

$$\Delta \text{CoVaR}_q^{j|i|} = \text{CoVaR}_q^{j|i} - \text{CoVaR}_{50\%}^{j|i} \tag{8.3}$$

where $\text{CoVaR}_{50\%}^{j|i}$ denoted the VaR of j's asset returns when i's returns are at the median (i.e. the 50th percentile).

It is noted that the impact of insolvency of a certain financial institution on systemic risk can be assessed thus enabling the quantification of systemic importance of individual financial institutions. The use of CoVaR could also assesses the financial institution's vulnerability to systemic risk or interconnectedness among specific institutions. However, this paper focuses on estimating only the contributions of individual financial institutions to overall systemic risk.

8.3.2 Estimation

Estimation of the described value is a nontrivial task, and it can be handled with the help of a great variety of methods, in this article, we use the method of quantile regressions (QR) of Koenker and Bassett Jr. (1978).[7]

To start, we estimate q-quantile regression describes the dependence of the predicted value of institution j for q-quantile $\hat{X}_q^{j|i}$ conditional on institution i:

$$\hat{X}_q^{j|i} = \hat{\alpha}_q^i + \hat{\beta}_q^i X_q^i \tag{8.4}$$

where $X_q^i = \text{VaR}_q^i$, which means the institution i is at its VaR level. Then we can find the values using the following Eqs. (8.5) and (8.6).

$$\text{CoVaR}_q^{j|i} = \hat{\alpha}_q^i + \hat{\beta}_q^i \text{VaR}_q^i \tag{8.5}$$

$$\begin{aligned} \Delta \text{CoVaR}_q^{j|i} &= \text{CoVaR}_q^{j|i} - \text{CoVaR}_{50\%}^{j|i} \\ &= \hat{\beta}_q^i \left(\text{VaR}_q^i - \text{VaR}_{50\%}^i \right) \end{aligned} \tag{8.6}$$

[7] Koenker and Hallock (2001) suggesting that the QR gives a rich characterization of data and that it provides an all-encompassing strategy for the completion of the regression techniques. Since QR deals very well with the tail of a distribution, therefore, we use QR is used to estimate the CoVaR in this paper.

However, under the conditions of a real economy not only separate sectors should be taken into consideration but also macroeconomic indicators should also be taken into consideration. Therefore, Adrian and Brunnermeier (2016) modified the above with the inclusion of macroeconomics variables which terms as state variables to control for non-idiosyncratic (market specific) risks. Let M denite a vector of state variables, then we are able to estimate the time-varying CoVaR_t and VaR_t conditional on M_{t-1} by runing the following equations:

$$X^{j|i} = \alpha^i + \gamma^i M_{t-1} + \epsilon_t^i \tag{8.7}$$

$$X_{q,t}^{j|i} = \alpha^{j|i} + \beta^{j|i} X_{q,t}^i + \gamma^{j|i} M_{t-1} + \epsilon_t^i \tag{8.8}$$

Then, we could generate the time-varying VaR_t, CoVaR_t and ΔCoVaR_t as follows:

$$\text{VaR}^{j|i} = \hat{\alpha}_{q,t} + \hat{\gamma}^i M_{t-1} \tag{8.9}$$

$$\text{CoVaR}_{q,t}^{j|i} = \hat{\alpha}_{q,t}^{j|i} + \hat{\beta}_{q,t}^{j|i} \text{VaR}_{q,t}^i + \hat{\gamma}^{j|i} M_{t-1} \tag{8.10}$$

$$\begin{aligned} \Delta\text{CoVaR}_{q,t}^{j|i} &= \text{CoVaR}_{q,t}^{j|i} - \text{CoVaR}_{50\%,t}^{j|i} \\ &= \hat{\beta}_q^{j|i} \left(\text{VaR}_{q,t}^i - \text{VaR}_{50\%,t}^i \right) \end{aligned} \tag{8.11}$$

Adrian and Brunnermeier (2016) have proposed 7 state variables to estimate time-varying CoVaR_t and VaR_t which includes: volatility index captures the implied volatility in the stock market, a short-term liquidity spread to measure short-term liquidity risk, the change in the three-month treasury bill rate to capture the tails of financial sector market-valued asset returns, the change in the slope of the yield curve and the change in the credit spread between BAA-rated bonds, and the treasury rate to capture the time variation in the tails of asset returns. Finally, the weekly equity market return and the one-year cumulative real estate sector return to control for the equity market returns. Although these variables are important in specifying the model, but using these variables is that it makes the results less robust in quantile regression. Another issue is that not all the variables are available for many countries.

8.4 Empirical Analysis

8.4.1 Data

In this paper, we investigate systemic risk for commercial banks being listed on the Bursa Malaysia. We cover the period 25 July 2005 to 31 December 2017 using daily stock market prices, which covers the recent financial crisis. Due to data availability, we could not include the Asia financial period in the study. Only six banks are selected for the study although there are more banks in Malaysian including foreign banks. The six listed banks are Maybank (MBANK), CIMB, Public Bank (PUBLIC), RHB, Hong Leong Bank (HLB), Affin Bank (AFFIN) and Bank Islam (BIMB) (Fig. 8.1).

As for the whole banking system, the financial sector index from Bursa Malaysia is used to represent the banking system of Malaysia. The returns for all individual banks and the banking system calculated as the following:

$$r_t = \ln \frac{p_t}{p_{t-1}} \times 100 \tag{8.12}$$

where r_t is the return, and p_t and p_{t-1} are the current and the previous stock prices, respectively.

For the time-variant estimation of VaR_t and $\Delta\mathrm{CoVaR}_t$, a number of macrostate variables are introduced following Adrian and Brunnermeier (2016) to construct the regression. More specifically, macroeconomic variables

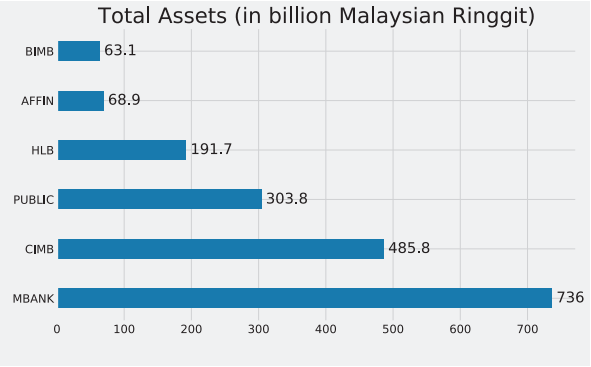

Fig. 8.1 Size of banks included in the study

Table 8.1 Summary statistic of the log return for the seven banks: 25 July 2005 to 11 July 2017 (in %)

	Mean	*Std*	*Min*	*Max*
BIMB	0.05	2.1	−15.21	29.72
HLB	0.05	1.12	−6.06	10.54
AFFIN	0.03	1.6	−12.36	15.55
MBANK	0.03	1.2	−8.53	8.93
PUBLIC	0.06	0.85	−7.53	6.15
CIMB	0.04	1.63	−14.76	15.62

Note The table reports the Mean, Standard Deviation, Minimum, Maximum and 1% stress level of return for the six banks daily observations from 25 July 2005 to 11 July 2017 (in %)

such market volatility, yield spread, the difference between the 10 years government bond and 3 months Treasury bill rates and the return of Kuala Lumpur Composite Index (KLCI) as the proxy for the market return. These three variables are included in the estimation to capture invest sentiments, trend and expectations. However, variables which is available and those are statistically significant were included in the final estimation to avoid over specification.

Table 8.1 shows the summary statistics for each bank. Daily average return is largest for HLB with 0.045 followed by BIMB with 0.045%. The lowest is the Maybank (MBANK) with average return of 0.005%. We also observe that BIMB presents the highest volatility with 2138%.

8.4.2 Empirical Results

In this section, first, we estimate unconditional VaR and ΔCoVaR then conditional VaR and ΔCoVaR. As we mentioned in the introduction section, regulators are interested not only in the probability of a bank failure, but also in the estimation of the negative effect that distress in one financial institution could have on the entire financial system.

Unconditional Risk Estimates

We start by computing the unconditional unconditional VaR and ΔCoVaR for each bank. Figure 8.2 plots the unconditional VaR and ΔCoVaR along with the CoVaR for the period 2005–2017 for each bank. Figure 8.2 indicates that BIMB has the largest (in absolute value) 1% level VaR of 5.32, while PUBLIC has the smallest 1% VaR of 2.41.

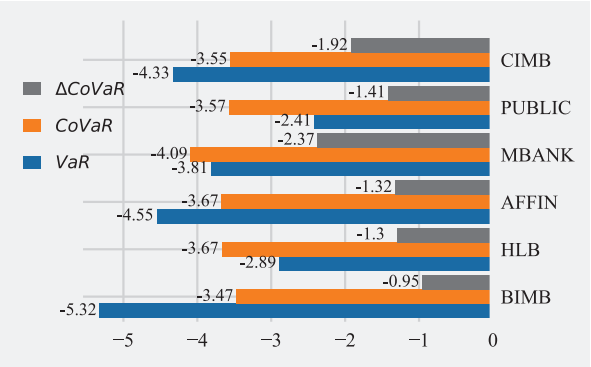

Fig. 8.2 Unconditional 1% VaR, CoVAR and **ΔCoVaR** for each bank

The CoVaR is the VaR of the system conditional on a bank in distress, here, we mean when the bank is at its 1% VaR. Hence, it is the maximum loss incurred for the system when a bank is found to be in distress on a daily basis and with 99% certainty. Figure 8.2 shows that 1% CoVaR which obtained by running the quantile regression as explained in Sect. 8.2. For instance, when CIMB is on 1% VaR, then the 1% VaR of the system is 3.49. Figure 8.2 indicates that the MBANK, the largest bank in Malaysia has the highest spillover effect on the system. Figure 8.2 also illustrates each bank's marginal contribution to overall systemic risk in Malaysia. As before, the names on the right-hand side indicate the independent variables in the Eq. (8.5). Figure 8.2 indicates that MBANK having the largest ΔCoVaR of 2.38 contributing the most to the overall systemic risk, while Bank Islam contributes the least with ΔCoVaR of 0.95.

Figure 8.2 indicates that a bank has a larger individual VaR not necessarily has higher CoVaR and ΔCoVaR. As per Adrian and Brunnermeier (2016) that VaR is not sufficient to measure and manage risk. These observations illustrate the importance of monitoring interconnectedness and financial linkages between banks, rather than looking at, and basing supervisory regulation on, individual bank risk in isolation. As a result, a regulator that uses only VaR to measure systemic risk will likely over- or under-estimate systemic risk contribution of each single institution.

Conditional Risk Estimates

The unconditional VaR and ΔCoVaR do not take into account information that comes from other financial variables and assume each bank risk's contribution is constant over time. As a result, the unconditional estimates cannot capture time variation in risk and signals on the state of the economy coming from other variables. To capture how the measured risk volute over the time, we estimate the VaR, CoVaR and ΔCoVaR by including additional state variables as we mention in Sect. 8.2 using Eqs. (8.9), (8.10), and (8.11).

Figure 8.3 plots the time-varying 1% VaR for six banks. Figure 8.3 shows that all the bank's VaR follow a similar pattern to the corresponding returns with VaR increased significantly for all banks during the world in severe financial crisis with the exception of PUBLIC. The VaR line for BIMB clearly lies below the lines of all other banks from which we conclude that BIMB is the riskiest bank among the banks under study. The results are generally in line with the VaRs estimated using the time-invariant model in the previous section. In order to better understand how each bank systemically impacts the Malaysian banking sector over time, Fig. 8.4 plots the average conditional 1% ΔCoVaR for all banks.

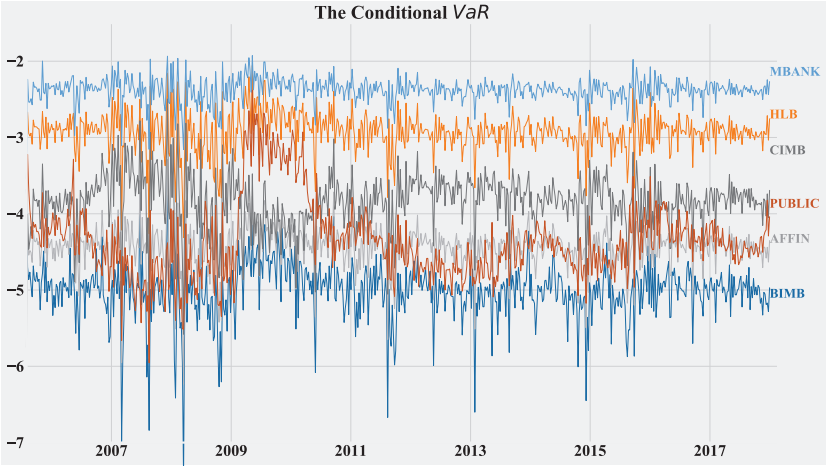

Fig. 8.3 Time-varying conditional VaR for each bank

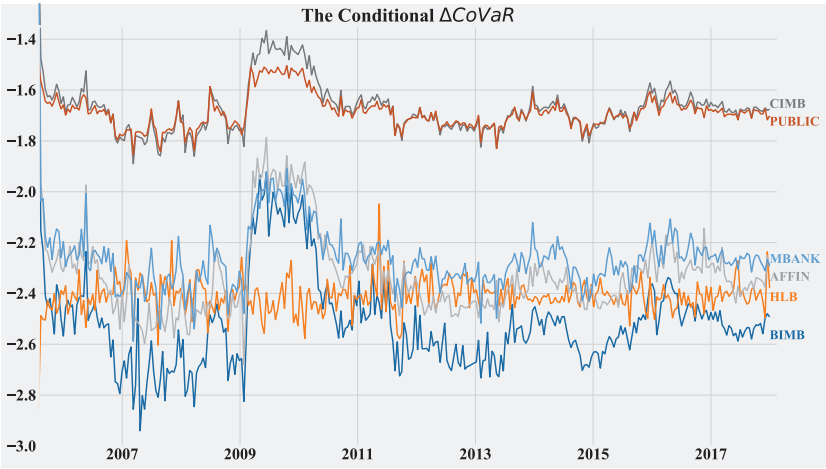

Fig. 8.4 Time-varying conditional **ΔCoVaR** for each bank

Figure 8.4 reveals a few interesting facts: (1) it shows a significant drop of the ΔCoVaR during the global financial crisis indicating the Malaysian banks are significantly affected by the global financial meltdown. The exception is that HLB shows no any significant changes before, during and after the financial crisis. (2) CIMB and Public bank follow a very similar pattern over time and the other three banks another similar pattern over the time. (3) Surprisingly, BIMB is most volatile over the time compared all the conventional banks. (4) CIMB and public banks are the least affected bank while Bank Islam is the most affected bank during the financial crisis. (5) CIMB and PUBLIC contribute the least the systemic risk, while BIMB contributes the most to the systemic risk. (6) As a whole, it seems that the volatility in systemic risk as measured by ΔCoVaR greatly increases during times of extreme financial distress. From this, we conclude that even though the probability of an event such as the 2008 financial crisis may be very small the effects should it still happen are particularly dire. This further highlights the importance of a deeper understanding of systemic risk and the need for further study thereof.

The Linkages Among the Banks: Network ΔCoVaR

In the previous section, we studied the effect a stressed individual bank had on the financial system, and in this section, we study the effect a stressed bank has on other banks rather than the system, in a pairwise comparison. We can obtain a measure for the impact one bank being in distress has on the risk of another bank in the similar approach we did for the system in the previous section. In this case, we measure the VaR of one bank j when bank i is in distress. Following Roengpitya and Rungcharoenkitkul (2011), we use the time-varying measure of ΔCoVaR_t to evaluate the linkage between banks. Table 8.2 presents the averages of estimated ΔCoVaR_t for all banks in pairwise. The columns represent banks are in distress while the rows represent banks being affected by the distressed bank in columns. The $\Delta\text{CoVaR}^{j|i}$ indicates the marginal risk added to bank j when bank i is in stress. For example, CIMB bank adds −2761% VaR level. HLB, however, adds −4.27 at its 1% VaR level.

Table 8.2 shows that BIMB is the most affected bank when each of other banks in distress (indicated by the larger numbers (in absolute term)) in the last row. CIMB has the largest influence on BIMB, while AFFIN has the least effect on BIMB when they are in distress. It also shows that PUBLIC is the bank which least effected by other banks when other banks are in distress and the size of the impact of other banks on PUBLIC are almost same. Table 8.2 reveals that the impact of one bank to another bank is not same as the other bank's impact on this bank, i.e. the impact is unidirectional, and the larger bank has high impact on the smaller bank in general. These results reinforce that the need to regulate the largest bank is very important.

Table 8.2 Average of estimated $\Delta\text{CoVaR}^{j|i}$

CIMB		−4.05	−3.91	−4.22	−4.27	−3.73
PUBLIC	−2.26		−2.34	−2.26	−2.25	−2.33
MBANK	−3.43	−3.46		−3.49	−3.7	−3.43
AFFIN	−4.33	−3.9	−4.08		−4.06	−4.18
HLB	−2.76	−2.79	−2.84	−2.84		−2.9
BIMB	−4.75	−4.73	−4.69	−4.2	−4.69	

Note The averages of estimated ΔCoVaR_t for all banks in pairwise indicates the marginal risk added to bank j when bank i is in stress (1% VaR). The columns represents banks are in distress (1% VaR) while the rows represents banks being affected by the distressed bank in columns. The $\Delta\text{CoVaR}^{j|i}$ indicates the marginal risk added to bank j when bank i is in stress (1% VaR)

8.5 Conclusion

The recent global financial crisis highlighted, to regulators and academics alike, the importance of understanding the causes and effects of systemic risk, particularly in the financial and capital markets but also in the broader economy. This objective of this study is to empirically investigate systemic risk within the Malaysian banking sector with particular attention to Islamic bank by including Islamic bank into the analysis. In particular, the estimation approach developed by Adrian and Brunnermeier (2016) is used to estimate the CoVaR and ΔCoVaR to assist in identifying the most systemically important banks over the relevant period.

Our results indicate that BIMB is the largest contributor to the banking sector's systemic risk. These results are some sort of surprising because BIMB is the smallest bank in terms of asset size in the sample banks under study. Our findings also indicate that the contribution of banks to other bank's risk is linked to the size of the banks; with the larger banks contributing more than the smaller ones to other banks but this does not apply to the system. We also find that though Islamic bank (BIMB) has the highest risk in terms of individual VaR but it has the smallest impact on the system risk when the unconditional measure used.

Another interesting observation from our 1% CoVaR, we made is that the contribution of banks to systemic risk tends to increase during times of financial crises with HLB being an interesting exception probably because its ΔCoVaR is much lower. After applying the network, ΔCoVaR we found that there are very strong linkages within Malaysian banking sector, implying that if one bank were to go into a crisis the other banks would be disproportionately negatively affected. However, BIMB is seen to have the lease impact on other banks when it is in distress. Seen from an operational vantage, this could be because BIMB enjoys little presence as a clearing institution but is a significant personal lending business. Therefore, its propensity to spread negative contagion is curtailed in proportion with its interbank activity.

However, due to non-availability of data for many Islamic banks in Malaysia, the results from BIMB could not be generalized to other Islamic banks. Further results should be obtained when the required data at hand. Nevertheless, further study is needed by including more banks in the study and it is also important to find out what factors are important in explaining the systemic risk contribution using the bank's internal characteristic data whenever available.

References

Acharya, V. V., Pedersen, L. H., Philippon, T., & Richardson, M. P. (2017). Measuring Systemic Risk. *Review of Financial Studies*, 30(1), 2–47.

Adrian, T., & Brunnermeier, M. K. (2016). CoVaR. *American Economic Review*, 106(7), 1705–1741.

Angelini, P., Nicoletti-Altimari, S., & Visco, I. (2013). 22. Macroprudential, Microprudential and Monetary Policies: Conflicts, Complementarities and Trade-Offs. *Occasional Papers Number 140*. Rome: Bank of Italy.

Benoit, S., Colletaz, G., Hurlin, C., & Prignon, C. (2013). A Theoretical and Empirical Comparison of Systemic Risk Measures. HEC Paris Research Paper No. FIN-2014-1030.

Bisias, D., Flood, M. D., Lo, A. W., & Valavanis, S. (2012). A Survey of Systemic Risk Analytics. *Annual Review of Financial Economics*, 4, 255–296.

Borio, C. (2003). Towards a Macroprudential Framework for Financial Supervision and Regulation? *CESifo Economic Studies*, 49(2), 181–215.

Brownlees, C., & Engle, R. F. (2017). SRISK: A Conditional Capital Shortfall Measure of Systemic Risk. *Review of Financial Studies*, 30(1), 48–79.

Cihak, M., & Hesse, H. (2010). Islamic Banks and Financial Stability: An Empirical Analysis. *Journal of Financial Services Research*, 38(2), 95–113.

Drehmann, M., & Tarashev, N. (2013). Measuring the Systemic Importance of Interconnected Banks. *Journal of Financial Intermediation*, 22(4), 586–607.

Dungey, M., Luciani, M., & Veredas, D. (2012). Ranking Systemically Important Financial Institutions. *Discussion Paper 2012–08*, School of Economics and Finance, University of Tasmania.

European Central Bank. (2010a). Analytical Models and Tools for the Identification and Assessment of Systemic Risks. *Financial Stability Review*. Frankfurt: European Central Bank.

European Central Bank. (2010b). New Quantitative Measures of Systemic Risk. *Financial Stability Review*. Frankfurt: European Central Bank.

Galati, G., & Moessner, R. (2013). Macroprudential Policy: A Literature Review. *Journal of Economic Surveys*, 27(5), 846–878.

Girardi, G., & Ergun, A. T. (2013). Systemic Risk Measurement: Multivariate GARCH Estimation of COVAR. *Journal of Banking & Finance*, 37(8), 3169–3180.

Hansen, L. P. (2012). Challenges in Identifying and Measuring Systemic Risk. *NBER Working Paper No. 18505*. Cambridge, MA: National Bureau of Economic Research.

Hashem, S. Q., & Giudici, P. (2016). Systemic Risk of Conventional and Islamic Banks: Comparison with Graphical Network Models. *Applied Mathematics*, 7(17), 2079–2096.

Huang, X., Zhou, H., & Zhu, H. (2009). A Framework for Assessing the Systemic Risk of Major Financial Institutions. *Journal of Banking & Finance*, 33(11), 2036–2049.

Huang, X., Zhou, H., & Zhu, H. (2010). Systemic Risk Contributions. *Journal of Financial Services Research*, 42(1–2), 55–83.

IMF/BIS/FSB. (2009). *Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations.* Report to the G-20 Finance Ministers and Central Bank Governors. International Monetary Fund, Bank for International Settlements and Financial Stability Board.

Kaufman, G. G., & Scott, K. E. (2003). What Is Systemic Risk, and Do Bank Regulators Retard or Contribute to It? *The Independent Review*, 7(3), 371–391.

Koenker, R., & Bassett Jr., G. (1978). Regression Quantiles. *Econometrica*, 46(1), 33–50.

Koenker, R., & Hallock, K. (2001). Quantile Regression: An Introduction. *Journal of Economic Perspectives*, 15(4), 43–56.

Lopez-Espinosa, G., Moreno, A., Rubia, A., & Valderrama, L. (2012). Short-Term Wholesale Funding and Systemic Risk: A Global COVAR Approach. *Journal of Banking & Finance*, 36(12), 3150–3162.

Moore, K., & Zhou, C. (2012). Identifying Systemically Important Financial Institutions: Size and Other Determinants. *DNB Working Paper No. 347.* Amsterdam: De Nederlandsche Bank.

Rochet, J.-C., & Tirole, J. (1996). Interbank Lending and Systemic Risk. *Journal of Money, Credit and Banking*, 28(4), 733–762.

Roengpitya, R., & Rungcharoenkitkul, P. (2011). Measuring Systemic Risk and Financial Linkages in the Thai Banking System. *Bank of Thailand Discussion Paper 02/2010.* Bangkok: Bank of Thailand.

Tarashev, N. A., Borio, C. E., & Tsatsaronis, K. (2010). Attributing Systemic Risk to Individual Institutions. *BIS Working Papers No. 308.* Basel: Bank for International Settlements.

Trichet, J.-C. (2009). *Systemic Risk.* Clare Distinguished Lecture in Economics and Public Policy, University of Cambridge, Cambridge, December 10.

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CHAPTER 9

Credit Risk, Bank Performance and Islamic Banking: Evidence from Pakistan

Azam Ali, Muhamed Zulkhibri and Tanveer Kishwar

9.1 Introduction

Financial system of a country plays a crucial role in the mobilization of savings and their allocation to the most productive uses. Islamic banking and finance has emerged as one of the most rapidly expanding sectors in the global financial industry. The resilience of the Islamic banking institutions has encouraged not only in Muslim majority countries but also in the countries with Muslim minorities such as Britain, Germany, France and the USA to offer Islamic banking products in their conventional banking industry.

A. Ali (✉)
Policy Division, Islamic Banking Department,
State Bank of Pakistan, Karachi, Pakistan
e-mail: azam.ali@sbp.org.pk

M. Zulkhibri
Islamic Research and Training Institute (IRTI),
Islamic Development Bank, Jeddah, Saudi Arabia

T. Kishwar
Jinnah University for Women, Karachi, Pakistan

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Fundamental of Islamic banking and finance is based on the understanding of the importance of risk sharing as part of raising capital and the avoidance of interest (*riba*), speculation (*gharar*) and gambling (*maysir*). Even though Islamic banking is exposed to many risks similar to conventional banking, it also entails special risks that need to be recognized to have a sustainable growth. For this, there is a need for identification, measurement and supervision of these risks. It is a decade old argument that the Islamic banks are less vulnerable to insolvency as they can share their profits and losses with the depositors and investors according to their joint contracts.

Despite the fact, that banks in the Islamic system face lower solvency and liquidity risks than their conventional counterparts. Efficacy of their credit operations is extremely important that provides basis for ensuring the solvency of debtors. Among all the risks faced by the Islamic banks, credit risk has greatest importance. Credit risk is the cause of 80% of bank failures because defaults can also trigger liquidity, interest rate, downgrade and other risks. Hence, the level of a bank's credit risk adversely affects the quality of its assets that help stipulate credit risk as the main risk that Islamic banks face in operations.

Researchers and academicians for decades have tried to analyze the link between credit risk and performance of Islamic banks. However, most research focuses on descriptive rather than quantitative and qualitative aspects. There is substantial gap in the literature specifically in the case of Islamic banks in Pakistan. This paper fulfills this gap in literature with a comprehensive analysis of the relationship between credit risk and performance of Islamic banks in Pakistan. Furthermore, this study provides bank managers understanding on minimizing credit risk and helping them to improve their financing policies.

9.2 Overview of Pakistan Financial Sector

The financial system in Pakistan has evolved over the years in response to growth of the economy and government plans for the development of the country. The Pakistan financial sector is dominated by banks and needs to diversify to meet the country's future financing needs. Banks account for 74% of total financial sector assets and classified into five major groups. The system comprised the Central Bank (State Bank of Pakistan [SBP]), Commercial Banks and a mix of Non-Bank Financial Institutions (NBFIs) including Development Financial Institutions

(DFIs), Investment banks, housing finance companies, leasing companies, modaraba and mutual funds, brokerage houses and insurance companies. In addition to managing the monetary policy, SBP also regulates banks and DFIs. Securities and Exchange Commission of Pakistan (SECP) supervises investment banks, leasing companies, insurance companies, modaraba and mutual funds (Table 9.1).

9.2.1 Islamic Banking Industry in Pakistan

In Pakistan, Islamic banking has emerged as a response to both religious and economic needs. Efforts for an economy-wide elimination of interest (*riba*) started during the 1970s, but most of the significant and practical

Table 9.1 Structure of Pakistan Financial Sector as at December 2016 (billion PRs)

	Numbers	*Assets*	*Share (%)*
Banking System:	45	16,001	74.0
of which Islamic Financial Institutions	5	1853	11.6
Islamic Banks	5	1147	7.2
Islamic Banking Branches	16	706	4.4
Public Banks	5	2964	18.5
Private Banks	21	12,226	76.4
Foreign Banks	4	391	2.4
Specialized Banks	4	250	1.6
Microfinance Banks	11	170	1.1
NBFIs and other Specialized Financial Institutions:	314	5636	26.0
Insurance Companies[a]	36	1036	18.4
Development Finance Institutions	8	209	3.7
Leasing Companies	8	44	0.8
Modarabas	25	41	0.7
Investment Banks and MFIs	21	123	2.2
Assets Management Companies	22	39	0.7
Mutual Funds	175	654	11.6
Pension Funds	17	23	0.4
REITs	1	40	0.7
Non-Discretionary/Discretionary Portfolio Mgt.		140	2.5
National Saving Scheme	1	3287	58.3
Total	359	21,635	100

Source State Bank of Pakistan
Note [a]Insurance date as of September 2016

steps were taken in the 1980s. The initiative to re-introduce Islamic banking in Pakistan was re-launched in 2001, when the government decided to promote Islamic banking in a gradual manner and as a parallel and compatible system that is in line with best international practices. To promote Islamic banking, the State Bank of Pakistan worked on a three-pronged strategy by allowing: (1) new full-fledged Islamic banks in the private sector, (2) the conventional banks to set up Islamic banking subsidiaries, and (3) the existing conventional banks to open stand-alone Islamic banking branches (Table 9.2).

Pakistan has five full-fledged Islamic banks and 16 conventional banks, operating dedicated Islamic banking branches as at the end of December 2016. The branch network of IBIs has increased to 2368 branches in December 2016. The total assets of Islamic banking institutions (IBIs) increased to PRs 1853 billion in December 2016 showing a growth of 8.2% (Table 9.3).

9.3 Literature Review

Performance measurement and analysis formally date back to the early 1980s. The review of the literature finds that ROA and ROE are the main indicators of measuring managerial efficiency (Sabi 1996; Samad and Hassan 1999). Besides these two indicators of bank performance,

Table 9.2 Islamic Banking Industry in Pakistan as at December 2016

Type	*Name of bank*	*No. of branches*
Islamic Banks	Al Baraka Bank (Pakistan) Limited	210
	Bank Islamic Pakistan Limited	203
	MCB Islamic Bank Limited	66
	Dubai Islamic Bank Pakistan Limited	200
	Meezan Bank Limited	571
Sub-Total		1250
Islamic *Branches* of Conventional Banks	16 Conventional Banks (including Foreign Banks) have Islamic branches	931
Sub-Branches	Two Conventional and five Islamic Banks have sub-branches	141
Total		2322

Source State Bank of Pakistan

Table 9.3 Pakistan Islamic Financial Industry Progress (billion PRs)

Period	*Nos.*	*Branches*	*Assets*	*Deposits*	*Financing*
December 2016	5	2322	1853	1573	821
December 2015	5	2075	1610	1375	683
Growth (in %)	0	11.9	15.1	14.4	20.1

Source State Bank of Pakistan

the studies also find that cost to income ratio (COSR) is one of the best indicators for measuring performance. Net Interest Margin (NIM) along with these three bank-specific factors is usually considered to be the effective measure of performance of Islamic banks.

For more than two decades, researchers such as Ross (1994), Sabi (1996), Khan (1998), Hassan (2009), Samad and Hassan (1999), Elgari (2003), Fatemi and Fooladi (2006), Gup et al. (2011), Afsheen and Nasr (2010), and Ahmed et al. (2011) used to analyzing credit risk and performance of Islamic banks. Studies on Pakistan are mostly based on descriptive statistics and covered limited areas. Khan (1998) introduces the concept of performance auditing and how Islamic banks in Pakistan can use it to their advantage, while Ahmed et al. (2011) study the firm's level factors that have significantly influence risk management practices of Islamic banks in Pakistan.

Hassan (2011) examines the degree to which Islamic and conventional banks use risk management practices and techniques in dealing with different types of risks in the Middle East region. This study identifies the most important types of risk facing the Islamic banks and conventional banks in the Middle East. Moreover, Abedifar et al. (2013) investigate risk and stability features of Islamic banking using a simultaneous modeling framework. The results on credit risk suggest that Islamic banks write-off credits more frequently. Some other studies argue that PLS modes may shift the direct credit risk of Islamic banks to their investment depositors. PLS may also increase the overall degree of risk of the asset side of banks' balance sheet since the assets under this mode are un-collateralize (Sundararajan and Errico 2002).

Moin (2008) evaluates the performance of the first Islamic bank in Pakistan, i.e., Meezan Bank Limited (MBL) in comparison with that of a group of 5 Pakistani conventional banks. The study finds that MBL is less profitable, but more solvent (less risky), and also less efficient

comparing to the average of the 5 conventional banks. In the same direction, Kuppusamy et al. (2010) measure Islamic banks performance using a Shari'ah conformity and profitability model (SCnP) and indicate that Islamic banks have a high profitability growth and credit facilities.

Saleh and Zeitun (2007) find the efficiency and investment of both banks have increased over the periods in Jordan, while Turen (1996) shows that banking performance and stability in Bahrain. The studies imply that profit sharing concept of Islamic banking help the banks to achieve a higher profitability and lower risk than conventional banks. On the other hand, in Bangladesh, Rashid and Nishat (2009) find poor performance of profit, investor management and operating inefficiency of Islamic banks.

Srairi (2009) examines the impact of bank characteristics, macroeconomic indicators and financial structure on the profitability of conventional and Islamic commercial banks in the Gulf Cooperation Council (GCC) countries. Empirical results show that the profitability of both conventional and Islamic banks is affected by three variables: capital adequacy, credit risk and operational efficiency. In addition, Tafri et al. (2009) examine the relationship between financial risks and profitability of the conventional and Islamic banks in Malaysia. However, the relationship between interest rate risk and ROE is found to be weakly significant for the conventional banks and insignificant for the Islamic banks.

Ahmed et al. (2010) determine the firm's level factors that significantly influenced the risk management practices of Islamic banks in Pakistan. The study uses credit, operational and liquidity risks as dependent variables, while size, leverage, NPLs ratio, capital adequacy and asset management as explanatory variables. The results indicate that size have a positive relationship with financial risks (credit and liquidity risk) and negative relationship with operational risk.

9.4 Methodology and Data

Data for the Islamic banks operating in Pakistan from 2002Q2 to 2016Q2 is sourced from Audited Reports of Islamic banks, SBP Annual Reports, Statistical Bulletins and Half Yearly Books on Statistics on Scheduled Banks. Table 9.4 shows the descriptive statistics of the sample, which is collected from SBP's circulars and policy statements.

This study uses Seemingly Unrelated Regression (SUR) methodology to analyze the relationship between performance and credit risks of

Table 9.4 Descriptive statistics

Variables	*Mean*	*Standard deviation*	*Minimum*	*Maximum*
CR	−2.67334	2.42381	−11.97666	0.22171
ME	−0.14430	0.16771	−0.72950	0.85302
LV	−3.29925	2.53990	−10.98652	0.00420
RL	−1.47933	1.76283	−8.03960	0.61586
RC	−1.15683	1.01172	−2.99606	0.18143
LP	−2.96430	2.58117	−12.48748	0.08340
FC	−1.85670	1.89250	−7.40483	2.72173
RW	−0.20545	1.16539	−1.15688	9.91656
TA	6.89291	4.73060	0.00000	12.31892
LD	−0.30205	0.43323	−2.25532	0.56808
ROA	0.03775	0.02714	−0.01526	0.10243
ROE	0.29629	0.34068	−0.11197	2.04931
NIM	−0.13204	2.12354	−11.03266	15.90723
NLTA	0.45082	0.15571	−0.00438	0.71050
COSR	2.05353	2.65437	0.64385	14.90493
LDADSF	0.51790	0.61002	0.11574	5.43927
NLTB	0.62998	0.29270	−0.00496	2.55166
EQTA	0.23922	0.21825	0.04998	0.95843
EQNL	0.70365	1.17138	0.14326	8.02368
IMLGL	0.28828	0.38815	0.00000	1.79108
Per	−0.00097	0.01411	−0.07577	0.02608

Islamic Banks operating in Pakistan. At first phase, it analyzes bank-specific factors influence on the credit risk of Islamic banks in Pakistan. Secondly, it analyzes bank-specific factors influences on performance of Islamic banks.

9.4.1 Seemingly Unrelated Regression (SUR) Model

Zellner (1962) suggests the SUR estimation as an alternative method to analyze panel data. The basic idea is that the error terms of different equations are correlated among each other and same number of explanatory variables in each equation, not necessarily same X. In this model, a GLS method is applied to exploit the correlations in the errors across cross-section units. SUR model is used for panel with small N and large T.

The small N and large T setting refer to the nation that has a relatively small number of panel units, each with a lengthy time series: for instance,

financial variables of six Islamic banks observed over the 41 quarters. The SUR technique requires that the number of time periods exceeds the number of cross-sectional units. In the SUR model, the errors are independent over time but correlated across cross-section units. This type of correlation would arise if there are omitted variables that are common to all equations.

All the variables are transformed into natural log to correct for non-linearity and to reduce any multi-co-linearity. Unit root test is carried out to test the stationary of the data. The data are diagnosed by applying LM test to identify presences of any serial correlation. White (1998) procedure is used to ensure that the coefficients are heteroskedastic.

9.4.2 *Credit Risk Analysis*

The analysis of the key factors influencing credit risks of Islamic Banks operating in Pakistan is formulated as follows

$$\begin{aligned} \mathrm{Cr}_{it} = & \propto_0 + \propto_1 \mathrm{Me}_{it} + \propto_2 \mathrm{Lv}_{it} + \propto_3 \mathrm{Rl}_{it} + \propto_4 \mathrm{Rc}_{it} + \propto_5 \mathrm{Lp}_{it} \\ & + \propto_6 \mathrm{Fc}_{it} + \propto_7 \mathrm{Rw}_{it} + \propto_8 \mathrm{Ta}_{it} + \propto_9 \mathrm{Ld}_{it} + \varepsilon_{it} \end{aligned} \tag{9.1}$$

where α_0 is constant, α_1 to α_9 are coefficients for the bank '*i*' in time t. Cr_{it} = Credit risk (Cr_{it}) is non-performing loan to total loan; management efficiency (Me_{it}) is earning assets to total assets; leverage (Lv_{it}) is Tier-2 capital to Tier-1 capital; risky sector loan exposure (Rl_{it}) is risky sector loans to total loans (or risky sector loans defines as sum of property loans, purchase of securities loans and consumption credit loans); regulatory capital (Rc_{it}) is Tier-1 capital to total assets; loan loss provision (Lp_{it}) is loan loss provision to total loans; funding cost (Fc_{it}) is non-interest expenses to total assets; Rw_{it}; is risk-weighted assets under Basel II; total assets (Ta_{it}) is natural logarithm of total assets; proportion of loan to deposit (Ld_{it}) total loans to total deposits.

It is expected that credit risk (Cr_{it}) will have a negative relationship with management efficiency, natural logarithm of total assets and regulatory capital. Lower efficiency in managing earning assets would probably lead to higher credit risk; size and capital are risk-related as smaller capitalized bank tend to have lower capacity to absorb losses. On the other hand, Lp, Fc, Rc, Lv, Rw and Ld are expected to have positive relationship with Cr_{it}. A bigger loan loss provision is required if a bank anticipated its credit risk to be higher. Costs related to funding the operations

such as loan monitoring, rescheduling and recovery efforts in the event of high problem loans are expected to increase. Similarly, greater exposure to risky sectors and a larger proportion of risk-weighted assets tend to have higher probability of credit risk.

9.4.3 Performance Analysis

Performance measures are highly correlated with ROA, ROE and NIM that can be used concurrently with the conventional accounting ratios in determining Islamic banks performance. ROA and ROE are the indicators of measuring managerial efficiency (Ross 1994; Sabi 1996; Samad and Hassan 1999). ROA is net earnings per unit of a given asset. It shows how a bank can convert its asset into net earnings. The higher ratio indicates higher ability and therefore is an indicator of better performance. Similarly, ROE is net earnings per rupee equity capital. The higher ratio is an indicator of higher managerial performance. We analyze the key factors influencing performance of Islamic Banks with the help of following regression model.

$$\begin{aligned}\mathrm{Per}_{it} = {} & \beta_0 + \beta_1 \mathrm{ROA}_{it} + \beta_2 \mathrm{ROE}_{it} + \beta_3 \mathrm{NLTA}_{it} + \beta_4 \mathrm{COSR}_{it} + \beta_5 \mathrm{LDADSF}_{it} \\ & + \beta_6 \mathrm{NLDB}_{it} + \beta_7 \mathrm{EQTA}_{it} + \beta_8 \mathrm{EQNetL}_{it} + \beta_9 \mathrm{IMLGL}_{it} + \varepsilon_{it}\end{aligned} \tag{9.2}$$

where Per_{it} is the measure of performance (either non-interest margin or before tax profit margin), for the bank 'i' in time t and β_0 is constant, β_1 to β_9 are coefficients. To run the model, from both asset and liabilities and income statements, we calculate following financial ratios: ROA_{it} is net income to total assets; ROE_{it} is net income to total equity; NIM_{it} is net interest margin to earning assets net; LTA_{it} is net loans to total assets; COSR_{it} is cost to income; LDADSF_{it} is liquid assets to total deposits; NLDB_{it} is net loans to deposits and borrowings; EQTA_{it} is equity to total assets; EQNetL_{it} is equity to net loan; IMLGL_{it} is total impaired loans to gross loan.

ROA shows how competent the management is in allocating asset into profit, it is a good indicator of bank's financial performance. The higher the ROA, the higher is the financial performance of the banks. ROA has a positive impact on performance I_{it}. ROE is net earnings per equity capital and its higher ratio indicates higher managerial performance. The higher the ROE, the more efficient is the performance of banks. ROE also has a positive impact on performance I_{it}. C NIM is Net Interest Margin to Earning Assets and its higher ratio also indicates higher managerial performance. COSR is one of the best indices

for measuring economic efficiency or profit performance. The lower the COSR ratio, the better is the performance of banks. COSR has an inverse impact on performance I_{it}. LDADSF is a deposit run off ratio. It indicates the percentage of deposit and short-term funds that are available to meet the sudden withdrawals.

The higher the LDADSF, the banks are more liquid and less vulnerable to a run on banks. LDADSF has a positive impact on performance I_{it}. NLDB indicates the percentage of the total deposits locked into non-liquid assets. The higher the NLDB, the higher is the liquidity risk. NLDB has an inverse impact on performance I_{it}. EQTA measures equity capital as a measure of total assets. EQTA provides percentage protection afforded by banks to its investment in assets. It measures the overall sock absorbing capacity of a bank for potential loan asset losses. The higher the ratio of EQTA, the greater is the capacity for a bank to sustain the asset losses. EQTA has a positive impact on performance I_{it}. EQNetL measures as percentage of total net loans. EQNetL provides equity as a cushion available to absorb loan losses. The higher the ratio of EQNetL, the higher is the capacity for a bank in absorbing loan losses. EQNetL has a positive impact on performance I_{it}. IMLGL is one of the most important criteria to assess the quality of loans or assets of a bank. It measures the percentage of gross loans, which are doubtful in bank's portfolio. The lower the ratio to IMLGL, the better is the assets/credit performance for banks. IMLGL has an inverse impact on performance I_{it}.

9.4.4 Credit Risk-Performance Relationship Analysis

A unified view of risk and performance measurements across all activities and markets helps develop a greater understanding of the bank's complete financial picture and allows decisions to be driven by common strategies and assumptions. In financial theory, risk and return have linear relationship, i.e., low risk is associated with low return and high risk consequently brings high return. The study expects that banks with better credit risk management have lower loan losses (non-performing loans). The study uses ROA, ROE and NIM as performance proxy for credit risk management indicator. Accordingly, the study has the following hypothesis: (i) banks with higher performance (ROA, ROE, NIM) have lower loan losses (non-performing loans/total loans) and (ii) banks with

higher interest income (net interest/average total assets, net interest/total income) also have lower bad loans (NPLs). Thus, the hypothesis is tested using the following model:

$$\text{Per} = \alpha + \frac{\beta \text{NPL}}{\text{TL}} + \mu \tag{9.3}$$

where ROA is return on assets, ROE is for return on equity and NIM is net interest margin to earning assets. NPL denotes non-performing loan, TL denotes total loan, α is the intercept and β is the parameter of explanatory variables and μ represents disturbance term. We replicate this model to identify relationship between credit risk and performance of Islamic banks in Pakistan and model can be written as:

$$\text{Per} = \alpha + \beta \text{Cr} + \mu \tag{9.4}$$

This study is conducted against the backdrop of theories developed by Markowitz (1952) diversification theory, Sharpe (1963) capital asset pricing theory, Diamond (1984) financial intermediation and Palia and Porter (2007) the agency theory. The models comprise financial ratios based on financial theory. The selection of bank-specific variables, nine variables each for the analysis of credit risk and performance are based on these theories.

9.5 Empirical Results

9.5.1 Stationary

Stationarity in a random variable implies that its statistical characteristics do not change with time. Time series is said to be stationary if the distribution of a variable is the same as the distribution of the variable shifted by some lag, the distribution of the variable does not depend on time. If the variables in the regression model are not stationary, then it can be proven that the standard assumptions for the analysis will not be valid. A unit root test tests whether a time series variable is non-stationary. The study uses unit root test of Im-Pesaran-Shin Unit for unbalanced panel data. Table 9.5 presents the results of 'Im-Pesaran-Shin' Unit Root Test. The results show that all values except 'Rc' are larger than fixed-N exact critical values. This indicates that the null hypothesis of the existence of unit root was rejected at 1, 5 and 10% level of significance.

Table 9.5 Im-Pesaran-Shin Unit Root Tests

Variables	*t-bar*	*t-tilde-bar*	*z-t-tilde-bar*	*Prob.*
ME	−2.0609	−1.9027	−1.3414	0.0899
LV	−1.9500	−1.8329	−1.1278	0.1297
RL	−2.0606	−1.9689	−1.5439	0.0613
RC	−0.3225	−0.3183	−3.5073	0.9998
LP	−1.3705	−1.3162	−0.4534	0.6749
FC	−2.2057	−2.0017	−1.6444	0.0500
RW	−1.5630	−1.4967	−0.0989	0.4606
TA	−1.1983	−1.1452	−0.9768	0.8357
LD	−2.5707	−2.1680	−2.1531	0.0157
ROA	−3.5769	−2.9044	−4.6141	0.0000
ROE	−3.0357	−2.6326	−3.7645	0.0001
NIM	−3.5569	−2.9372	−4.7166	0.0000
NLTA	−1.8096	−1.7094	−9.8785	0.1898
COSR	−2.2300	−1.8925	−1.4514	0.0733
LDADSF	−10.3212	−3.4104	−6.1955	0.0000
NLTB	−3.8418	−3.5806	−3.6020	0.0002
EQTA	−3.4928	−2.5755	−3.5861	0.0002
EQNL	−6.5306	−3.0298	−5.0061	0.0000
IMLGL	−1.7257	−1.6012	−0.5408	0.2943

Asymptotic T, N > Infinity sequentially
Fixed-N exact critical value at 1% −2.280; at 5% −2.060; at 10% −1.950
H_0 Panel contains Unit Root; H_1 Some panels are stationary

9.5.2 *Analysis and Results*

The main objective of the study is to investigate the relationship between performance and credit risk of Islamic banks operating in Pakistan. First, we identify what bank-specific factors influence performance and what bank-specific factors affect credit risk of these banks. We then use these bank-specific variables to investigate the relationship between performance and credit risk. The study uses Seemingly Unrelated Regression (SUR) models for both analysis.

Table 9.6 reports the empirical results of the investigation of bank-specific variables that influence credit risk of Islamic banks. Out of nine, five are found to be consistent with the expected signs and statistical significance. They are Me, Lp, Rw, Ta and Ld. Among them, Rw and Ta have week impact on credit risk as compared to Me, Lp and Ld. Me has 95% inverse impact, while Ld 86% and Lp 95% positive impact on credit risk.

Table 9.6 Bank-specific variables of credit risk

Variables	*Coef.*	*Std. err.*	*z*	*P>|z|*	*[95% Conf. interval]*	
Const	0.01091	0.09580	0.11	0.9090	−0.17687	0.198694
ME	−0.95347	0.86428	−1.10	0.2700	−2.64744	0.740497
LP	0.86046	0.03980	21.62	0.0000	0.78245	0.938485
RW	−0.00398	0.01831	−0.22	0.8280	−0.03988	0.031919
TA	0.02884	0.09300	0.31	0.7560	−0.15344	0.211133
LD	0.78719	0.15947	4.94	0.0000	0.47463	1.099749

Table 9.7 reports the empirical results of the relationship between bank-specific variables and performance of Islamic banks. Out of nine variables, five are found to be consistent with the expected signs and probability. They are ROA, ROE, NLTA, LDADSF and NLTB. Among them, LDADSF and ROA have week significance on credit risk as compared to ROE, NLTA and NLTB. ROA has 8% positive impact; LDADSF has 1% inverse impact, while ROE, NLTA and NLTB have 11, 3 and 1% positive impact on the performance of Islamic banks. Finally, we examine the relationship between the five performance of bank-specific variables and credit risk which are ROA, ROE, NLTA, LDADSF and NLTB (performance variables) with respect to Me, Rw, Ta, Lp and Ld (credit risk variables). Table 9.8 provides the empirical results.

The results of the relationship between credit risk and ROA show that, Rw has 0.6% inverse relationship with ROA. Contrary to this, Ta (0.3%) and Me (3%) have positive relationship with ROA and show a weak significance with dependent variable. These findings support that if Islamic banks in Pakistan are able to reduce their Rw and improve their assets and management efficiency, in turn improve their performance.

Table 9.7 Bank-specific variables of performance

Variables	*Coef.*	*Std. err.*	*z*	*P>|z|*	*[95% Conf. interval]*	
Const	−0.02133	0.00413	−5.16	0.0000	−0.02944	−0.01323
ROA	0.08060	0.06035	1.34	0.1820	−0.03768	0.19888
ROE	0.01138	0.00500	2.27	0.0230	0.00156	0.02120
NLTA	0.03338	0.01045	3.19	0.0010	0.01289	0.05387
LDASF	−0.00744	0.00623	−1.19	0.2330	−0.01966	0.00478
NLTB	0.00711	0.00335	2.12	0.0340	0.00054	0.01368

Table 9.8 Relationship of credit risk and performance of Islamic banks

Variables	*Sign*	*Coef.*	*Std. err.*	*z*	*P>|z|*	*[95% Conf. interval]*	
Panel A: ROA as dependent variable							
Const	?	0.0071	0.0270	0.26	0.7920	−0.0458	0.0601
ME	+	0.0299	0.0257	1.16	0.2460	−0.0206	0.0804
RW	−	−0.0062	0.0028	−2.20	0.0280	−0.0119	−0.0006
TA	+	0.0034	0.0024	1.44	0.1490	−0.0012	0.0082
Panel B: ROE as dependent variable							
Const	?	−1.6477	0.2357	−6.99	0.0000	−2.10985	−1.1856
RW	−	−0.0405	0.0172	−2.35	0.0190	−0.07440	−0.0066
TA	+	0.1919	0.0240	7.97	0.0000	0.1447	0.2391
LD	−	−0.0133	0.0548	−0.24	0.8070	−0.1208	0.0941
Panel C: NLTA as dependent variable							
Const	?	0.5051	0.0299	16.84	0.0000	0.4463	0.5639
ME	+	0.4758	0.1557	3.06	0.0020	0.1705	0.7810
RW	−	−0.0331	0.0164	−2.02	0.0430	−0.0652	−0.0009
LP	−	−0.0082	0.0073	−1.12	0.2620	−0.0227	0.0061
Panel D: NLTB as dependent variable							
Const	?	0.3820	0.0520	7.34	0.0000	0.2801	0.4840
ME	+	0.4786	0.2701	1.77	0.0760	−0.0507	1.0080
RW	−	−0.0202	0.0284	−0.71	0.4770	−0.0760	0.0355
LP	−	−0.0793	0.0127	−6.21	0.0000	−0.1043	−0.0543
Panel E: LDADSF as dependent variable							
Const	?	−0.1504	0.1076	−1.40	0.1620	−0.3614	0.0606
ME	+	0.7492	0.3080	2.43	0.0150	0.1454	1.3529
LP	−	−0.1490	0.0245	−6.06	0.0000	−0.1972	−0.1008
LD	−	−0.4148	0.0958	−4.33	0.0000	−0.6027	−0.2269

The empirical investigation of relationship of credit risk and ROE shows that, Rw (4%) and Ld (1%) have an inverse relationship with ROE. On the other hand, Ta has 19% positive relationship with ROE. These findings support the views that if Islamic banks in Pakistan are succeeded in reducing their Rw and Ld and improve their assets, which in turn improve their bank performance.

Similar empirical investigation of the credit risk relationship and NLTA shows that Rw (3%) and Lp (1%) have an inverse relationship with NLTA. On the other hand, Me has 47% direct relationship with NLTA. These findings support the views that Islamic banks in Pakistan can improve their performance if they reduce their Rw, Lp and improve

their Me. Similar to the relationship of credit risk to NLTB, the findings show that, Rw (2%) and Lp (1%) have inverse relationship with NLTB. On the other hand, Me has a weak significance with dependent variable with 48% positive relationship with NLTB. These findings point to the fact that Islamic banks in Pakistan can improve their performance if they reduce their Rw and Lp and improve their managerial skills. The investigation credit risk relationship and LDADSF depicts that, Lp (15%) and Ld (4%) have cent percent inverse relationship with LDADSF. Conversely, Me has 75% direct relationship with LDADSF. Furthermore, all independent variables are statistically significant with LDADSF. These findings also support the views that if Islamic banks in Pakistan succeed in reducing their Lp and Ld and improve further their Me, they will certainly improve their performance.

The analysis of five bank-specific variables of credit risk with five bank-specific variables of performance reveals that Rw has strong inverse relationship, whereas Lp and Ld have moderate inverse relationship with performance of Islamic banks in Pakistan. Conversely, Me and Ta have shown positive relationship with performance. Bank managers may improve performance of their banks if they closely observe the behavior of these variables. Improvement of bank performance, is therefore, depends on the reduction of Rw, Lp and Ld. Better management of assets certainly will help improve efficiency and consequently improve performance of all full-fledged Islamic banks.

Table 9.9 reports the empirical results of robust tests. A reverse relationship of five bank-specific variables of credit risk with performance is examined to test the robustness of the analyses. Similar results are seen when the study examines the relationship of Me, Rw, Ta, Lp and Ld (credit risk variables) with ROA, ROE, NLTA, LDADSF and NLTB (performance variables). The results reveal that credit risk of banks can be managed efficiently, if banks improve their ROA, ROE and NLTA. The reduction in the ratio of financing to deposits and borrowing will also help control credit risk of Islamic banks.

9.6 Conclusion

This paper examines the relationship between credit risk and Performance of six full-fledged Islamic banks operating in Pakistan over the period 2002–2016. Having quarterly unbalanced panel data, the study uses Seemingly Unrelated Regression (SUR) models to identify

Table 9.9 Relationship of performance and credit risk of Islamic banks

Variables	*Sign*	*Coef.*	*Std. err.*	*z*	*P>|z|*	*[95% Conf. interval]*	
Panel F: ME as dependent variable							
Const	?	−0.3169	0.0412	−7.68	0.0000	−0.3978	−0.2360
ROE	+	0.0218	0.0367	0.59	0.5520	−0.0502	0.0939
NLTA	+	0.2227	0.0804	2.77	0.0060	0.0650	0.3803
Panel G: LP as dependent variable							
Const	?	−3.3855	0.5025	−6.74	0.0000	−4.3705	−2.4005
NLTA	−	−0.6173	0.9485	−0.65	0.5150	−2.4764	1.2417
LDADSF	−	−1.2571	0.2421	−5.19	0.0000	−1.7316	−0.7825
Panel H: RW as dependent variable							
Const	?	0.0594	0.2166	0.27	0.7840	−0.3652	0.4840
ROA	−	−8.09	6.2834	−1.29	0.1980	−20.400	4.2294
ROE	−	−0.06	0.5023	−0.11	0.9110	−1.0406	0.9283
LDADSF	−	−0.0707	0.1767	−0.40	0.6890	−0.4172	0.2757
Panel I: TA as dependent variable							
Const	?	9.5804	0.0830	115.36	0.0000	9.4177	9.7432
ROE	+	1.5288	0.1842	8.30	0.0000	1.1677	1.8899
Panel J: LD as dependent variable							
Const	?	−0.9673	0.0610	−15.85	0.0000	−1.0868	−0.8477
ROE	−	−0.1365	0.0655	−2.08	0.0370	−0.2649	−0.0080
LDADSF	−	−0.4730	0.0387	−12.22	0.0000	−0.5488	−0.3971
NLTB	+	1.2906	0.0837	15.41	0.0000	1.1264	1.4548

bank-specific variables that affect credit risk and performance of banks. The results reveal that, five bank-specific variables of credit risk have consistent relationship with bank performance. The results supported the statement that the credit risk is negative associated with bank performance.

Interestingly, the study shows that credit risk specific variables, Rw has strong inverse relationship with performance. On the other hand, the relationship of five other credit risk variables with performance, Lp and Ld are weak, whereas Me and Ta indicate direct relationship with performance. Therefore, the above results do not support study which concludes that credit risk has positive relationship with performance of banks, but rather confirms the findings in the literature, which hold the view that higher credit risk will lower the bank performance.

Appendix: Variables Description

Category	*Variables*	*Description/calculation*
Credit risk	ME	It has been abbreviated for management efficiency, which is the percent ratio of earning assets to total assets
	LV	It is used for leverage, while leverage is the ratio of tier 2 capital to tier 1 capital
	RL	It is risky sector loan exposure and obtained as a ratio of risky sector loans (property loans, purchase of securities loans and consumption credit loans) to total loans
	RC	It is regulatory capital comprising ratio of tier 1 capital to total assets
	LP	It is symbolized for loan loss provision that is the ratio of loan loss provision to total loans
	FC	It stands for funding cost that is obtained by calculating a ratio of non-interest expenses to total assets
	RW	It is risk-weighted assets under Basel II, and calculation based on the riskiness of a bank's assets
	TA	It stands for total assets and we have taken its natural logarithm
	LD	It represents proportion of loan to deposit while it is calculated by taking ratio of total loans to total deposits
Performance	ROA	It stands for return on assets, which is the ratio of net income to total assets
	ROE	It stands for return on equity, which is the ratio of net income to total equity
	NIM	It is net interest margin to earning assets and its higher ratio also indicates higher managerial performance
	NLTA	It is the ratio of net loans to total assets. Net loan is net of loans from its provisions
	COSR	It is a ratio of cost to income. The cost/income ratio is an efficiency measure similar to operating margin
	LDADSF	It is a ratio of liquid assets (asset must be readily negotiable and convertible into cash) to total deposits
	NLTB	It is a ratio of net loans to deposits & borrowings (amount of money a lender loans to a company/individual)
	EQTA	It is a ratio of equity to total assets. Equity is the value of stockholders' ownership interest in a corporation after all claims have been paid, and thus a claim on its assets in proportion to the number, and class, of shares owned
	EQNL	It is a ratio of equity to net loan
	IMLGL	It is a ratio of total impaired loans (loans to agribusiness, firms involved in the production and transmission of energy, residential and housing finances, credit cards and auto loans) to gross loan

References

Abedifar, P., Molyneux, P., & Tarazi, A. (2013). Risk in Islamic Banking. *Review of Finance*, 17(6), 2035–2096.

Afsheen, S., & Nasr, N. (2010). Risk Management Practices Followed by the Commercial Banks in Pakistan. *International Review of Business Research Papers*, 6(2), 308–325.

Ahmed, N., Akhtar, M. F., & Usman, M. (2010). Risk Management Practices and Islamic Banks: An Empirical Investigation from Pakistan. *Interdisciplinary Journal of Research in Business*, 1(6), 50–57.

Ahmed, et al. (2011). *Risk Management Practices and Islamic Banks: An Emperical Investigation from Pakistan*. Islamabad, Pakistan: COMSAT University.

Diamond, D. W. (1984). Financial Intermediation and Delegated Monitoring. *Review of Economic Studies*, 51(3), 393–414.

Elgari, A. (2003). Credit Risk in Islamic Banking and Finance. *Islamic Economic Studies*, 10(2), 1–25.

Fatemi, A., & Fooladi, I. (2006). Credit Risk Management: A Survey of Practices. *Managerial Finance*, 32(3), 227–233.

Gup, S., Irshad, F., & Zaman, K. (2011). Factors Affecting Bank Profitability in Pakistan. *Romanian Economic Journal*, 39(14), 61–89.

Hassan, A. (2009). Risk Management Practices of Islamic Banks of Brunei Darussalam. *Journal of Risk Finance*, 10(1), 23–27.

Hassan, W. M. (2011). Risk Management Practices: A Comparative Analysis Between Islamic Banks and Conventional Banks in the Middle East. *International Journal of Academic Research*, 3(3), 288–295.

Khan, M. A. (1998). Performance Auditing for Islamic Banks. *Islamic Economic Studies*, 5(1–2), 23–36.

Kuppusamy, M., Saleh, A. S., & Samudhram, A. (2010). Measures of Islamic Banks Performance Using a Shari'ah Conformity and Profitability Model. *Review of Islamic Economics*, 13(2), 35–48.

Markowitz, H. (1952). Portfolio Selection. *Journal of Finance*, 7(1), 77–91.

Moin. (2008). Performance of Islamic Banking and Conventional Banking in Pakistan: A Comparative Study, University of Skovde, School of Technology and Society; URN: nbn: se: his: diva-2318.

Palia, D., & Porter, R. (2007). Agency Theory in Banking: An Empirical Analysis of Moral Hazard and the Agency Costs of Equity. *Banks and Bank Systems*, 2(3), 142–158.

Rashid, M., & Nishat, A. (2009). Disparity of Performance of Islamic Banks: Study on Bangladesh. *International Journal of Business and Management*, 4(8), 52–68.

Ross. (1994). *Finance and Growth: Theory and Evidence*, Chapter 12, RI 02912, USA.

Sabi, M. (1996). Comparative Analysis of Foreign and Domestic Bank Operation in Hungary. *Journal of Comparative Economics*, 22(2), 179–188.

Saleh, A. S., & Zeitun, R. (2007). Islamic Banks in Jordan: Performance and Efficiency Analysis. *Review of Islamic Economics*, 11(1), 41–62.

Samad, A., & Hassan, K. (1999). The Performance of Malaysian Islamic Banks During 1984–1997: An Explanatory Study. *International Journal of Islamic Finance*, 1(3), 1–14.

Sharpe, W. F. (1963). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. *Journal of Finance*, 19(3), 425–442.

Srairi, S. (2009). Factors Influencing the Profitability of Conventional and Islamic Commercial Banks in GCC Countries. *Review of Islamic Economics*, 13(1), 5–30.

Sundararajan, V., & Errico, L. (2002). Islamic Financial Institutions and Products in the Global Financial System: Key Issues in Risk Management and Challenges Ahead. *IMF Working Paper No. 02/192*. Washington: International Monetary Fund.

Tafri, F. H., Hamid, Z., Meera, A. K., & Omar, M. A. (2009). The Impact of Financial Risks on Profitability of Malaysia Commercial Banks: 1996–2005. *International Journal of Social, Human Science and Engineering*, 3(6), 268–282.

Turen, S. (1996). Performance and Risk Analysis of the Islamic Banks: The Case of Bahrain Islamic Bank. *Journal of King Abdulaziz University: Islamic Economics*, 8, 3–14.

White, H. (1998). Consistent Specification Testing with Nuisance Parameters Present Only Under the Alternative. *Econometric Theory* 14(3), 295–325.

Zellner, A. (1962). An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias. *Journal of the American Statistical Association*, 57(298), 348–368.

PART IV

Islamic Finance for Socioeconomic Development

CHAPTER 10

Resource Mobilisation and Islamic Charity-Giving in Indonesia: Evidence from Low-Income Households

Laily Dwi Arsyianti, Salina Kassim and Adewale Abideen Adeyemi

10.1 Introduction

Charity has a wider scope than donation which includes blood donation, other than monetary donation (Kashif et al. 2015). The word "charity" comes from "caritas" in Latin, which means love (Lichtenberg 2009). It promotes welfare, education, religion, as well as initiatives benefited by

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L. D. Arsyianti (✉)
Bogor Agricultural University, Bogor, Indonesia
e-mail: arsyianti@apps.ipb.ac.id

S. Kassim · A. A. Adeyemi
Institute of Islamic Banking and Finance,
International Islamic University Malaysia, Gombak, Malaysia
e-mail: ksalina@iium.edu.my

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society (Shaikh and McLarney 2005). Charity scheme can assist low-income households whom experiencing financial hardship. The Meranti Regency, which is located in the Riau Province of Indonesia, is one of the best examples of the implementation of a charity programme that has resulted in charity recipients being successfully transformed into charity givers. A total of 136 poor households whom were categorised as *mustahik*[1] (*zakat*[2] recipients) have become *muzakki*[3] (*zakat* payers) in a model that combined debt, savings, and charity[4] organised by the institution of the Regency Board of *Zakat* of Meranti (BAZNAS Meranti). BAZNAS Meranti is an *amil*[5] institution.

The programme distributes *zakat* funds to the visible recipients (*mustahik*). However, the *amil* institution does not give the *mustahik* amount of money solely, but also financial education. The scheme is described as follows. An initial amount of 2 million rupiahs (less than 200 US$) is given to the *mustahik*. The transaction contract is *qard hasan* (debt with no addition interest) in condition that the *mustahik* should pay back the funds in order to get full ownership. Throughout the instalment period, receivers are encouraged to save a monthly stipulated amount. When their savings reached the amount initially given

[1] *Mustahik* comprises eight groups of people as stated in the *Quran*, 9:60. They are the poor, the needy, and the officials (appointed) over them, those whose heart are made to incline (to truth) or *muallaf*, the ransoming of captives, those in debts, those in the way of Allah and the wayfarer.

[2] *Zakat* is a charity-giving obliged for Muslim whose wealth has been exceeded specific amount called *nisab*. Present perfect sentence here is used because the wealth also needs to be held within specific haul, i.e. one year. The indicator of wealth *nisab* can be approached through one's monthly income, which is called "*zakat* of profession". *Nisab* "*zakat* of profession" in Indonesia derived from an equal amount of 653 kilograms of paddy or wheat, which are collected every month when Muslims received their income. There is no haul in "*zakat* of profession" since it is derived from *zakat* of agricultural, where Muslim farmers whose production output exceeded *nisab* are obliged to pay *zakat* right away during the harvest time (*Quran* 6:141). The nature is the same as employee or entrepreneur or any other profession who usually calculate their income in monthly periodic. Collected *zakat* funds, then, must be distributed to *mustaḥik*, the recipients of *zakat* funds.

[3] *Muzakki* is *zakat* payer. In Indonesia, *Zakat* Management Act No. 23/2011 divides *muzakki* into two, i.e. individual Muslim and legal entity (corporation).

[4] Charity in this term is different from *zakat*. This charity can be done by any Muslims without any requirement of *nisab* and haul like *zakat*.

[5] *Amil* is the agent of *zakat* funds. It collects, distributes, and manages all *zakat* and charity funds so it can be circulated in the society.

to them (i.e. 2 million rupiah) the ownership of the funds will be fully transferred to the recipients. Along with the savings, the *mustahik* are encouraged to participate in motivational workshops and give frequent charity as well. At the end of the programme, not only has their status escalated to *muzakki*, they are also able to save an amount of at least 2 million rupiahs in their accounts. Aside from Meranti district, de Oliveira et al. (2012) also study the contributions of low-income people to their low-income peers, showing that low-income community can be developed through contributions, either donations or volunteering activities.

Stable giving behaviour may be influenced by religiosity (Wright 2001), including from those who live in low-income neighbourhood (de Oliveira et al. 2012). de Oliveira et al. (2012) explore the causes of individual contributions in giving to day-to-day charity in the population of low-income American. Religiosity is believed as one of the causes since the respondents considered charity as "do the right thing". This finding suggests that it is not impossible to build a system where charity becomes one of prosperity sources available in this kind of society. Prosperity is related to ability of a household to fulfil their basic needs comprising material and spiritual needs (Beik and Arsyianti 2016). Regarding the ability of households, they divided households into four categories, i.e. prosperous households (*Quran*, 16:97), materially poor households (*Quran*, 2:155–156), spiritually poor households (*Quran*, 6:44), and absolute poor households (*Quran*, 20:124).

Study by Beik (2009) finds that *zakat* which is a form of compulsory charity-giving in Islam impacts the economic condition of the poor where they can turn to be *muzakki* (the *zakat* payer) in the future. In fact, the case of the Meranti Regency provides a clear evidence that it is not impossible for low-income society to build their prosperity system through their model of charity. The low-income households are presumably not capable of giving charity because they are more likely to fulfil their needs as their priority. Thus, no money left to give charity. Therefore, the perception about giving charity by the low-income households also needs to be reassessed and understood.

Most of the studies on charity-giving behaviour, unsurprisingly, focus on high-income households or individuals. Pharoah and Tanner (1997) find that donors, who consist of middle and high-income group, gave charity through standing order, direct debit, and deduction from income. Kashif et al. (2015) study charitable giving behaviour

of individuals living in Kuala Lumpur, Malaysia and find that past behaviour, injunctive norm, and intention to donate contribute to the behaviour to donate money. Other studies on charity in Asia focus on terrorism issues (Abuza 2003), religion-based organisation development (Candland 2001), and external charity to Southeast Asia (Carter and Carter 2005). Specific types of *sadaqah* such as *zakat* and *waqf* have been studied widely (Firdaus et al. 2012; Beik 2009; Mohammad and Hosseini 2014; Nurrachmi 2012; Yumna and Clarke 2009). These studies focus on the effects of the charity, amount collected, and proposed models of charity. However, none of the studies have analysed the behavioural aspects of this issue.

10.2 Literature Review

According to Nesbit et al. (2013), Pharoah and Tanner (1997), and Prouteau and Sardinha (2013) charity is given regularly. Other researchers (Smith et al. 2010; Wiepking and Maas 2009; Wiepking 2009; Wright 2001; Beldad et al. 2015) also show that charity is given on a monthly basis. The term "regularly" means to explore more on the intention (Beldad et al. 2015). Beldad et al. (2015) determine the factors influencing intention of repeated donation or the donors' willingness to continue donating among Dutch and American donors in particular to certain institutions.

Charity in this context is not limited for *awqaf* (endowment funds) (Cizakca 1998). *Awqaf* is given in perpetuity. In other words, it means continuously usufruct-giving asset (Kahf 1998). Charity in this perspective is also unlike *zakat*. Charity-giving is commanded not only on those who are able but also on those who are afflicted (*Quran*, 3:134). The meaning of able as mentioned by Al-Qurtubi (1993, vol. 2:132) is at comfort, rich, and happy. Notwithstanding, affliction is defined as seeing in difficulty, poor, and inconvenient. Allah has also highlighted the commandment to the believers to give charity before their life ends, because once they died, those who have never paid charity will regret and request Allah to postpone their death so that they can give charity (*Quran*, 63:10). Irrespective of man's economic condition, whether in richness or in poverty, charity-giving is important in human life.

Reward, on the other hand, will be given for more charity-giving behaviour until 700 times over (*Quran*, 2:261). Giving charity is also described in the *Quran* (35:29–30) as trading that never suffers from loss. Prophet Muhammad (pbuh) as reported by Abu Dawud (Sunan Abi

Dawud 2865, 18:4) also states that among the best charities is when one expects survival and fears poverty. Combining those verses and hadiths, it can be concluded that charity-giving can be the way to overcome indebtedness and other life difficulties faced by humans including those who are in the low-income group. Poverty will not prevent a poor person from making charity-giving as his/her lifestyle.

Lindenberg (1996) introduces the Social Production Function (SPF) theory (Lindenberg 1996; Ormel et al. 1999), which integrates both psychological and economic theories of consumer/household production. The word "production" is introduced by Becker (1974) in the household production function, whereby the household takes the production role more than consumption. The household is considered as an organisational entity, which is like a corporate. Households invest their resources in capital assets (savings), capital equipment, and human capital. Furthermore, it proposes two optimum goals of humans, namely physical well-being and social well-being.

Theory of Production Function also introduces the concept of "going concern", which explains that households should keep going to produce and run their "firm". The going concern concept includes household financial management. Households need to feel secure financially in order not to fall into insolvency (fail to pay back the debt when it matures) nor bankruptcy (fair market value of assets less than liabilities).

In the context of theory of planned behaviour, attitude in regularly giving behaviour consists of benefit and cost elements in doing so. Charity which financially looks like a shortfall of our wealth can empower society through programmes by many philanthropic organisations in Indonesia (Fernandez 2009; Rohima et al. 2013). The power is stronger when people start giving regularly since the programmes are not depleted in one shot, except for the elderly. Otherwise, any disputable action may cause the programme to fail (CGAP and Centre for Charitable Giving and Philanthropy 2012). Nesbit et al. (2013) and Bekkers and Wiepking (2007) suggest that regular charity-giving would help the community. Thus, if someone has been regularly giving charity, for example, to a religious organisation, he/she would never stop giving even though the organisation has collapsed. He/she could find another organisation to accommodate his/her behaviour. In the *Quran Surah ar-Rum* verse 39, Allah compares *riba* with charity that even though *riba* looks like is increasing our wealth, *riba* actually decreases it, but charity which looks like it is decreasing wealth, is actually increasing it.

Bekkers and Wiepking (2010) examine 500 studies which define the reasons behind charity. They looked from multidiscipline dimensions such as marketing, economics, social psychology, biological psychology, neurology, sociology, political science, anthropology, biology, and evolutionary psychology. Eight indicators were identified as the reasons for someone to give charity. They are awareness of the needs, solicitation, physical costs and benefits, altruism, reputation, psychological benefits, values, and efficacy.

In terms of perceived behaviour control, the factors consist of control belief that comprises resources and opportunities, which has been stated in the *Quran Surah al-Baqarah* verse 2:261–262 that Allah will multiply the rewards for those who spend their property in the way of Allah. Thus, it will improve a Muslim's life, making it better than before. Alternatively, it may become an obstacle and an impediment, for example, a household may feel that giving charity is costly; therefore, it cannot make life better, but only worse. The factors can be sourced from households experience or their acquaintances experience of giving charity regularly. Cicognani et al. (2014) elaborate that social well-being can be achieved through empowerment and sense of community. Beldad et al. (2015) who find that regular charity-giving as a way of life and a means for survival in society has uplifted donors' intention to give charity. Charity donors who emphasise on quality of life tend to engage with self-sacrificing behaviour.

Even though demographic factors do not directly influence behaviour and excluded in the TPB model, these factors are significantly affecting behaviour in order to achieve the outcomes in many studies related to financial behaviour (Sahi 2013; Stone and Maury 2006; Mewse et al. 2010; Lusardi 2008; Lea et al. 1995; Livingstone and Lunt 1992; McKee-Ryan et al. 2005; Xiao and Yao 2014; Schlegelmilch et al. 1997). Demographic factors are predicted to have relationship to behaviour indirectly through those three categories: attitudes (Chien and Devaney 2001), subjective norms, and perceived behaviour control (Xiao and Wu 2008).

Socio-demographic factors that affecting regular charity-giving in the social demography characteristics are education level, age, marital status, family size, employment status, origin, gender, religious activity, home ownership, type of charity institution, type of financial institution, financial education, and expectation of future economy condition as explained in Table 10.1. Meanwhile, economic factors are income and portion of charity per income. The conceptual framework of this study is shown in Fig. 10.1.

Table 10.1 Observed variables of socioeconomic demography factor

Variables	*Definition*	*Coding*
Education	Education group of household head	1 = high school and above 0 = less than high school level
Age	Age group of household head	1 = 45 years old and above 0 = younger than 45 years old
Marital status	Marital status of household head	1 = married 0 = not married
Household size	Number in household	1 = less than 4 0 = 4 and more
Employment status	Employment status of household head	1 = having regular working hour, employed by government, private or self-employed 0 = unemployed or not having regular working hour
Origin	Origin of household head	1 = from small towns 0 = from big cities
Charity per income	Amount of charity per total income of the household	1 = less than 2.5% 0 = 2.5% and more
Expectation of future household (domestic) economy situation	The expectation of household head regarding his/her economy condition in the future, whether he/she is optimist (do not worry) or pessimist (worry)	1 = do not worry 0 = worry
Income	Take home pay income per month	1 = US$80 and more 0 = less than US$80
Religious activity	Perform five times daily pray	1 = yes 0 = no
Gender of the head of household	Gender of household head	1 = male 0 = female
Financing institution	The majority of debt taken from	1 = informal 0 = formal
Charity institution	To whom respondent give regular charity	1 = informal (direct, temporary charity committee) 0 = formal (LAZ and BAZNAS)
Home ownership	Status of current house where the household dwells	1 = own 0 = rental
Financial education	Household head has ever got all, any or one of the financial education materials through training or seminar or workshop or counselling or course	1 = yes 0 = no

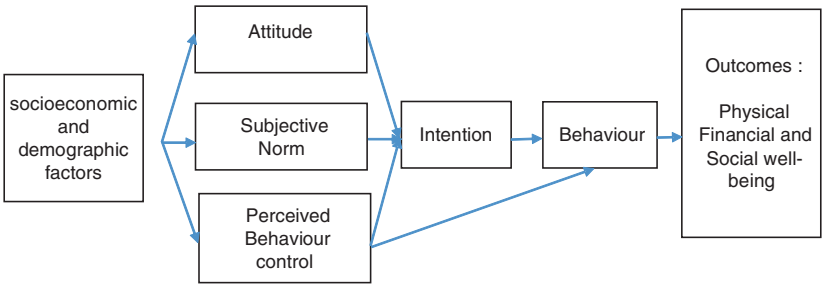

Fig. 10.1 Conceptual framework of regulator charity-giving behaviour

10.3 Methodology

According to the conceptual framework, the study utilises a structural equation modelling to analyse the data. This study gathers data from 1780 respondents scattered in six areas in Indonesia. The model is presented as follows: Socioeconomic demography factors (A1–A15) are associated with attitude (ATTc), subjective norms (SNc), and perceived behaviour control factors (PBCc) of regular charity-giving behaviour. ATTc, SNc, and PBCc affect intention (INTc), which eventually influences the regular charity-giving behaviour (RCG). RCG, at the end, gives impact on the outcomes.

$$\eta_{(m\times 1)} = \mathrm{B}_{y(m\times m)} \times \eta_{(m\times 1)} + \Gamma_{(m\times n)} \times \xi_{(n\times 1)} + \zeta_{(m\times 1)} \qquad (10.1)$$

Equation (10.1) shows relationships among latent variables where:

η (Eta) Indicates endogenous latent variable: Attitude (ATTc); Subjective Norms (SNc); Perceived Behaviour Control (PBCc); Intention (INTc); Behaviour (INTc); and Outcomes (F)
ξ (Psi) Indicates exogenous latent variables: Socioeconomic demography factors (A1–A15)
B (Beta) Indicates structural coefficients from endogenous latent variable to another endogenous latent variable
Γ (Gamma) Indicates structural coefficients from exogenous latent variable to endogenous latent variable
ζ (Zeta) Indicates structural error terms

$$y_{(p\times 1)} = \Lambda_{y(p\times m)} \times \eta_{(m\times 1)} + \varepsilon_{(p\times 1)} \tag{10.2}$$

$$x_{(q\times 1)} = \Lambda_{x(q\times n)} \times \xi_{(n\times 1)} + \delta_{(q\times 1)} \tag{10.3}$$

Equations (10.2) and (10.3) show the relationships between manifest variables and its latent variable (x for exogenous, y for endogenous) where:

λ (Lambda) Indicates loading between latent variable and its manifest variables (λ^X for exogenous, λ^Y for endogenous)
δ (Delta) Indicates measurement error for exogenous variable
ε (Epsilon) Indicates measurement error for endogenous variable

Factor analysis is done per latent variable in order to estimate the relationship between manifest variables and its latent variable. It can also be done with binary data (Hair et al. 2006). Asymptotic covariance matrices are used due to polychoric data type.

The regular charity-giving behaviour is assessed on a monthly basis or at least once a month (Smith et al. 2010; Wiepking and Maas 2009; Wiepking 2009; Wright 2001; Beldad et al. 2015). Their respondents are assessed by their external influence locus of control (Bekkers and Wiepking 2007, 2010; Kashif et al. 2015) and positive expectancy of success (internal motive) in regular charity-giving behaviour (Ajzen 1991; Kashif et al. 2015). Thus, the lesser level is when the respondents are not willing to regularly give charity on a monthly basis, no external locus of control, and negative expectancy of success in regular charity-giving behaviour. Thus, the items of attitude that are going to be assessed in this study are shown in Table 10.2.

Subjective norm elements consist of items assessed in the first question. Those important others are believed to have influenced respondents in giving charity regularly. The items are shown in Table 10.3.

Perceived behavioural control factors represent opportunities and experiences. Thus, they are consisted of the elements as presented in Table 10.4.

Meanwhile, intention to give charity regularly is assessed by the items as described in Table 10.5.

Behaviour of giving charity regularly, on the other hand, is assessed through question like 'Do you agree with statements like: "For me, give

Table 10.2 Attitude towards regular charity-giving behaviour items

Items	*Notification*
I put giving charity in every month budget (Mohammed 2011; Nesbit et al. 2013; Bekkers and Wiepking 2007)	Respondents are tested on whether they definitely always put giving charity at least once a month in the budget; ok that they put giving charity in the budget every month; do not really put it so sometimes put it in the budget; no, not every month, at least once a year, for example, during Ramadan; or, never put it in the budget
Benefit: I give charity whenever I am convinced that it would empower the society gradually (CGAP 2012; Beard 2007; Fernandez 2009; Rohima et al. 2013)	Respondents are tested on whether regular charity definitely can empower society regularly, either directly or indirectly through institutions; society empowerment does not always need charity, but charity can empower society gradually; society empowerment does not need charity, society can do self-empowerment; charity cannot empower society, it makes them lazy; charity could never have empowered society
Cost: Giving charity would never have shortfall (*Quran Surah ar-Rum* 30:39)	Respondents are tested on whether they totally agree and believe it; it is true; they think so; it cut their budget; or, would never have fulfilled their needs if they give charity

charity regularly is important so I can contribute to society", "For me, give charity regularly is important because it makes me feel satisfied", "For me, the practice of true spirit in Islam and well-being of society is important because it makes me satisfied"'.

For physical well-being which is assessed by financial ratios, the indicators are as shown in Table 10.6. A precise number of financial statements might be difficult to be captured from respondents. However, respondents are asked specifically whether they earn their income regularly or not, whether it is daily, weekly, or every ten days. All answers are standardised into monthly and yearly, depending on what information that is needed to calculate ratio. Any possibilities of assets and liabilities that they have or incur are asked in detail per item, for example, jewellery for asset item and groceries debt for liability item. Respondents are legible to answer each assets and liabilities item only, while ratios are calculated by surveyor. The ratios are presented in group that might represent the exact financial condition of each household, for example, more

Table 10.3 Subjective norm towards regular charity-giving behaviour items

Items	*Notification*
I care that my spouse agree if I give charity every month (Abduh 2012; Xiao and Wu 2008; Ajzen 1991)	Respondents are tested on whether they definitely give charity regularly when their spouse agree to do so; give charity regularly when their spouse agree to do so; does not matter what their spouse agree to; would not give charity regularly even though their spouse agree to do so; or, never care about their spouse's approval of giving charity regularly and would definitely not give charity regularly
I care that my parents agree if I give charity every month (Abduh 2012; Xiao and Wu 2008; Ajzen 1991)	Respondents are tested on whether they definitely give charity regularly when their parents agree to do so; give charity regularly when their parents agree to do so; does not matter what their parents agree to; would not give charity regularly even though their parents agree to do so; or, never care about their parents' approval of giving charity regularly and would definitely not give charity regularly
I care that my siblings agree if I give charity every month (Abduh 2012; Xiao and Wu 2008; Ajzen 1991)	Respondents are tested on whether they definitely give charity regularly when their siblings agree to do so; give charity regularly when their siblings agree to do so; does not matter what their siblings agree to; would not give charity regularly even though their siblings agree to do so; or, never care about their siblings' approval of giving charity regularly and would definitely not give charity regularly
I care that my close friends agree if I give charity every month (Abduh 2012; Xiao and Wu 2008; Ajzen 1991)	Respondents are tested on whether they definitely give charity regularly when their close friends agree to do so; give charity regularly when their close friends agree to do so; does not matter what their close friends agree to; would not give charity regularly even though their close friends agree to do so; or never care about their close friends' approval of giving charity regularly and would definitely not give charity regularly

or less than 20%, rather than the exact number such as 24%. Therefore, the threshold of each ratio was used to distinguish the binomial group (Table 10.6).

Meanwhile, for social well-being the question asked is "I feel satisfied in this life and with my lifestyle: agree or not agree". The respondents then answer using a binomial data type: agree = 1, not agree = 0.

Table 10.4 Perceived behavioural control towards regular charity-giving items

Items	*Notification*
Giving charity regularly makes your life better (*Quran al-Baqarah* verse 2:261–262)	Respondents are tested on whether their life and also other's life definitely become better because of giving charity; their life and also other's life become better because of giving charity; do not mind giving charity regularly for better life; it is costly; it will ruin their financial life
It is a good idea to always contribute to society (Cicognani et al. 2014; Beik 2009; Ascarya et al. 2015)	Respondents are tested on whether it is definitely a good idea; they do not mind; it is a bad idea; or, definitely no
Eventually, I can also benefit from developed society because of my initial contribution of giving charity regularly (Cicognani et al. 2014; de Oliveira et al. 2012)	Respondents are tested on whether "yes", they agree; they think so; do not mind; do not think so; or, "no" they are developed because of their effort, nothing related to anyone contributions

Table 10.5 Intention towards regular charity-giving behaviour items

Items	*Notification*
I will definitely give charity at least once a month regularly since it is the way of life (Beldad et al. 2015)	Respondents are tested on whether they cannot live without giving charity; life is about sharing; they do not think so; life is about themselves, nothing to do with others; giving charity is a waste
I will give charity at least once a month regularly since it is a means of survival in society (Beard 2007; Beldad et al. 2015)	Respondents are tested on whether they need society's recognition, so there is a need to give charity in every single way; think that society would only recognise them if they had precious deeds and it takes charity to count on to; do not matter what society would think about their lifestyle; charity cannot uplift integrity in society; or, they do not need any charity to give to survive in society
I will definitely give charity regularly (Ajzen 1991)	Respondents are tested on whether they would definitely agree; agree; do not think so; do not agree; or, definitely disagree

Table 10.6 Financial ratio indicators

Ratios	*Definitions*	*Cut-off value*
Liquidity ratio (Ross 2003) $\frac{cash}{current\ liabilities}$	Available cash in hand to meet debt that matured in the short term	20% (Lins et al. 2009)
Assets/liabilities (Ross 2003) $\frac{current\ assets}{current\ liabilities}$	Ability of current assets (cash, savings, deposits, shares, liquid assets such as gold and other jewelleries, furniture, and other liquid assets which are readily marketable and convertible into cash) to meet current liabilities (Saleem and Rehman 2011)	Must be at least 1 (Ross 2003)
Debt-service ratio (Keese 2012) $\frac{total\ debt}{disposable\ income}$	In what level of debt that households bear in every 1 rupiah of their income	50% (Arsyianti and Kassim 2015)

10.4 Results and Discussions

Latent variables are analysed using factor analysis to estimate latent variables' representatives through observed variables. Asymptotic covariance matrices are used due to polychoric data type. Socioeconomic demography factors consist of A1 (Education), A5 (Employment status), A7 (Charity per income), A8 (Expectation of future economic condition), A9 (Income), A11 (Gender), A12 (Financing institution), A13 (Charity institution), and A15 (Financial education).

Six indicators A2 (Age), A3 (Marital status), A4 (Household size), A6 (Origin), A10 (Religious activity), and A14 (Home ownership) are eliminated because they are not proven to be significant in this model. As suggested by factor analysis, A17 (regularly giving charity during survey) is included in attitude towards regular charity-giving behaviour (ATTc) factor.

Latent variable of Attitude towards Regular Charity-giving Behaviour (ATTc) consists of A17, B21 (monthly budget), B22 (benefit of charity), and B23 (cost of charity: shortfall). Goodness-of-fit tests show that Goodness-of-Fit Index (GFI) is 1.00, Comparative Fit Index (CFI) is 0.95, and Root Mean Square of Error Approximation (RMSEA) is 0.034, Normed Fit Index (NFI) is 0.93, and SRMR is 0.033. These goodness-of-fit tests indicate the model is good for factor ATTc. The highest factor loading is given by B21, which is −0.58.

Subjective Norm towards Regular Charity-giving Behaviour (SNc) factors are C28 (spouse), C29 (parents), C30 (siblings), and C31 (close friends). Goodness-of-fit tests show that Goodness-of-Fit Index (GFI) is 1.00, Comparative Fit Index (CFI) is 0.95, and Root Mean Square of Error Approximation (RMSEA) is 0.034, Normed Fit Index (NFI) is 0.93, and SRMR is 0.033. These goodness-of-fit tests indicate the model is good for factor SNc.

Manifest variables of Perceived Behaviour Control towards Regular charity-giving Behaviour (PBCc) are D35 (makes life better), D36 (contribute to society), and D37 (benefit from developed society). Goodness-of-fit tests show perfect result which indicates the model is good fit for factor PBCc.

Variable Intention towards Regular Charity-giving Behaviour (INTc) consists of three indicators, which are E38 (way of life), E39 (survival in society), and E40 (will definitely give charity). Goodness-of-fit tests also show perfect result. These goodness-of-fit tests indicate the model is good for factor INTc.

Behaviour (RCG) variable comprises three observed variables. They are E47 (important to contribute to society), E48 (important to feel satisfied), and E49 (important to practise true spirit in Islam). Goodness-of-fit tests show perfect result as well. These goodness-of-fit tests indicate the model is good for factor RCG.

Outcomes variable is also the same as the outcomes in consecutive debt-taking behaviour model. They consist of liquidity ratio (F50), assets per liabilities ratio (F51), debt-service ratio or debt burden (F52), and satisfaction with lifestyle (F53). Goodness-of-fit tests show that Goodness-of-Fit Index (GFI) is 1.00, Comparative Fit Index (CFI) is 0.95, and Root Mean Square of Error Approximation (RMSEA) is 0.038, Normed Fit Index (NFI) is 0.93, and SRMR is 0.033. These goodness-of-fit tests indicate the model is good for factor Outcomes.

Factor analysis eliminated six indicators, which shows that only 73 parameter coefficients from 196 parameters are significant for both structural and measurement model. The model is identified as over-identified where estimated parameters are smaller than predicted data, which makes the degree of freedom become positive (predicted data − estimated parameters > 0).

Normality can be violated even in a large sample size (Pallant 2005). In this study, from LISREL output of correlation analysis, some correlations show that underlying bivariate normality may not be held, the

same as consecutive debt-taking behaviour model. It implies the estimation method cannot be maximum likelihood, which is very sensitive with distribution of data. Thus, we estimate this model using Weighted Least Square (WLS) which is relatively insensitive with non-normality of data (Mbau 2008; Jöreskog and Sörbom 1996; Jöreskog 1990). All tested parameters are shown in Fig. 10.2.

Negative error variance appears in equation of latent variable Subjective Norm (Cc). It indicates that Cc has an error variance in a very low value. However, even after deleting some insignificant relationships that contribute to the error variance, the model shows insignificant results. Initial result shows that RMSEA value is still high and Cc shows a negative error variance warning. Education (A1), Income (A9), and Financial Education (A15) to Subjective Norm (SNc), and Income (A9) to Attitude (ATTc) show low *t*-value which indicates non-significant relationship. After removing those indicators, Cc shows negative error covariance result, while relationship between A1 to PBCc and ATTc, and A15 to ATTc displays a non-significant value. Hence, all the above relationships are removed. The diagram of initial result is shown in Fig. 10.3.

Root Mean Square Error of Approximation (RMSEA) is 0.082, which indicates that the model is not a good fit, i.e. >0.08 (Hair et al. 2006). Root Mean Square Error of Approximation estimates approximate average of variance per degree of freedom in population, not in sample.

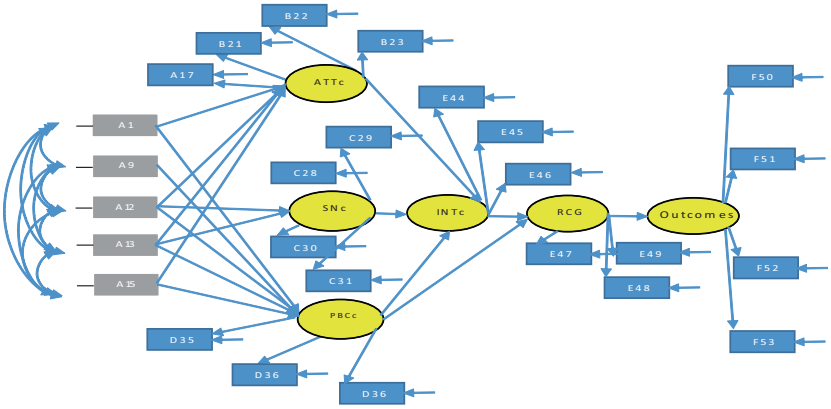

Fig. 10.2 Path diagram of regular charity-giving model

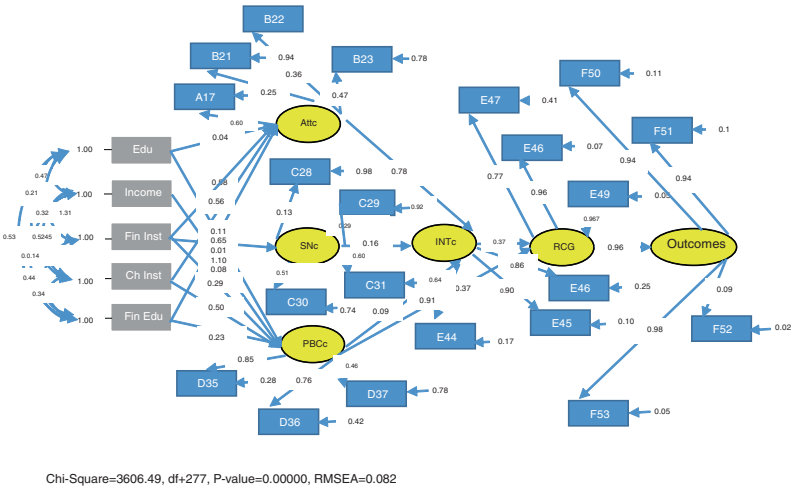

Fig. 10.3 Initial model of regular charity-giving behaviour by WLS estimation ($\chi^2 = 3606.49$, df = 277, p-value = 0.00000, RMSEA = 0.082)

Table 10.7 Good-of-fitness tests of regular charity-giving behaviour model by WLS estimation

Good-of-fitness measurements	*Cut-off value*	*Model value*
Good-of-Fit Index (GFI)	>= 0.90 is good fit; 0.08 <= GFI < 0.90 is marginal fit	0.97 = good fit
Root Mean Square Error of Approximation (RMSEA)	<= 0.08 is good fit; < 0.05 is close fit	0.082 = not in range of good fit
Normed Fit Index (NFI)	>= 0.90 is good fit; 0.80 <= NFI < 0.90 is marginal fit	0.95 = good fit
Comparative Fit Index (CFI)	>= 0.90 is good fit; 0.80 <= CFI < 0.90 is marginal fit	0.95 = good fit

Meanwhile, big sample size may cause high χ^2 and p-value of less than 0.05 (Hair et al. 2006). However, we proceed with the model because three out of five goodness-of-fit tests show that the model is in goodness-of-fit range. Table 10.7 gives the result of goodness-of-fit tests.

Some indicators pass the minimum value for interpreting the structure, which is having SLF more than 0.30 and some still have SLF

below 0.30, especially in representing latent ATTc (Attitude) and SNc (Subjective Norm). After confirming all SLF, validity and reliability tests are performed. Validity test is to measure the extent of items according to the theoretical latent construct. It provides confidence in the accuracy of measurement taken from a sample which represents the actual score that existed in the population.

This initial model still demonstrates insignificant relationships and negative error variance of subjective norm. If those insignificant relationships are excluded from the model, it could not be tested, unless subjective norm is excluded. However, the model fails to confirm that subjective norm can influence the intention towards regular charity-giving behaviour which indicates that low-income households in Indonesia do not depend on others' opinion in giving charity regularly. Armitage and Conner (2001) find that subjective norm is a weak predictor of intention. Ajzen (2002) also confirms that intention may only be affected by only two out of three factors.

Table 10.8 demonstrates the interpretations of structural equation from this model and provides details of insignificant relationships.

Previous model shows that subjective norm demonstrates a negative error variance and indicators, which are insignificantly predict the endogenous variables. Although the TPB theory includes subjective norm to predict intention, if the model is modified by excluding subjective norm and removing relationships between education attainment and perceived behavioural control and attitude, and between financial education and attitude, income apparently does not affect both attitude and perceived behavioural control. The modification model can be seen in the following figure.

Figure 10.4 shows some excluded relationships from socioeconomic demography factors to perceived behavioural control (PBCc) and attitude (ATTc) after removing subjective norm. The goodness-of-fit test shows better estimations. Only SRMR shows that the model is not in a goodness-of-fit range (Table 10.9).

After ensuring the predicted impact of each variable, the next phase is to check the validity and reliability of each construct. The result is provided in Table 10.10.

Modification model shows not much different in terms of VE and CR estimations, with the initial model in previous section. In conclusion, if this study accepts the initial model, it includes subjective norm as predictor of intention which is the complete TPB. However, the issue is

Table 10.8 Structural equation of regular charity-giving behaviour model

Structural equation	*t-value*	R^2
Outcomes = 0.96 * RCG	54.24	0.93
• Regular charity-giving behaviour positively affects financial and social well-being • Regular charity-giving behaviour can explain 93% of total variance of outcomes; another 7% is explained by other variables		
RCG = 0.37 * INTc + 0.37 * PBCc	14.73 (INTc → RCG) 14.71 (PBCc → RCG)	0.16
• Intention towards regular charity-giving behaviour positively affects the behaviour • Perceived behavioural control towards regular charity-giving behaviour positively affects the behaviour • Intention and perceived behavioural control can explain 16% of total variance regular charity-giving behaviour; another 84% is explained by other variables		
INTc = − 0.094 * PBCc − 0.16 * SNc + 0.78 * ATTc	−2.03 (PBCc → INTc) −2.94 (SNc → INTc) 11.99 (ATTc → INTc)	0.43
• Perceived behavioural control towards regular charity-giving behaviour negatively affects the intention • Subjective norm towards regular charity-giving behaviour negatively affects the intention • Attitude towards regular charity-giving behaviour positively affects the intention • Perceived behavioural control, subjective norm, and attitude can explain 43% of total variance of intention towards regular charity-giving behaviour; another 57% is explained by other variables		
PBCc = − 0.0053 * Edu + 0.082 * Income + 0.29 * FinInst − 0.52 * ChInst − 0.23 * FinEdu	−0.14 (Edu → PBCc) 2.09 (Income → PBCc) 8.51 (FinInst → PBCc) −15.39 (ChInst → PBCc) −5.69 (FinEdu → PBCc)	0.50
• Education (higher) is not significantly proven to be negatively affect the perceived behavioural control • Income (higher) negatively affects the perceived behavioural control • Financial institution selection (informal) positively affects the perceived behavioural control • Charity institution selection (informal) negatively affects the perceived behavioural control • Financial education (acquire) negatively affects the perceived behavioural control • Socioeconomic demography variables can explain 50% of total variance of perceived behavioural control; another 50% is explained by other variables		
SNc = − 0.66 * FinInst + 1.15 * ChInst	−6.15 (FinInst → SNc) 6.41 (ChInst → SNc)	1.82*

(continued)

Table 10.8 (continued)

Structural equation	*t-value*	R^2
• Financial institution selection negatively (informal) affects subjective norm • Charity institution selection positively (informal) affects subjective norm • However, this relationship demonstrates a negative error variance which results in an R-square of 182% of total variance of subjective norm but with negative error variance. It indicates an unacceptable estimation		
ATTc = 0.043 * Edu − 0.59 * FinInst + 0.58 * ChIns t − 0.0029 * FinEdu	1.19 (Edu → ATT) −13.31 (FinInst → ATT) 15.10 (ChInst → ATT) −0.070 (FinEdu → ATT)	0.76
• Education attainment is not significantly proven to be positively affect attitude • Financial institution selection negatively (informal) affects attitude • Charity institution selection positively (informal) affects attitude • Financial education (acquire) is not significantly proven to be negatively affect attitude • Socioeconomic demography factors can explain 76% of total variance of attitude; another 24% is explained by other variables		

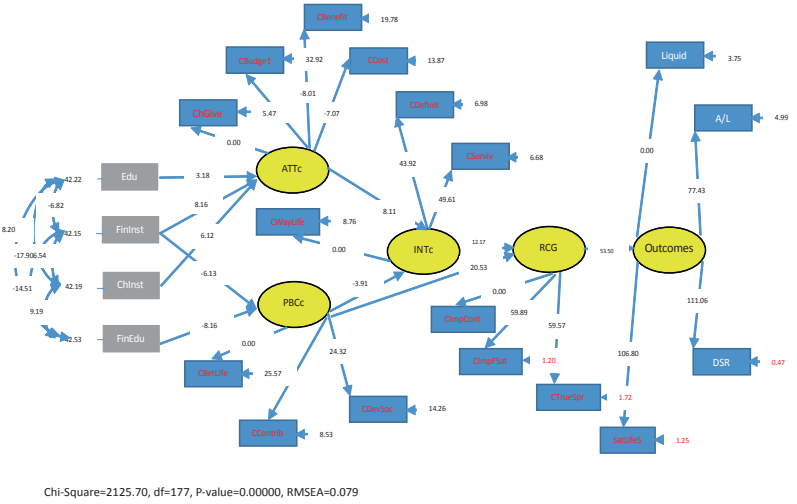

Fig. 10.4 Modification model of regular charity-giving behaviour by WLS estimation ($\chi^2 = 2125.70$, df = 177, p-value = 0.00000, RMSEA = 0.079)

Table 10.9 Goodness-of-fit tests of regular charity-giving behaviour modification model by WLS estimation

Goodness-of-fit measurements	*Cut-off value*	*Model value*
Goodness-of-Fit Index (GFI)	>=0.90 is good fit, 0.80<=GFI<0.90 is marginal fit	0.98=good fit
Root Mean Square Error of Approximation (RMSEA)	<=0.08 is good-fit <0.05 is close fit	0.079=good fit
Normed Fit Index (NFI)	>=0.90 is good fit 0.80<=NFI<0.90 is marginal fit	0.96=good fit
Comparative Fit Index (CFI)	>=0.90 is good fit 0.80<=CFI<0.90 is marginal fit	0.97=good fit
Standardised Root Mean Residual (SRMR)	<=0.08 is good fit	0.17=not in range of good fit

Table 10.10 Validity and reliability of regular charity-giving behaviour modification model

Indicators	*Lambda (ATTc)*	*Lambda (SNc)*	*Lambda (PBCc)*	*Lambda (INTc)*	*Lambda (PBCc)*	*Lambda (Outcomes)*
A17 (ChGive)	0.33					
B21 (CBudget)	0.23					
B22 (CBenef)	−0.48					
B23 (CCost)	−0.51					
C28 (CSpouse)						
C29 (CParents)						
C30 (CSibling)						
C31 (CFriend)						
D35 (CBetLife)			0.71			
D36 (CContrib)			0.82			
D37 (CDevSoc)			0.69			
E44 (CWayLife)				0.84		

(continued)

Table 10.10 (continued)

Indicators	*Lambda (ATTc)*	*Lambda (SNc)*	*Lambda (PBCc)*	*Lambda (INTc)*	*Lambda (PBCc)*	*Lambda (Outcomes)*
E45 (CSurviv)				0.89		
E46 (DDefinit)				0.88		
E47 (CImpCont)					0.8	
E48 (CImpFSat)					0.98	
E49 (CTrueSpr)					0.98	
F50 (Liquid)						0.95
F51 (A/L)						0.92
F52 (DSR)						0.99
F53 (StisLfStyl)						0.98
Variance extracted (VE) (%)	16.31	0.00	55.09	75.74	85.36	92.24
Construct reliability (CR)	0.42	–	0.78	0.90	0.94	0.98

subjective norm has negative error variance which indicates an unacceptable estimation. Therefore, this study uses the modified model, which the significant structural equation building of the model is shown in Table 10.11.

The perception of low-income households in Indonesia towards regular charity-giving behaviour fails to confirm the theory of planned behaviour, since subjective norm shows negative error variance in its structural equation explaining its relationship with socioeconomic demography factors. It also affects its relationship with intention towards regular charity-giving behaviour. Therefore, when subjective norm is kept in the model and the insignificant relationships are removed, the model cannot be performed. Meanwhile, the Theory of Social Production Function (RCG behaviour-Outcomes) is confirmed with outcome of financial ratios and satisfaction in lifestyle.

Modified model is then tested by excluding subjective norm from the model. In term of validity and reliability of observed variables

Table 10.11 Structural equation of regular charity-giving behaviour modification model

Structural equation	*t-value*	R^2
Outcomes = 0.97 * RCG	53.50	0.94
• Regular charity-giving behaviour positively affects financial and social well-being • Regular charity-giving behaviour can explain 94% of total variance of outcomes; another 6% is explained by other variables		
RCG = 0.26 * INTc + 0.48 * PBCc	12.17 (INTc → RCG) 20.53 (PBCc → RCG)	0.28
• Intention towards regular charity-giving behaviour positively affects the behaviour • Perceived behavioural control towards regular charity-giving behaviour positively affects the behaviour • Intention and perceived behavioural control can explain 28% of total variance regular charity-giving behaviour; another 72% is explained by other variables		
INTc = − 0.11 * PBCc + 0.41 * ATTc	−3.91 (PBCc → INTc) 8.11 (ATTc → INTc)	0.18
• Perceived behavioural control towards regular charity-giving behaviour negatively affects the intention • Attitude towards regular charity-giving behaviour positively affects the intention • Perceived behavioural control and attitude can explain 18% of total variance of intention towards regular charity-giving behaviour; another 82% is explained by other variables		
PBCc = − 0.23 * FinInst − 0.29 * FinEdu	−6.13 (FinInst → PBCc) −8.16 (FinEdu → PBCc)	0.077
• Financial institution selection (informal) negatively affects the perceived behavioural control • Financial education (acquire) negatively affects the perceived behavioural control • Socioeconomic demography variables can explain 7.7% of total variance of perceived behavioural control; another 92.3% is explained by other variables		
ATTc = 0.16 * Edu − 0.69 * FinInst + 0.35 * ChInst	3.18 (Edu → ATTc) −8.16 (FinInst → ATTc) 6.12 (ChInst → ATTc)	0.79
• Education attainment (higher) positively affects attitude • Financial institution selection (informal) negatively affects attitude • Charity institution selection (informal) positively affects attitude • Socioeconomic demography factors can explain 79% of total variance of attitude; another 21% is explained by other variables		

representing their latent variable, the results are not much different from the initial model. All relationships are proven to be significant, after deleting indicator of income. The goodness-of-fit test also indicates better results than initial model. It does not show any negative error

variance like the initial model. Therefore, this study accepts the modified model to be more fit and acceptable.

Manifest variables, including education (A1), financial institution selection (A12), charity institution (A13), and financial education (A15), in the modified model, are influencing endogenous latent variables towards regular charity-giving behaviour (indirectly) to achieve outcomes. To be specific, financial education takes role indirectly through perceived behavioural control towards regular charity-giving behaviour which later influences the financial well-being (financial ratios and satisfaction) in household life. Only financial institution selection (A12) have affected all latent variables influencing intention towards regular charity-giving behaviour. The negative sign of coefficient, depicted in Table 10.7, exhibits that the more likely respondents to select informal institution as their financing institution, the less likely they depend on the attitude (subjective belief) or perceived behavioural control (personal experience) towards regular charity-giving behaviour. Meanwhile, the positive sign means that the more likely respondents to select informal institution as their financing institution, the more likely they have the attitude or subjective norm or perceived behavioural control towards regular charity-giving behaviour.

Results specify that charity institution (A13) as the exogenous variable, has a positive relationship with attitude which indicates that respondents' selection on informal charity institution or directly give charity without using *amil* institution has given significant effect on their perception of attitude towards regular charity-giving behaviour. It indicates that respondents' selection affects their subjective belief towards regular charity-giving behaviour.

Financial institution selection shows significant and negatively related on attitude and perceived behavioural control towards regular charity-giving behaviour. The more likely the respondents to select an informal institution as their financing institution and the less likely they have attitude and perceived behavioural control (personal experience) towards regular charity-giving behaviour.

Indications depicted by charity institution and financial institution selection variables strengthen the need of financial management skill especially in regular charity-giving, which encourage them to give contribution to society rather than merely take benefits from society. The results also demonstrate that controlled or planned regular charity-giving behaviour, including by financial education experience and the choice

of financial institution would lead to good outcomes in financial life of low-income households.

From logistic regression analysis, the results suggest that financial education is not significantly related to perception of regular charity-giving which in this analysis, financial education is expected to have a positive relationship with regular charity-giving attitude. Apparently, attitude demonstrates an insignificant relationship with financial education variable, besides the insignificant relationship between subjective norm and financial education. Financial education contributes to the behaviour indirectly through perceived behavioural control only. It indicates that Indonesian low-income households tend to consider more on their experiences in building their intention to give charity regularly than their behavioural beliefs and shape their attitude and others' opinion on subjective norm.

Simulation result from logistic regression analysis, with targeted segments of financial education from the government, shows that smaller size family, households with less portion of charity over income, households with informal source of financing, unemployed, pessimistic, having lower income, and not perform all or some of five daily prayers are recommended to be targeted to becoming financial education participants. Those groups of people demonstrate the lowest probability to give charity regularly, while this attitude is important in Islam and highly encouraged to prevent from begging attitude. Hence, financial education is crucial to these groups.

10.5 Conclusion

By using SEM, it is proven that behaviour explains financial ratios and satisfaction in lifestyle of low-income households in Indonesia. Subjective norm has a weakness on its influence towards regular charity-giving behaviour, which is having a negative error variance on its initial model. Among the variables, only financing institution (A12) has significant relationships with all latent variables including attitude, subjective norm, and perceived behavioural control towards regular charity-giving behaviour. Informal financing institution affects regular charity-giving behaviour (indirectly) negatively through attitude and perceived behavioural control. Meanwhile, financial education is proven to be positively related to the behaviour of giving charity regularly, indirectly through perceived behavioural control (experiences) if subjective norm (other important

parties perceived by respondents) is included, but negatively related to the behaviour if subjective norm is excluded. The regular charity-giving behaviour, eventually, positively related to financial ratios and satisfaction in lifestyle.

Islamic social-finance institutions can embrace the results to support extra supervision by encouraging their financial recipients to be more productive. These institutions may struggle with financial education in order to refine financial behaviours of low-income households. Distributing funds is always challenging for these institutions since *zakat* fund has to be fully distributed within a stipulated year. Starting a programme does not guarantee its successes, unless with other supportive actions. Supportive actions by low-income households are highly reliable. Many of them are considering financing from Islamic social finance institutions as a gift that does not need to be repaid nor circulated as productive asset. Consequently, some programmes have ceased to perform. Therefore, effective action for refining low-income households' financial behaviours is highly needed.

References

Abduh, M. (2012). *Depositors' Withdrawal Behaviour in Islamic Banking: A Case Study of Malaysia*. PhD dissertation, International Islamic University Malaysia, Gombak.

Abuza, Z. (2003). Funding Terrorism in Southeast Asia: The Financial Network of Al Qaeda and Jemaah Islamiya. *Contemporary Southeast Asia: A Journal of International and Strategic Affairs*, 25(2), 169–199.

Al-Qurtubi. (1993). *Tafsir Al-Qurtubi* (A. Bewley, Trans.). London: Dar Al Taqwa Ltd.

Ajzen, I. (1991). The Theory of Planned Behavior. *Orgnizational Behavior and Human Decision Processes*, 50(2), 179–211.

Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior. *Journal of Applied Social Psychology*, 32(4), 665–683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x.

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review. *British Journal of Social Psychology*, 40(4), 471–499.

Arsyianti, L. D., & Kassim, S. (2015). Regular Charity Giving of Low-Income Households in Indonesia. In *4th International Conference on Inclusive Islamic Financial Sector Development*, November 17–18, Islamabad, Pakistan: International Institute of Islamic Economics (IIIE), International Islamic University Islamabad (IIUI) and IRTI-IDB.

Ascarya, Rahmawati, S., & Tanjung, H. (2015). Designing Holistic Financial Inclusion Based on *Maqasid Shari'ah*. In *Inaugural Annual Symposium on Islamic Finance 2015, "Islamic Finance: A Catalyst for Shared Prosperity"*, Istanbul, Turkey, September 8–9.

Beard, V. A. (2007). Household Contributions to Community Development in Indonesia. *World Development*, 35(4), 607–625.

Becker, G. (1974). A Theory of Social Interactions. *Journal of Political Economy*, 82(6), 1063–1094.

Beik, I. S. (2009). Analisis peranan *zakat* dalam mengurangi kemiskinan: studi kasus dompet dhuafah republika. *Zakat and Empowering - Jurnal Pemikiran Dan Gagasan*, 2, 1–11.

Beik, I. S., & Arsyianti, L. D. (2016). Measuring *zakat* Impact on Poverty and Welfare Using CIBEST Model. *Journal of Islamic Monetary Economics and Finance*, 1(2), 141–160.

Bekkers, R., & Wiepking, P. (2007). Generosity and Philanthropy: A Literature Review. In *35th Annual Conference of the Association for Research on Nonprofit and Voluntary Action*, November 16–18, 2006 (pp. 1–68).

Bekkers, R., & Wiepking, P. (2010). A Literature Review of Empirical Studies of Philanthropy: Eight Mechanisms that Drive Charitable Giving. *Nonprofit and Voluntary Sector Quarterly*, 20(10), 1–50.

Beldad, A., Gosselt, J., Hegner, S., & Leushuis, R. (2015). Generous But Not Morally Obliged? Determinants of Dutch and American Donors' Repeat Donation Intention (REPDON). *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 26(1), 442–465.

Candland, C. D. (2001). Faith as Social Capital: Religion and Community Development in Southern Asia. *Policy Sciences*, *33*(3/4), 355–374.

Carter, T. S., & Carter, S. S. (2005). The Implications for Charities of Anti-terrorism Initiatives on Humanitarian Assistance for Southeast Asia. *Anti-Terrorism and Charity Law Alert No. 6*, January 11 (pp. 1–4).

CGAP & Centre for Charitable Giving and Philanthropy. (2012). *Philanthropy and a Better Society*. London: Alliance Publishing Trust.

Chien, Y., & Devaney, S. A. (2001). The Effects of Credit Attitude and Socioeconomic Factors on Credit Card and Installment Debt. *Journal of Consumer Affairs*, 35(1), 162–179.

Cicognani, E., Mazzoni, D., Albanesi, C., & Zani, B. (2014). Sense of Community and Empowerment Among Young People: Understanding Pathways from Civic Participation to Social Well-Being. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 26(1), 24–44.

Çizakça, M. (1998). Awqaf in History and Its Implications for Modern Islamic Economies. *Islamic Economic Studies*, 6(1), 43–70.

de Oliveira, A. C. M., Eckel, C., & Croson, R. T. A. (2012). The Stability of Social Preferences in a Low-Income Neighborhood. *Southern Economic Journal*, 79(1), 15–45.

Fernandez, J. M. (2009). From Charity to Social Investments and Social Justice: A Study of 26 Philanthropic Institutions in Indonesia. In *Asian Transformations in Action*, The Work of the 2006/2007 API Fellows, Bangkok: The Nippon Foundation.

Firdaus, M., Beik, I. S., Irawan, T., & Juanda, B. (2012). Economic Estimation and Determinations of *Zakat* Potential in Indonesia. *IRTI Working Paper Series*, *WP 1433–07*. Jeddah: Islamic Research and Training Institute.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate Data Analysis* (6th ed.). Upper Saddle River: Prentice-Hall.

Jöreskog, K. G. (1990). New Developments in LISREL: Analysis of Ordinal Variables Using Polychoric Correlations and Weighted Least Squares. *Quality and Quantity*, 24(4), 387–404.

Jöreskog, K. G., & Sörbom, D. (1996). *LISREL 8: User's Reference Guide*. Chicago: Scientific Software International.

Kahf, M. (1998). *Financing the Development of Awqaf Property*. Seminar on Development of *Awqaf*, March 2–4, Kuala Lumpur, Malaysia.

Kashif, M., Sarifuddin, S., & Hassan, A. (2015). Charity Donation: Intentions and Behaviour. *Marketing Intelligence and Planning*, 33(1), 90–102.

Keese, M. (2012). Who Feels Constrained by High Debt Burdens? Subjective vs. Objective Measures of Household Debt. *Journal of Economic Psychology*, 33(1), 125–141.

Lea, S. E. G., Webley, P., & Walker, C. M. (1995). Psychological Factors in Consumer Debt: Money Management, Economic Socialization, and Credit Use. *Journal of Economic Psychology*, 16(4), 681–701.

Lichtenberg, J. (2009). What Is Charity? *Philosophy and Public Policy Quarterly*, 29(3/4), 16–20.

Lindenberg, S. (1996). *Continuities in the Theory of Social Production Functions*. In H. Ganzeboom & S. Lindenberg (Eds.) *Verklarende Sociologie: Opstellen voor Reinhard Wippler*. Amsterdam: Thela Thesis.

Lins, K. V., Servaes, H., & Tufano, P. (2009). What Drives Corporate Liquidity? An International Survey of Cash Holdings and Lines of Credit. *Journal of Financial Economics*, 98(1), 160–176.

Livingstone, S. M., & Lunt, P. K. (1992). Predicting Personal Debt and Debt Repayment: Psychological, Social and Economic Determinants. *Journal of Economic Psychology*, 13(1), 111–134.

Lusardi, A. (2008). Household Saving Behavior: The Role Financial Literacy, Information and Financial Education Programs. *NBER Working Paper No. 13824*. Cambridge, MA: National Bureau of Economic Research.

Mbau, L. (2008). *Perbandingan Metode Pendugaan Parameter dalam Pemodelan Persamaan Struktural* [Comparison of Parameter Estimation Methods in Structural Equation Modeling]. Bogor: Bogor Agricultural University.

McKee-Ryan, F. M., Song, Z., Kinicki, A. J., & Wanberg, C. R. (2005). Psychological and Physical Well-Being During Unemployment: A Meta-Analytic Study. *Journal of Applied Psychology*, 90(1), 53–76.

Mewse, A. J., Lea, S. E. G., & Wrapson, W. (2010). First Steps Out of Debt: Attitudes and Social Identity as Predictors of Contact by Debtors with Creditors. *Journal of Economic Psychology*, 31(6), 1021–1034.

Mohammad, S., & Hosseini, S. (2014). Study of Cash waqf and Its Impact on Poverty (Case Study of Iran). *Atlantic Review of Economics*, 2, 1–19.

Mohammed, M. O. (2011). Economic Consumption Model Revisited: Infak Model Based on Al-Shaybani's Level of Kasb. *International Journal of Economic, Management and Accounting*, 19(SI), 115–132.

Nesbit, R., Christensen, R., Tschirhart, M., Clerkin, R., & Paarlberg, L. (2013). Philanthropic Mobility and the Influence of Duration of Donor Residency on Donation Choices. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 26(1), 267–287.

Nurrachmi, R. (2012). The Implication of Cash waqf in the Society. *Munich Personal RePEc Archive* (August).

Ormel, J., Lindenberg, S., Stevererink, N., & Verbrugge, L. M. (1999). Subjective Well-Being and Social Production Functions. *Social Indicators Research*, 46(1978), 61–90.

Pallant, J. (2005). *SPSS Survival Manual: A Step by Step Guide to Data*. Crows Nest, NSW: Ligare.

Pharoah, C., & Tanner, S. (1997). Trends in Charitable Giving. *Fiscal Studies*, 18(4), 427–443.

Prouteau, L., & Sardinha, B. (2013). Volunteering and Country-Level Religiosity: Evidence from the European Union. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 26(1), 242–266.

Rohima, S., Suman, A., Manzilati, A., & Ashar, K. (2013). Self Empowerment Model of the Poor (Studies in the District of Alang-Alang Lebar Palembang, Indonesia). *Journal of Indonesian Economy and Business*, 28(2), 188–208.

Ross, W. J. (2003). *Fundamentals of Corporate Finance* (6th ed., Vol. 1). New York: McGraw-Hill.

Sahi, S. K. (2013). Demographic and Socio-Economic Determinants of Financial Satisfaction: A Study of SEC: A Segment of Individual Investors in India. *International Journal of Social Economics*, 40(2), 127–150.

Saleem, Q., & Rehman, R. U. (2011). Impacts of Liquidity Ratios on Profitability (Case of Oil and Gas Companies of Pakistan). *Interdisciplinary Journal of Research in Business*, 1(7), 95–98.

Schlegelmilch, B. B., Love, A., & Diamantopoulos, A. (1997). Responses to Different Charity Appeals: The Impact of Donor Characteristics on the Amount of Donations. *European Journal of Marketing*, 31(8), 548–560.

Shaikh, S., & McLarney, C. (2005). Where Does All the Money Go? An Investigation of Donation Filtration. *International Journal of Sociology and Social Policy*, 25(12), 81–91.

Smith, K. A., Holmes, K., Haski-Leventhal, D., Cnaan, R. A., Handy, F., & Brudney, J. L. (2010). Motivations and Benefits of Student Volunteering: Comparing Regular, Occasional, and Non-volunteers in Five Countries. *Canadian Journal of Nonprofit and Social Economy Research*, 1(1), 65–81.

Stone, B., & Maury, R. V. (2006). Indicators of Personal Financial Debt Using a Multi-disciplinary Behavioral Model. *Journal of Economic Psychology*, 27(4), 543–556.

Wiepking, P. (Ed.). (2009). *The State of Giving Research in Europe: Household Donations to Charitable Organizations in Twelve European Countries*. Amsterdam: Amsterdam University Press.

Wiepking, P., & Maas, I. (2009). Resources That Make You Generous: Effects of Social and Human Resources on Charitable Giving Resources That Make You Generous: Effects of Social and Human Resources on Charitable Giving. *Social Forces*, 87(4), 1973–1996.

Wright, K. (2001). Generosity vs. Altruism: Philanthropy and Charity in the United States and United Kingdom. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 12(4), 399–416.

Xiao, J. J., & Wu, J. (2008). Completing Debt Management Plans in Credit Counseling: An Application of the Theory of Planned Behavior. *Journal of Financial Counseling and Planning*, 19(2), 29–45.

Xiao, J. J., & Yao, R. (2014). Consumer Debt Delinquency by Family Lifecycle Categories. *International Journal of Bank Marketing*, 32(1), 43–59.

Yumna, A., & Clarke, M. (2009). Integrating *zakat* and Islamic Charities with Microfinance Initiative in the Purpose of Poverty Alleviation in Indonesia. *8th International Conference on Islamic Economics and Finance* (pp. 1–18). Doha, Qatar.

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CHAPTER 11

Islamic Finance and Financial Exclusion in Minority Muslim Countries: The Case of India

Ummer Farooque Musliyar Kurunkatil

11.1 Introduction

Financial inclusion is defined as the ratio of those citizens or individuals and firms who use the financial services. This has become one of the leading topics of interest for researchers, policy makers, regulatory authorities and market practitioners. The recent researches explicitly prove that the financial inclusion can significantly contribute into poverty alleviation and boost the rate of employment and prosperity (World Bank 2014). Financial inclusion is one of the basic motives in Islamic financial principles. The principles like profit and loss sharing, prohibition of interest or *riba* ensure the inclusion of maximum individuals and firms in formal finance system. From Islamic perspective, all wealth belongs to Allah and man or woman is only the trustee of His wealth. "To Him (Allah) belongs that is in the heavens and all that is on the earth, and all that is between them and all that is under the soil" (*Quran* 20:6). Islam orders to circulate the wealth among the people and prohibits

U. F. M. Kurunkatil (✉)
Markaz Garden Group of Institutions, Calicut, Kerala, India

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the hoarding of wealth. These verses inter alia evidently describe the need to bring all people whether man or woman, poor or rich, Muslim or non-Muslim into the forefront of financial system in their daily life activities.

11.2 Islamic Finance for Financial Inclusion of Muslims in India

On March 9, 2005, the prime minister of India had constituted a high-level committee chaired by Justice Rajindar Sachar to study and report on societal, educational and economic status of the Muslim minorities of India. This committee is popularly known as "Sachar Committee." The committee submitted its report on November 17, 2006, exploring mainly the vulnerable backwardness of Muslim community in social, educational and economic pitch of the country. In Chapter six "Access to Bank Credit" of the report, Muslims are the community who are mostly excluded from the availability of credit. The report shows that Priority Based Advances (PSAs) such as agriculture, small-scale industries and businesses, small retailers, transport operators, small housing and education loans were extended by the Scheduled Commercial Banks (SCBs). Committee has taken the data from 27 public sector banks and 29 private sector banks. Table 11.1 provides the summary of the state of access to bank credit by the Sachar Committee in India.

According to Table 11.1, the share of Muslim account holders in India level is satisfactory as compared to the share of total population, but there is a considerable decline (12%), while taking 44 minority concentrated districts. The advances for priority sector are showing a significant decline in Muslim concentrated 44 districts as the percentage comes down 25 and this advance is 9% decline at the national level. The interesting but pathetic disclosure of the report is that the amount which is outstanding per account for non-Muslim minorities is twice compared to Muslim and this difference is substantial in almost all districts. As per the report, the share of deposit account of Muslims is very low than that of non-Muslims as Muslim account holders are only 7.6 percentage in India based on the 1800 lakh deposit holders in commercial banks. The committee sums up that in India census of 2011, it clearly supports the notion that the Muslim households with banking facilities are small, particularly, in the regions where Muslim's population is high. This is definitely inter alia due to the non-availability of banking facilities

Table 11.1 The state of access to bank credit in India

Parameter	*Public sector banks*			*Private sector banks*		
	Muslims	*Other minorities*	*Others*	*Muslims*	*Other minorities*	*Others*
(a) All districts in India						
No. of accounts (% of total)	12.2	8.1	79.7	11.3	10.5	78.2
Amount outstanding (% of total)	4.6	6.3	89.1	6.6	7.9	85.5
Amount outstanding per account (Rs./account)	19,837	40,686	59,055	111,634	201,840	274,911
% Share in population	13.4	5.6				
(b) 44 Minority concentration districts						
No. of accounts (% of total)	21.3	5.0	73.7	20.7	14.9	64.4
Amount outstanding (% of total)	7.9	3.7	88.4	9.9	7.7	82.4
Amount outstanding per account (Rs./account)	20,343	40,203	64,665	108,435	114,971	330,103
% Share in population	32.8	2.0	65.2			

Source Sachar Committee Report (2006)

in respective localities. The committee says that this financial exclusion has a far-reaching implication on their socioeconomic and educational upliftment. The committee suggests that to empower the Muslim community economically, it is necessary to support the self-employed persons by ensuring access of credit to them because the self-employment is the main source of income for the Muslims.

Similar studies also reveal that 50% of Muslims are debarred from formal financial sector. According to a report by Reserve Bank of India (central bank of India), credit deposit ratio of Muslims is 47% against the country average of 74%. This proves that Muslims lose Rs. 63,000 million annually (US$13 billion). This extremely large exclusion from formal financial sectors has a direct impact on socioeconomic conditions of the Muslim community. According to the 55th round of National Sample Survey (NSS) report, nearly 35% of Muslims live below the poverty line in urban areas compared to 31% in rural areas. The percentage of Hindus is 10 and 11.7%, respectively, and the national level average in this respect is 26.5% in rural and 24% in urban populations. According

to the report by Asia One Business (February, 2011), in spite of India's high Muslim population of 200 million, investment in stock market is still nascent with just 1% of the 1.2 billion population. For the Muslims, it is only 0.5 percentage of the population.

After interviews with top bank executives of scheduled banks, Phalphale (2011) concludes three points about the nature of Muslims (i) not ready to invest in mutual funds with a debt element, (ii) donating the interest to charity purpose, and (iii) using interest-free current account in place of saving accounts. According to Phalphale (2011), the issue of financial exclusion can be addressed by introducing Islamic banking because most of the Muslims are living at a place where banks are perceived as taboo and their savings are idle at home due to faith and non-availability of banking services in the vicinity.

The Raghuram Rajan committee of financial sector reforms similar recommendation, when discussing how to tackle the issue of financial exclusion. This Committee on Financial Sector Reforms (CFSR) of the Planning Commission, Government of India, was appointed to prepare a report on the next generation of Financial Sector Reforms. The committee's report was published in the name "A Hundred Small Steps." In the third chapter "Broadening Access to Finance," it provides an important recommendation as follows: "Another area that falls broadly in the ambit of financial infrastructure for inclusion is the provision of interest-free banking. Certain faiths prohibit the use of financial instruments that pay interest. The non-availability of interest-free banking products (where the return to the investor is tied to the bearing of risk, in accordance with the principles of that faith) results in some Indians, including those in the economically disadvantaged strata of society, not being able to access banking products and services due to reasons of faith. This non-availability also denies India access to substantial sources of savings from other countries in the region. While interest-free banking is provided in a limited manner through non-bank financial corporations (NBFCs) and cooperatives, the committee recommends that measures be taken to permit the delivery of interest-free finance on a larger scale, including through the banking system. This is in consonance with the objectives of inclusion and growth through innovation. The committee believes that it would be possible, through appropriate measures, to create a framework for such products without any adverse systemic risk impact" (Raghuram Rajan Committee 2009). Hence, the lines evidently suggest that introducing Islamic finance system in India is the solution

for the problem of financial exclusion. It may be the most potent solution for the problem, if compared with any other policy measures.

11.3 Review of Literature

Hersi (2009) in his study on financial exclusion of Muslims in UK and how it can be tackled with Islamic finance demonstrates the impact of introducing Islamic finance in enhancing the financial inclusion of low-level income group. Using descriptive analysis, the majority of UK Muslims are excluded from the formal financial sector due to the non-availability of products in finance sector which satisfies their needs and wants of complying *Shari'ah*. The study finds that although UK Muslims need the *Shari'ah*-compliant finance and give preference for it, this is not enough to accelerate their inclusiveness in finance because still they have much skepticism on the *Shari'ah*-compliance and authenticity. Moreover, the affordability and accessibility are also remaining as the main factor for the exclusion of Muslims in UK form the formal financial sector. The study suggests that providers of *Shari'ah*-compliant finance need to redesign current provisions to make it more relevant to financial services needs of the less affluent UK Muslims communities.

Mohieldin et al. (2011) identifies in their study on the role of Islamic finance in enhancing financial inclusion in Organization of Islamic Cooperation (OIC) countries, that there is big gap is existing currently between *Shari'ah*-compliant financing for medium- and small-scale industries and *Shari'ah* micro finance in these countries. Their paper argues that if these countries try to execute the *Shari'ah*-compliant products and services in their true spirit, the poverty and unemployment can be eradicated very easily from these countries. The policy makers and stake holders should think in this way by improving the regulatory framework and financial infrastructure so that the potential of Islamic finance instruments can be exploited as they deserve.

Iqbal and Mirakhor (2012) argue that the conventional methods which are introduced to address the financial exclusion can be replicated through the Islamic financial methods and instruments. The paper proves that Islamic methods reduce the poor's income—consumption correlation and these methods provide an extensive framework through the principle of risk sharing. Similarly, Demirguc-Kunt et al. (2014) try to discover the use of financial services and the demand for them among the self-identified Muslim adults. The analysis in the 65,000 samples

which were selected from 64 economies finds out that Muslims are significantly less likely to have formal financial accounts than non-Muslims. The study also reveals from a comprehensive investigation of adults in five MENA countries with comparatively emerging Islamic economics industries, the small utilize of *Shari'ah*-compliant financial instruments, though there is proof of a supposed inclination for *Shari'ah*-compliant instruments among a mass of respondents regardless of high costs.

Gupta and Singh (2013) examine the correlation between financial inclusion and literacy level in India using Karl Pearson's correlation coefficient. The result shows significant difference between both variables across the Indian states and a very law correlation at national level whole. The study also finds out that the financial exclusion is not the result of illiteracy in the country because the state of Kerala is very financially included state despite its high literacy. Shankar (2013) explores whether microfinance services in India were adequately helping to cut down the barriers into the financial inclusion or not. From an extensive field interview, the study reveals that even though microfinance institutions (MFIs) are trying to cut down many barriers of financial inclusion, there are much more limitation to be outreached these excluded. MFIs in India also exclude some fields which were excluded by formal banking sector and MFIs exclude some individuals who were excluded by formal banks. The paper suggests that MFIs in India should adopt more flexible plans to expand its horizon into formally excluded sectors and individuals. Similarly, Gandhi (2013) attempts to evaluate critically the initiatives taken by RBI in India to tackle the financial exclusion and argues that the majority of rural people have no any access to financial services except the dependence on moneylenders. The major reason for this exorbitant exclusion is the financial illiteracy, poor opportunities and non-availability and the negative attitude and approach of formal banks.

11.4 Research Methodology

As indicated in the literature reviews, apart from some conceptual studies there is no any empirical effort have been carried out adequately to explore whether available Islamic financial methods help to decrease the proportion of financial exclusion in secular countries especially in India. Therefore, the present study investigates how the demographic factors influence the finance system selection of financial service customers in India. This study explores whether Muslims or non-Muslims, employed or unemployed, educated or uneducated, aged or less aged and high

income or low income earned are selecting Islamic finance system in Kerala. As the literature shows, while the formal financial system ignores the poor, this study discovers whether the Islamic financial system is attracted by all segment of the societies.

A structured questionnaire is prepared for the data collection from the customers of financial services in Kerala. A total of 1000 questionnaires are distributed among the different customers across India. To ensure the representation of customers of both Islamic and conventional systems, the place of questionnaire is selected by targeted sampling because the Islamic financial institutions are not available in all places as much as conventional financial institutions. The selection of customers from each place is random by the help of locals. From the total 1000 questionnaires, 742 are returned and 635 are selected because the remaining 107 are unusable due to the partial filling of the questionnaires. In order to test the influence of demographic factors upon the financial service selection, this study used descriptive statistics, discriminant analysis and binary logistic regression.[1]

Table 11.2 shows the detailed descriptive of the total sample divided into two groups: Those who are not selected Islamic finance and those who are selected Islamic finance. On the basis of religion, Islamic finance is selected by Muslims than others, while the conventional finance is selected by non-Muslims than Muslims. Islamic finance is preferred largely by the age group lies between 26 and 50, while the conventional finance is selected largely by those who are below 25–50 years age. On the basis of sex, male members are selecting both methods than female members. Likewise, on the basis of education both finances are selected by those who are coming under the matriculation and plus two categories. In the same way, on the basis of employment, both finances are selected largely by private organized members. On the basis of income, Islamic finance is preferred by those who earn between 1000 and 5000 rupees, while the conventional finance is selected largely by those who earn between 5000 and 10,000 rupees.

11.5 Discriminant Analysis

Out of the total respondents, 303 respondents have selected Islamic finance, which are available in their locality and 332 respondents have not selected the Islamic finance. For the purposes of the analysis,

[1] All analyses are carried out by using SPSS version 16.

Table 11.2 Descriptive statistics

Variables	*Sections*	*Not selected Islamic finance*	*Selected Islamic finance*	*Total*
Religion	Muslims	148	213	361
	Others	184	90	274
Age	Below 25	77	38	115
	26–35	106	137	243
	36–50	81	109	190
	51–65	39	16	55
	More than 65	29	3	32
Sex	Male	203	243	446
	Female	129	60	189
Education	No formal education	28	39	29
	Below matriculation	58	32	92
	Matriculation	79	88	202
	Plus two	82	87	169
	Degree	52	48	100
	Post-graduation	27	9	36
	Doctoral	3	1	4
	Others	3	0	3
Employment	Unemployed	10	47	57
	Self-employed	52	80	132
	Private organized	127	126	253
	Private unorganized	76	36	112
	Govt.	63	14	77
	Others	4	0	4
Income	Less than 1000	6	30	53
	1000–5000	73	104	174
	5000–10,000	136	99	221
	10,000–20,000	59	47	106
	20,000–50,000	39	22	61
	50,000–100,000	13	1	14
	More than 100,000	6	0	6
Marital Status	Single	120	106	218
	Married	198	193	352
	Divorced	14	4	65
Family	Nuclear	169	165	334
	Joint	116	124	240
	Extended joint family	47	14	61

Source Author

respondents who have not selected Islamic finance are denoted by zero and respondents who have selected Islamic finance are denoted by one. Discriminant analysis is performed by taking demographic factors as

Table 11.3 Group statistics

Group		*Mean*	*Std. deviation*	*Valid N (list wise)*	
				Unweighted	*Weighted*
0	Religion	1.55	0.498	332	332
	Age	2.51	1.215	332	332
	Sex	1.39	0.488	332	332
	Marital status	1.68	0.550	332	332
	Education	3.54	1.483	332	332
	Employment	3.43	1.093	332	332
	Income	3.35	1.211	332	332
	Family	1.63	0.719	332	332
1	Religion	1.30	0.458	303	303
	Age	2.37	0.807	303	303
	Sex	1.20	0.399	303	303
	Marital status	1.66	0.501	303	303
	Education	3.33	1.314	303	303
	Employment	2.64	1.029	303	303
	Income	2.77	1.079	303	303
	Family	1.50	0.586	303	303
Total	Religion	1.43	0.496	635	635
	Age	2.44	1.042	635	635
	Sex	1.30	0.458	635	635
	Marital status	1.67	0.527	635	635
	Education	3.44	1.408	635	635
	Employment	3.05	1.133	635	635
	Income	3.07	1.185	635	635
	Family	1.57	0.662	635	635

independent variables with the objective of determining which of these factors account most impact on respondent's selection or not selection of Islamic finance methods.

Table 11.3 shows the information on the mean and standard deviation of the two groups. The group means tell that all groups except family type and marital status are widely separated between the groups.

Table 11.4 shows the Wilks' lambda and *F*-ratio. Wilks' lambda acts as a measure of testing the significance differences between the groups and is used for understanding which variable would significantly contribute for the prediction of separating the groups. It should be between 0 and 1. In Table 11.4, the Wilks' lambda of all variables except of marital status is less than 1. Therefore, it can be concluded that the most of observed variability is accounted to differences between the groups.

Table 11.4 Tests of equality of group means

	Wilks' lambda	*F-ratio*	*df1*	*df2*	*Sig. value*
Religion	0.933	45.653	1	633	0.000
Age	0.996	2.842	1	633	0.092
Sex	0.957	28.666	1	633	0.000
Marital status	1.000	0.172	1	633	0.679
Education	0.995	3.499	1	633	0.062
Employment	0.878	87.655	1	633	0.000
Income	0.941	39.944	1	633	0.000
Family	0.990	6.248	1	633	0.013

Similarly, the significances of *F*-ratio also suggest that all predictors except age, marital status and educations are significantly differentiated between the groups individually.

Box's M test is used in discriminant analysis for testing the assumption of whether covariance matrices are homogeneous or not. In Table 11.5, the Box's M is significant, therefore, it can be said that the null hypothesis that the covariance matrices are equal is rejected. The log determinants are used to confirm the result of Box's M test. The big amount of log determinant is indicating the large amount of group's covariance matrix differs. In Table 11.6 confirms the results of Table 11.5. The log determinants are quite different in value between the groups.

Table 11.5 Test results

Box's M	*413.38*	
F-ratio	*Approx.*	*11.33*
	df1	36
	df2	1.325×10^{-6}
	Sig. value	0.000

Table 11.6 Log determinants

Group	*Rank*	*Log determinant*
0	8	−3.326
1	8	−7.439
Pooled within-groups	8	−4.635

The number of discriminant function is determined by the number of dependent variables, therefore, since there are only two dependent variables the discriminant function should be only one. Eigenvalues are used to determine the amount of variance in the dependent variable which is explained by the discriminant function. The large eigenvalue indicates large variance. As the eigenvalues, the canonical coefficients are also used to determine the association between discriminant function and the dependent variable. The square of this canonical coefficient tells us the percentage of variance explained in the dependent variable. The Wilks' lambda is the indicator of greater/lesser discriminatory power of this function. The adjacent chi-square tests the hypothesis that whether the means of the functions listed is equal in the groups or not. The small significance value in Table 11.7 tells the fewer roles of chances in discriminating the groups by the discriminant function.

Tables 11.7 and 11.8 show eigenvalue (0.270), canonical correlation (0.461), Wilks' lambda (0.787) and respective chi-square value with highly significant. Even though the eigenvalue and canonical correlation are not so high, the Wilks' lambda and chi-square significance suggest that the discriminant function is acceptable (Tables 11.9 and 11.10).

Finally, the classification result used to assess how well the discriminant function works, and whether it works equally well for each group of the dependent variable. In Table 11.11, it correctly classifies 70% of the cases; making about the 30% misclassification is recorded.

Table 11.7 Eigenvalues

Function	*Eigenvalue*	*% of variance*	*Cumulative %*	*Canonical correlation*
1	0.270[a]	100.0	100.0	0.461

Note [a]69.4% of original grouped cases correctly classified

Table 11.8 Wilks' lambda

Test of function(s)	*Wilks' lambda*	*Chi-square*	*df*	*Sig. value*
1	0.787	150.576	8	0.000

Table 11.9 Standardized canonical discriminant function coefficients

	Function
	1
Religion	0.407
Age	0.136
Sex	0.305
Marital status	−0.302
Education	−0.159
Employment	0.704
Income	0.335
Family	0.075

Table 11.10 Functions at group centroids

Group	*Function*
	1
0	0.496
1	−0.544

Table 11.11 Classification results[a]

		Group	*Predicted group membership*		*Total*
			0	*1*	
Original	Count	0	237	95	332
		1	99	204	303
	%	0	71.4	28.6	100
		1	32.7	67.3	100

Note [a]69.4% of original grouped cases correctly classified

11.6 Conclusion

Financial exclusion remains one of the big dilemmas in Indian socioeconomic development. To address this problem, even though the changing governments have taken various measures since the independence, the result is unsatisfactory. Many committees constituted for studying the financial exclusion concluded that the majority of the excluded community are Muslims, low income and unemployed people. Therefore, this study proves that the issue of financial exclusion can be well tackled with the introduction of Islamic financial system in India as an alternative

financial system. Islamic financial system in India especially in Kerala faces many barriers for expansion due to regulatory and legal issues. Even among these barriers, the financially excluded sections of the society are showing interest to engage with Islamic financial institutions offering due to faith and affordability provided for all segments of the society. On the contrary to conventional financial system, Islamic financial system could provide both benefits to rich and poor people. This unique nature will bring prosperity in India by reducing the financial exclusion among its population.

References

Demirguc-Kunt, A., Klapper, L., & Randall, D. (2014). Islamic Finance and Financial Inclusion: Measuring Use of and Demand for Formal Financial Services Among Muslim Adults. *Review of Middle East Economics and Finance*, 10(2), 1–42.

Gandhi, M. M. (2013). Financial Inclusion: Indian Initiatives in the Global Perspective. *IOSR Journal of Economics and Finance*, 2(2), 27–40.

Gupta, P., & Singh, B. (2013). Role of Literacy Level in Financial Inclusion in India: Empirical Evidence. *Journal of Economics, Business and Management*, 1(3), 272–276.

Hersi, W. M. (2009). The Role of Islamic Finance in Tackling Financial Exclusion in UK. Doctoral thesis, University of Durham.

Iqbal, Z., & Mirakhor, A. (2012). Financial Inclusion: Islamic Finance Perspective. *Journal of Islamic Business and Management*, 2(1), 35–64.

Mohieldin, M., Iqbal, Z., Rostom, A., & Fu, X. (2011). The Role of Islamic Finance in Enhancing Financial Inclusion in Organization of Islamic Cooperation (OIC) Countries. *Policy Research Working Paper No. 5920.* Washington, DC: World Bank.

Phalphale, P. J. (2011). Islamic Banking: A Challenge for Conventional Banking. *International Interdisciplinary Research Journal*, 1(1), 35–39.

Raghuram Rajan Committee. (2009). *A Hundred Small Steps Report of the Committee on Financial Sector Reforms.* New Delhi: Sage.

Sachar Committee. (2006). *A Report on Social, Economic and Educational Status of the Muslim Community of India*. New Delhi: Government of India.

Shankar, S. (2013). Financial Inclusion in India: Do Microfinance Institutions Address Access Barriers? *ACRN Journal of Entrepreneurship Perspectives*, 2(1), 60–74.

World Bank. (2014). *Global Financial Development Report 2014: Financial Inclusion*. Washington, DC: World Bank.

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CHAPTER 12

Fintech and Risk-Sharing: A Catalyst for Islamic Finance

Siti Muawanah Lajis

12.1 Introduction

Risk-sharing is believed to have originated from the insurance space and subsequently applied to almost all the other aspects of economic affairs. In insurance, risk-sharing refers to the 'risk distribution in which the premium and losses of each member of a group of policyholders are allocated within the group based on a predetermined formula. Risk is shared if there is no policyholder-specific correlation between premiums paid into a captive, and losses paid from the captive's reserve pool'.[1] In business, risk-sharing refers to 'risk management method in which the cost of consequences of a risk is distributed among several participants in an enterprise such as in syndication'.[2] Meanwhile, in project management, risk-sharing is a 'risk response technique for positive risks or

[1] www.irmi/online/insurance-glossary/terms/risk-sharing.aspx.

[2] www.businessdictionary.com/definition/risk-shring.html.

S. M. Lajis (✉)
Islamic Banking and Takaful Department, Bank Negara Malaysia, Kuala Lumpur, Malaysia
e-mail: sid@bnm.gov.my

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opportunities that involve assigning partial or complete ownership of the risk to a third party who is in a better position to make sure the opportunity is realized. An example of risk-sharing in project management is the joint ventures with strategic partners who have the relevant technical expertise'.[3]

This chapter discusses in detail the concept of risk-sharing in the context of Islamic finance. It covers the definition, parameters, economic rationales and the Islamic perspective of risk-sharing. It then discusses the early and contemporary applications of risk-sharing, followed with a discussion on the challenges in implementing it in the financial sphere. Hence, the analysis contributes in demystifying the risk-sharing concept and in disseminating its value propositions. Greater understanding of the concept and paradigm shift from risk transfer to risk-sharing among all stakeholders of Islamic banking is paramount to ensure meaningful enhancement of Islamic finance in moving forward.

12.2 Risk and Uncertainty

Although risk management has long been a major part of banking, the concept of risk-sharing as a proactive risk management tool is yet to be fully understood. Often the misconception of risk-sharing arose when it is confused as a position of taking on risk as opposed to dissipating risk. This led to misinterpretation and hence perhaps is the main reason for the lukewarm response from the banking fraternity to consider risk-sharing as a viable model for Islamic finance. Another reason for the misconception is perhaps the assumption that 'risk' is synonym to 'uncertainty' and hence they are used interchangeably as the basis for considering if a business proposition is investment worthy. Understanding the difference is necessary in operationalizing risk-sharing financial intermediation (RSFI) model. Generally, risk can be measured and managed appropriately. Uncertainty, on the other hand, is difficult to measure due to its ambiguity and the changing form or magnitude over time. In this respect, risk-sharing promotes calculated risk-taking and discourages transactions that are laden with uncertainties. In dealing with modern-day ambiguities, Lajis (2017) asserts that risk-sharing concept can be a potent tool

[3] www.projectmanagementlexicon.com/risk-sharing/.

to reduce the uncertainties of future ventures, yet at the same time would not reduce the undertaking of risk. This proposition is in line with the Islamic virtue '*al-Ghunum bi al-Ghurum*' (entitlement to gain is accompanied with liability for associated expenses and possible losses). According to Askari et al. (2012, p. 70) regardless of how it is defined and in whatever form it is organized, the key element of risk-sharing is the 'mutuality' to bear risk.

12.3 Risk-Sharing and Risk Transfer

One should also take note of the differences between risk-taking, risk loving and risk avoidance. Risk-taking element is necessary for human development hence is highly encouraged in Islamic. Risk loving, on the other hand, relates to one's choice/preference towards excessiveness and hence it is discouraged (Rosly 2005, p. 57). Risk avoidance however is considered an immoral act and thus is abhorred in Islam as it entails 'earning money without effort'. In modern Islamic banking today, the application of risk-sharing concept is still limited. Although risk-taking investment is considered a virtuous act in Islam, the acts of risk avoidance are rampant by way of transferring and shifting of the risk exposures to others (Alaabed et al. 2015).

Risk-sharing requires the contracting parties to mutually share the risk and the reward of a contract and that all parties do not violate the Islamic property rights principles. Property rights would be violated when the claim on a property is attained without commensurate work such as in the case of dishonesty, theft, bribery, interest and gambling. What constitutes risk-sharing financial contracts that are permissible by *Shari'ah* are all the nominated contracts approved by Prophet Muhammad (pbuh), namely the equity-based contracts (*Musharakah* and *Mudarabah*) and the debt-based exchange contracts (sales and leasing). The associated risks of these contracts however need to be assumed accordingly among the counterparties. Thereafter each party is highly encouraged to engage a robust risk management strategy to minimize one's exposure should the risk materialize, hence optimizing any reward potentials.

Shari'ah on the other hand prohibits risk transfer. What is the basis for the prohibition of risk transfer? The charging of rent by lender without the transfer of property rights claims is as good as shifting the entire risk of transaction to the borrower. Risk transfer is defined as the

shifting of risk from one party to another.[4] Examples include the use of credit enhancements such as *wa'ad*, collateral and guarantees as conditional requirements imposed on counterparties as part of the financial contracts. The main objective of these credit enhancements is to effectively shift the risks of one party to the counterparty with or without the knowledge of the latter. The rationale for the origination of credit enhancements is believed to have been motivated by the need to achieve the same effect of conventional products.

12.4 Risk-Sharing Parameters

What does it take for a transaction to be considered risk-sharing based? For any transaction to be risk-sharing based, it must feature all these four components; (a) property rights, (b) contracts, (c) trust, and (d) governance.

(a) Property rights

Property rights refer to a bundle of rights, duties, powers and liabilities which comes with one's ownership of an asset. Though in the Western definition, the concept of ownership infers absolute entitlement, in Islam, ownership is somehow limited and absolute entitlement is not given to an asset. Islam defines property ownership based on these seven principles which must be observed. Once these principles are appropriately discharged, including that of sharing in the prescribed amount and manner, property rights are held inviolate (i.e. no one can appropriate or expropriate their rights): (Askari et al. 2012, pp. 53–54).

- The Supreme Creator is the ultimate owner of all properties and assets but in order that humans can become materially able to perform duties and obligations prescribed by Allah, they have been granted a conditional right of possession of property; this right is granted to the collectivity of humans.
- The right of collectivity to created resources.
- Individuals are allowed to appropriate the products that they produce by combining their labour with the provided resources,

[4] www.investowords.com/4311/risk_transfer.html.

without the collectivity losing its original rights either to the resources or to the goods and services that are produced by individuals.
- The only two ways in which individuals accrue rights of property (1) through own creative labour, and (2) through transfers via exchange, contracts, grants, inheritance.
- The principle of 'immutability or invariance of ownership' in which once labour has been applied to natural resources, individual who applies his labour gains a right of priority over the resources but the rights of the needy in the sale proceeds of the end product remains.
- The duty of sharing the sale proceeds. Private property ownership is regarded as a trust not an absolute ownership.
- The limitations on the right to dispose of the property. Individuals have an obligation not to waste, destroy, squander, or use property for unlawful purposes.

(b) Contracts

According to *Shari'ah*, contracts bind humans to the Creator and bind human-to-human together through contractual obligations. Fulfilment of contracts is the central anchor of a complex relationship between (1) the Creator and His created order including humans; (2) the Creator and His human collectivities; (3) individual and the state which represents the collectivity; (4) human collectivities; and (5) individuals. As such, the *Quran* has an incentive structure to ensure fulfilment of contracts, where such acts are ranked as the highest achievements and noblest virtues (2:172). The following are the preconditions before a contract can take place:

1. Before parties can enter into a contract of exchange, they must have property rights in what they are going to exchange.
2. The parties need a place or a forum to consummate the exchange: a market.
3. The market needs rules for its efficient operation.
4. The parties to share production, transportation, marketing, sales, and price risk. It is affected through a complete mutual exchange of property rights of each transacting party. Through this, each party will have to own up to his own part of the risk.

(c) Trust

Trust is another key institution that ensures fulfilment of contracts. Without trust, contacts are difficult to enter into and costly to monitor and enforce. When and where trust is weak, it is expensive to enforce contracts. To emphasize its importance, Islam ranks trust as one of the criteria to validate one's faith.

(d) Governance

Governance matters to ensure optimal risk-sharing takes place. Optimal risk-sharing is not possible when along with uncertainties, the two parties have unequal information, i.e. an information asymmetry exists (Haque and Mirakhor 1986). Through proper governance, risk-sharing allows converging incentives between contracting parties. The institution of governance typically falls under the ambit of a ruler of state whose objective is to ensure that the interests and property rights of all stakeholders, community, society and state are recognized and protected.

12.5 Why Risk-Sharing?

The merits of risk-sharing as catalyst for increased prosperity are many. According to the World Bank,[5] no society can achieve its potential or meet the vast challenges of the twenty-first century without the full and equal participation of its entire people. To this end, it recently announced the need for countries to build more equitable and inclusive societies with opportunities for everyone to achieve his or her potential as the central aim to end extreme poverty and boost shared prosperity.

The disadvantage of risk transfer on the other hand has been highlighted by Keynes (1932). He argued that through interest rate mechanism, risk transfer creates two evils of capitalism—worsening income distribution and unemployment. The study by Piketty (2013) confirmed Keynes' proposition in that the debt-based risk-transfer system does indeed has destabilizing force, where income gap gets worsened as the system encourages money rentiers. In such system, 'the entrepreneur

[5] *World Bank Annual Report 2015*, p. 22.

inevitably tends to become a rentier, more and more dominant over those who own nothing but their labour' (p. 571). Therefore, even if the economy appears to prosper year-on-year, the prosperity is not equitably distributed, the lower income group did not share the prosperity, only the rich get richer (Alaabed et al. 2015).

One important value proposition of risk-sharing compared RSFI model is stability. RSFI is distinctly different from risk-transfer system. Risk-sharing offers an inherently stable financial system because it is based on mutuality in accountability and responsibility where both parties are duty-bound to strive towards ensuring favourable outcome of entrepreneurial ventures. Through risk-sharing, one would necessarily reduce his individual risk in producing something (Iqbal and Mirakhor 2011, p. 101). The combination of resources and skills of participants and technologies would result in greater output and larger profits than operating individually. Engaging in risk-sharing also mitigates one's idiosyncratic risk and weakens correlation between income and consumption, essentially minimizing the impact of reduced well-being should idiosyncratic risks materialize. It was further suggested that profit-sharing system is superior to traditional capitalism, on the basis that the profit-sharing system is better able to counteract contractionary or inflationary shocks while maintaining the advantages of decentralized decision-making.

Risk-transfer financial intermediation is effectively a debt-based system which manages risks by transferring them to the counterparties or the public at large (when risk is shifted as in the financial crisis of 2007/2008). A lender shifts his risks to the borrower in the form of undertakings, collateral, guarantees or transfers the risks to the public (e.g. via deposit insurance). A borrower transfers his risks to the lender by defaulting on the loan. Minsky (1986) considered financial instability to be endogenous to a conventional financial system, given that the risk-transfer feature magnifies the impact of booms and busts. Risk-transfer mode, because of its non-participative nature is confronted with fundamental issues of moral hazard, information asymmetry and non-inclusion. The economic downside of risk-transfer system has been massive in value. The 2007/2008 financial crisis caused US$19.2 trillion loss of household wealth and 8.8 million jobs were lost. A further US$24 trillion was allocated for financial rescues efforts (US Treasury 2012). The IMF (2009) estimated the cost of the US government response to the tune of 12.7% of GDP.

Fisher (1933) was among the early thinkers who linked the occurrences of financial crises with high debt accumulation in the system, based on the bank runs and financial panic observed just prior to the Great Depression and the Great Recession. Recent studies by Reinhart and Rogoff (2009), Kumhof and Rancière (2010) and Schularick and Taylor (2012) concurred with Fisher's view that high debt levels are indeed an important predictor of major crises. Calomiris and Haber (2014) also noted that the risk-transfer system which operates on fractional reserves is by design inherently fragile and unstable.

The main reason why debt can lead to crises is traced to the fractional reserve system, where banks are required to hold reserves in the amount equal to a fraction of their deposits to meet demands for withdrawals by depositors. This practice essentially enables the banks to exert significant influence over the money supply in the system since the banks need to keep only a fraction of deposits they receive as reserves. Due to the fact that bank deposits are considered money in their own right, such system permits the money supply to grow beyond the amount of the underlying reserves of base money originally created by the central bank. The banking practices all around the world today are largely based on fractional-reserve banking (Mishkin 2012). Recent research has established a linkage between fractional reserve, credit, debt, leverage, financial crisis and its consequent damage to people's lives and properties as well as increasing inequality of income and wealth.[6] Fractional-reserve banking works in normal situations. It only becomes fragile when there are bank runs or generalized financial crises, resulting in sudden surge of demands for withdrawal, which exceed the bank's funding buffer. Thus, the fear of a bank run can actually precipitate the crisis. To mitigate such risks, central banks typically impose several measures including reserve requirements, capital adequacy requirements, liquidity management and deposit insurance scheme.

The other value proposition of risk-sharing is its contribution towards sustainable economic growth. Shiller (2003) recognizes the potential benefits of risk-sharing for humankind. He argues that 'Massive risk-sharing can carry with it benefits far beyond that of reducing poverty and diminishing income inequality. The reduction of risks on a greater scale

[6]See, for example, Kumhof et al. (2015) as well as relevant entries in this chapter's lists of references. See also, de Soto, J. H. (2009). *Money, Bank Credit and Economic Cycles* (2nd ed.). Auburn: Ludwig Von Mises Institute.

would provide substantial impetus to human and economic progress'. Risk-sharing leads to positive outcomes (i.e. increases unity and social integration) and risk transfer leads to negative outcomes (i.e. breeds disunity and distrust) as was seen in the global financial crises. For illustration, the emergence of digital economy that is premised on risk-sharing is paving the way in breaking boundaries beyond geography, race, national, religion, culture and language.

Risk-sharing keeps financial sector anchored to the real sector and be driven by the latter. Sheng (2009, p. 400) contends that '… if finance is a derivative of the real economy, no financial structure is strong unless the real economy is strong. We cannot allow monetary theory to dazzle us away from the common-sense fact that finance must serve the real economy, rather than drive it'. Askari et al. (2012, p. 67) foresee that equity finance and hence risk-sharing will gain prominence with the public's raised awareness on the fragility of the conventional system. The legal and institutional developments along with good governance and adoption of standards of best practices in transparency and accountability at the level of individuals, firms, the state and reinforced by information technology advances will mitigate informational problems and lead to less reliance on debt-based contract. The emergence of decentralized ledger technology and smart contracts was largely driven by the inspiration to create a 'trusted' environment for real economic transactions to take place.

Premised on Islamic scholars' conviction that the ultimate objective of Islamic finance is to promote sustainable growth, risk-sharing would spur responsible investments. Risk-sharing encourages investment intermediation based on equity or participative financing. It focuses on projects that bring real economic benefits to the well-being of the society, fuels economic growth yet without neglecting the profitability aspect. To achieve maximum risk-sharing, profit-sharing and equity participation are considered as first best instruments of risk-sharing (Askari et al. 2012; Mirakhor 2007, 2014). Proper implementation of risk-sharing and its institutional framework would reduce uncertainty and ambiguity to ensure predictable behaviours. Islam also prescribes rules regarding income and wealth sharing to promote income-consumption smoothing. Risk transfer-based system on the other hand makes no distinction between consumption and investment financing. In this system, financiers perform the role of financial intermediation, which requires minimal monitoring and intervention as long as the loan is repaid or well collateralized. As a result,

debt financing encourages excessive spending, consumption beyond one's means and magnifies the differences between the rich and poor. This mode deprives efficient channelling of resources to finance economic growth and development that could create employment and real economic activities. Indeed, low growth performance would unduly penalize future generations (Askari et al. 2012, p. 197).

Risk-sharing promotes financial inclusion. Under risk-sharing financial system, access to financing is premised on the viability of projects, information flow, business ventures and hard work. Risk-sharing model operates on proactive risk management by the investors and managers of investors' fund. The rapid rise of fintech could accelerate the financial inclusion of the micro-entrepreneurs and SMEs previous excluded in risk-transfer system. An example is the issuance of retail low-denominated risk-sharing securities through a digital platform would provide access both to previous excluded business entities and the low- to medium-income people to financial market (Lajis 2017). The present risk-transfer system, the micro-entrepreneurs and SMEs have limited access to financing due to their perceived high-risk profile by the financial institutions and access to financing is largely driven by creditworthiness, collateral and political connections of borrower. In this respect, risk-sharing has the potential to contribute towards enhancing growth, reducing poverty, increasing employment and improving income distribution (Askari et al. 2012, p. 196).

12.6 Application of Risk-Sharing

In ancient civilization, risk-sharing contracts had predated the debt-based agreements. Economic historians including Postan (1928) discovered that commenda (*Mudarabah*) and maona (*Musharakah* or *Mudarabah*) have been used since the Mesopotamian period. Goitein cited in Askari et al. (2012, p. 58) described trade in the Middle Ages as 'both extensive and intensive, financed by risk-sharing partnership'; partnership was used in industrial, commercial and public administration projects; based on mutual trust and friendship rather than cash benefits or legal guarantees; interest-based lending was prohibited and its usage insignificant. Risk-sharing techniques prevailed in Europe until the mid-seventeenth century eclipsed by interest-based financing, which started in the mid-sixteenth century. The main reason for the loss of dominance of risk-sharing financing was the breakdown of trust in

Europe and elsewhere as induced by wars and invasions. Other reasons included (1) upliftment of prohibition of usury; (2) rapid growth of fractional reserve banking; (3) inflow of gold and wealth induced lending on fixed interest rate contracts; (4) governments could only offer fixed interest financing terms for their war funding; and (5) innovation of securitization.

In modern times, risk-sharing investment model is taking roots and gathering tractions. Europe introduced Risk-sharing Finance Facility in 2007 to support higher risk and reward investment in research, development and innovation. It was on the basis of cooperation agreement between the European Commission (EC) and the European Investment Bank (EIB), and was the very first 'European scale programme' using debt-based finance, where the financial risk is shared between the EC and EIB. Their risk-sharing financing activities cover a broad range of sectors including medical, energy, technology and science research.

In the USA and Canada, traditionally conservative investors are taking up risk-sharing products as a new class of investment opportunity. The risk-sharing ventures can be in the form of equity or debt arrangement depending on the risk appetite of investors. Fannie Mae in December 2013 inaugurated the issuance of risk-sharing securities to investors. Meanwhile, in Canada, some big pension plans have already made some moves towards sharing investment risk between both the plan sponsor, or employer, and the beneficiaries. The concept is to move the risk to the benefits side. When there is a poor performance, members bear the investment risk rather than the employers. The Employer Provident Fund of Malaysia has in early 2017 launched a RM10 billion (Ringgit Malaysia) *Shariah*-compliant fund which is managed with risk-sharing element. Unlike the conventional account, which has a guaranteed dividend of 2.5% per year, the fund does not promise a guaranteed dividend but the dividend rates will be based on the portfolio performance of *Shari'ah*-compliant investments.

In the banking space, many banks have started offering risk-sharing financial products and services. Australia paved the way in introducing customer-owned banking in July 2013. Bankmecu, BankVic, Defence Bank, Heritage Bank and ME Bank are among those providing customer-owned banking. They are operating on the concept of mutual banking and have attracted 4.5 million Australians. Services provided are the same as those provided by consumer banking services including credit cards, personal loans, home loans, online savings accounts, Internet and

mobile banking and term deposits. The point of difference is these banks are owned by their members.

The emergence of online peer-to-peer crowdfunding market places across the globe makes risk-sharing model less unfamiliar. In the UK, risk-sharing financing is being offered as part of public sector initiatives to promote entrepreneurship. Participating institutions include the British Business Bank, Enterprise Investment Scheme (EIS) and Seed Enterprise Investment Scheme (SEIS). Crowdcube, a UK-based crowdfunding platform is perhaps a contemporary example of risk-sharing-based investment intermediation. It functions as an Internet-based equity participation crowdfunding platform matching investor with entrepreneurs who need to mobilize funding to grow (www.crowdcube.com). To the investors, this platform provides investment portfolio diversification. Via this platform alone, crowd financing has spurred investment intermediation of GBP23 million. It is based on risk-sharing concept and has attracted 69,486 investors who jointly funded 116 business start-ups.

In the Islamic finance space, Malaysia has established an Internet-based multibank investment portal called the Investment Account Platform (IAP).[7] It is a wholly-owned subsidiary of Raeed Holdings Sdn Bhd (Raeed), which is a consortium of several Islamic Banks in Malaysia[8] and has started its operation since 2015. The portal matches the financing requirements of ventures with investment from the retail and institutional investors via Investment Account maintained in the participating Islamic banks. Sponsoring banks will retain all fiduciary responsibilities towards participating investment account holders. The IAP is integrated with the existing payment infrastructure and IT systems of Islamic banks to facilitate the transfer of funds during raising of fund and distribution of profits and principal invested. Over a longer duration, the IAP is expected to play a cross-border investment intermediation role in various foreign currencies, thereby promoting international risk-sharing.

[7] https://iaplatform.com/aboutIap.

[8] Affin Islamic Bank Berhad, Bank Islam Malaysia Berhad, Bank Muamalat Malaysia Berhad, Maybank Islamic Berhad, Bank Kerjasama Rakyat Malaysia Berhad and Bank Simpanan Nasional.

12.7 Challenges of Operationalizing Risk-Sharing

Despite the recognition of risk-sharing as the 'should be' model for Islamic banking, operationalizing it faces various challenges. This study looks at Malaysia as a case study based on its attempt to build the necessary ecosystem comprising the law, standards, guidelines and operating infrastructure to operationalize RSFI.

In the case of Malaysia, although appreciation of the ideal system has enhanced, consumer awareness on the value propositions of risk-sharing seems to be the biggest challenge. The existence of dual banking system and the well-entrenched risk-transfer centric regulatory and supervisory framework are key factors that influence the inclination of consumers towards risk transfer. In their study on 'Islamic banking in Malaysia: Uncharted waters', Rosly and Ariff (2011) urge for the current regulatory, legal and fiscal infrastructure for Islamic banking be enhanced in order to boost the industry's competitiveness and efficiency. They contend that while the prevailing infrastructure is conducive to reverse engineering (creating Islamic banking products that replicate their conventional counterparts), the purpose of the law (*Maqasid al-Shariah*) in product development should not be overlooked. Indeed, the compliance to *Shariah* is much more to Islamic banking than the elimination of interest. A study by Abdul-Rahman and Mohd-Nor (2016) found that the limited use of *Mudarabah* and *Musharakah* in Malaysia was due to several factors—(1) the perception of these contracts carrying high risk levels; (2) unfamiliarity of the Islamic banks to take part as partner; (3) complexity of the products; (4) stringent regulations; and (5) lack of expertise and skilled staff.

Thus far, Islamic banking is the product of financial engineers trying to design structures that can deliver the same economic outcome of conventional banking products while meeting requirements of *Shariah*-compliance. The result is the mere modification of an already existing system to meet constraints. It cannot be argued that this is not permissible according to the *Shari'ah*, for it is. However, one can contend that it is only second best and that it is even 'negative' in that it only considers 'legalistic' limitations by observing the constraint of haram. A 'first best' then would be 'positive'. On the one hand, it would encompass the macro objectives of the Islamic economic system, while on the other, result from the natural evolution of the system itself rather than being

imposed or imported from outside. According to Elgari (2007),[9] "no matter how successful Islamic banking is today, we must confess that a contemporary model of Islamic banking is not exactly the 'first best' that we were hoping for – one that can unleash the goodness of the Islamic economic system, its capacity for equity, stability and growth." Also, worth highlighting is the comment by IMF that the "paradigm version of Islamic banking is based on risk-sharing. However, the paradigm version is not (yet) deeply embedded globally" (IMF 2014, p. 11).

The other factor that hinders the adoption of risk-sharing model is the absence of technology that could mitigate voluminous paper-based processes, fraud risk, adverse selection risk and high cost of operation.

12.8 Moving Forward

Moving forward, the future development of Islamic finance in the digital era will rely on the widespread adoption of new financial technologies. Islamic financial community needs to consider devising a *Shari'ah*-compliant digital business strategy in order to stay relevant (Lajis and Idris 2017, p. 451). The financial institutions, regulators, ancillary service providers in collaboration with fintech communities need to relook at present value propositions in view that the whole financial industry is gradually digitalizing its front-end services and back-end processing activities. The time is therefore ripe for Islamic banking to leverage on technology to shift from risk transfer to risk-sharing-based model. To this end, the paper proposes for further research on the development of digital solutions for RSFI, social finance, trade finance and discretionary mutual (DM) *Takaful*. Leveraging on emerging technologies including distributed ledger technology, Internet of things, artificial intelligence and others should be considered.

The RSFI combines elements of risk-sharing, crowdfunding and value-based investment principles. Entrepreneurs (needing the financing) would share with investors (financier of viable projects) the upside and downside risk of the projects, the return on investment based on the actual outcome of the project. The party managing the RSFI scheme would charge a *wakalah* fee. The digital investment marketplace would bring together investors and entrepreneurs in a 'trusted' environment.

[9] Elgari, M. A. (2007). A Position Paper Presented at a Workshop on *Tawarruq*: A Methodological Issue in *Shariah*-Compliant Finance.

The solution should ensure that (1) the transfer of property rights is traceable, auditable and secure at all times, (2) it operates in line with recognized *Shari'ah* standards and triple 'P' bottom line principles, (3) it provides unique transaction identification, (4) it preserves the sanctity of contracts and minimizes the need for third party verification, and (5) it provides online advisory service to aid retail investors in selecting investment options (e.g. robo-advisor).

Social finance in the Islamic economy promotes shared prosperity and poverty reduction. It comprises institutions based on philanthropy (e.g. *zakah*, *sadaqah* and *waqf*), cooperation (e.g. *qard* and *kafala*) and microfinance to support vulnerable groups. The platform will match targeted communities (representing the recipients needing financial support) and potential givers. The party managing the platform may charge a *wakalah* fee to cover operating cost. The digital platform should provide seamless channelling of funds to communities in need of support. The solution should (1) increase accountability, efficiency and transparency of channelling of funds over current systems, (2) result in permanent digital recordings of pooled funds (*waqf*, charity and *zakat* donations), (3) enable donors to track their contributions online, and (4) observe *Shari'ah* principles accorded to each *Shari'ah* concept (e.g. perpetuity element in *waqf*, the eight *asnaf* eligible to be *zakat* recipients) and promote inter-generational value-creating activities.

The role of trade finance in the Islamic economy has yet to be fully explored. Some have highlighted operational impediments which include complicated process flow, highly paper-based and extensive control measures to mitigate fraud risks as being causes for this. A digital platform should be developed to simplify the operating model and lower the cost of Islamic trade finance. The solution should (1) allow for autonomous verification of trade documents, (2) enable real-time tracking by stakeholders in the entire supply chain ecosystem, (3) provide for interactive communication between traders and financiers, (4) result in a seamless trade document and logistic process flow, (5) address common cross-border trade issues (e.g. information asymmetries arising from language barriers and local trade requirements), and (6) take into account ethical, value-creating and *Shari'ah* principles.

Discretionary Mutual (DM) model is a viable alternative solution in providing *Takaful* protection to consumers, which empowers consumers to set own terms of protection under the mutuality concept while sharing the risks among themselves. Best serving affinity groups, the members

make the decision on admission of new members, scope of coverage and entitlement of claims. Premised on the element of discretionary, members may appeal to receive some compensation from damages that would otherwise be declined in conventional insurance/*Takaful* practices. Presently still under-explored, DM aims to widen the application of *Takaful* as it provides protections customizing to the needs of the consumers, which are currently unserved or offered at high price. It complements the existing offerings of the industry and promotes greater inclusion. Based on *wakalah* model, *Takaful* operator would be entitled to an administration fee for managing the DM. The digital solution for DM would be a platform that is equipped with (1) full digitization of data collection for fraud detection (e.g. demographic/biometric info and claim underwriting), (2) online underwriting to screen admission of new members and validity of claims, (3) real-time claim processing, (4) member's right to vote for claim approval, (5) real-time update on the use of funds for greater trust and transparency (e.g. notification to all members whenever there is a claim payment), and (6) online sharing of information for better risk management to minimize damages (e.g. best practices of farming).

12.9 Conclusion

The risk-sharing concept remains an elusive phenomenon in the Islamic financial sphere. It is often mistaken as a position of taking on risk as opposed to dissipating risk. Recently, there have been ample debates by leading Islamic scholars and thought leaders on the need to adopt risk-sharing as the operating model for Islamic finance but the argument centres on overcoming the challenge in operationalizing it in an environment where the system is so well entrenched with risk-transfer paradigm. This paper explains some of the misconceptions on risk-sharing and discusses its positive value proposition from an economic perspective as to why it would be practical for Islamic finance. The paper also highlights the challenges in operationalizing risk-sharing and recommends for the development of technology-enabled virtual marketplace as a means to facilitate the adoption of risk-sharing concept. To this end, the paper explores the potential of using digital platform/marketplace to deliver risk-sharing-based financial intermediation, social finance, trade finance and DM *Takaful*. The digital platforms should aim towards providing trust and reliability, lower operating costs and support financial inclusion.

References

Abdul-Rahman, A., & Mohd-Nor, S. (2016). Challenges of Profit-loss-sharing Financing in Malaysia Islamic Banking. *Malaysia Journal of Society and Space, 12*(2), 39–46.

Alaabed, A., Masih, M., & Mirakhor, A. (2015). Undermining Shared Prosperity? Risk Shifting and Islamic Banking. Paper Presented at the World Bank and Islamic Development Bank Inaugural Annual Symposium on Islamic Finance 2015, Istanbul, September 9.

Askari, H., Iqbal, Z., Krichene, N., & Mirakhor, A. (2012). *Risk-Sharing in Finance: The Islamic Finance Alternative*. Singapore: Wiley.

Calomiris, C., & Haber, S. (2014). *Fragile by Design*. Princeton, NJ: Princeton University Press.

de Soto, J. H. (2009). *Money, Bank Credit and Economic Cycles* (2nd ed.). Auburn: Ludwig Von Mises Institute.

Elgari, M. A. (2007). *Tawarruq*: A Methodological Issue in *Shariah*-Compliant Finance. Paper Presented at Harvard-LSE Workshop London School of Economics, London, February 1.

Fisher, I. (1933). The Debt-deflation Theory of Great Depression. *Econometrica*, 337–357.

Haque, N. U., & Mirakhor, A. (1986). Optimal Profit-Sharing Contracts and Investment in an Interest-Free Islamic Economy. *IMF Working Paper No. WP/86/12*. Washington, DC: International Monetary Fund.

IMF. (2009). The State of Public Finance: Outlook and Medium-term Policies After the 2008 Crisis, p. 17.

IMF. (2014). Malaysia: Financial Sector Assessment Program: Financial Sector Performance, Vulnerabilities and Derivatives—Technical Notes. *IMF Country Report No. 14/98*. Washington, DC: International Monetary Fund.

Iqbal, Z., & Mirakhor, A. (2011). *An Introduction to Islamic Finance: Theory and Practice* (2nd ed.). Singapore: Wiley.

Keynes, J. M. (1932). Saving and Usury: A Symposium. *The Economic Journal*, 42(165), 123–141.

Kumhof, M., & Rancière, R. (2010). Inequality, Leverage and Crisis. *IMF Working Paper No. WP/10/268*. Washington, DC: International Monetary Fund.

Kumhof, M., Ranciere, R., & Winant, P. (2015). Inequality, Leverage and Crisis. *American Economic Review*, 105(3), 1217–1245.

Lajis, S. M. (2017). Risk-Sharing Securities: Accelerating Finance for SMEs. *Islamic Economic Studies*, 25(2), 35–55.

Lajis, S. M., & Idris, A. (2017). Fintech: Game-Changer for Islamic Finance. In A. H. Baharom, M. H. Ibrahim, & K. Sazalina (eds.) *Islamic Finance—The New Normal*. Kuala Lumpur, Malaysia: RAM Holdings Berhard.

Minsky, H. P. (1986). *Stabilizing an Unstable Economy*. New Haven, CT: Yale University Press.
Mirakhor, A. (2007). Islamic Finance and Globalization: A Convergence? *MPRA Paper 56026*. Munich, Germany: University Library of Munich.
Mirakhor, A. (2014). Regulatory Framework for Islamic Finance. *Islamic Banker Asia*, 11, 50–53.
Mishkin, F. S. (2012). *Economics of Money, Banking and Financial Markets* (10th ed.). Upper Saddle River, NJ: Prentice Hall.
Piketty, T. (2013). *Capital in the Twenty-First Century* (A. Goldhammer, Trans.). Cambridge, MA: The Belknap Press of Harvard University Press.
Postan, M. (1928). Credit in Medieval Trade. *Economic History Review*, 1(2), 234–261.
Reinhart, C. M., & Rogoff, K. S. (2009). *This Time Is Different: Eight Centuries of Financial Folly*. Princeton: Princeton University Press.
Rosly, S. A. (2005). *Critical Issues on Islamic Banking and Financial Markets: Islamic Economics, Banking & Finance, Investments, Takaful and Financial Planning*. Kuala Lumpur: Dinamas Publishing.
Rosly, S. A., & Ariff, M. (2011). Islamic Banking in Malaysia: Uncharted Waters. *Asian Economic Policy Review*, 6(2), 301–319.
Schularick, M., & Taylor, A. M. (2012). Credit Booms Gone Bust: Monetary Policy, Leverage Cycles and Financial Crises, 1870–2008. *American Economic Review*, 102(2), 1029–1061.
Sheng, A. (2009). *From Asian to Global Financial Crisis: An Asian Regulator's View of Unfettered Finance in the 1990s and 2000s*. Cambridge: Cambridge University Press.
Shiller, R. (2003). Social Security and Individual Accounts as Elements of Overall Risk-Sharing. *American Economic Review*, 93(2), 343–347.
US Department of The Treasury. (2012). The Financial Crisis Response: In Charts, April 2012.
World Bank. (2015). *World Bank Annual Report 2015*. Washington, DC: The World Bank.

Glossary of Arabic Terms

Transliterated from original Arabic word	*English meanings*
ʿadl	Justice, equity, fairness
ʿāmil (ʿummāl)	Worker(s), manager(s), entrepreneur(s)
ʿaqār (ʿaqārāt)	Immovable property(ies), building(s)
ʿaqd (ʿuqūd)	Contract(s), agreement(s), bond(s)
ʿarbun/ʿurbūn	Down payment
ʿīnah	Debt buying and selling
ʿiwaḍ	Compensation
ʿurf	Custom. usage, common practice
al-ghunm bi alghurm	Earning profit is legitimized by risk-taking. Earning is subject to taking risk
al-kharāj bi aldamān	Revenue is subject to liability
al-mujāzafah	Speculation
amānah	Trust, honesty, trustworthiness
bayʿ al-murābaḥah	Mark-up sale
bayʿ (buyūʿ)	Sale(s)
bayʿ al-ʿurbūn	Sale with down payment
bayʿ al-dayn	Sale of debt
bayʿ al-kālīʾ bi-alkālīʾ	A sale in which both the delivery of the object of sale and the payment of its price are delayed. It is similar to a modern forward sale contract

(continued)

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Transliterated from original Arabic word	*English meanings*
bayʿ al-salam	Sale in which payment is made in advance by the buyer and the delivery of goods is deferred by the seller
bayʿ al-wafa'	Buy-back sale, sale and repurchase
bayʿ bi al-taqsīt	Sale at instalments
bayʿ bi al-thaman al-ājil	Credit sale or sale at deferred payment
bayʿ mu'ajjal	Credit sale or sale at deferred payment
bayʿ-al-ʿinah	Buying an object for cash then selling it to the same party for a higher price whose payment is deferred so that the purchase and sale of the object serves as a ruse for lending on interest
bayt al-māl	Treasury
dalīl	Proof, evidence, reason
ḍamān	Guarantee
ḍarar	Harm
ḍarūrah	Necessity
ḍarūrīyāt	Basic needs
dayn (duyūn)	Debt(s)
dhimmah (dhimam)	Liability(ies), responsibility(ies)
dīnār	Dinar (currency)
dirham	Dirham (currency)
fā'id (fawa'id)	Surplus(ses), excess(es)
fadl	Excess, additional, surplus
faqīh (fuqaha')	Jurist(s)
faqir (fuqara')	Poor person(s)
fatwa (fatāwá)	Religious verdict(s) made by a *faqih* competent *Shari'ah* scholar
fiqh	Islamic jurisprudence
fiqh al-muʿāmalāt	Jurisprudence of transactions
fiqhī	Juristic
ghabn/ghubn	Misappropriation or defrauding others in respect of specifications of the goods and their prices
ghanīmah (ghana'im)	Spoils of war, booty(ies)
gharar	Excessive risk and uncertainty, ambiguity
gharar fāḥish	Excessive risk
gharar yasīr	Minor risk
ghārim (ghārimīn)	Indebted, bankrupt
ḥādīth (aḥādīth)	Sayings of the Prophet Mohammed. Plural of *Hadith*
hadiyyah (hadāya)	Gift(s), donation(s)
ḥalāl	Permissible, lawful, allowed

(continued)

Transliterated from original Arabic word	*English meanings*
ḥarām	Not permissible, unlawful, not allowed
ḥawālah	Bill of exchange, promissory note, cheque, draft
hibah (hibat)	Donation(s), gift(s)
ḥīlah (ḥiyal)	Trick(s), ploy(s), ruse(s)
ḥisbah	Ombudsman, regulation
ḥukm (aḥkām)	Ruling, decision
iḥsān	Benevolence, compassion, kindness
ijāb	Offer (in contract)
ijārah	Leasing, rent
ijārah muntahia-bitamlīk	Hire purchase
ijārah wa-iqtina'	Hire purchase
islām	Submission, peace
istiṣnā'	Manufacturing contract whereby a manufacturer agrees to produce (build) and deliver a well-described good (or premise) at a given price on a given date in the future
istithmār	Investment
ju'ālah	Commission, fee, wage
kafālah	Guarantee
kafīl	Guarantor
khamr (khumur)	Intoxicant(s)
kharāj	A levy on land use, revenue
khayr	Good, beneficial
khiyār	Choice, option
khiyār al-shart	Optional condition
khiyār al-wasf	Optional specifications
khums	One-fifth
khusrān	Loss, failure
madhhab (madhāhib)	School(s) of Islamic jurisprudence, regime(s), system(s)
mafsadah (mafāsid)	Spoiler(s)
māl (amwāl)	Capital, money, property, wealth
manfa'ah (manāfi')	Benefit(s), utility(ies), usufruct(s)
maqsad (maqāṣid al-sharī'ah)	Objectives of Islamic law
maṣlaḥah (maṣāliḥ) mursalah	General benefits, public interest(s)
mawqūf	Suspended
maysir	Gambling
mithlī	Similar
mu'āmalah (mu'āmalāt)	Transactions
mubāḥ	Permissible

(continued)

Transliterated from original Arabic word	*English meanings*
muḍārabah	A partnership whereby one party the capital owner provides capital to an entrepreneur to undertake a business activity. Profit is shared between them as agreed but any financial loss is borne only by the capital owner as his loss is his unrewarded efforts put into the business activity
muḍārib	The partner in *Mudarabah* contract providing work, entrepreneurship and management
mufti	Jurist who provides legal *Shariʿah* opinions
mughārassah	Sharecropping between 2 parties whereby one provides land, equipment and shoots of trees and the other agrees to plant the trees and take care of them in return for a share in the harvest or the profit
mujtahid	Legal expert or a jurist who exerts great effort in deriving a legal opinion
muqāraḍah	Same meaning like *Mudarabah*
muqāyaḍah	Barter
murābaḥah	Mark-up sale, sale at a margin
musāqāh	A sharecropping contract whereby the owner of a garden/orchard shares the produce with a worker in return for his services in irrigating the garden/orchard
musāwamah	Bargaining on price, haggling
mushārakah	Partnership whereby all the partners contribute capital for a business venture. The partners share profits on a pre-agreed ratio while losses are shared according to each partner's capital contribution
mushārakah mutanāqiṣah	Diminishing partnership
mushtarik	Participant
mustahab	Meritorious
mutawallī	Manager, director
muzāraʿah	A sharecropping contract whereby one party agrees to provide land, seeds and equipment and the other do the work needed in return for a part of the produce of the land
qāḍi	Judge
qarḍ (qurūḍ)	Loan(s)
qarḍ ḥasan	Interest-free loan

(continued)

Transliterated from original Arabic word	*English meanings*
qīmah (qiyam)	Value(s)
qimār	Gambling
Qur'ān	The sacred book of Islam
qurūḍ	Loans
ra's al-māl ru'ūs al-amwāl	Capital(s)
rabb al-māl arbāb al-māl	Capital owner(s)
rahn	Collateral, pledge, guarantee
ribā	Usury, interest
ribā al-buyū'	Usury of trade. Another name for *Riba al-fadl*
ribā al-duyūn	Interest/usury of debt. Another name for *Riba al-nasi'ah*
ribā al-faḍl	Difference in exchanging 2 similar commodities
ribā al-nasī'ah/alnasa'	Interest-based lending for the delay in repayment
ribā al-qurūḍ	Interest on loans
ribḥ (arbāḥ)	Profit(s)
ṣadaqah jāriyah	Perpetual charity
ṣadaqāt	Charity(ies)
sadd al-dharī'ah	Prohibition of a deed which, if permitted, may lead to another prohibited deed
ṣakk (ṣukūk)	Asset based or asset backed financial certificate(s)
salaf	Loan. Another name for Salam
salam	Forward sale where the price of a specific good is paid in advance for its delivery at a specified time in the future
sanad (sanadāt)	Bond(s)
ṣarf	Currency exchange
sharākah	Partnership
shari'ah	Islamic law
sharikah (sharikāt)	Company(ies), enterprise(s), partnership(s)
sharikat 'uqūd	Contractual partnership
sharikat abdān	A partnership company based on the skills of professionals working together and sharing the proceeds
sharikat amwāl	Financial partnership
sharikat 'inān	Limited liability partnership
sharikat milk	Joint property partnership
sharikat mufawadah	Unlimited liability partnership
sharikat sanāi'	A partnership company based on the skills of professionals working together and sharing the proceed. Same as *sharikat abdān*

(continued)

Transliterated from original Arabic word	*English meanings*
sharikat wujūh	A partnership company based on the credibility and creditworthiness of the partners
sharṭ	Condition
sukūk	Equity-based certificates of investment
taʿāwun	Cooperation
tabarruʿ (tabarruʿāt)	Donation(s), gift(s), charity(ies)
tadāwul	Circulation, dealing
taḥawwuṭ	Hedging
takāful	Solidarity, mutual support
takaful taʿawuni	Cooperative risk-sharing and mutual insurance
tawakkul	Trust in God
tawarruq	The process of buying a commodity at a deferred price, in order to sell it in cash at a lower price. Usually, the sale is to a third party, with the aim to obtain cash. This is the classical form *Tawarruq*, that is permissible. Organised *Tawarruq* where the bank plays both the roles of seller and buyer is not permissible according to the majority of contemporary *fuqaha'* (jurists, scholars)
tijārah	Business, commerce, trade
ujrah	Allowance, commission, fee, salary, wage
uṣūl al-fiqh	Islamic legal bases
waʿd (wuʿūd)	Promise(s), undertaking(s)
wadīʿah (wadāʾiʿ)	Deposit(s)
Wakālah (wakālat)	Agency is a contract whereby one party appoints another party to perform a certain task on its behalf, usually for payment of a fee or a commission
wakil (wukalā')	Representative(s), agent(s)
wali	Guardian
waqf (awqāf)	Endowment(s), foundation(s), trust(s)
zakāh, zakāt	Obligatory contribution or Poor due payable by all Muslims having wealth above *nisab* (threshold or exemption limit)
zakāt al-fiṭr	Poll tax payable on every Muslim at the end of Ramadan (the month of fasting)
zakāt al-māl	An annual levy on the wealth of a Muslim (above a certain level). The rate paid, differs according to the type of property owned
zakāt al-rikāz	Levy on treasure trove
zakāt al-tijārah	Levy on business
ẓulm	Injustice, oppression, exploitation

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