Risk and Efficiency of Islamic and Conventional Banks

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A thesis submitted to The University of Newcastle, Australia in fulfilment of the requirements for the degree of Doctor of Philosophy in Accounting and Finance

Discipline of Accounting and Finance
Newcastle Business School
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February, 2018
Statement of originality

I hereby certify that the work embodied in the thesis is my own work, conducted under normal supervision. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository, subject to the provisions of the Copyright Act 1968.

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I hereby certify that the work embodied in this thesis contains a published paper/s/scholarly work of which I am a co-author. I have included as part of the thesis a written statement, endorsed by my supervisor, attesting to my contribution to the joint publication/s/scholarly work.

Md Safiullah

Endorsement by co-author

I, Abul Shamsuddin, endorse the statement on the contribution of co-author.

Abul Shamsuddin
24 February 2018
Statement on the papers contained in this thesis

The following published/unpublished papers are based on three chapters presented in this thesis.

Journal article (Chapter 2)

Conference paper
Safiullah, M., & Shamsuddin, A. (2017). Technical efficiency of Islamic and conventional banks: Evidence from the stochastic meta-frontier directional distance function. This paper was presented at the Auckland Finance Meeting, 18-20 December, 2017. This conference paper is based on Chapter 3 of this thesis.

Under-review article
Safiullah, M., & Shamsuddin, A. (2018). Risk-adjusted cost and profit efficiency and corporate governance: Evidence from Islamic and conventional banks. This paper has received revise & resubmit for a special issue of the *Journal of Corporate Finance*. This article is based on Chapter 4 of this thesis.

My co-author certifies that I am a primary contributor to each of the papers listed above. I have initiated the research idea, undertaken the literature review, conducted data analysis, and written the first draft of all of these papers. My co-author provided me with guidance regarding the topics, literature, and methodology, reviewed drafts of each paper, and provided feedback.
Acknowledgement

This is an emotional moment for me to acknowledge and appreciate all who have had an important role throughout my journey as a doctoral researcher. All praise is due to almighty Allah – the Lord of the universe and the most gracious– who blessed me with the ability to complete this thesis.

I express deep gratitude to my principal supervisor, Professor Abul Shamsuddin at the University of Newcastle. I have learnt precious research skills from him. It would not have been possible to complete the thesis without his endless support and guidance. I am also thankful to Professor Stephen Easton for his support as my co-supervisor.

I am grateful to Dr Amir Arjomandi, Leqi Zhao, Professor Tai-Hsin Huang, Professor Christopher O’Donnell, Dr Mariano L.M. Heyden, and Dr Nurul Kabir for their valuable suggestions in conducting my empirical studies. I gratefully acknowledge the University of Newcastle and the University of Dhaka for providing postgraduate scholarship and study leave, respectively. I appreciate the comments received from Iftekhar Hasan at the Accounting and Finance discipline workshop, 2016, University of Newcastle, Australia; and from participants at the 2nd Applied Financial Modelling Conference, 2017, Melbourne, Australia; and Auckland Finance Meeting, 2017, Queenstown, New Zealand; and reviewers of the KFUPM Islamic Banking and Finance Research Conference, 2017, Saudi Arabia.

I am particularly grateful to my wife, Dr Anika Noor, her supports and sacrifices have really made me indebted. I express special thanks to my mother-in-law, Mrs Feroza Begum and father-in-law Mr Alamgir Khan for their all supports during the PhD study period. Finally, I profoundly express gratefulness to my parents, Mrs Rahima Begum and Mr Ali Akbar and the rest of my family for their unconditional support throughout the duration of my doctoral research.
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Abstract

Islamic banking has grown in importance in the world financial system over the last decade and hence its risk and efficiency compared to conventional banking have become a subject of considerable interest to practitioners, academics and policymakers. The extant literature on risk in Islamic banking examines the difference in credit risk and insolvency risk between Islamic and conventional banks (e.g., Abedifar, Molyneux & Tarazi, 2013; Mollah et al., 2017) but ignores the liquidity risk and operational risk, and the effects of Shariah supervisory board composition on such risk attributes. There is also a strand of studies which compared the efficiency of Islamic banks with their conventional counterparts but this body of literature is still in its infancy. Previous studies estimate efficiency using a common efficient frontier (e.g., Abdul-Majid, Saal, & Battisti, 2010; Alqahtani, Mayes & Brown, 2017) in spite of the fact that two bank groups operate under different technological, regulatory and market conditions. The common efficient frontier does not make a distinction between group-specific efficient frontier of a bank group and the meta-efficient frontier of the entire industry and hence overestimates efficiency scores. The stochastic meta-frontier framework overcomes the problem of using a common frontier but no prior study uses it for Islamic and conventional banks. The examination of the role of Shariah supervisory board governance and regular board governance on the efficiency of Islamic banks was also beyond the scope of prior studies. This thesis aims to address these research gaps, by conducting three empirical studies with a large sample of Islamic and conventional banks from 28 countries.

The first study examines the risk in Islamic banks in comparison with conventional banks, and the impact of Shariah supervisory board (SSB) composition on Islamic banks’ risk-taking. Unlike our predecessors, this thesis examines a comprehensive array of risk measures such as liquidity risk, credit risk, operational risk and insolvency risk for a matched-pair sample of 94 Islamic and 94 conventional banks during 2003–2014. This study finds that Islamic banks
are more exposed to liquidity risk but less exposed to credit risk and insolvency risk when
compared with their conventional counterparts. Two bank groups are indistinguishable in terms
of operational risk measures. The SSB composition, such as SSB size and SSB members’
academic qualifications, are found to be negatively related to Islamic banks’ operational and
insolvency risks but SSB members’ reputation is found to be positively related to those risks.
The impact of SSB attributes are less pronounced for liquidity and credit risks. The joint effect
of regular board governance and SSB governance shows that the presence of a dual-board
system in Islamic banks is conducive to reducing operational and insolvency risks.

The second study investigates the difference in technical efficiency between Islamic
and conventional banks and the role of Shariah governance to explain technical inefficiency in
Islamic banks. While prior studies examine a gross measure of technical inefficiency
presuming that these two bank groups operate under a common technical efficient frontier, this
study examines group-specific technical inefficiency, technology gap and meta-inefficiency
for both bank groups, under a stochastic meta-frontier framework as proposed by Huang,
Huang and Liu (2014). The common efficient frontier approach disregards the within-group
efficiency difference and the technology gap representing the difference between a bank
group’s efficient frontier and the meta-frontier of the entire banking industry. We find that a
typical Islamic bank is 15.8 percentage points more technically inefficient compared to its
conventional counterpart. This is due to Islamic banks not readily adopting and implementing
the best available production technology. Furthermore, a stronger Shariah supervisory board
has been found to reduce technical inefficiency in Islamic banks.

In the third study, the risk-adjusted cost- and profit efficiency of Islamic and
conventional banks have been investigated considering corporate governance factors as
potential determinants of inefficiency. The cost- and profit functions have been used under a
stochastic meta-frontier framework to estimate group-specific efficiency, cost gap ratio, profit
gap ratio and meta-efficiency for both bank groups. Incorporating bank risk measures in the efficiency estimation, this study finds that, compared to conventional banks, Islamic banks are 4 percentage points more cost efficient, but 17 percentage points less profit efficient on a risk-adjusted basis. Islamic banks’ cost frontier is closer to the risk-adjusted cost meta-frontier but their profit frontier is far away from the risk-adjusted profit meta-frontier when compared with that of conventional banks. Stronger SSB governance reduces Islamic banks profit inefficiency.

Overall, this thesis finds evidence of divergence between Islamic and conventional banks in terms of risk and efficiency. The findings of this thesis have several policy implications. For bank managers, this thesis may help to identify sources of risk and inefficiency, and device strategies to mitigate them. The findings of this thesis may also help Shariah standard-setting bodies (e.g., IFSB, AAOIFI) to develop guidelines for managing Islamic banks’ risk and increasing their access to a wider range of banking products and technologies for higher efficiency.