Impact of Economic Variables on Deposits in Conventional and Islamic Banking in Pakistan

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Submitted in partial fulfillment of the requirements for the
MS degree with the specialization in finance
at the faculty of management sciences
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April, 2015

Dr Syed Zulfiqar Ali Shah

FORWARDING SHEET

The thesis entitled "Impact of Economic Variables on Deposits in Conventional and Islamic Banking in Pakistan" submitted by Rao Muhammad Khalid in partial fulfillment of M S degree in Management Sciences with specialization in Finance, has been completed under my guidance and supervision I am satisfied with the quality of student's research work and allow him to submit this thesis for further process as per IIU rules & regulations

Date 28 April 2015

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Title of Thesis "Impact of Economic Variables on Deposits in Conventional and Islamic Banking in Pakistan"

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Date: 16th July 2015

DEDICATION

I dedicate this humble effort to all of those who encouraged me for further studies, to my beloved parents and sweet family members; whose prayers are always with me like a shadow in the blazing heat

&

to my respected teachers who helped me a lot at each and every step during my stay at university.

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All glories to Almighty Allah, the Most Beneficent, and the Most Merciful, Who bestowed me with the sight to observe and mind to think and judge Peace and blessings of Allah be upon the Holy Prophet (P B U H) and his pure and pious progeny who exhorted his followers to seek knowledge from cradle to grave

I am also grateful to my supervisor Dr Syed Zulfiqar Ali Shah for providing me an opportunity to study the impact of economic variables on deposits in conventional and Islamic banking in Pakistan and for his guidance at every step till completion of this thesis

Last but not the least, ordinary words of gratitude, that do not encompass the true love are extended to all of my beloved ones who passed away during course of my studies including my father, my spiritual guide, leader and teacher Syed Amir Hussain Shah Gillani Saifi, my brother-in-law and my grand mother, who all loved me and felt pleasure in my pleasures Their constant encouragement and prayers remained very strong support for me and have enabled me to accomplish my degree requirements

Rao Muhammad Khalid

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DECLARATION

Dated 28-Apr-2015

I, ***RAO MUHAMMAD KHALID*** Son/Daughter of ***RAO UMMAT ALI*** certify that the thesis entitled, ***" Impact of Economic Variables on Deposits in Conventional and Islamic Banking in Pakistan "*** being handed over to the competent authority, has not already been submitted or published and shall not in future be submitted by me for obtaining any degree from another university or institution

I also confirm that this thesis is entirely my own work It has not in whole or in part, been plagiarized from any published or unpublished source, wherever the material has been used from other sources, the same has been properly acknowledged

It is also certified that I have followed all IIU requirements regarding writing, compiling, typing, formatting and binding of this thesis

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Abstract

This study explores the impact of economic variables on deposits of conventional and Islamic banking in Pakistan using monthly data for the period December 2002 to December 2013 Economic variables include Treasury bill rates, KSE-100 index, consumer price index and industrial production index The data have been analyzed using econometric techniques for multivariate co-integration analysis Augmented Dickey-Fuller test results show that the variables are integrated of order one Johansen and Juselius test provides evidence of long-run association between economic indicators and deposits of conventional banks The results show that all the economic indicators have significant impact on deposits of conventional banks except industrial production index The VECM confirms the presence of long run causality between economic indicators and deposits of conventional banks The Wald Test revealed that KSE returns and T-bill rates have significant impact on deposits of conventional banks in the short run Johansen and Juselius test also provide evidence of long-run association between economic indicators and deposits of Islamic banks The coefficients estimates show that T-bill rates, industrial production index and consumer price index have significant impact but KSE returns have insignificant impact on deposits of Islamic banks The VECM shows that the error term is negative and significant at 5% level of significance with 33 99% speed of adjustment towards equilibrium The Wald test shows that only T-bill rates have impact on deposits of Islamic banks in the short run

JEL Classification: E21, E22, G21

Keywords Deposits of Islamic Banks, Deposits of Conventional Banks, Economic Variables, Economic Indicators

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LIST OF ABBREVIATIONS

ADF	-	Augmented Dickey-Fuller
BLR	-	Base Lending Rate
CII	-	Council of Islamic Ideology
CPI	-	Consumer Price Index
DCB	-	Deposits of Conventional Banks
DFIs	-	Development Finance Institutions
DIB	-	Deposits of Islamic Banks
ECM	-	Error Correction Model
ECM	-	Error Correction Model
FSC	-	Federal Shariat Court
GCC	-	Gulf Cooperation Council
GDP	-	Gross Domestic Product
GNP	-	Gross National Product
IPI	-	Industrial Production Index
JJ	-	Johansen-Juselius
KLCI	-	Kuala Lumpur Composite Index
KSE	-	Karachi Stock Exchange
NBFIs	-	Non-Banking Financial Institutions
PBUH	-	Peace Be Upon Him
PCB	-	Pakistan Banking Council
SBP	-	State Bank of Pakistan
TB	-	Treasury Bill
VECM	-	Vector Error Correction Model
VAR	-	Vector Auto Regression

CHAPTER 1

INTRODUCTION

1.1 Background

Financial sector of Pakistan consists of scheduled commercial banks and non-banking financial institutions (NBFIs) Commercial banks consist of nationalized, private and foreign banks whereas non-banking financial institutions consist of investment banks, development finance institutions (DFIs), mudarabah, leasing companies and housing finance companies This financial sector other than mudarabah and leasing companies is regulated by prudential regulations of State Bank of Pakistan whereas, mudarabah and leasing companies are regulated by the Securities and Exchange Commission of Pakistan Banking sector of Pakistan is dual in nature where both Islamic and conventional banks operate side by side

Business organizations heavily depend on bank loans to cater for their increasing needs of capital and the capability of banks in extending loans to the business organizations depend upon their deposits The economic development of Pakistan has resulted in increased activities in businesses as well as in capital markets which are indicators of confidence of investors in the business environment of Pakistan (Lee and Ullah, 2008) It is well established that demand for bank credits increases with the increase in economic activity and the role of banks is pivotal in economic development when viewed from the perspective of their function to ensure continuous availability of

capital at the time of economic development Nishat and Bilgrami (1989) are of the view that continuous availability of credits to borrowers requires that propensity of the people to hold cash must be abridged. This compels commercial banks to attract customers to deposit their funds with them at a high rate of return which gives customers a freedom to negotiate with banks on profit/interest before depositing their funds Thus, level of bank deposits dependent upon the money deposited by their customers which ultimately depends upon savings of their customers

1.2 Theories of Savings Behavior

According to Absolute Income Hypothesis given by Keynes (1936), saving is the excess of income over consumption / expenditure In other words, it can be said that saving is a function of income From the depositor's perspective, there are three main theories related to savings These are

i Life-cycle Hypothesis,

ii Permanent Income Hypothesis, and

iii Buffer Stock Theory

1.2.1 Life-cycle Hypothesis

The life cycle hypothesis was given by Modigliani and Brumberg (1954) which relates the saving behavior of people with their stage in life It states that current consumption of people depends upon their expected future income throughout their lives Further, people smooth their consumption over time by savings It means saving

behavior depends upon the stage of one's life People save in their working age and they spend their savings in their post retirement age

1.2.2 Permanent Income Hypothesis

The permanent income hypothesis was proposed by Friedman (1957) which describes the relationship between saving behavior and current and future income It states that higher expected future income results in reduced current saving and if current income is higher, it is saved to smooth future higher spending

1.2.3 Buffer Stock Theory

Buffer-stock theory given by Carroll (1992) describes the saving behavior of people under the condition of uncertainty It states that consumers hold assets to protect themselves from unforeseen changes in income The consumers exhibit buffer-stock behavior when they are confronted with major income changes In this situation they become impatient and prudent The impatient behavior arises if the consumers are sure about their future income In this situation they start borrowing for their current consumptions against the firm future income But they also exhibit the prudent behavior because of precautionary motives

1.3 Dimensions of Saving Behavior of Muslims

Jalaluddin (1992) has a different view as that of Keynesian definition of saving He rejected the residual concept of saving and argued that the Keynesian theory of

absolute income can be valid if we ignore social responsibilities and ethical values Jalaluddin (1992) states that saving of a Muslim is meant to perform his social duties to his family, himself and his society as well as his religious obligations to Almighty Allah For all that, economic backing is required Therefore, there is another dimension of saving behavior of Muslims and that is a social welfare aspect With this concept, Islamic financial institutions have emerged over the last 30 years which use religious doctrine of their customers to fulfill their needs These Islamic financial institutions are operating not only in Muslim countries but also have started their operations in Western countries like Australia, UK and USA With the commencement of first Islamic bank in 1963 (Mit Ghamr Islamic Savings Bank, Egypt), Islamic banks are making remarkable progress throughout the world (Muhammad, 2002)

1.4 Differences in Philosophies of Islamic and Conventional Banking

Islamic banking has been defined by Khaf and Ahmad (1980) as *the conduct of banking operations in accordance with the teachings of Islam* According to this definition, the philosophy of Islamic banks is different as that of conventional banks because operations of Islamic banks must be according to teachings of Islam It is also clear from this definition that Islamic banks and other Islamic business entities can engage in a business that is not prohibited in Islamic Shariah It also reveals that the relationship of Islamic banks and their depositors is defined by the principles of Islamic Shariah As stated by Khaf and Ahmed (1980), this relationship of Islamic banks with

their customers is mainly based on the three believes which encompass economic behavior of the Muslims These believe are

i In the Day of Judgment and in the life hereafter,

ii In the Islamic concept of riches , and

iii Islamic concept of success

The above-mentioned principles are the basis for Muslims in their decision making process as well as their attitude toward Islamic banks The first principle determines the supplier's behavior in his decision making for selection of a bank that is also based on the consideration of rewards in the Day of Judgment and not on just immediate profits The method of earning, acquiring and spending of wealth has been defined by Shariah According to saying of Prophet (PBUH) the best method of acquiring wealth is earning by one's own hands

Therefore, in the perspective of teachings of Islam, it is inappropriate to treat return on deposits with Islamic banks as the major source of income to support living Hence, it is expected that the relationship of Islamic banks with their customers is based on a different philosophy as that of conventional banks that defines relationship of banks with their customers

1.5 Why Customers Choose to Deposit in Islamic Banks

A number of studies were undertaken to investigate why customers choose to deposit in Islamic banks as compared to conventional bank In Bahrain, Metawa and

Almossawi (1998) concluded that the most important factor in determining the attitudes of Islamic bank customers was religion then profitability In addition, most Bahraini bank customers were satisfied with the quality of Islamic bank services, especially investment accounts On other hand, the lowest satisfaction was with more complex Islamic financing schemes because of the relatively high costs In Jordan, Naser et al (1999) concluded that the bank reputation and the religious beliefs were the two most important factors motivating the use of Islamic banks services In Kuwait, Al-Sultan (1999) considered the attitudes of several hundred customers towards the products and services offered by the interest-free Kuwait Finance House Al-Sultan (1999) confirmed that adherence to Islam was the primary motivating factor for Kuwaitis dealing with an Islamic bank whereas, more than half of the respondents preferred to deal with a conventional banks because of the better service record This meant that any religious motivation in preferring an Islamic bank was subsumed by the greater concern for the quality of bank services

1.6 Economic Indicators and Bank Deposits

Impact of economic indicators on bank deposits has been an area of interest by the researchers like Athukorala and Sen (2003), Yusoff and Wilson (2005), Obaidullah (2005) and Haron et al (2008)

Conventional economists are of the view that depositors are motivated to place their funds with banks because holding cash in hand will loose its value at the time of increasing interest rates (Athukorala and Sen, 2003) whereas Haron et al (2008) are of

the view that in majority of the cases, behavior of the customers of conventional banks justifies the savings behavior theories but contrary to that, behavior of Islamic banking customers does not confirm these theories

Yusoff and Wilson (2005) studied the major determinants of conventional bank deposits and Islamic bank deposits in Malaysia by using ordinary least square method in the log linear form The factors under investigation in their study were the profit-share for savings and investments deposits in Islamic banks, interest rates on conventional deposits, real gross domestic product and the consumer price index Their results revealed that bank deposit growth was effected by any variation in real GDP, the profit-share for savings and investments accounts in Islamic banks and interest rates on conventional deposits

Obaidullah (2005) linked the risk factor of Islamic banks with the level of deposits Obaidullah (2005) explained that in contrast to conventional banking system where the investors/depositors are paid guaranteed fixed amount even if the bank may suffer losses, account holder of the similar nature in Islamic banks share the profits and losses of the bank and thus are exposed to risk which may result in losing the part or even whole of their deposits Obaidullah (2005) further elaborated that if conventional banks offer higher rate of return, Islamic banks may face an increase in withdrawals by its customers due to pressure from its counterpart and thus causing Islamic banks to face withdrawal risk To retain existing deposits Islamic banks are forced to pay a competitive return to its investment account holder irrespective of their actual profits and thus

sacrificing the interest of equity holders that is known as commercial risk If this situation prevails for a longer period the commercial risk linked with the returns attributable to the Profit/Loss Sharing Islamic Account holders is transferred to the shareholders' funds termed 'displaced commercial risk'

Haron et al (2008) used co-integration techniques to test the role of selected macro-economic variables and religious dimension of the bank customers towards deposits of both Islamic and conventional banking system in Malaysia Their results proved that economic variables such as Base Lending Rate (BLR), Kuala Lumpur composite index (KLCI), consumer price index (CPI), money supply (M3) and gross domestic product (GDP) have significant long-run relationship with deposits of conventional and Islamic banking system in Malaysia but different strength and direction of relationship have been observed for the both systems

1.7 Statement of the Research Problem

As stated in the preceding sections, depositors of conventional banks are motivated to place their funds with the banks because holding cash in hand will loose its value at the time of increasing interest rates In majority of the cases, behavior of customers of conventional banks justifies the savings behavior theories but behavior of Islamic banking customers does not confirm these theories Moreover, economic variables such as base lending rate, consumer price index, money supply and gross

domestic product have significant long-run relationship with the deposits of conventional and Islamic banking system Therefore, researcher is interested to study the relationship of economic indicators on deposits of conventional and Islamic banks in Pakistan and states the problem under investigation as

"Economic indicators can affect deposits of conventional and Islamic banks in Pakistan".

1.8 Objective of the Study

In the perspective of teachings of Islam, it is inappropriate to treat return on deposits as a major source of income by the depositors to support their living Therefore, it is expected that the relationship of Islamic banks with their customers is based on a different philosophy as that of conventional banks that defines relationship of banks with their customers Studies by Athukorala and Sen (2003), Yusoff and Wilson (2005), Obaidullah (2005) and Haron et al (2008) indicate that the impact of economic indicators on deposits of conventional and Islamic banking system is different in strength and direction for the both systems Therefore, main objectives of this study are

i To investigate the impact of economic variables on deposits of conventional banks in Pakistan, and

ii To investigate the impact of economic variables on deposits of Islamic banks in Pakistan

1.9 Significance of the Study

Even though, an extensive literature is available on savings behavior and its theories, yet less attention has been paid to explore the determinants of bank deposits In the past, researchers made efforts to determine the factors affecting saving behavior for a specific country and also for the purpose of comparison between different countries This study is expected to be a valuable addition in existing body of literature in that to the best of researcher's knowledge, there is no study available on the subject which has empirically investigated the relationship of economic indicators and the bank deposits in a dual banking system in Pakistan

1.9.1 Theoretical Contribution

The literary discussion on savings behavior got momentum in 1963 when Lambert and Hoselitz (1963) compiled the works of other researchers on savings behavior of households in seven countries namely Pakistan, India, Sri Lanka, Malaysia, Hong Kong, Vietnam and Philippines This work was extended by Lambert and Hoselitz (1963) and Snyder (1974) when they brought the econometric models under discussion in studying the savings behavior proposed by other researchers These researchers threw the pebble in the tank and since then, savings behavior has become an interesting area of study by the researchers These theoretical discussions remained concentrated on savings behavior in a specific country, savings behavior focusing cross country comparison and studies that incorporate religious dimension in making decision for bank selection but the

flow of savings towards deposits of conventional or Islamic banks has been brought under discussion by the researcher Therefore, it is expected to be a theoretical contribution by the researcher

1.9.2 Practical Contribution

This study will be helpful in understanding the dynamics of bank deposits by identifying the major economic variables that can have significant impact on deposits of conventional and Islamic banks in Pakistan This will enable customers of both conventional and Islamic banking to make effective decision in placing their deposits It will also facilitate policymakers of both types of banking system in the formulation of policies that will retain and attract the depositors of funds

1.10 Research Questions

From the statement of the problem given above, research questions can be formulated as under

Question 1:

Can any variation in economic indicators have affect on deposits of conventional banks in Pakistan?

Question 2:

Can any variation in economic indicators have affect on deposits of Islamic banks in Pakistan?

1.11 Hypothesis Development

Conventional economists are of the view that depositors are motivated to place their funds with banks owing to the fact that holding cash in hand will loose its value at the time of increasing interest rates (Athukorala and Sen, 2003) and classical economists are also of the view that savings is a function of the rate of interest (Haron et al (2008)) It means when the rate of interest is high, people will tend to forgo their present consumption and save more money in expectation of more return on their deposits Therefore, it is hypothesized that

H_1: Interest rate has positive impact on deposits of conventional banks in Pakistan.

Rachmawati and Syamsulhakim (2004) are of the view that depositors and funds provider in the Islamic banking system are partly motivated by their religious considerations to put their funds in Islamic system and they also prefer market competitive profit sharing Therefore, it is hypothesized that

H_2: Interest rate has negative impact on deposits of Islamic banks in Pakistan.

Gross Domestic Product (GDP) is the measure of growth in economy As Industrial Production Index (IPI) represents overall economic activity in the economy, it has been used as a proxy for GDP by Baum et al (2002), Mustafa and Nishat (2004) and Hasan and Nasir (2008) Yusoff and Wilson (2005) state that bank deposits are affected by any variation in real GDP Literature available on the relationship between savings and growth presents ambiguous evidences Moreover, views on the direction of relationship between savings and growth are still under debate The permanent income

hypothesis (Friedman, 1957) assumes that higher growth will tend to reduce current savings because of higher anticipated future income and thus will urge people to dissave against expected future earnings Therefore, it is hypothesized that

H_3: ***Industrial Production Index has negative impact on deposits of conventional banks in Pakistan.***

H_4: ***Industrial Production Index has negative impact on deposits of Islamic banks in Pakistan.***

Performance of Stock Market Index represents confidence of the people they have on economy of a country If people are confident that economy of country will grow in future, then instead of depositing their money with the bank accounts, they will prefer to invest in stocks with the hope to receive higher dividend and capital gains Therefore, it is hypothesized that

H_5: ***KSE returns have negative impact on deposits of conventional banks in Pakistan.***

H_6: ***KSE returns have negative impact on deposits of Islamic banks in Pakistan.***

Consumer price index has been used as a proxy for inflation in the literature but its influence on savings in mixed First view is that when prices increase, people will adopt precautionary measures and start to save to avoid possible adverse changes in income In this situation, inflation may result an increase in deposits Second view is that,

when prices increase, people have to spend more resulting in less savings and causing a negative impact on savings Therefore, it is hypothesized that

H7: Consumer Price Index has negative impact on deposits of conventional banks in Pakistan.

H8: Consumer Price Index has negative impact on deposits of Islamic banks in Pakistan.

1.12 Organization of the Study

The dissertation has been arranged in five chapters Remaining part of Chapter-1 covers brief overview of evolution of conventional and Islamic banking in Pakistan Chapter-2 briefly describes the empirical literature on savings behavior, economic indicators and the bank deposits of conventional and Islamic banking system in Pakistan Chapter-3 explains the research methodology adopted and the data employed for this study The empirical results have been discussed in Chapter-4 Finally, Chapter-5 concludes the over all study, describes limitations of the study and suggests recommendations and directions for future research

CHAPTER 2

BANKING IN PAKISTAN

This section describes brief overview of evolution of conventional and Islamic banking in Pakistan Financial sector of Pakistan consists of scheduled commercial banks and non-banking financial institutions (NBFIs) Commercial banks consist of nationalized, private and foreign banks whereas non-banking financial institutions consist of investment banks, development finance institutions (DFIs), mudarabah. leasing companies and housing finance companies This financial sector other than mudarabah and leasing companies is regulated by prudential regulations of State Bank of Pakistan whereas. mudarabah and leasing companies are regulated by the Securities and Exchange Commission of Pakistan Banking sector of Pakistan is dual in nature where both Islamic and conventional banks operate side by side

2.1 Evolution of Conventional Banking in Pakistan

Prior to independence in 1947, the banking sector of India was dominated by British banks including the Chartered Bank and the Grindlays Bank which were operating since 1883 The Imperial Bank of India which started its operation in 1919 as a commercial bank also served as the Central Bank for India until the establishment of "Reserve Bank of India" in 1935, which was the first independent central bank in India Established in 1941, Habib Bank was the only bank run by Muslims before partition Few

months before the creation of Pakistan, "Muslim Commercial Bank" the second Muslim bank was established in 1947 in Calcutta by Adamjee and Isphanis

When subcontinent was divided into two independent states in August 1947. The Habib bank shifted its headquarters to Karachi where a few branches of Habib Bank were already performing their operations whereas, initially The Muslim Commercial Bank shifted its headquarters from Calcutta to Dhaka and then to Karachi In December 1947. Bank of Bahawalpur had also started functioning

On 1st July 1948, Quaid-e-Azam Muhammad Ali Jinnah, the first Governor General of Pakistan inaugurated the State Bank of Pakistan (SBP) and appointed Mr Zahid Hussain as the first Governor of State Bank of Pakistan with the mandate to maintain monetary stability to flourish commerce and trade and to develop the commercial banking in Pakistan Sponsored by the Government of Pakistan, National Bank of Pakistan was established in November 1949 as a public sector entity

In 1948, there were only four Pakistani banks and the number grew to five in 1955 Another major achievement during the period from 1948 to 1955 was that the number of Pakistani bank branches increased from 23 to 163 but at the same time, number of foreign banks reduced from 34 to 27 and their branches reduced from 172 to 88

In financial and economic sectors, Pakistan exhibited a remarkable growth in the era of 1960 to 1970 and especially, progress in banking sector remained noticeable Even, a small bank like The Bank of Bahawalpur spread its operations in different areas of Pakistan and in 1965, it became subsidiary of National Bank of Pakistan In the same era, at one hand, the Indian banks were closing their operations in Pakistan due to no interest in Pakistan, but on the other hand, a number of national and international banks were also emerging and spreading their wings all over Pakistan Major national banks established in sixties include the United Bank Ltd, Standard Bank Ltd, Commerce Bank Ltd, Eastern Banking Corporation, Premier Bank, Eastern Merchantile Bank and the Union Bank Major foreign banks which started their operations in Pakistan in sixties include Bank of America, Deutsche Bank and Bank of Tokyo

In the era of seventies, banking sector in Pakistan could not flourish and remained under political influence On 1st January 1974 the Government of Pakistan nationalized all local banks and Pakistan Banking Council (PBC) was established which assumed the role of a banking holding company but with limited supervisory powers Further, the government decided to merge all the taken over banks into five banks namely, the National Bank of Pakistan, Habib Bank Limited, United Bank Ltd Muslim Commercial Bank and Allied Bank of Pakistan That was the time when professional honesty started phasing out and corruption sneaked into the banking sector which was at its height during 1980s and early 90s In 1997, PBC was dissolved leaving the SBP as the sole regulatory authority for banks and financial institutions in Pakistan The central bank's regulatory powers were restored via amendments to the Banking Companies Ordinance (1962) and

the State Bank of Pakistan Act (1956) This was the time when banking sector in Pakistan again started to flourish By 2010, there were five public commercial banks, 25 domestic private banks, six foreign banks and four specialized banks

2.2 Evolution of Interest Free Banking in Pakistan

Interest free banking began to attain attention around the world in the beginning of 1970 but in Pakistan first step was taken towards Islamization of banking system and economy when Council of Islamic Ideology (CII) was given instructions by General Mohammed Zia-ul-Haq, the President of Pakistan to propose a system for an interest free economy in Pakistan The Council of Islamic Ideology (CII) constituted a committee of experts which submitted its report in February 1980, under the title 'Report on the Elimination of Interest from the Economy 1980'' The major recommendations of the Council of Islamic Ideology (CII) included among others the replacement of "interest based system" with the "profit and loss sharing system", introduction of lease financing to encourage risk sharing financing and adoption of bai muajjal and hire-purchase system The recommendations of the report were supposed to be followed by the banking sector of Pakistan by 1984

In 1980, the task of implementing the report of Council of Islamic Ideology was assigned to Ministry of Finance which further put the same responsibility to State Bank of Pakistan and the Pakistan Banking Council From January 1981, national banks began to take deposits on a Profit and Loss sharing basis Later, in June 1984 banks ceased their financing on the basis of musharakah, hire-purchase and leasing and started mark-up financing (Zaidi, 1987)

Recommendations made by Council of Islamic Ideology (1980) for elimination of interest from the economy and financial sector of Pakistan were either controversial or unrealistic The major grey area in the initiative of Islamization of economy of Pakistan was that the panel of Council of Islamic Ideology consisted of conventional bankers and economists, who made an effort to find the solution to problem within the context of conventional banking system Further, the Council of Islamic Ideology failed to suggest any remedy for elimination of interest from governmental international borrowings, which proved to be a haphazard effort in proposing an interest-free system in Pakistan In 1985, Mohammad Zia-ul-Haq, the President of Pakistan admitted his failure in elimination of interest from the economy of Pakistan (Nienhaus, 1988)

A number of petitions were filed in the Federal Shariat Court (FSC) against the interest-free banking in Pakistan which gave its verdict on riba and banking practices in Pakistan on 14 November 1991 and declared that all kinds of increases on the principal come under the ambit of riba (Paragraphs 93-111), the bank interest is also a riba (Paragraphs 131-163) and "the interest" and "mark-up" are repugnant to the injunctions of Islam The Federal Shariat Court gave government of Pakistan the deadline of 30th June 1992 to make banking laws according to Islamic Shari'ah

In compliance with the orders from Federal Shariat Court the Government of Pakistan constituted the Commission of Islamization of Economy in 1991 with the objective to recommend a solution to improve the trustworthiness of interest-free banking system in Pakistan Commission of Islamization of Economy submitted its report to

government in June 1992 Although the Commission of Islamization of Economy pointed out some serious facets of banking practices in Pakistan which were un-Islamic, yet the report proved a modified version of the report of Council of Islamic Ideology with some additions and modifications

The FSC judgment (1991) was viewed as a ray of light towards revival of interest-free banking efforts in Pakistan but financial institutions in Pakistan as well as their customers were not happy with the decision of the Federal Shariat Court because it was against their interests Thus, financial institutions and the government of Pakistan decided to challenge the decision of FSC and lodged their appeal at the Supreme Court of Pakistan Supreme Court of Pakistan gave its verdict on December 23, 1999 by rejecting the appeal of Government of Pakistan and financial institutions and upheld the Judgment of Federal Shariat Court (1991) The Supreme Court of Pakistan in its verdict also defined the deadline of 30 June 2001 to eradicate the interest from the economy of Pakistan

For implementation of the verdict of Supreme Court of Pakistan (1999) on the case of Riba, the Government of Pakistan constituted different commissions and task forces in State Bank of Pakistan, Ministry of Law and Parliamentary Affairs of Pakistan and in the Ministry of Finance of Pakistan to formulate legal and regulatory frameworks but could not meet the deadline of 30 June 2001 and obtained extension from the Supreme Court up to 30th June, 2002 In June 2002, the Government of Pakistan put a review petition in the Supreme Court of Pakistan against its judgment of 1999 on riba by

explaining that its previous decision to transform the system from interest-based to interest-free economy was unrealistic and harmful to the economy of Pakistan The government also sought from the Supreme Court of Pakistan to suspend its previous judgment on riba (1991) and allow the adoption of Islamic banking under a dual banking system The Supreme Court of Pakistan acceded to the stance of the Government of Pakistan and on June 2002, set aside its own previous judgment on Riba (1999), forwarded the case to Federal Shariat Court to review its earlier judgment on riba (1999) and address the points raised by different parties Eventually, the Government of Pakistan and its financial institution succeeded in knocking down the case once and for all

Banking operations in Pakistan on the basis of mark-up financing were taken seriously by a number of Islamic scholars Kadri (1996) declared mark-up financing as the concealed form of interest Lashkar (1991) called the practice of mark-up financing in Pakistan 'hypocrisy" Uzair (1997) argued that mark-up is another word for interest Khan (2003) remarked that people of Pakistan were not willing for elimination of interest from the banking sector of Pakistan

But in spite of all that, State Bank of Pakistan in January 2002 issued the first Islamic commercial banking license to Meezan Bank Limited which started its operations at small level and had a small net-work of 10 branches at the end of 2003 with total deposits of US $ 130 million And the present picture exhibits a remarkable growth. The Islamic banking industry closed its financial year in December 2013 with an asset base of Rs 1014 billion and deposits of Rs 868 billion

CHAPTER 3

REVIEW OF LITERATURE

Lambert and Hoselitz (1963) were the pioneers in compiling the works of other researchers on savings behavior Lambert and Hoselitz (1963) compiled and edited the studies conducted on savings behavior of households in seven countries namely Pakistan, India, Sri Lanka, Malaysia, Hong Kong Vietnam and Philippines On the similar lines to Lambert and Hoselitz (1963). Snyder (1974) compiled and edited the econometric models used in studying the savings behavior by other researchers These researchers threw the pebble in the tank and since then, savings behavior has become an interesting area of study by the researchers Literature on savings behavior and bank deposits can be classified into the following three broad categories

1 Studies on savings behavior in a specific country,
2 Studies on savings behavior focusing cross country comparison, and
3 Studies that incorporate religious dimension in making decision for bank selection

Studies on savings behavior in a specific country by Cardanes and Escobar (1998), Laoyza and Shankar (2000), Qin (2003). Ozcan et al (2003). Athukorala and Sen (2003). Athukorala and Tsai (2003) , Hondroyiannis (2004) and Finger and Hesse (2009) are worth reviewing

as real interest rate on bank deposits, rate of growth, inflation and spread of banking facilities, all had significant positive impact on savings except for the changes in the external trade Impact of growth of disposable income, population dynamics, social security contribution, financial reforms and credit availability on savings was estimated by Athukorala and Tsai (2003) by using standard life-cycle The results showed that aging of the population, income growth the availability of credit and changes in social security contributions were found to be significant determinants of savings Moreover, inflation seemed to move in an opposite direction while interest rate had a significant positive impact on savings The savings behavior of Greece households was also studied Hondroyiannis (2004) by applying co-integration techniques He found that savings function is sensitive to fertility changes, real interest rate, old dependency ratio, public finance and liquidity in the long run

Finger and Hesse (2009) examined the determinants of commercial bank deposits in Lebanon and found that the banks' perceived riskiness, liquidity buffers, loan exposure and interest margins were the major factors in explaining deposit demand at the bank level

In addition to literature that focuses on determinants of savings in a particular country, there are also a number of studies on savings behavior focusing cross country comparison Among these, the studies by Doshi (1994), Masson et al (1998) and Cohn and Kolluri (2003) are worth reviewing

On the basis of Life Cycle Hypothesis, Doshi (1994) investigated the impact of population growth and productivity growth on savings in 129 countries The productivity growth was determined by age structure and life expectancy whereas productivity growth was determined by GDP The 129 countries were categorized into less-developed countries and the high income countries The results of the study revealed that in less-developed countries, life expectancy was positively correlated with savings and inversely correlated with savings in high-income countries

Masson et al (1998) studied the determinants of private savings behavior of developing and industrial countries and found that real interest rate and GDP growth rate had a significant positive relationship with savings in the both groups of countries with a difference of magnitude

Cohn and Kolluri (2003) employed modern econometric techniques to study the relationship between real per capita household saving and government saving, the real rate of interest and social security contributions in the member countries of Gulf Cooperation Council (GCC) and established that in the most developed nations of the world interest rate was positively related to savings in the long run, whereas negatively related to government saving and social security contributions

Major studies that incorporate religious dimension while decision making by customers in which bank to deposit their money include Ross (1989), Javalgi et al (1989), Khazeh and Decker (1992), Hegazy (1995), Metawa and Almossawi (1998),

Rachmawati and Syamsulhakim (2004), Yusoff and Wilson (2005), Obaidullah (2005), Haron et al (2008), Kasri and Kassim (2009) and Ismal (2011)

Ross (1989), Javalgi et al (1989), Khazeh and Decker (1992) and Hegazy (1995) have studied the key factors effecting bank selection criteria and reported that among others, services, products, bank operations, bank philosophy, recommendations from friends and family, bank location, return on deposits and in case of Islamic banks adherence to Islamic Principles are some key factors influencing the bank selection criteria

Based on literature review, Metawa and Almossawi (1998) selected and investigated the four major factors causing selection of Islamic banks which include vicinity of bank branch, conformity and allegiance to Islamic principles in its operations, return on deposits and recommendations from friends and family and found that the highest factor contributing towards selection of an Islamic bank is its adherence to Islamic principle followed by the return on deposit (investment)

Rachmawati and Syamsulhakim (2004) applied cointegration technique on quarterly time series data of Gross Domestic Product, number of Islamic bank branches, interest rate by conventional banks and profit sharing ration of Islamic banks to determine the main factors that affect mudarba deposits in Indonesia The results of the study indicate that mudarba deposits in Indonesia are not significantly affected by the interest rate and GDP in the long run but are significantly affected by the profit share rate

and the number of bank branches Findings by Rachmawati and Syamsulhakim (2004) strengthen the view that depositors and funds provider in the Islamic banking system are partly motivated by their religious considerations to put their funds in Islamic system and they should be offered market competitive profit sharing rate to attract more depositors towards Islamic banking system

Yusoff and Wilson (2005) investigated the major determinants of conventional bank deposits and Islamic bank deposits in Malaysia by using ordinary least square method in the log linear form The factors under investigation in their study were the profit-share for savings and investments deposits in Islamic banks interest rates on conventional deposits, real gross domestic product and the consumer price index Their results revealed that bank deposit growth was effected by any variation in real GDP, the profit-share for savings and investments in Islamic banks and interest rates on conventional deposits

Obaidullah (2005) linked the risk factor of Islamic banks with the level of deposits Obaidullah (2005) explained that in contrast to conventional banking system where the investors/depositors are paid guaranteed fixed amount even if the bank may suffer losses, account holder of the similar nature in Islamic banks share the profits and losses of the bank and thus are exposed to risk which may result in losing the part or even whole of their deposits Obaidullah (2005) further elaborated that if conventional banks offer higher rate of return, Islamic banks may face an increase in withdrawals by its customers due to pressure from its counterpart and thus causing Islamic banks to face

withdrawal risk To retain existing deposits Islamic banks are forced to pay a competitive return to its investment account holder irrespective of their actual profits and thus sacrifice the interest of equity holders that is known as commercial risk If this situation prevails for a longer period the commercial risk linked with the returns attributable to the Profit/Loss Sharing Islamic Account holders is transferred to the shareholders funds termed 'displaced commercial risk'

Haron et al (2008) used co-integration techniques to test the role of selected macro-economic variables and religious dimension of the bank customers towards deposits of both Islamic and conventional banking system in Malaysia Their results proved that economic variables such as Base Lending Rate (BLR), Kuala Lumpur composite index (KLCI), consumer price index (CPI), money supply (M3) and gross domestic product (GDP) have significant long-run relationship with deposits of conventional and Islamic banking system in Malaysia but different strength and direction of relationship have been observed for the both systems Major findings reported in the study of Haron et al (2008) are given as under

I All the economic variables under investigation have significant impact on deposits of conventional system except Consumer Price Index,

II Consumer Price Index has a negative relationship with the deposits of conventional banking system,

III The stock returns have negative relationship with deposits of conventional banks

IV As for as deposits at Islamic system are concerned, all the economic variables under investigation have a significant positive relationship with the savings except Base Lending Rate.

V Depositors/Investors of both conventional and Islamic banks are affected by the rewards they receive on their deposits thereby having inverse effect on the deposits of his counterpart, and

VI Religious dimension play an important role in attracting more customers to deposit their funds with the Islamic banking system

Kasri and Kassim (2009) explored the factors having significant affect on saving in the Islamic banks of Indonesia The major variables under investigation in determining the savings in Islamic banks were interest rate on conventional deposit, real rate of return on Islamic deposit, real income and number of Islamic bank branches The results revealed that conventional interest rate has profound effect in determining the level of saving in the Islamic banks, especially higher Islamic deposit corresponds to higher rate of return by Islamic banks and lower interest rate by conventional banks Kasri and Kassim (2009) also explained that the flow of Islamic banks' deposits towards the conventional banks when the rate of return provided by the Islamic banks is significantly lower than the interest rate of its counterpart indicates the existence of displaced commercial risk between the Islamic and conventional banks

Taking into account the Indonesian Islamic banking industry as a case study, Ismal (2011) attempted to analyze the depositors' withdrawal behavior as well as the

responses of Islamic banks to mitigate such deposit withdrawals by using linear probability model (LPM) Ismal (2011) documented the three main reasons of depositor's withdrawals which are

I. Islamic banks do not generate incomes from their financing,

II Interest rate goes up,

III Total deposits tend to decrease

Ismal (2011) documented that just like other financial institution, Islamic banks also need the retention and management of their deposits to generate profit for their account holders Ismal (2011) further elaborated that as withdrawals by the depositors and investors can have profound effect on the operations and profitability of the banks, therefore, forecasting of the withdrawal behavior is the core area that needs careful attention

Relation of economic variables with saving has been studied in Pakistani perspective by a number of authors by applying econometric techniques on time series data Qureshi (1981) documented that higher inflation proxied by consumer price index results in higher spending ultimately causing a reduction in savings levels Similarly, Iqbal (1993) also found that in case of expected inflation, people would prefer to consume today thus causing a negative relationship between inflation and savings Rehanna (1993) reported that economic and demographic factors are important determinants of saving behavior Kazmi (1993) made the crossed country comparison between Pakistan and India to find the factors causing differentials in savings rate of the

two countries and found that difference in the saving rate between these countries is due to the difference in inflation and interest rates, population growth, real gross national product (GNP), Government expenditure on defense, government expenditure on education, growth rates, level of imports and exports, gross external aid and differences in Taxes during the period from 1960 to 1988 Khan et al (1994) studied the effect of real interest rate, income, debt-to-GNP ratio, foreign capital inflows, dependency ratio and openness of economy on savings in Pakistan and found that

I Per capita GNP has strong positive effect on national saving,

II Real interest rate, changes in terms of trade and openness of the economy positively influence national saving, and

III Both dependency ratio and Debt-to-GNP ratio have negative impact on national saving

Hussain (1996) analyzed the impact of financial deepening and financial development on saving in Pakistan by using cointegration technique and found that these variables have positive effect on savings

Review of the literature on savings behavior and its theories revealed that studies focusing on the determinants of commercial bank deposits are limited In the past, researchers made efforts to determine the factors affecting saving behavior for a specific country and also between different countries for the purpose of comparison To the best of researcher's knowledge, there is no study available which has investigated the impact

of economic indicators on deposits in conventional and Islamic banks in Pakistan Therefore, this provided author a gap to fill and opportunity to empirically investigate the impact of economic variables on deposits in conventional and Islamic banking in Pakistan

CHAPTER 4

RESEARCH METHODOLOGY

This study employs the methods of time series econometrics in examining the impact of selected economic indicators on deposits of conventional and Islamic banking system in Pakistan The first step of the analysis is to test for the presence of unit roots of the variables This is done by using the Augmented Dickey Fuller test (ADF) proposed by Dickey and Fuller (1981) Once the stationary condition is examined and variables are integrated of the same order, the next step is to conduct a cointegration test to know the long run associations among the variables If there is long run association between the variables then we will estimate error correction model A multivariate test for cointegration developed by Johansen and Juselius (1990) will be used

4.1 Description of Variables

The variables under investigations include deposits of conventional banks (DCB), deposits of Islamic banks (DIB), Karachi Stock Exchange Index (KSE-100 Index), T-bill rate, inflation rate and Industrial Production Index (IPI) Industrial production index (IPI) has been used as proxy for gross domestic product (GDP)

4.1.1 Stock Market Returns

Returns of stock market have been calculated by taking log difference of current and previous period as given below

$$Rt = \ln (Pt / Pt\text{-}1)$$

Where Rt denotes monthly return for the month 't', and Pt and Pt-1 represent closing values of KSE- 100 Index for month t and t-1' respectively

4.1.2 Interest Rate

Treasury bill rates have been used as proxy for interest rate Change in interest rate from current to previous period is given as under

$$I = \ln (TBt / TBt\text{-}1)$$

4.1.3 Inflation Rate

The consumer price index (CPI) is used as a proxy for inflation and is a measure of average change in prices of goods and services during a specific period Inflation in economy causes increase in nominal interest rate which causes to increases in discount rate which ultimately results in reduction of present value of cash flows The inflation rate is given as under

$$\text{Inflation Rate} = \ln (CPIt / CPIt\text{-}1)$$

4.1.4 Industrial Production Index (IPI)

Gross Domestic Product is a measure of growth in economy As industrial production represents overall economic activity in the economy and contribution of

industrial production towards GDP remained twenty-six percent in 2013 Therefore, Industrial production index (IPI) has been used as a proxy for gross domestic product (GDP)

4.2 Description of Data

This study explores the impact of economic variables on deposits of conventional and Islamic banks of Pakistan by using monthly data for the period from December 2002 to December 2013 with 133 observations Although, national banks started taking deposits on profit and loss sharing basis from January 1981, State Bank of Pakistan issued the first Islamic commercial banking license to Meezan Bank Limited in January 2002 and the data on deposits of Islamic banks could be available from December 2002 That is why, the period for this study has been selected from December 2002 to December 2013 The use of monthly data is in line with the earlier work done by Chan and Faff (1998) to investigate the long-run relationship between capital markets and macroeconomic variables

The data on deposits of conventional banks (DCB), deposits of Islamic banks (DIB), Karachi Stock Exchange Index (KSE-100 Index), T-bill rate, inflation rate and Industrial Production Index (IPI) has been collected from official websites of State Bank of Pakistan, Pakistan Bureau of Statistics, Business Recorder, Karachi Stock Exchange, International Financial Statistics (2014) and Quarterly Islamic Banking Bulletins published by Islamic Banking Department of State Bank of Pakistan Monthly data on deposits of all scheduled banks of Pakistan has been obtained from weekly statement of

position which covers domestic operations of banks and is available on website of state bank of Pakistan The data on deposits of Islamic banks has been obtained from Quarterly Islamic Banking Bulletins published by Islamic Banking Department of State Bank of Pakistan The data specifically pertaining to deposits of conventional banks of Pakistan was not available This problem has been resolved by subtracting deposits of Islamic banks from deposits of all scheduled banks of Pakistan to obtain deposits of conventional banks of Pakistan

4.3 Stationarity of Data

As elaborated by Gujarati (2004), before doing time series analysis, it should be determined whether the data is stationary or integrated Therefore, to proceed further for doing empirical analysis, stationarity of data will be tested For this purpose, Augmented Dickey Fuller test (ADF) proposed by Dickey and Fuller (1981) will be performed If unit root exists it means that the data is non-stationary and vice versa Hypotheses of ADF Test are given as

H_0 $\delta = 0$ (The unit root exists)

H_1 $\delta \neq 0$ (The unit root does not exist)

Decision rule of Augmented Dickey Fuller Test is that if calculated value of ADF statistic is more than the critical value or p-value is less than 5%, then we will reject null hypothesis and vice versa

4.4 Co-integration

If unit root exists in the data under investigation, it means that the data is non-stationary Stationarity can be achieved by taking first difference then it is said to be integrated of the order one and is represented as I (1) If two series are integrated of same order, there may exist a linear combination that is stationary at level If such a linear combination exists then such streams of variables are called cointegrated We will apply the Johansen and Juselius test to test for a long-run relationship between the variables The Johansen-Juselius (JJ) procedure of co-integration test is based on the maximum likelihood estimation of the VAR model The test is carried out through a VAR system such as follows

$$Dt = \beta 1\ Dt\text{-}1 + \beta 2\ Dt\text{-}2 + \quad + \beta k\ Dt\text{-}k + \alpha + \upsilon t \qquad t=1,2,3,4, \qquad T$$

where Dt is a (n x 1) vector of I(1) variables, β_i are (n x n) matrices of parameters, α is a (n x 1) vector of constant, υt is a vector of normal log distributed error with zero mean and constant variance, and k is the maximum number of lag length processing the white noise

Akaike Information Criteria will be used to decide the lag length of VAR model The null and alternative hypotheses of JJ test are as under

H_0 There is no cointegration among the variables

H_1 There is cointegration among the variables

4.5 Vector Error Correction Model (VECM)

If cointegration exists among the variables, then there must be an error correction term in the model The error correction model (ECM) facilitates in capturing both the short-run and long-run impact of exogenous variables on endogenous variable The ECM is given in the following form

$$\Delta Yt = \beta 0 + \beta 1 \Delta Xt + \beta 2 \epsilon t\text{-}1 + \upsilon t$$

Where ϵt-1 represents the error correction term which shows the speed of adjustment toward the long-run equilibrium and $\beta 2$ is the short-run adjustment coefficient In order to check whether there is short run causality running from exogenous variables to endogenous variables, the Wald test will be used

CHAPTER 5

RESULTS AND DISCUSSIONS

First step in time series analysis is to test for the presence of unit root To check stationarity of data, Augmented Dickey-Fuller (ADF) test has been used Unit root test results when performed at level and first difference are presented in the Table-1 The results indicate that null hypothesis cannot be rejected at level for DCB, DIB, CPI, IPI, KSE and TB which means that the variables are non-stationary at level ADF test indicate that the series are stationary at their first difference

Table-1: Augmented Dickey-Fuller Test Results

Variable	5% Critic. Value	Level		First Difference	
		ADF test statistics	p-value	ADF test statistics	p-value
DCB	-3 44559	1 043936	3926	-11 3846	0 0028
DIB	-3 44559	2 045887	2778	-4 1273	0 0075
CPI	-3 44559	-2 265007	4496	-9 7073	0 0001
IPI	-3 44559	-1 984368	6036	-4 4943	0 0023
KSE	-3 44559	-0 588065	3439	-8 4095	0 0011
TB	-3 44559	-0 387525	1989	-9 0411	0 0002

As the variables are integrated of the same order i e I(1). Johansen-Juselius (1990) Cointegration Test is used to determine the existence of long run association among the variables Johansen-Juselius (1990) procedure tests the null hypothesis of no

cointegration among the variables by using trace statistic and maximum eigenvalue statistic criteria

Long run association between deposits of conventional banks and economic indicators, and between deposits of Islamic banks and economic indicators has been discussed in proceeding sections 5 1 and 5 2 respectively

5.1 Impact of Economic Indicators on Deposits of Conventional Banks

This section describes the results for long run association between economic indicators and deposits of conventional banks Johansen-Juselius (1990) trace test results are presented in Table-2 The results reveal that null hypothesis of no co-integration is rejected because its p-value is less than the normal level of significance i e 5% As p-values for other null hypotheses are greater than 5% level of significance, the other null hypotheses cannot be rejected Therefore, from the results of trace statistic, we come to the conclusion that there is one cointegrating equation which provides evidence of long run association between economic indicators and deposits of conventional banks in Pakistan

Table-2: Trace Test Results for Cointegration between Economic Indicators and DCB

Hypothesized No of CE(s)	Eigenvalue	Trace Statistic	0 05 Critical Value	Prob **
None *	0 404438	110 8753	69 81889	0 0000
At most 1	0 194949	45 05768	47 85613	0 0895
At most 2	0 081077	17 51782	29 79707	0 6017
At most 3	0 043889	6 779597	15 49471	0 6034
At most 4	0 008465	1 079665	3 841466	0 2988

Trace test indicates 1 cointegrating eqn(s) at the 0 05 level
* denotes rejection of the hypothesis at the 0 05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table-3 exhibits results of Johansen-Juselius (1990) maximum eigenvalue test which shows that null hypothesis of no co-integration is rejected because its corresponding p-value is less than the 5% level of significance As the p-values corresponding to other null hypotheses are greater than 5%, we cannot reject null hypotheses From these results, we come to the conclusion that there is one cointegrating equation which provides evidence of long run association between deposits of conventional banks and economic indicators in Pakistan These results confirm the results presented on the basis of trace statistic

Table-3: Maximum Eigenvalue Test Results for Cointegration between Economic Indicators and DCB

Hypothesized No of CE(s)	Eigenvalue	Max-Eigen Statistic	0 05 Critical Value	Prob **
None *	0 404438	65 81764	33 87687	0 0000
At most 1	0 194949	27 53986	27 58434	0 0507
At most 2	0 081077	10 73822	21 13162	0 6734
At most 3	0 043889	5 699932	14 26460	0 6520
At most 4	0 008465	1 079665	3 841466	0 2988

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0 05 level
* denotes rejection of the hypothesis at the 0 05 level
**MacKinnon-Haug-Michelis (1999) p-values

From the results of cointegration tests presented in Table-2 and Table-3. we come to the conclusion that there is long-run association between deposits of conventional banks and economic indicators in Pakistan These findings are in line with the findings of earlier studies by Loayza and Shankar (2000) Cohn and Kolluri (2003) and Finger and Hesse (2009)

The results of Johansen-Juselius test for long run association also give the corresponding coefficients of variables The results of long run coefficients estimates of deposits of conventional banks corresponding to economic indicators are presented in the Table-4

Table-4: Long Run Coefficients Estimates of DCB

Variable	Coefficient	Standard Error	t-statistic
TB	5.59757	(2 14427)	2 61047
IPI	2 34175	(1 70841)	1 37072
KSE	- 0 10228	(0 02466)	-4 14761
CPI	-4 37260	(1 63380)	-2 67634

From the results of long run coefficients estimates of deposits of conventional banks presented in the Table-4, we can test hypotheses developed in Chapter-1 as follows

H_1: ***Interest rate has positive impact on deposits of conventional banks in Pakistan.***

From the results presented in Table-4, T-statistic value of 2 6105 pertaining to TB indicates that there is a significant positive relationship between T-bill rate and deposits of conventional banks Therefore, we conclude that the given hypothesis cannot be rejected It means that when T-bill rate increases, deposits of conventional banks will also increase and vice versa This result is in line with the results of studies by Loayza and Shankar (2000), Cohn and Kolluri (2003), Qin (2003), Athukorala and Sen (2003), Hondroyiannis (2004) and Finger and Hesse (2009)

Now, we test our following hypothesis

H_3: Industrial Production Index has negative impact on deposits of conventional banks in Pakistan.

T-statistic value of 1 3707 pertaining to IPI shows that there is insignificant impact of IPI on deposits of conventional banks in Pakistan Our hypothesis pertaining to KSE returns is given as

H_5: KSE returns have negative impact on deposits of conventional banks in Pakistan.

T-statistic value of -4 1476 pertaining to KSE returns shows a significant negative relationship between KSE returns and deposits of conventional banks which reveals that we cannot reject our given hypothesis It means that an increase in KSE returns will result in decrease in deposits of conventional banks and vice versa This result is in line with the findings of Haron et al (2008)

Our hypothesis pertaining to CPI is given as under

H7: Consumer Price Index has negative impact on deposits of conventional banks in Pakistan.

T-statistic value of -2 6763 pertaining to CPI reveals that higher inflation proxied by consumer price index results in higher spending, ultimately causing a reduction in savings and resulting in negative impact on deposits of conventional banks Thus, we conclude not to reject our given hypothesis It means that when prices increase, savings of the people decrease, which ultimately cause to decrease the level of bank deposits This result is in line with the findings of studies by Qureshi (1981), Iqbal (1993) and Haron et al (2008)

In the light of results discussed above, we come to the conclusion that all the variables of interest used in the study have significant relationship with deposits of conventional banks at 5% level of significance except IPI

Results exhibited in Table-2 and Table-3 show that economic indicators and deposits of conventional banks in Pakistan are cointegrated Therefore, the existence of long run and short-run causality between deposits of conventional banks and the economic indicators can be found by using error correction method The lag length results of Vector Error Correction Model are given in Table-5 where C(1) is the error correction term and C(4) to C(11) represent short-run coefficients of economic variables as mentioned against each

Table-5: Vector Error Correction Estimates of DCB

Dependent Variable D(DCB)
Method: Least Squares
Date: 03/24/15 Time 17 12
Sample (adjusted) 2003M03 2013M12
Included observations 130 after adjustments
D(DCB) = C(1)*ECM(-1)+ C(2)*D(DCB(-1)) + C(3)*D(DCB(-2)) + C(4)*D(CPI(-1)) + C(5)*D(CPI(-2)) + C(6)*D(IPI(-1)) + C(7)*D(IPI(-2)) + C(8)*D(KSE(-1)) + C(9)*D(KSE(-2)) + C(10)*D(TB(-1)) + C(11)*D(TB(-2)) + C(12)

	Coefficient	Std Error	t-Statistic	Prob
C(1)	-0 423604	0 162958	-2 599470	0 0094
C(2)	0 539190	0 082858	6 507384	0 3319
C(3)	0 352522	0 082343	4 281137	0 2523
C(4)	-13 87415	5 563213	-2 493909	0 3111
C(5)	-11 99892	5 727571	-2 094940	0 1417
C(6)	2 561316	1 999943	1 280694	0 2749
C(7)	3 208013	1 727705	1 856805	0 1552
C(8)	-1 033318	0 211603	-4 883286	0 0048
C(9)	-1 010772	0 291768	-3 464300	0 0039
C(10)	4 362225	1 729390	2 522407	0 0095
C(11)	2 217817	1 751739	1 266065	0 0162
C(12)	85 23706	13 15662	6 478644	0 0000

R-squared	0 387925	Mean dependent var	39 37296
Adjusted R-squared	0 330867	S D dependent var	102 2435
S E of regression	83 63576	Akaike info criterion	11 77859
Sum squared resid	825403 0	Schwarz criterion	12 04328
Log likelihood	-753 6080	Hannan-Quinn criter	11 88614
F-statistic	6 798791	Durbin-Watson stat	1 959126
Prob(F-statistic)	0 000000		

From the results of error correction estimates of DCB presented in Table-5. C(1) is the error correction term and indicates speed of adjustment towards equilibrium The value of error correction term is 42 36% having negative sign with corresponding p-value less than 5% The result shows that there is a long run causality running from economic

indicators to deposits of conventional banks in Pakistan. In order to check for short run causality, we can make use of Wald Test Results of Wald test are given in Table-6

Table-6: Wald Test-I

Variable	Null Hypothesis	Chi-square Value	Probability (p-value)
CPI	C(4)=C(5)=0	6 378723	0 4102
IPI	C(6)=C(7)=0	9 821788	0 3927
KSE	C(8)=C(9)=0	10 66827	0 0148
TB	C(10)=C(11)=0	1 869395	0 0073

The results given in Table-6 indicate that the null hypothesis pertaining to CPI and IPI cannot be rejected as the corresponding p-values are more than 5% It means the short run coefficients C(4) and C(5) pertaining to CPI as well as C(6) and C(7) pertaining to IPI are jointly zero respectively which implies that there is no short run causality running from CPI and IPI to deposits of conventional banks The results of Wald Test also indicate that the null hypothesis pertaining to KSE can be rejected as the corresponding p-value of 0 0148 is less than 5% It means the short run coefficients C(8) and C(9) pertaining to KSE are not jointly zero which implies that there is a short run causality running from KSE to deposits of conventional banks Similarly, the null hypothesis pertaining to TB can be rejected as the corresponding p-value of 0 0073 is less that 5% It means that the short run coefficients C(10) and C(11) pertaining to TB are not

jointly zero which implies that there is a short run causality running from TB to deposits of conventional banks

5.2 Impact of Economic Indicators on Deposits of Islamic Banks

This section describes the results for long run association between economic indicators and deposits of Islamic banks in Pakistan Johansen-Juselius (1990) trace test results are presented in Table-7 The results reveal that null hypothesis of no co-integration is rejected because its p-value is less than the normal level of significance i e 5%. The other null hypotheses cannot be rejected as their corresponding p-values are greater than 5% level of significance Therefore, from the results of trace statistic, we conclude that there is one cointegrating equation which provides evidence of long run association between economic indicators and deposits of Islamic banks in Pakistan

Table-7: Trace Test Results for Cointegration between Economic Indicators and DIB

Hypothesized No of CE(s)	Eigenvalue	Trace Statistic	0 05 Critical Value	Prob **
None *	0 415217	113 1652	69 81889	0 0000
At most 1	0 172067	45 02780	47 85613	0 0900
At most 2	0 098138	21 04723	29 79707	0 3547
At most 3	0 046543	7 928907	15 49471	0 4730
At most 4	0 014663	1 875944	3 841466	0 1708

Trace test indicates 1 cointegratingeqn(s) at the 0 05 level
* denotes rejection of the hypothesis at the 0 05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table-8 exhibits results of Johansen-Juselius (1990) maximum eigenvalue test The results show that null hypothesis of no co-integration is rejected because its corresponding p-value is less than the 5% level of significance. As the p-values corresponding to other null hypotheses are greater than 5%, therefore, we cannot reject null hypotheses From these results, we come to the conclusion that there is one cointegrating equation which provides evidence of long run association between economic indicators and deposits of Islamic banks in Pakistan These results confirm the results of trace test

Table-8: Maximum Eigenvalue Test Results for Cointegration between Economic Indicators and DIB

Hypothesized No of CE(s)	Eigenvalue	Max-Eigen Statistic	0 05 Critical Value	Prob **
None *	0 415217	68 13743	33 87687	0 0000
At most 1	0 172067	23 98057	27 58434	0 1354
At most 2	0 098138	13 11832	21 13162	0 4414
At most 3	0 046543	6 052963	14 26460	0 6064
At most 4	0 014663	1 875944	3 841466	0 1708

Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0 05 level
* denotes rejection of the hypothesis at the 0 05 level
**MacKinnon-Haug-Michelis (1999) p-values

On the basis of Trace Test and Maximum Eigen Value Test results presented in Table-7 and Table-8, we come to the conclusion that there is long run association between economic indicators and deposits of Islamic banks in Pakistan These findings are in line with the findings of earlier studies by Rachmawati and Syamsulhakim (2004). Yusoff and Wilson (2005) and Haron et al (2008)

The results of Johansen-Juselius test for long run association also give the corresponding coefficients of variables The results of long run coefficients estimates of deposits of Islamic banks corresponding to economic indicators are presented in Table-9

Table 9: Long Run Coefficients Estimates of DIB

Variable	Coefficient	Standard Error	t-statistic
TB	-4 37639	(1 14427)	-3 82461
IPI	3 99091	(1 91435)	2 08473
KSE	-0 30042	(0 60259)	-0 49854
CPI	-3 05255	(1 38907)	-2 19754

From the results of long run coefficients estimates of deposits of Islamic banks presented in the Table-9, we can test our hypotheses developed in Chapter-1 as follows

H_2: ***Interest rate has negative impact on deposits of Islamic banks in Pakistan.***

T-statistic value of -3 82461 pertaining to TB indicates that changes in T-bill rate have significant negative impact on deposits of Islamic banks in Pakistan It means that when interest rate increases, deposits of Islamic banks will decrease and vice versa Therefore, we conclude that the said hypothesis cannot be rejected It can be inferred from this result that customers of Islamic banks have the profit motives also It implies that with the increase in interest rate by the conventional banks, customers of Islamic banks will draw their deposits and shift towards conventional banks This result is in conformity with the utility maximization premise and is also in line with the findings of Ross (1989), Javalgi et al (1989), Khazeh and Decker (1992), Hegazy (1995), Metawa and Almossawi (1998), Athukorala and Sen (2003), Rachmawati and Syamsulhakim (2004), Obaidullah (2005) and Kasri and Kassim (2009) Now, we test our following hypothesis

H_4: ***Industrial Production Index has negative impact on deposits of Islamic banks in Pakistan***

T-statistic value of 2 08473 pertaining to IPI indicates that changes in industrial production index have significant positive impact on deposits of Islamic banks in Pakistan in the long run and thus, we can reject our hypothesis As stated earlier, IPI has been used as proxy for GDP The review of literature shows varied evidences for relationship between savings and growth Moreover, views on the direction of relationship between savings and growth are still under debate The results of this study are in accordance with the findings of the study by Masson et al (1998) Our hypothesis pertaining to KSE returns is given as

H_6: KSE returns have negative impact on deposits of Islamic banks in Pakistan.

Low value of t-statistic -0 049854 pertaining to KSE returns shows that there is insignificant negative impact of KSE on deposits of Islamic banks in Pakistan One possible reason is that when there is volatility in KSE returns, depositors are not sure about return on investment in stock Therefore, in order to have confirmed cash flows, they prefer to deposit in banks instead of investment in stocks that can be one of the reason for insignificant impact of KSE on deposits of Islamic banks in Pakistan

Now, we test our following hypothesis

H8: Consumer Price Index has negative impact on deposits of Islamic banks in Pakistan.

T-statistic value of -2 19754 pertaining to consumer price index indicates that there is significant negative impact of CPI on deposits of Islamic banks in Pakistan From this result, we conclude that our given hypothesis cannot be rejected This result strengthens the findings of Iqbal (1993), Qureshi (1981) and Haron et al (2008) that when prices increase, savings of the people decrease that ultimately cause to decrease the level of bank deposits

In the light of results discussed above, it is concluded that all the economic variables have significant impact on deposits of Islamic banks at 5% level of significance except KSE returns

Results exhibited in Table-7 and Table-8 show that deposits of Islamic banks and the economic indicators in Pakistan are cointegrated Therefore, the existence of long run and short-run causality between deposits of Islamic banks and the economic indicators can be found by using error correction method The lag length results of Vector Error Correction Model are given in Table-10 where C(1) is the error correction term and C(4) to C(11) represent short-run coefficients of economic variables as mentioned against each

Table-10: Vector Error Correction Estimates of DIB

Dependent Variable: D(DIB)
Method: Least Squares
Date: 03/30/15 Time: 19:36
Sample (adjusted): 2003M03 2013M12
Included observations: 130 after adjustments
D(DIB) = C(1)*ECM(-1)+ C(2)*D(DIB(-1)) + C(3)*D(DIB(-2)) + C(4)*D(CPI(-1)) + C(5)*D(CPI(-2)) + C(6)*D(IPI(-1)) + C(7)*D(IPI(-2)) + C(8)*D(KSE(-1)) + C(9)*D(KSE(-2)) + C(10)*D(TB(-1)) + C(11)*D(TB(-2)) + C(12)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.339999	0.081062	-4.194295	0.0001
C(2)	0.537754	0.083167	6.465977	0.0000
C(3)	0.112824	0.016638	6.781004	0.0000
C(4)	-0.000439	0.000704	-0.624268	0.5337
C(5)	-0.000496	0.000704	-0.705064	0.4822
C(6)	0.104439	0.064902	1.609180	0.4740
C(7)	0.111741	0.061988	1.802629	0.3501
C(8)	-1.610069	0.387249	-4.157708	0.0001
C(9)	-0.543970	0.114289	-4.759601	0.0107
C(10)	-38.27557	105.4839	-0.362857	0.7174
C(11)	-75.03797	107.3132	-0.699243	0.4858
C(12)	8.096334	1.205176	6.717968	0.0000

R-squared	0.629155	Mean dependent var	6.634991
Adjusted R-squared	0.594585	S.D. dependent var	7.965895
S.E. of regression	5.072063	Akaike info criterion	6.173138
Sum squared resid	3035.647	Schwarz criterion	6.437833
Log likelihood	-389.2540	Hannan-Quinn criter.	6.280693
F-statistic	18.19929	Durbin-Watson stat	2.490440
Prob(F-statistic)	0.000000		

From the results of error correction estimates of DIB presented in Table-5, C(1) is the error correction term and indicates speed of adjustment towards equilibrium. The value of error correction term is 33.99% having negative sign with corresponding p-value less than 5%. The result shows that there is a long run causality running from economic

indicators to deposits of Islamic banks in Pakistan To check the existence of short run causality running from economic indicators and deposits of Islamic banks, results of Wald test are given in Table-11

Table-11: Wald Test-II

Variable	Null Hypothesis	Chi-square Value	Probability (p-value)
CPI	C(4)=C(5)=0	17 55793	0 6939
IPI	C(6)=C(7)=0	6 362061	0 3415
KSE	C(8)=C(9)=0	0 773160	0 6794
TB	C(10)=C(11)=0	0 730723	0 0002

The results given in Table-11 indicate that the null hypothesis pertaining to CPI, IPI and KSE cannot be rejected as the corresponding p-values are more than 5% This implies that there is no short run causality running from CPI, IPI and T-bill rate to deposits of Islamic banks The results of Wald Test also indicate that the null hypothesis pertaining to TB can be rejected as the corresponding p-value of 0 0002 is less than 5% which means the short run coefficients C(8) and C(9) pertaining to TB are not jointly zero which implies that there is a short run causality running from TB to deposits of Islamic banks

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

This study explores the impact of economic indicators on deposits of conventional and Islamic banks in Pakistan by applying the methods of time series econometrics on monthly data for the period from 12/2002 to 12/2013 The variables of study include deposits of conventional banks, deposits of Islamic banks, KSE-100 index, T-bill rate, consumer price index and industrial production index

Results of Augmented Dickey-Fuller (1981) test show that all the variables are non-stationary at level but become stationary at their first difference Results of Johansen-Juselius (1990) test for cointegration between economic indicators and deposits of conventional banks provide evidence of long-run association between DCB and economic indicators The results for long run coefficients estimates of DCB show that all the economic indicators have significant impact on deposits of conventional banks at 5% level of significance except industrial production index The results reveal that T-bill has significant positive impact whereas KSE returns and CPI has significant negative impact on deposits of conventional banks The Vector Error Correction estimates of DCB show that the error term is significant at 5% level of significance having 42 36% speed of adjustment towards equilibrium This result of VECM shows the existence of long run causality between economic indicators and deposits of conventional banks The Wald

Test indicates that there is no short run causality running from CPI and IPI to deposits of conventional banks but there exists a short run causality running from KSE and T-bill rate to deposits of conventional banks These findings are in line with the findings of earlier studies by Qureshi (1981), Iqbal (1993), Loayza and Shankar (2000), Cohn and Kolluri (2003), Qin (2003), Athukorala and Sen (2003), Hondroyiannis (2004), Haron et al (2008) and Finger and Hesse (2009)

Results of Johansen-Juselius (1990) test for cointegration between economic indicators and deposits of Islamic banks in Pakistan provide evidence of long-run association between DIB and economic indicators The results for long run coefficients estimates of DIB show that T-bill rate, IPI and CPI have significant but KSE returns has insignificant relationship with deposits of Islamic banks The results reveal that T-bill rate and KSE returns have significant negative impact whereas IPI has significant positive impact on deposits of Islamic banks in Pakistan The Vector Error Correction estimates of DIB show that the error term is negative that is significant at 5% level of significance with 33 99% speed of adjustment towards equilibrium This result of VECM shows the existence of long run causality between economic indicators and deposits of Islamic banks in Pakistan The Wald Test indicates that there is no short run causality running from economic indicators to deposits of Islamic banks except T-bill rates These findings are in line with the findings of earlier studies by Qureshi (1981), Javalgi et al (1989), Ross (1989), Khazeh and Decker (1992), Iqbal (1993), Hegazy (1995), Masson et al (1998), Metawa and Almossawi (1998), Athukorala and Sen (2003), Rachmawati

and Syamsulhakim (2004), Obaidullah (2005), Yusoff and Wilson (2005) and Haron et al (2008) and Kasri and Kassim (2009)

6.2 Recommendations

In accepting major findings of this study, the policy makers should be aware that the customers of Islamic banks are vulnerable to the rate of return on deposits and are partly motivated by their religious considerations to put their funds in Islamic system Customers of Islamic banks should be offered market competitive profit sharing rate by the Islamic banks to attract and retain their depositors Islamic banks may educate their customers' about adherence to Shariah in their operations instead of appealing them just by immediate returns

The policy makers of conventional banks should be vigilant in fulfilling the financial as well as religious needs of their customers To satisfy their financial needs, customers require reward in the form of return on their deposits and to remain intact to their religious doctrine, they expect riba free return on their deposits To fulfill both types of needs, conventional banks should offer Islamic contracts to their customers through separate Islamic bank branches The banks which already have Islamic windows can make it more effective by ensuring adherence to Shria'h compliant operation

6.3 Limitations of the Study

This study however, has its certain limitations whereby it has been conducted in a limited time period and variables First, as Islamic baking started in Pakistan in 2002, the data pertaining to deposits of Islamic banks could be available only for the period starting 2003 onwards Second, separate data on deposits of conventional banks was not available, however, data on all bank deposits and deposits of Islamic banks was available which helped in determining deposits of conventional banks Third, monthly data on GDP of Pakistan is not available Therefore, monthly industrial production index (IPI) has been used as proxy for GDP

6.4 Recommendations for Further Research

Further extension of this study may consider whether depositors of Islamic banks are motivated by Sharia'h compliance by Islamic banks or the profit they receive Moreover, investigation on behavioral aspects of the determinants of bank preference can also be a useful study both from academic as well as practitioner's perspective A future research can also be made to study the vulnerability of bank deposits associated with the rating and rate of return risk of the banks

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