

INTEREST RATE VOLATILITY AND THE PERFORMANCE OF ISLAMIC BANKS

MUHAMMAD NADEEM KHALIL

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**University of Management
And Technology**



**Institute of
Islamic Banking**



معهد المصارف الإسلامية
Institute of Islamic Banking

INTEREST RATE VOLATILITY AND THE PERFORMANCE OF ISLAMIC BANKS

Muhammad Nadeem Khalil

**A thesis submitted in partial fulfillment of the requirements for the
MS degree in Islamic Banking and Finance**



**University of Management
and Technology**



**Institute of
Islamic Banking**

Lahore, Pakistan.

1436 AH / 2015 CE

TABLE OF CONTENTS

CERTIFICATE OF APPROVAL.....	viii
DECLARATION	ix
STATEMENT OF COPYRIGHT.....	x
DEDICATION.....	xii
ACKNOWLEDGEMENT	xiii
ABSTRACT.....	xiv
LIST OF TABLES.....	15
LIST OF FIGURES	16
LIST OF ANNEXURES.....	17
CHAPTER # 1	Error! Bookmark not defined.
1. Introduction.....	Error! Bookmark not defined.
1.1 Background of the Study	Error! Bookmark not defined.
1.2 Performance Measures for Islamic Banks	Error! Bookmark not defined.
1.3 Risk.....	Error! Bookmark not defined.
1.3.1 Interest Rate Risk	Error! Bookmark not defined.
1.3.2 Impact of Interest Rate Volatility on Profitability of Islamic Bank.....	Error! Bookmark not defined.
1.3.3 Impact of Interest Rate on the Value of Investment and Financing (Example)	Error! Bookmark not defined.
1.4 Research Question	Error! Bookmark not defined.
1.5 Research Objectives	Error! Bookmark not defined.
1.6 Significance of the Study.....	Error! Bookmark not defined.
CHAPTER # 2	Error! Bookmark not defined.
2. Literature Review.....	Error! Bookmark not defined.
2.1 Hypothesis of the Study.....	Error! Bookmark not defined.
CHAPTER # 3	Error! Bookmark not defined.
3. Research Methodology	Error! Bookmark not defined.
3.1 Research Design	Error! Bookmark not defined.
3.2 Data Collection Source.....	Error! Bookmark not defined.
3.3 Data Processing and Analysis.....	Error! Bookmark not defined.
3.4 Population.....	Error! Bookmark not defined.
3.5 Sample	Error! Bookmark not defined.
3.6 Type of Investigation.....	Error! Bookmark not defined.
3.7 Unit of Analysis.....	Error! Bookmark not defined.
3.8 Study Settings	Error! Bookmark not defined.
3.9 Various Variables Used in this Research	Error! Bookmark not defined.

3.9.1	Independent Variables	Error! Bookmark not defined.
3.10	Explanation of Variables	Error! Bookmark not defined.
3.10.1	Discount Rate (DR)	Error! Bookmark not defined.
3.10.2	Karachi Interbank Offer Rate (KIBOR)	Error! Bookmark not defined.
3.10.3	Treasury Bill (T.bill) Rate	Error! Bookmark not defined.
3.10.4	Pakistan Investment Bonds (PIB) Rate	Error! Bookmark not defined.
3.10.5	Return on Assets (ROA)	Error! Bookmark not defined.
3.10.6	Return on Equity (ROE)	Error! Bookmark not defined.
3.11	Statistical Model	Error! Bookmark not defined.
3.11.1	Vector Auto Regression Model	Error! Bookmark not defined.
3.11.2	Unit Root Test	Error! Bookmark not defined.
3.11.3	Co-integration Test	Error! Bookmark not defined.
3.11.4	Impulse Response Function (IRF)	Error! Bookmark not defined.
3.11.5	Variance Decomposition Analysis (VDA)	Error! Bookmark not defined.
3.12	Research Model	Error! Bookmark not defined.
CHAPTER # 4		Error! Bookmark not defined.
4.	Results and Discussion	Error! Bookmark not defined.
4.1	Return on Assets (ROA)	Error! Bookmark not defined.
4.1.1	Vector Auto Regression Estimates	Error! Bookmark not defined.
4.1.2	Impulse Response Function	Error! Bookmark not defined.
4.1.3	Variance Decomposition Analysis	Error! Bookmark not defined.
4.2	Return on Equity (ROE)	Error! Bookmark not defined.
4.2.1	Vector Auto Regression Estimates	Error! Bookmark not defined.
4.2.2	Impulse Response Function	Error! Bookmark not defined.
4.2.3	Variance Decomposition Analysis	Error! Bookmark not defined.
4.3	Results Discussion	Error! Bookmark not defined.
CHAPTER # 5		Error! Bookmark not defined.
5.1	Conclusion	Error! Bookmark not defined.
5.2	Recommendations	Error! Bookmark not defined.
5.2.1	Recommendations for Banks	Error! Bookmark not defined.
5.2.2	Recommendations for Central Bank	Error! Bookmark not defined.
5.2.3	Recommendations for Government	Error! Bookmark not defined.
REFERENCES		Error! Bookmark not defined.
ANNEXURE – A (Unit Root Test)		Error! Bookmark not defined.
ANNEXURE – B (Plagiarism Report)		Error! Bookmark not defined.

CERTIFICATE OF APPROVAL

CERTIFICATE OF APPROVAL

The thesis entitled "*Interest Rate Volatility and the Performance of Islamic Banks*" by **Muhammad Nadeem Khalil** (ID # 13003130-005) has been examined by the undersigned panel of examiners and has been accepted in partial fulfillment for the degree of **MS Islamic Banking and Finance**.



Supervisor
Muhammad Mahmood Shah Khan
Director
Institute of Islamic Banking,
University of Management and Technology, Lahore

Date: 24/08/2015



External Examiner
Dr. Muhammad Ali Jibrán Qamar
Assistant Professor
Management Sciences/Center of Islamic Finance,
COMSATS IIT University, Lahore

Date: 24/08/2015



Chairperson IIB Graduate Committee
Muhammad Mahmood Shah Khan
Director
Institute of Islamic Banking,
University of Management and Technology, Lahore

Date: 24/08/2015

Institute of Islamic Banking
University of Management and Technology

DECLARATION

I hereby declare that no portion of the work that appears in this study has been used in support of an application for another degree in qualification to this or any other university or institution of higher learning.

This thesis is a presentation of my original research work. Wherever contributions of others are involved, every effort has been made to indicate this clearly, with due reference to the literature and acknowledgement of collaborative research and discussions.

The work was done under the guidance of Muhammad Mahmood Shah Khan, Director, Institute of Islamic Banking, University of Management and Technology, Lahore, Pakistan.

Muhammad Nadeem Khalil

Date: _____

In my capacity as supervisor of the candidate's thesis, I certify that the above statements are true to the best of my knowledge.

Muhammad Mahmood Shah Khan

Date: _____

STATEMENT OF COPYRIGHT

© All rights reserved. No part of this thesis may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the author <nadeemkhalil@live.com>

Without limiting the rights under copyright reserved above, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), without the prior written permission of the copyright owner.

The scanning, uploading, and distribution of this document via the Internet or via any other means without the permission of the author is illegal and punishable by law. Please purchase only authorized

electronic editions and do not participate in or encourage electronic piracy of copyrighted materials.
Your support of the author's rights is appreciated.

DEDICATION

I dedicate this humble and valuable effort to my parents, brothers, sister and all my family members whose hands always rise in prayers for my success.

ACKNOWLEDGEMENT

First of all I bow my head to Almighty ALLAH who gave me the power, courage, health, thoughts, wisdom, skills and knowledge and made me able to complete my thesis. I am also thankful to ALLAH for giving me spirit, patience and courage during the completion of my thesis.

I deem it my utmost pleasure to avail this opportunity to express my heartiest gratitude for my respected worthy supervisor, Mr. Muhammad Mahmood Shah Khan - Director, Institute of Islamic Banking for his keen interest, dexterous guidance, untiring help, encouraging attitude, valuable suggestions and enlightened supervision during my whole thesis work.

I am very thankful to Mr. Farrukh Ijaz and Ms. Anum Akmal for helping me in data analysis and understanding research methodologies used in my research thesis. Mr. Farrukh Ijaz was very helpful in answering various thesis related queries and his role was very supportive in this regard.

Finally, I present a bouquet of thanks and wishes best of luck for all those people who helped me and remembered me in their prayers for my success in this world and hereafter.

Muhammad Nadeem Khalil

August, 2015

ABSTRACT

Market interest rates in an economy keep on changing. The objective of this research study was to analyze the impact of interest rate changes on the performance of Islamic Banks. For this purpose, four independent variables named, Discount Rate (DR), Karachi Interbank Offer Rate (KIBOR), Treasury bill (T.bill) rate, and Pakistan Investment Bond (PIB) rate were taken as a proxy for interest rates while the performance of Islamic Banks was measured using Return of Asset (ROA) and Return on Equity (ROE) ratios. Secondary data was used for this research study which was obtained from the State Bank of Pakistan's official website. Vector Auto Regression (VAR) model, Impulse Response Function (IRF) and Variance Decomposition Analysis (VDA) was used to see the impact of interest rate changes on the performance of Islamic Banks. The findings showed that there was not a significant impact of interest rate changes on the performance of Islamic Banks. The study also concluded that although Islamic Banks use KIBOR as benchmark rate, Islamic banks still able to effectively mitigating interest rate risks by using various interest mitigating techniques. The research also recommended that Islamic Banks, instead of using KIBOR as benchmark should adopt a business model which do not take into consideration the market interest rates and carry out their operation keeping in view the true principles of Islam. A complete new business model for Islamic Banks is proposed in this regard.

LIST OF TABLES

Table 4.1: Results of Vector Autoregressive (VAR) for ROA	36
Table 4.2: Impulse Response for ROA	37
Table 4.3: Variance Decomposition Analysis (VDA) for ROA	37
Table 4.4: Results of Vector Autoregressive (VAR) for ROE	43
Table 4.5: Impulse Response for ROE	44
Table 4.6: Variance Decomposition Analysis (VDA) for ROE	44

LIST OF FIGURES

Figure 3.1: Research Model for the Study

32

LIST OF ANNEXURES

ANNEXURE - A (Unit Root Test and Plagiarism Report)	65
ANNEXURE - B (Plagiarism Report)	71