Determinants of Islamic Banking Industry's Profitability in Pakistan

Submitted in partial fulfillment of the requirement for the degree of MS-IBF

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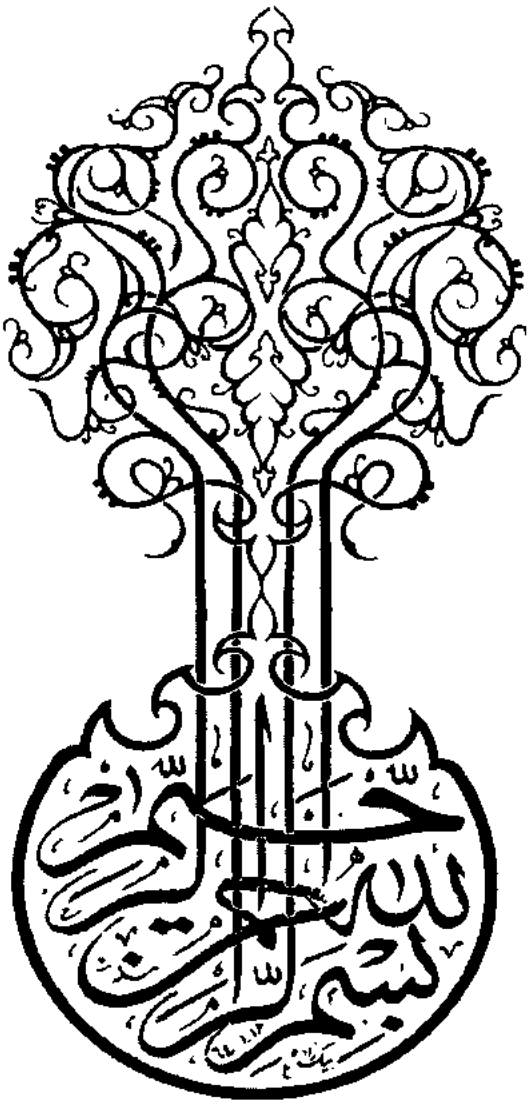

Allah will exalt in degree those of you who believe and those who have been granted knowledge.

(Chapter: 58, Verse: 11)

APPROVAL SHEET

DETERMINANTS OF ISLAMIC BANKING INDUSTRY'S PROFITBILITY IN PAKISTAN

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Muhammad Abubakar Siddique

Abstract

Various efforts have been made to promote Islamic Banking in Pakistan; however, to find out how Islamic Banking could be promoted, it is important to explore the things that determine the growth of Islamic Banking. The studies on the determinants of Islamic banking either focus on internal determinants or on external determinants. Because of, not taking into account both internal and external factors, the studies are subject to missing variable bias. This study takes into account both internal and external determinants and empirically investigate the core determinants of growth of Islamic banking Industry (IBI) in Pakistan and evaluate the relative importance of internal and external factors in IBI's growth during the period 2004-2012. Quarterly unbalanced panel data have been used for ten Islamic banks: Five full-fledged Islamic banks and Standalone Islamic branches of five Conventional banks. Encompassing Approach and General to Specific methodology has been used to select the most appropriate model. The study found that internal factors were relatively more important than external factors. Internal factors; total assets, operating expenses over total assets, number of branches, capital ratio, liquidity and external factors like inflation and interest rate were significantly related to return on asset in both long run and short run while only inflation did not show any significant impact on ROA in the short run.

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CHAPTER 1

INTRODUCTION

Federal Government of Pakistan is interested in promoting Islamic Banking as it has constituted a steering committee[1] that would suggest real sharia compliant banking and financial system (Tribune, 2013). As believers of perfect and last religion (Deen), we are responsible to provide alternate of interest based banking systems in the light of Quran and Sunnah. Moreover, according to the verdict of the Supreme Court of Pakistan (1999) regarding promoting Islamic financial system, it is very important to find out the way through which Islamic Banking can be promoted. With their collaboration, contemporary Muslim Jurists, economists and finance experts have developed sharia compliant Banking and Financial system that is alternate of interest based conventional system, but it needs further development with the passage of time.

At this stage it is very important to find out the factors that may increase the profitability of Islamic banking. As such, an understanding of the determinants of the profitability of financial institutions such as the banks is essential and crucial to the stability of the economy (Kutsienyo, 2011).

[1] The committee will include ten members, supervised by Saeed Ahmad, an actuary and a banker. Other members include Maulana Mufti Muneeb-ur-Rehman, a renowned religious scholar, M. Imran Usmani, Dr. Waqar Masood Khan, Finance Secretary, Munir Kamal, Afaq Khan, Irfan Siddiqui, Atif Bajwa, Mian Muhammad Idrees, industrialist and Director Islamic Banking Department of State Bank of Pakistan.

1.1 Research Gap

A lot of Work has been done in the past; however, some steps need to be taken to bring reforms in regulation and policies to promote Islamic banking in Pakistan. A number of studies have been conducted to find out the determinants of the profitability of Islamic banking in different countries (Haron, 1996; Bashir, 2000; Alkassim, 2004; Al-Tamimi, 2005; Haron & Nursofiza, 2009; Kutsienyo, 2011; Husni, Walid & Ali, 2011; Akhter, Raza, Orangzab & Akram, 2011; Faizulayev, 2011 and there are also some studies on the topic specific to Pakistan like Awan, 2009; Khan, Bakhtiar, Hussain & Javed, 2012; Ali, Shafique, Razi & Aslam, 2012; Manzoor, Aqeel & Sattar, 2010; Ramzan et al., 2012). All these studies did not consider internal and external factors collectively. Therefore, these studies are subject to missing variable bias. Moreover, they used different models and variables taking sample of one, two or four Islamic banks which does not represent the industry. Further, they used very small sample of annual data which is not capable of providing precise measurement of the coefficients of a model. Therefore, this study will fill this gap by;

i) Using models and variables of previous studies it will select the most relevant variables employing Encompassing Approach and General to Specific method.
ii) Using available latest unbalanced quarterly panel data for the period 2004-2012.
iii) Considering sample of ten banks, including five full-fledged Islamic banks and five conventional banks operating through Islamic banking divisions.

1.2 Objectives of the study

The main objectives of the study are:

i) To empirically investigate the determinants of profitability of Islamic banking Industry (IBI) in Pakistan.

ii) To evaluate the relative importance of internal and external factors in Islamic banking industry's profitability.

1.3 Significance of the study

This study will be beneficial for all those who want to promote the Islamic banking by identifying the factors which enhance the profitability of this sector and want to assess whether the regulatory factors, like taxes are important in determining the profitability of Islamic banking or not. This study will be beneficial to Islamic banks, the regulators and other stake holders like the customers. This study is different from previous studies in a way that it presents Islamic banking as an industry taking into account ten banks which includes five full-fledged Islamic banks and five conventional banks operating through Islamic banking divisions.

1.4 Outlines of Thesis

The first chapter of the research has presented brief introduction, identified research gap and significance of the study and framed objectives, while chapter two will present the history of Islamic banking over the globe in general and in Pakistan in specific. Chapter three reviews the literature on the determinants of banking growth from both perspectives the conventional and Islamic. Chapter four discusses Methodology and Data and chapter five presents Results and Discussion. Finally chapter six presents conclusions and recommendations.

CHAPTER 2

DEVELOPMENT OF CONTEMPORARY ISLAMIC BANKING

This chapter begins with background of Islamic banking in which development of Islamic banking is briefly discussed and tried to find out its basic roots in Islamic history. After that it discusses when and where Islamic banks started to operate officially for the first time in the world. Some statistical evidences are also presented on the increasing growth of Islamic banking over the globe. This chapter also puts light on the hidden corners of history of basic research regarding Islamic finance and briefly introduces the work made by Islamic scholars of subcontinent in this field. The mid part of the chapter explains the historical development of Islamic banking in Pakistan, which includes the governmental efforts, judgment of the Federal Sharia Court, Supreme Court against the interest base system and efforts on the level of State bank of Pakistan. At the end, it is proved that Islamic banking is growing in Pakistan with some statistical evidences and describes unique features of the Islamic Financial System.

2.1 Background

Islamic banks are providing interest free services based on profit and loss sharing (Arif, 1988). The concept of Islamic mode of finance is not new, rather it started when Islam declared the impermissibility of Riba (Dar & Presley, 1999; Chapra, 2000). The guidance for all institutional developments in Islamic society is to be derived from the principles of

sharia. The form and concepts of Islamic banking practices have therefore to be figured out from the teachings of Islam.

There was no model of modern banks in the early history of Islam. The attitude of Islam to all known innovations is that nothing should stand in the way of their adaptation if they are beneficial for society and do not contradict with the fundamental principles derived from the Qur'an and Sunnah. One can find a number of examples, in early Islamic history, of keeping one's Amanah, Mudarabah and Musharakah contracts, Salam based transaction and sometimes accepting one's Amanah as a Card etc. which can be attributed to modern banks like transactions. For example Hazrat Al-Zubair bin al-awam would refuse to accept the money from people as a trust. He used to say that he was taking money as a loan or qard. It is mentioned in Sahih Bukhari: "*If somebody brought some money to deposit with him. Az Zubair would say, "No, (i won't keep it as a trust), but I take it as a debt, for I am afraid it might be lost*".[2]

2.2. History of Islamic Banking in the world

Islamic finance was practiced mostly in the Muslim world during the middle-ages. In Spain and the Mediterranean and Baltic states, Islamic merchants became essential middlemen for trading activities. Many ideas, methods, and instruments of Islamic finance were later implemented by European investors and traders (Zaher & Hassan, 2001).

[2] Al-Bukhari, Muhammad bin Ismail (256H),"Sahih al-Bukhari", Ch. Of Al-Jihad, Vol: 6, P: 175. Karachi

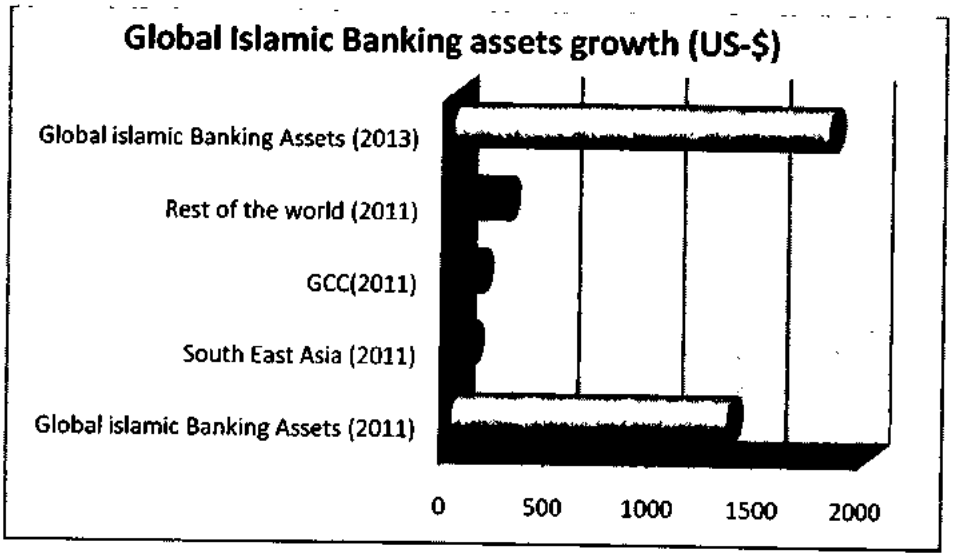
In 1900s, Islamic economists and jurists started criticizing interest based banking and financial system in Muslim countries and presented the idea of Islamic banking and financial system. They also realized the importance of the banking system for the economy, but in their own Islamic way to obey the Allah and His Rasool SAW.

Egypt and Malaysia implemented Islamic financial rules and models for the first time in *Mit Ghamr Saving Bank* and Tabung Haji simultaneously in 1963 (Amran, 2011). These attempts were primary attempts to introduce Islamic finance as a separate system. Islamic world adopted and encouraged the newly developed idea of Islamizing the economic, banking and financial system. In 1973 the president of Philippine ordered to establish a Philippine Amanah Bank (PAB) to facilitate Muslims to meet some of their financial needs without interest. In 1989 it was renamed with Al-Amanah Islamic Investment Bank of the Philippines.[3]

First formal Islamic commercial bank was established in 1975 under the name Dubai Islamic Bank (Chachi, 2005). During the 1980s, there was a flood of Islamic banks all over the world[4] and the trend has continued to date. According to Hamid (2005) there were more than 300 Islamic financial institutions across the globe in 2005. Islamic banking has grown its strong root in the financial system and the assets of Global Islamic banking industry are estimated to touch US$ 1.8 trillion till December 2013 from US$ 1.3 trillion in December 2011, and to reach US$ 2 trillion by December 2014 (Figure-2.1).[5]

[3] Wikipedia Al-Amanah Islamic Investment Bank of Philippines, Web. 4 Sep 2013.
[4] International Trade Center, "A guide for Small and Medium Sized Enterprises", New-York, 2009
[5] World Islamic banking competitiveness report 2012-13

Figure-2.1



2.3. Role of *Ulama* of Sub-continent regarding research in Islamic finance

The scholars of the subcontinent have played a vital role in the development of Islamic financial system. Jurists of subcontinent like Brailvi (1856-1920), Thanwi (1863-1943), Seoharvi (1970) and Maududi (1903-1979) are the key persons who wrote on modern financial issues of their time in their fatawa and books. They played a key role in research area regarding economics and finance.

Brailvi (1856-1920) was the first scholar in the world to write about the modern financial issues in the light of Sharia. He discussed the status of the currency and its relative matters like Zakat on currency, Salam in the currency and the sale and purchase of goods with currency, etc. in his research article (1906) in Arabic "

" which is available in Urdu now. He was also the first person who issued

fatwa on the use of interest in asset pricing as a benchmark and concluded that impurity of interest will not enter in price or rent of the asset and price or rent will remain valid though the benchmark is impure. Moreover, he issued a lot of fatawa on financial matters like remittances, benevolent fund, loan, money order, etc., which are compiled and part of "*Fatawa Rizwiyyah*[6]".

Thanwi (1863-1943) a well known scholar of subcontinent issued different fatawa on modern financial matters of his time which are available in Imdad ul Ahkam, Imdad ul Fatawa and Fiqhi Mabahis.

Seoharvi (1970) and Maulana Maududi (1903-1979) strongly opposed and condemned riba based banking and wrote in detail on modern banking and financial system and Islamic alternates in their books *Islam ka Iqtisadi Nizam* and *Hurmat e sood* respectively. Later their research provided a base for the modern structure of Islamic banking and finance.

2.4. History of Islamic Banking in the Pakistan

Pakistan emerged on the map of the world and came into reality from dream as the first republic created in the name of Islam on August 14, 1947. Islam was acknowledged as the official religion of Pakistan, according to the first constitution of Pakistan in 1956. It was affirmed in constitution that no regulation could be made that contradicts with Islam (Tanzeel, 1997), because Islam is the religion which can keep us in the right direction of progress, development and everlasting justice.

[6] Fatwa Rizwiyyah consists upon thirty volumes out of which 4 volumes include financial matters.

2.4.1. Address of Quaid-I-Azam: A landmark for Islamic Banking Industry

As Quaid-I-Azam (AR) said in his speech at the opening ceremony of the State Bank of Pakistan on 1st July, 1948:

"The adoption of Western economic theory and practice will not help us in achieving our goal of creating a happy and contended people. We must work our destiny in our own way and present to the world an economic system based on the true Islamic concept of equality of manhood and social justice. We will thereby be fulfilling our mission as Muslims and giving to humanity the message of peace which alone can save it and secure the welfare, happiness and prosperity of mankind".[7]

Quaid-e-Azam, Muhammad Ali Jinnah, the founder of Pakistan, making a speech at the opening of the State Bank of Pakistan.

However, after the death of Jinnah, No solid effort was made for Islamization of economy at governmental level.

2.4.2. Governmental Efforts for eradication of riba

In Pakistan, idea of the interest free economy and financial system emerged as a response to both religious and economic needs. Conventional banks were not fit for Muslims because of its exploitation and interest base operations. Muslims used to ask permission from Sharia scholars whether they can submit their deposit in banks or not, therefore it was economic and financial as well as religious need. According to Usmani (2009) efforts for eradication of '*Riba*' from economy started in 1975 when Islamic

[7] SBP, Quaid-i-Azam Speech 1948, Web.

ideology council[8] presented a report about how to eradicate interest from banking and financial system. But the report was not given much importance.

During 1977-78, Pakistan was the third country in the world that had been trying to employ interest free banking at national level (Saeed, 2011). Some primary practically efforts were made in Zia-ul-Haq era in this regard like opening of separate interest free counters in the Conventional Banks on Jan, 1980, launching of Musharaka on July 01, 1982 to meet the working capital needs of trade and industry and introducing the Profit and loss sharing (PLS) basis with Conventional Banks on April 01, 1985 to eradicate the interest from the financial system. Usmani (2009) mentioned that in 1990s when, Federal Shariat Court was established and it announced on the 23rd of December, 1991 that the existing banking and financial system and some fiscal laws were interest based in Pakistan and interest base transactions in banks would be ceased and it would be effective from June 30, 2001.

Despite the public pressure to implement the Federal Sharia Court judgment, government lodged appeal against the Federal Sharia Court judgment in the Supreme Court on 26th of May 1992 and put the matter to delay for seven years. On Dec 23, 1999, the Supreme Court unanimously declared the judgment that *riba* violates *Shariah* principles and instructed the government to eradicate the interest from economic and financial system of Pakistan by the 30th of 2001. The government pretended that it was trying to implement, but could not do that because prescribed time limit was too short.

[8] The report (1975) was prepared under a committee that consisted upon Mufti Muhammad Hussain Naeemi, Mufti Taqi Usmani, Mufti Sayyahuddin kaka Khail, Shamas-ul-Haq Afghani ect.

However, it asked for an extension to the 30th of June 2002 to implement the Supreme Court verdict. Due to impure intention of political leaders it was not going to be done in any way. However, on the 6th of June, 2002, government submitted that prescribed parameters for removal of interest from the financial and economic system were not feasible and any attempt in this regard would cause damage to the economy of Pakistan (Khan & Bhatti, 2008).

In short all efforts regarding the development of Islamic economic and banking system remained fruitless for a long period of time due to many reasons, i.e. lack of political interest, slow judicial process against interest applications, lack of Islamic financial expertise, etc. Since 2002, a handful of private Islamic banks have emerged to operate on a limited scale in Pakistan (Khan & Bhatti, 2008).

2.4.3. Initiative of State Bank of Pakistan to promote Islamic banking

The government of Pakistan has decided to promote Islamic banking since 2001 as a parallel system in line with global practices.[9] To fulfill this plan, SBP started its work under three different strategies; the private sector was allowed to open full-fledged Islamic banks, Conventional banks were permitted to set up Islamic banking subsidiaries and to open stand-alone Islamic banking branches.[10] SBP published guidelines for these three strategies off and on. SBP made it mandatory for conventional banks maintain separate accounts for standalone Islamic branches and to operate Islamic banking branches and subsidiaries in isolation with their conventional major counterpart. SBP also made it

[9] Pakistan's Islamic Banking Sector Review 2003-07, P:7
[10] The 2002 Supreme Court Judgment on Riba Case Review, Para no. 7.

mandatory to appoint a Sharia Advisory Board and fixed all guidelines regarding Sharia Board, its role, duties, responsibilities, selection criteria and limitations. All schedules of charges would be signed by the sharia advisory board as an approval of Shariah compliance. All Islamic banks were advised to pursue prerequisites of Islamic modes of financing regarding their products and services. The prerequisites prescribed by SBP till date relates to the subsequent modes of finance.[11]

The first full-fledged Islamic bank started working in 2002 known as Meezan Bank.[12] Since 2002, the Islamic banking industry has shown constant and remarkable growth, surpassing the growth rates achieved by the conventional banks during the past five years. Being principally a religious society the ever growing Islamic finance industry of Pakistan provided opportunities to a fairly large segment of the general population that were outside the conventional banking system.[13] This is the reason that people welcomed the Islamic banking and put their savings in different Islamic modes in the industry. Islamic banks are offering financing and investment facilities through following modes shown in table 2.1.

[11] Pakistan's Islamic Banking Sector Review 2003-07
[12] Meezan Bank, Corporate file, http://www.meezanbank.com/MeezanBank1.aspx
[13] Pakistan's Islamic Banking Sector Review 2003-07, P:7

Table 2.1

Corporate Financing	Consumer Financing	Investment
Musharakah	Diminishing Musharakah	Musharakah
Mudarabah	Ijarah	Mudarabah
Diminishing Musharakah	Murabaha	Wakalah
Ijarah	Salam	**Inter bank**
Murabaha	Istisna	Musharakah
Istisna	Qard	Mudarabah
Tijarah	Wakalah	Wakalah
Salam	Musawamah	Credit Sale of Sukuk
Istijrar		**Other**
Wakalah		Kafalah

Source: *SBP Islamic banking review2003-07*

* Tawarruq can be used in special cases requiring unambiguous prior approval of Islamic Banking Department of SBP

2.5. Some Evidences of Islamic banking industry's growth in Pakistan

At the end of the 2003, there were one full-fledged Islamic bank and three conventional banks operated stand alone Islamic branches in Pakistan. This number increased rapidly within the coming years. By the end of 2012 there were five full-fledged Islamic banks and thirteen conventional banks operating Islamic banking branches in different cities. The Islamic banking branches (IBB) network reached 1094 in December 2012 out of which 727 branches were operated by full-fledged Islamic banks and 367 standalone Islamic branches were operated by Conventional banks[14] (Table 2.2). In Annexture 1, there is comparison between full-fledged Islamic banks and Conventional

[14] SBP Islamic Banking Bulletin December 2012.

banks operating Islamic banking regarding branch network growth between the period 2007-12.

Figure- 2.2 Islamic Banking Branches Network of 10 Banks in Pakistan

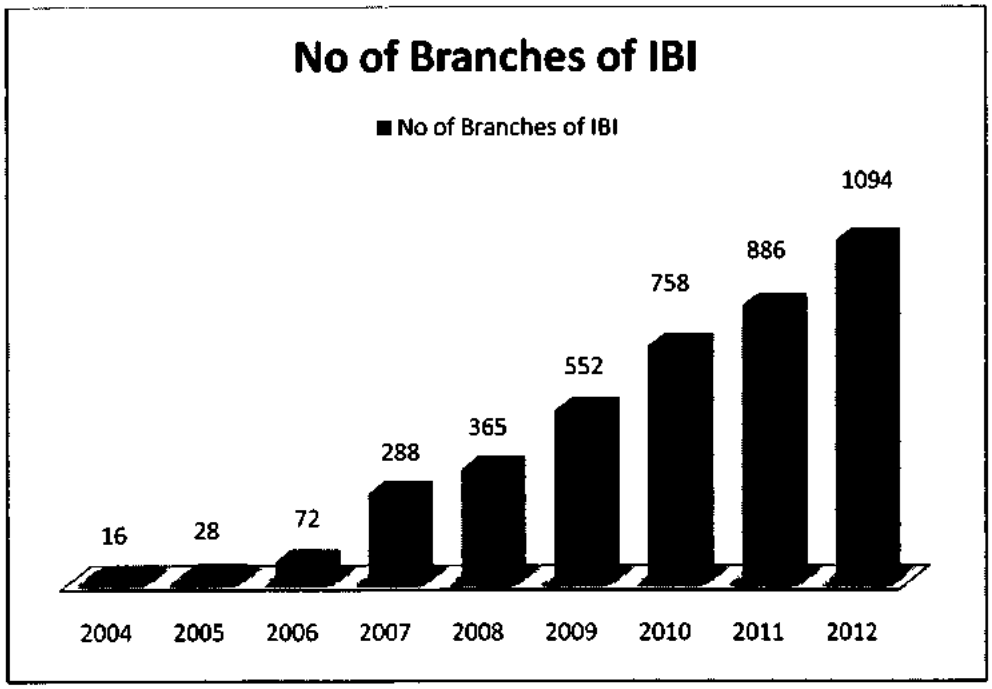


Table 2.2 **Islamic Banking Branch Network (2007-12)**[15]

Type	Name of Bank	2007	2008	2009	2010	2011	2012
Islamic Banks	AlBaraka Bank (Pakistan)	18	20	29	87	87	92
	BankIslami Pakistan	36	37	70	70	70	88
	Burj Bank (Dawood IB)	7	14	42	42	42	67
	Dubai Islamic Bank Pakistan	18	20	35	57	75	100
	Meezan Bank	106	113	166	233	275	310
	Emirates Global Islamic Bank	24	24	58	0	0	0
Sub Total		185	204	342	489	549	657
Islamic branches of conventional banks	Askari Bank	14	0	29	29	29	33
	Bank AL Habib	4	4	6	8	11	13
	Bank Alfalah	32	32	60	80	85	110
	Faysal Bank	0	0	6	10	45	52
	Habib Bank	1	1	1	19	22	33
	Habib Metropolitan Bank	4	4	4	4	4	4
	MCB Bank	8	8	11	14	22	27
	National Bank of Pakistan	3	3	8	8	8	8
	Silkbank	0	0	0	0	0	7
	Soneri Bank	4	4	6	6	7	8
	Standard Chartered Bank (PAK)	8	8	11	15	15	14
	The Bank of Khyber	17	17	18	21	26	36
	ABN Amro Bank N.V.	3	0	0	0	0	0
	United Bank	5	5	5	6	14	22
Sub Total		103	86	165	220	288	367
Sub Branches	Al Baraka Islamic Bank		0	0	2	2	2
	Askari Bank		2	2	2	2	2
	BankIslami Pakistan		32	32	32	32	58
	Burj Bank (Dawood IB)		6	8	8	8	8
	MCB Bank		0	0	2	2	0
	Meezan Bank		35	0	0	0	0
	The Bank of Khyber		0	1	3	3	0
	Emirates Global Islamic Bank		0	2	0	0	0
	Habib Bank		0	0	0	0	2
	United Bank		0	0	0	0	1
Sub Total			75	45	49	49	70
Grand Total		288	365	552	758	886	1094

[15] Source is SBP Islamic banking bulletins: 2007-2012

Asset size of Islamic banking industry (IBI) constantly grew during last six years as it expanded from Rs. 44 billion in December 2004 to Rs. Rs 837 billion in December 2012 (Figure-2.3) and the share of this industry to total banking in term of assets also remains increasing at high pace (Figure-2.4).

Figure-2.3

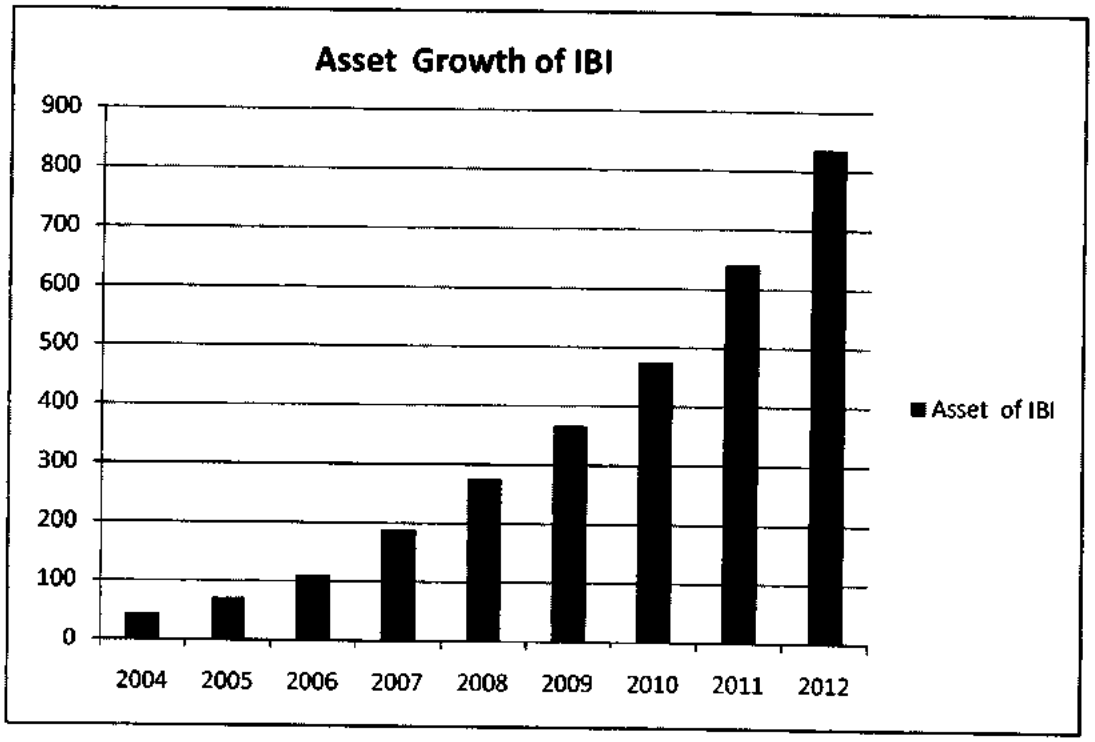
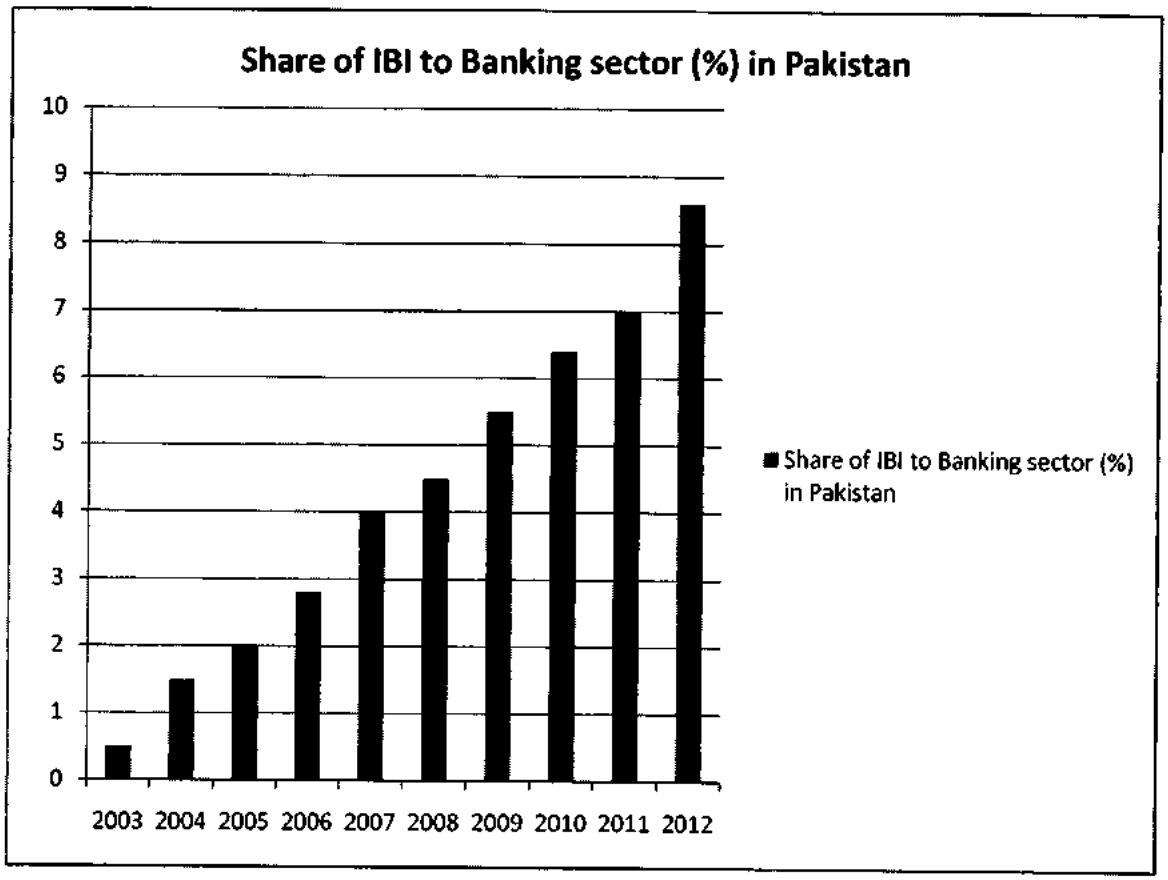


Figure-2.4


Share of IBI to Banking sector (%) in Pakistan
10
9
8
7
6
5
4
3
2
1
0
2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Share of IBI to Banking sector (%) in Pakistan

2.6. Unique Feature of Islamic Financial System

Islamic financial System possesses following unique features;

i. Islamic modes of finance draw their legitimacy from the tenets of sharia. Sharing of profits & losses and real asset basis provides the foundation of the Islamic banking system on opposed to the fixed interest based contracts by the conventional banking which are not only prohibited in Islam but also promote concentration of wealth.

ii. In Islamic Financial system, a predetermine lump sum amount or a specific percentage of price of commodity can be charged as profit in addition with the price in all contracts under the sale mode like Murabaha, Salam and Istisna, while participatory modes of finance; Musharakah and Mudarabah allow sharing of profits and losses.

iii. It is a necessary condition for the permissibility of Musharakah and Mudarabah contracts that parties must determine profit ratio at the time of entering into the contract. No predetermined lump sum amount or a specific percentage of investment can be fixed as profit for anyone.

iv. The Islamic financial system promotes the concept of risk sharing in the partnership based transaction.

v. Islamic banks are not allowed to realize a profit under lending and borrowing transactions to avoid riba.

vi. Islamic banks have to adopt KIBOR (Karachi interbank offer rate) because they are working in conventional capital market in the absence of Islamic capital

market. But they use KIBOR as a bench mark which does not vary after price is determined.

vii. Islamic Financial System suggests two options for capitalist, whether he should lend his idle money to the needy ones without any interest (Qarz e Hassan) or he should invest it to make some profit, but bearing the risk of loss and there is no third option for him (Shah, 1998). Contrary to this conventional banking system accept deposit form the investors and lend to the borrowers to realize margin of profit which in all respects is considered as riba. The following *Hadith* clearly specifies this principle that right of realizing a profit does not arise without bearing of risk of loss.

عن عائشة قالت قضى رسول الله صلى الله عليه وسلم أن الخراج بالضمان[16]

Hadhrat Aisha (RA) reported that the Holy Prophet (صلى الله عليه وسلم) decided that verily Gain accompanies the liability for loss.

[16] Al-Nisa'ai, Imam Ahmad bin Shoaib (303H), "Sunan Al-Nisa'ai", Kitab-ul-Buyoo, Hadith No.4490, Daar-ul-Basha'air Al-Islamiah, Bairut.

CHAPTER 3

LITERATURE REVIEW

3.1. Measure of Profitability

There are multiple indicators of the profitability of banking sector, including Return on asset (ROA), Return on equity (ROE) etc. However, the most commonly used measure is ROA, because the ROA has appeared to be the main ratio for the evaluation of profitability of banks (Golin, 2001). Many of the researchers used ROA as a measure of profitability for banking sector, e.g. sees Hassan and Bashir, 2003; Alkassim, 2005; Athanasoglou, Brissimis & Delis, 2005; Imad, Qais & Tahir, 2011; Belayneh, 2011; Tobias & Themba, 2011; Kutsienyo, 2011; Husni, *et al.* (2011) and Gul, Irshad & Zaman, 2011.

According to Bashir (2000) ROA is the best measure of efficiency of the banking sector. This proxy has several advantages such as one can analyze, by looking at ROA, whether bank's management is capable to generate profit from its assets and ROA is a common indicator of performance of management (Ross, Westerfield & Jaffe, 2005) and computes profit per dollar of asset reflecting how effectively the management of the bank has used assets to generate higher profit (Naceur, 2003). On the other hand, many studies used ROE as a proxy for the development of banks.

3.2. Determinants of Bank's profitability

The studies undertaken regarding determinants of Islamic banking growth are not many. These studies have been conducted through different frameworks such as saving theory, profitability, demand and supply and efficiency of the sector. The literature divides the determinants of Islamic banking growth into two categories, namely external and internal.

Internal variables remain, generally, within the control of bank management and can be further classified into two categories viz. financial statement variables and non financial statement variables. While financial statement variables relate to the decisions which directly involve items in the balance sheet and income statement and non-financial statement variables involve factors that have no direct bearing as the financial statements, e.g., number of branches, status of the branch, location and size of the bank (Haroon, 2004) (Table 3.1). Table 3.1 defines the variables used in previous literature.

External determinants are those factors which are not in the control of the bank's management (Kharawish, 2011). Among the widely discussed external variables are GDP per capita, GDP growth, regulations, market interest rate, inflation etc. (Table 3.2).

Table 3.1: Definition of Internal Variables used in Literature		
Variables	**Definition**	**Empirical Evidence From banking Literature**
Growth Measure	ROA= Net income / Total asset	Haslem (1968), Berger (1995), Bashir (2000), Naceur (2003), Hassan and Bashir (2003), Ross et al (2005), Alkassim (2005), Yuqi Li (2006), Athanasoglou *et al.* (2008), Indranarain Ramlall (2009),), Imad *et al.* (2011), Belayneh (2011), Tobias and Themba (2011), Kutsienyo (2011), Husni, *et al.* (2011) and Gul, et al. (2011).
Bank's size	Logarithm of Total Assets	Emery (1971), Vernon (1971), Heggested (1977), Short (1979), Kwast and Rose (1982), Smirlock (1985), Boyd and Runkle (1993), Akhavein, et al. (1997), Molyneux and Seth (1998), Bikker (1999), Genay (1999), Hassan (2001), Bikker and Hu (2002), Spathis et. al (2002), Hassan and Bashir (2003), Naceur (2003), Halkos and Salamouris (2004), Kahf (2004), Goddard et al. (2004), Al-Tamimi (2005), Vong and Chan (2006), Burki and Niazi (2006), Koasmidou (2008), Naceur and Goaied (2008), Ramlall (2009), Sufian (2009), Gropp & Heider (2010), Asma *et al.* (2011), Ali, Akhtar, & Sadaqat (2011), Idris *et al.*(2011), Khan et al (2011), Husni, *et al.* (2011), Husni, *et al.* (2011), Kutsienyo (2011), Akhtar *et al.* (2011) and Saeed et al (2013).
Capital	The total equity of bank / total asset.	Bourke (1989), Kunt and Huizingha (1997), Anghazo (1997), Bashir (1999), Bashir (2000), Naceur (2003), Bashir (2003), Hassan and Bashir (2003), Haron (2004), Kosmidou (2007), Toni (2008), Kutsienyo (2011), Javaid, *et al.* (2011), Sehrish, *et al.* (2011) and Husni, *et al.* (2011)
Liquidity	Total loan of bank / total asset.	Bourke (1989), Molyneux *et al.*, (1992), Kunt and Huizingha (1997), Guru *et al.* (1999), Hassan and Bashir (2003), Kosmidou *et al.* (2005), Vong & Chan (2005), Kutsienyo (2011), Akhtar *et al.* (2011), Husni, *et al.* (2011) and Javaid, *et al* (2011)
Asset Quality	Provisions for bad debts / total asset	Abreu and Mendes (2000), Naceur (2003), Staikouras and Wood (2003), Bashir and Hassan (2003), Beatty and Liao (2009) and Mustafa et al (2012)
Expenses management	Operating expenses / total asset	Berger and DeYoung (1997), Bashir (2003), Haron (2004), Kosmidou et. al. (2005), Izhar and Asutay (2007), Sufian and Habibullah (2010), Ahmad and Noor (2011), Ramadan et al (2011) and Teng et al., (2012)
Deposits	Deposits / Total assets of bank	Singh and Chaudary (2009), Davydenko (2010), Kutsienyo (2011), Javaid, *et al.* (2011) and Sehrish, *et al.* (2011), Mustafa et al (2012)
Employment	Total number of branches	Hester and Zoellner (1966), Emery (1971), Zardkoohi and Kolari (1994), Seale (2004), Indirani (2006), Liu and Hung (2006), Rohmah (2006), Owizy (2007), Akkus and Hortacsu (2007) and Mukhlisin (2010)
ADDEP	Advances / Deposits of bank	Bourke (1989), Molyneux *et al.*, (1992), Guru *et al.* (1999) Kosmidou *et al.* (2005) and Teng et al (2011).

Table 3.2:	Definition of External Variables used in Literature	
Variables	**Definition**	**Empirical Evidence From banking Literature**
GDP	Log of Gross Domestic product	Hogarth *et al.* (1998), Kunt *et al.*, (1999), Bikker *et al.*, (2002), Bashir (2003), Haroon (2004), Naceur and Goaied (2006), Athanasoglou *et al.*, (2008), Uhomoibhi (2008), Kosmidou (2008), Srairi (2009), Sufian and Habibullah (2010), Ramadan et al. (2011), Kutsienyo (2011), Kharawish et al. (2011), Walid *et al.* (2011) and Teng, *et al.* (2012)
Inflation	Inflation rate	Revell (1980), Bourke (1989) and Molyneux and Thornton (1992), Haron (1996), Staunton *et al.* (2002), Boyd et al (2000), Kosmidou (2008), Staikouras et al. (2008) and Walid *et al.* (2011)
Money Supply	Log of M2 (IFS 2011)	Molyneux and Thornton (1992), Haroon (1996), Haron and Azmi (2004), Badaruddin *et al.* (2009), Sufian and Habibullah (2009), Krakah and Ameyaw (2010), Kutsienyo (2011), Teng, *et al.* (2012)
Interest rate	Discount rate, IFS 2011	Nienhaus (1983), Khan (1983), Haron (1996), Haron and Ahmad (2000), Hassan and Bashir (2003) and Kasri (2010)
Regulation	Tax paid by Islamic banks	Peltzman (1968), Kunt and Huizinga (1999), Bashir (2000), Tang et al (2003) and Hassan and Bashir (2003)
Market share of bank	Total deposits of an Islamic bank as a percentage of a country's total deposits	Heggested and Mingo (1976), Arnold and John (1976), Mullineaux (1978), Shaort (1979), Smirlock (1985) and Haroon (2004)
COMPET	Total deposit of bank to total deposit of Islamic banking industry	Emery (1971), Lindley et al (1992), Haron (1996), Whalen (1988), Hassan and Bashir (2003), Kunt and Huizinga (2001) and Teng et al., (2012)

3.3. Findings of previous studies

3.3.1. Effects of Internal determinants on profitability

Asset size is one of the major determinants of Bank's growth; however, there is controversy on how it relates to the banking growth. Many people thought that the asset size positively related with banking growth and there are large number of studies supporting this including Kahf, 2004; Al-Tamimi, 2005; Burki & Niazi, 2006; Sufian, 2009; Gropp & Heider, 2010; Asma *et al.*, 2011; Ali, Akhtar, & Sadaqat, 2011; Idris *et al.*, 2011; Khan et al., 2011; Husni, *et al.*, 2011; Saeed et al., 2013. On the other hand, a large number of people found negative relation between asset and profitability. They argued that large asset size increased the bureaucratic procedure therefore efficiency is decreased. This view was first reported by Berger et al., 1987. This result was supported by later studies, e.g. Boyd and Runkle, 1993; Hassan, 2001; Spathis et al., 2002; Hassan and Bashir, 2003; Naceur, 2003; Koasmidou, 2008; Naceur and Goaied, 2008; Husni, et al., 2011; Kutsienyo, 2011; Akhtar *et al.* (2011). There are also a number of studies according to which there was an insignificant relation between asset and profitability, e.g. Emery, 1971; Vernon, 1971; Heggested, 1977; Kwast & Rose, 1982; Smirlock, 1985.

The capital adequacy ratio is also an important growth determinant for the banking sector. Many researchers e.g. (Bourke, 1989; Kunt and Huizingha, 1997; Anghazo, 1997; Bashir, 1999; Bashir, 2000; Naceur, 2003; Bashir, 2003; Hassan and Bashir, 2003; Haron, 2004; Kosmidou, 2007; Toni, 2008; Kutsienyo, 2011; Javaid, *et al.*, 2011; Gul, *et al.* 2011; Husni, *et al.*, 2011) used this ratio considering that higher the capital ratio, lower the

risk is and they also considered that higher capital adequacy ratio is a guarantee of safety for banks. They found that capital ratio was significantly positively related with ROA.

Liquidity is also used as a determinant of banking growth. Bourke (1989), Kunt and Huizingha (1997), Kosmidou *et al.* (2005), Kutsienyo (2011), Akhtar *et al.* (2011) and Javaid, *et al* (2011) found that liquidity had a positive impact on profitability. But Vong & Chan (2005) suggested that higher liquidity ratio does not necessarily generate higher profits. However, Molyneux and Thornton (1992), Guru *et al.* (1999), Hassan and Bashir (2003) and Husni, *et al.* (2011) discovered the negative impact of liquidity on ROA.

According to Singh and Chaudary (2009) there was no significant relationship between deposits to asset ratio and banking profitability of the banking sector. Kutsienyo (2011) used ROA as the measure of bank profitability and found that deposits to asset ratio were significantly positively related to bank profitability. These results were also confirmed by Javaid, *et al.* (2011) and Gul, *et al.* (2011) who found a strong influence of deposits to asset ratio on the profitability. While Mustafa et al (2012) found the negative relationship between deposit to asset ratio and ROA of Pakistani banks. He, further, explained that negative association of deposit to asset ratio with ROA indicated high competition in the banking sector due to which banks often pay higher profits on to attract depositors. This eventually decreases profits of banks (Davydenko, 2010).

Bashir (2003), Haron (2004), Izhar and Asutay (2007) and Ahmad and Noor (2011) found a positive relationship between expenses and ROA of Islamic banks. But it does not

mean that expenses are always positively related to returns as most of the studies have found a negative relationship between the two. Berger and DeYoung (1997), Kosmidou et al., (2005), Sufian and Habibullah (2010), Ramadan et al., (2011) and Teng et al., (2012) found a negative relationship between the expense to total assets and profitability. According to Berger and DeYoung (1997) negative relation of expenses with returns indicates that expenses are not being controlled and monitored by management.

According to Hester and Zoellner (1966) there was no significant relationship between number of branches (NBR) and ROA. In later study, Emery (1971) examined the relationship of different types of the bank's branches (statewide, limited branch and unit branch) and ROA. He found a significant positive relationship between branches and ROA. Zardkoohi and Kolari (1994), Seale (2004), Indirani (2006), Liu and Hung (2006), Rohmah (2006), Owizy (2007), Akkus and Hortacsu (2007) and Mukhlisin (2010) also confirmed the positive relationship between branches and profitability.

Asset quality (Provisioning for bad debt to asset ratio) is critical to judge the stability of the financial system, so it is a main contributor for variations in profitability of banks (Beatty and Liao, 2009). Many studies have documented that provisioning for bad debt to asset ratio was positively related to ROA e.g. Abreu and Mendes (2000), Naceur (2003) and Mustafa et al (2012), while some studies found a negative relationship between the two e.g. Staikouras and Wood (2003), Bashir and Hassan (2003).

Usually banks take deposits from people and issue loan and advances. So advances to deposit ratio is critical in a sense that low ratio can cause bank failure. Many researchers used this ratio as a determinant of bank's profitability e.g. Bourke (1989), Molyneux *et al.*, (1992), Guru *et al.* (1999) Kosmidou *et al.* (2005) and Teng et al (2011). Some studies found that advances to deposit ratio was positively associated with bank's profit e.g. Bourke (1989), and Kosmidou *et al.* (2005), while some researchers found an inverse relationship between advances to deposit ratio and profitability e.g. Molyneux *et al.*, (1992), Guru *et al.* (1999) and Teng et al (2011).

3.3.2. Effects of External determinants on profitability

GDP, a commonly used economic indicator, is used to evaluate economic activity of an economy (Kutsienyo, 2011). Hogarth *et al.* (1998) concluded that the behavior of GDP failed to explain a larger variety of banking sector profits in the UK than in Germany. Later this result was confirmed by Athanasoglou et al. (2005), Naceur and Goaied (2006) and Teng, *et al.* (2012) who documented that there was no significant impact of GDP on bank's profitability, while many studies used it as an important determinant of bank's profitability and found positive impact of GDP on profitability of banks e.g., Kant *et al.*, (1999), Bikker *et al.*, (2002), Bashir (2003), Haroon (2004), Athanasoglou *et al.*, (2008), Uhomoibhi (2008), Kosmidou (2008), Srairi (2009), Sufian and Habibullah (2010), Ramadan et al. (2011), Kutsienyo (2011) and Kharawish et al. (2011). But Walid *et al.* (2011) found that ROA was significantly negatively related annual Growth Rate of GDP.

Revell (1980) was the first researcher who discussed the impact of inflation on profitability of banks. Revell assumed that inflation could be a factor that might cause a variation in bank's profits. Bourke (1989) and Molyneux and Thornton (1992) tested this hypothesis and found a significant relationship between inflation and profit. Haron (1996), using OLS technique, empirically proved that inflation had significant positive impact on the profits of conventional and Islamic banks. Staunton *et al.* (2002) also showed a positive impact of inflation on bank performance over the period 1986-1995 in Malaysia. But Boyd et al (2000) Kosmidou (2008), Staikouras et al. (2008) and Walid *et al.* (2011) found that ROA was significantly negatively related with Inflation Rate.

Molyneux and Thornton (1992), Haroon (1996), Haron and Azmi (2004), Krakah and Ameyaw (2010), Kutsienyo (2011) found that money supply was significantly positively related to bank's profitability. Teng, *et al.* (2012) applied OLS model and found that money supply was major determinant to impact on Islamic banks' profitability and was positively related to banks' profitability, while Badaruddin *et al.* (2009), Sufian and Habibullah (2009) and Kutsienyo (2011) found a negative relationship between money supply and bank's profitability.

According to earlier studies there is no significant impact of market share on banks profitability (Haroon, 2004). While in later studies a positive relationship was found between market share and profitability of banks e.g. Heggested and Mingo (1976), Shaort (1979), Smirlock (1985), . Some researchers found a negative relationship between the two e.g. Heggested (1977) and Mullineaux (1978) which was confirmed by Haroon (2004)

who found a significant adverse impact of market share on profitability measure. He, further, explained it is assumed that larger the market share, the larger would be the bank's profitability. So market share is taken as determinants of profitability. A larger market shares also mean that banks can have a power to control the prices and services it offers to secure customers. Arnold and John (1976) indicated that greater market share would cause more power to bank to control the market in term of prices and the services it offers.

Competition is also used as an external determinant of bank's profitability. According to Teng et al., (2012), in order to stay in the competition, banks need to improve themselves to attract clientele and also generate higher profit. This implies that there is a competition in the banking sector. The study of Emery (1971) is the first one which discussed the relationship between the competition and ROA and found no impact of competition on ROA. Far later Whalen (1988) confirmed that there is no significant relationship between the two. Rasiah (2010) also found no impact of competition on ROA. But Lindley et al (1992), Haron (1996) and Hassan and Bashir (2003) found a negative impact of competition on banking performance. Kunt and Huizinga (2001) also documented same result which indicated that high competition reduced the bank's profits.

The banking institution is among one of the most heavily regulated institutions in the world. A strong, stable and vigorous healthy financial system cannot be established without regulatory framework. To empirically test the impact of regulation on the bank's performance, Peltzman (1968) conducted his research and found that the restriction on interstate branching and a legal limitation to new entry had a significant effect on the

market value of a bank's capital. Kabir and Bashir (2003) used reserve requirement as a proxy for regulation and found that regulation did not have a strong impact on the profitability measures like ROA, but Kunt and Huizinga (1999), Bashir (2000) and Tang et al (2003) found positive impact of a tax on profitability and they used Tax as regulatory proxy.

Nienhaus (1983) attempted to find a connection between interest rate and Islamic bank's profitability using the simple equilibrium model and concluded that Islamic bank's returns were positively related to conventional bank lending rates, but he could not present any empirical evidence to support his hypothesis. Khan (1983) extended the study of Nienhaus and documented same relationship. Unfortunately, like Nienhaus, Khan's theory was not approved by any empirical proof. Haron (1996), using OLS technique, empirically proved that interest rate, had significant positive impact on the profits of conventional and Islamic banks. Haron and Ahmad (2000) verified and approved these results. Hassan and Bashir (2003) found a negative impact of interest rate on bank's profits. Kasri (2010) found that Islamic banking growth was significantly determined by the dynamics of the real rate of return and real interest rate. Higher rate of return increased the industry's growth while the higher interest rate hindered it.

All these researchers studied determinants of banking and Islamic banking growth, but they focused on Islamic banking all over the world in general or on Islamic banking in Malaysia, Indonesia or Gulf countries in specific. Whereas the factors that can pave the way toward Islamic banking in Pakistan and can play important role in its growth, did not

get enough coverage in the existing literature. Moreover, they consider internal and external factors separately to determine growth factors, but they did not considered internal and external factors collectively for the Islamic banking industry of Pakistan. Though there were some studies for Pakistan, but they considered only three to five banks as an industry which was justified in the past, but not now with the present growing trend of Islamic banking industry.

CHAPTER 4

DATA AND METHODOLOGY

4.1 DATA

We used secondary quarterly unbalanced panel data in this study for the following ten banks for the period 2004-2012. Different full-fledged Islamic banks as well as conventional banks start Islamic banking divisions at different times. The main sources of data were SBP reports (annually and quarterly reports), financial statements for each concerned bank (annually and quarterly reports) and Pakistan Economic surveys.

Table – 4.1

List of Islamic banks		
Full-fledged Islamic Banks	AlBaraka Bank (Pakistan)	AIB
	BankIslami Pakistan	BI
	Burj Bank (Dawood IB)	BIB
	Dubai Islamic Bank Pakistan	DIB
	Meezan Bank	MBL
Islamic branches of conventional banks	Askari Bank	Ask
	Bank AL Habib	ALHB
	Bank Alfalah	ALF
	MCB Bank	MCB
	United Bank Limited	UBL

4.2 Model Selection by Encompassing

A number of variables and models have been used in previous studies focusing banking growth. Omitting any of these variables will cause omitted variable bias, while considering all variables used in past studies simultaneously will result in a too big model leading to low precision and insignificant results.

Therefore this study has followed an encompassing approach which represents the relationship between different models, intending to select the best illustration among the available ones (Chao, 2002). The encompassing assessment is to check whether the present theory can make the link between the findings concluded by the others (Ahumada, 2010). So we have used encompassing approach to find out an appropriate model and the variables. The approach is suggested as follows;

i. Suppose M1, M2... Mn, and models have been proposed by previous researchers.
ii. Estimate M1, M2... Mn and rank all models according to their prediction error. It is a necessary condition for the model, which will encompass the other models, that it must have a smallest prediction error of regression (Hoover, 1999).
iii. Suppose Mi be the model that has smallest prediction error, then the following test;

H_o (1): Mi encompasses M1

H_o (2): Mi encompasses M2

H_o (n): Mi encompasses Mn

The models, for which H_o is not rejected, will be ignored since their prediction power is already present in Mi. The models that are not encompassed by Mi, will construct a most general model containing variables of Mi and the models that are not encompassed (Bontemps, 2008). This model will again be simplified using General to Specific methodology.

4.3 General to Specific (G2S) Approach

The most general model may contain some variables which have insignificant effect on the dependent variable. To get the efficient estimates, the variables may be tested for their significance. We estimated a unbalanced panel data model and applied the Wald-Coefficient Restrictions to all variables. The variable which appears to be insignificant are excluded from the study.

4.4 Avoiding Spurious Regression by Co-integration Testing

To avoid the occurrence of spurious regression, Unit root and Co-integration tests will be employed in following steps.

- Panel unit root test
- Panel Co-integration

4.4.1 Panel Unit Root Test

Econometric literature suggests that panel based unit root test has higher power than univariate unit root based on individual time series. Therefore, we will apply the panel unit root test to test the stationarity of variables included in our study.

In particular, we will use Im, Pesaran and Shin (2003) panel unit root test. This technique begins with separate ADF regression for every cross section by individual effect with no time trend. The equation of the Im, Pesaran and Shin panel unit root test is as under:

$$\Delta y_{it} = \alpha y_{it-1} + \sum_{j=1}^{pi} \beta_{it} y_{it-j} + X'_{it} \delta + \epsilon_{it}$$

Where the null hypothesis is $\alpha=0$ for all "i" series and alternative hypothesis is $\alpha<0$, for i = 1, 2, 3... N1. The rejection of Null hypothesis implies rejection of a unit root.

4.4.2 Panel Co-integration

The panel co-integration testing proceeds as follows

1. Verify that all the regressors are unit root.
2. Run the panel regressions

$$y_{it} = \alpha_i + \beta_i X_{it} + \varepsilon_{it}$$

Where X_{it} is a vector of all regressors?

3. Apply panel unit root test to the residuals ε_{it} obtained in step-2, if the residuals are stationary, cointegration exists.

4.5 Calculating short run relationship

The Error Correction Model will be employed to find out short run relationship between dependent and independent variables.

CHAPTER 5

RESULTS AND DISCUSSION

5.1. MODEL BUILDING BY ENCOMPASSING

The study followed encompassing approach to find out an appropriate model and variables. The encompassing approach worked as follow;

Following five models M1, M2...M5[17] have been proposed by previous researchers.

Model 1

$$ROA_t = \beta_0 + \beta_1 \text{LSIZE}_t + \beta_2 \text{TETA}_t + \beta_3 \text{ADDEP}_t + \beta_4 PRTA_t + \beta_5 \text{LGDP}_t + \beta_6 \text{INF}_t + \beta_7 \text{LM2}_t + \mu_{it} \quad \text{.....1}$$

Model 2

$$ROA_t = \beta_0 + \beta_1 (\text{LSIZE})_t + \beta_2 (\text{PRAD})_t + \beta_3 (\text{TLTA})_t + \beta_4 (\text{LGDP})_t + \beta_5 (\text{INF})_t + \mu_t \quad \text{.....2}$$

Model 3

$$ROA_t = \beta_0 + \beta_1 (\text{DETA})_t + \beta_2 (\text{MKTSHB})_t + \beta_3 (\text{NBR})_t + \beta_4 (\text{INT})_t + \beta_5 LM2_t + \mu_t \quad \text{.....3}$$

Model 4

$$ROA_t = \beta_0 + \beta_1 (\text{TETA})_t + \beta_2 (\text{LSIZE})_t + \beta_3 (\text{TLTA})_t + \beta_4 (\text{PRTA})_t + \beta_5 (\text{EXTA})_t + \beta_6 \text{COMPET}_t + \beta_7 \text{INF}_t + \beta_8 \text{LM2}_t + \beta_9 \text{LGDP}_t + \mu_t \quad \text{.....4}$$

[17] Five models are selected from studies made by Kutsienyo (2011), Sehrish, *et al.* (2011), Husni, *et al.* (2011), Voghan et al. (2003) and Teng, *et al.* (2012) respectively.

Table 5.2 List of the Variables used in previous four models

Nature of variable	Variables	Description of variables
Measurement of growth	ROA	Return on asset of bank (Net income / Total asset)
Internal factors		
Independent Variables	SIZE	Total assets of bank
	TETA	The total equity of bank to its total asset.
	TLTA	Total loan of bank to total asset.
	PRTA	Provisions for non performing finances[18] to total asset of bank.
	EXTA	Operating expenses to total asset of bank
	NBR	Total number of branches
	ADDEP	Advances to Deposits of bank
	DETA	Deposit to Total asset
	PRAD	Provisions for non performing finances to advances of banks
External Factors		
	GDP	Gross Domestic Product
	M2	Money supply (IFS 2011, line no- 129)
	INF	Inflation
	INT	Interest rate (Discount rate, IFS 2011 line-132)
	MKTSHB	Market share of bank (Total deposits of an Islamic bank as a percentage of a country's total deposits)
	COMPET	Market share of the bank (Total deposit of bank to total deposit of Islamic banking industry).

Models M1, M2, M3and M4 were estimated and then were ranked according to their prediction error. M1 was the model that had smallest prediction error at an average (0.00289) (Table 5.3).

[18] Islamic banks deals through financing rather than loans, therefore Islamic banks makes their provisions under the heading of provision for non performing finances.

Table 5.3 **Standard errors of Models M1-M3 for IBI**

Model	AIB	MBL	DIB	BI	BIB	Ask	ALF	UBL	MCB	BAH	Avg.
M1	0.001	0.001	0.001	0.001	0.003	0.003	0.000	0.01	0.003	0.002	**0.00289**
M2	0.002	0.001	0.001	0.001	0.003	0.004	0.000	0.01	0.002	0.004	0.00311
M3	0.001	0.001	0.000	0.001	0.001	1.046	2.655	1.115	4.569	0.101	1.04351
M4	0.001	0.000	0.001	0.001	0.003	0.003	0.000	0.01	0.003	0	0.00293

Then we tested the following two null hypotheses;

H_o (1): M1 encompasses M2

H_o (2): M1 encompasses M3

H_o (3): M1 encompasses M4

First H_o (1) was not rejected, because M2 was fully encompassed by M1, but M3 and M4 were not encompassed by M1, so H_o (2) and H_o (3) were rejected as it can be seen in Table 5.4.

Table 5.4 **Results of Hypothesis M encompasses Mi**

Models	Test statistics	AIB	MBL	DIB	BI	BIB	Ask	ALF	UBL	MCB	BAH
M1 encompasses M2	COX	-0.49	-0.56	0.19	0.43	0.96	-0.09	-0.07	-0.09	0.92	0.10
	P-value	0.62	0.57	0.85	0.67	0.34	0.93	0.95	0.93	0.36	0.09
M1 encompasses M3	COX	-5.05	-15.5	-4.92	-2.1	-10.6	-229.1	-21.1	-15.2	-12.9	0.23
	P-value	**0.00**	**0.00**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
M1 encompasses M4	COX	0.13	-0.69	-0.67	0.13	-0.25	-1.73	-1.86	-3.71	-0.63	0.75
	P-value	0.90	0.49	**0.00**	0.90	0.80	0.08	**0.00**	0.00	**0.03**	**0.01**

The variables of models M2 was ignored for which H_o is not rejected, since its prediction power is already present in M1, but models M3 and M4 were not encompassed by M1 (Table 5.4), so we constructed following most general model (eq. 5) containing variables of the M1, M3 and M4.

$$\mathbf{ROA}_t = \beta_0 + \beta_1(\text{LSIZE})_t + \beta_2(\text{TETA})_t + \beta_3(\text{ADDEP})_t + \beta_4(\text{PRTA})_t + \beta_5(\text{DETA})_t + \beta_6(\text{EXTA})_t + \beta_7(\text{COMPET})_t + \beta_8(\text{MKTSHB})_t + \beta_9(\text{NBR})_t + \beta_{10}(\text{LGDP})_t + \beta_{12}(\text{LM2})_t + \beta_{13}(INT)_t + \beta_{14}(\text{INF})_t + \mu_t \quad \text{.....5}$$

This new model is too big containing fourteen independent variables. The encompassing filed a large model given in Eq (5). Some of the variables in Eq (5) might be insignificant. Therefore General to Specific methodology is applied to simplify Eq (5).

5.2. General to Specific methodology

The General to specific approach relates to the encompassing approach (Mizon 1995, Hoover 1997 and Handery and Richard 1987). According to General to Specific methodology, Eq (4) was estimated and found that seven variables were highly significant at level and two variables LGDP and LM2 were significant at level 10%, while remaining variables were highly insignificant and did not have any impact on ROA (Table 5.6).

Table 5.6 **Estimation results of the most general model**

Dependent Variable: ROA

Variable	Coefficient	Prob.
C	0.2098	0.9522
LSIZE	-0.3212	0.0000
INT	0.0595	0.0195
DETA	2.0813	0.0092
TETA	1.6968	0.0555
INF	-0.0166	0.0394
NBR	0.0032	0.0000
ADDEP	-0.0586	0.1114
EXTA	-0.2985	0.0038
COMPET	0.0320	0.4751
LM2	-0.2128	0.0722
MKTSHB	-1.0279	0.1945
LGDP	0.3690	0.0780
PRTA	0.0000	0.8398

According to GTS approach, restriction is applied on highly insignificant variable and found that all variables could be dropped with F-statistic 0.1071 (see table 5.7).

Table 5.7 **Restriction results**

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	1.835080	(5, 221)	0.1071
Chi-square	9.175398	5	0.1023

5.3. Final Model

After dropping highly significant variables, we developed and estimated following model.

$$\mathbf{ROA}_t = \beta_0 + \beta_1(\mathrm{DETA})_t + \beta_2(\mathrm{TETA})_t + \beta_3(\mathrm{LSIZE})_t + \beta_4(\mathrm{EXTA})_t + \beta_5(\mathrm{INT})_t + (\mathrm{INF})_t + \mu_t \quad \ldots\ldots\ldots 5$$

5.4. Description of Variables

5.4.1 Return on Asset (ROA)

Return on Asset (ROA) refers to the profitability on the assets of the Islamic banks after deducting the all the expenses and taxes (Van Horne and Wachowicz, 2005). It measures the amount a firm is earning after tax for each rupee invested in assets of the Islamic bank. Generally, a higher ratio indicates efficient utilization of assets of the Islamic banks and better managerial performance while a lower ratio means inefficient use of assets. Many studies have used Return on Asset as a dependent variable in explaining banks' profitability. For instances Moin (2008) also used Return on Asset as measures of profitability in their studies of efficiency and performance of Islamic banks in Pakistan.

5.4.2 LSIZE

LSIZE is log of Total assets of Islamic banks. Many studies used the total asset to measure the bank size. Bank size is usually used to account for potential economies or diseconomies of scale in the banking sector. Economies of scale will reduce the cost of gathering and processing information (Boyd *et al.,* 1993) so that a positive effect of bank size is associated with profitability. Akhavein *et al.* (1997) and Smirlock (1985) found a positive and significant relationship between size and bank and profitability. Bourke (1989), Molyneux *et al.,* (1992) and Goddard *et al.,* (2004) have all linked bank size to

capital ratios, which they claim to be positively related to size. These results imply that as size increases, profitability increases. This is especially true in the case of small to medium-sized banks.

5.4.3 Capital Ratio

Capital adequacy indicator is measured by bank equity to total assets. Capital ratio is a valuable tool for assessing safety and soundness of banks, some of the researchers explain that when a bank with high capital ratio or more equity capital is showing the bank is more safety and is an advantage to get higher profitability (Vong and Chan, 2009). A positive relationship of capital efficiency on bank's profitability has been suggested by Abreu and Mendes (2002). A study by Bashir (2000) also found the same result with a measure of capital by using the equity to total asset ratio for Islamic banks.

5.4.4 Expenses Management

The expenses management is used to determine whether the usage of operational cost could affect the banks' profitability. The expenses of a bank reflect the cost used by the bank as a percentage of its income. Thus, it can be measured as a proxy of operating expenses to total assets. It is expected that there would negative relationship between operating expenses to total assets. Sufian & Habibullah (2010), Kosmidou, Tanna and Pasiours (2005) and Ramadan, Kilani and Kaddumi (2011) proposed that an efficient bank could operate at lower operating cost, and the relationship is negatively related.

5.4.5 Liquidity

The ratio of deposits to total assets is a good liquidity indicator. Deposits are the main source of funds of bank which it uses in different financing modes and hence it is expected a positive impact on the profitability of the banks.

5.4.6 Employment

Number of branches (NBR), the proxy for employment, is used as explanatory variables in the profitability study to find out whether NBR effect or do not affect the profitability of bank (Hester and Zoellner, 1966 and). NBR is expected to show the positive and significant relation with ROA. Berger et al. (1997), Emery (1971), Zardkoohi and Kolari (1994), Seale (2004), Indirani (2006), Rohmah (2006) and Mukhlisin (2010) found positive relationship between NBR and profitability.

5.4.7 INTESET RATE

Previous studies have also revealed a positive impact of interest rate over the profitability of banks (Bourke, 1989). For conventional banks, high real interest rate generally leads to higher loan rates, and hence higher revenues. However, in the case of Islamic banks, interest rate may impact performance positively if a larger portion of Islamic banks' profits accrues from direct investment, shareholding and/or other trading activities (*Murabaha*). Yet, interest rate may have a negative effect on bank profitability if higher interest rates lower the demand for loan (Hassan, 2001).

5.4.8 Inflation

Inflation is defined as a rise in the level of prices of goods and services in an economy, and it could reflect the purchasing power of money. When inflation happens, the purchasing power of money will become weaker. However, if a bank could increase its income over the cost, the relationship is expected to be positive relationship otherwise it would be adverse relationship. Wasiuzzaman and Tarmizi refer to the theory of Perry (1992) assumed that if a bank could anticipate the inflation, it helps the bank in making decision of the rate of profit and loss sharing, asset quality and so on. Therefore, the positive relationship could imply when the income is more than the cost. According to Perry (1992), in the situation where inflation is unanticipated, bank managers are slow in adjusting the rate on bank loans so that the rate of increase of operating cost is faster than the rate of increase of bank revenue resulting in an adverse impact on profitability.

5.5. Long Run relationship between ROA and Independent Variables

We estimated the final model and results showed significant long-run relationship between dependent and independent variables have been depicted in table 5.8. All variables were stationary. So there was no need for Co-integration test (see table 5.9).

$$\mathbf{ROA}_t = \beta_0 + \beta_1(\mathrm{DETA})_t + \beta_2(\mathrm{TETA})_t + \beta_3(\mathrm{LSIZE})_t + \beta_4(\mathrm{EXTA})_t + \beta_5(\mathrm{INT})_t + (\mathrm{INF})_t + \mu_t \quad \text{..... 5}$$

Table 5.8 Estimation results of the simplified most General model

Dependent Variable: ROA

Variable	Coefficient	Prob.
C	2.905	0.017
LSIZE	-0.301	0.000
INT	0.051	0.020
DETA	2.057	0.002
TETA	1.846	0.013
INF	-0.015	0.044
NBR	0.003	0.000
EXTA	-0.350	0.000

Table 5.9 Results of Im, Pesaran and Shin Unit Root Test

Variable	Test Statistics	P-Value
LSIZE	-1.94	0.03
INT	2.58	0.01
DETA	-6.37	0.00
TETA	-4.81	0.00
INF	-5.32	0.00
NBR	2.74	0.00
EXTA	-3.65	0.00

The table 5.8 summarizes the empirical results for eq.5. LSIZE (Total assets) shows the negative relationship with ROA which means there is a diseconomy of scale. Kutsienyo (2011) suggested that banks having large size might show negative relation between ROA and SIZE as a result of administration and agency cost. Moreover, according to Hassan (2001) if larger banks are increasing diversification of portfolio which is leading to higher risk and low return then there would be negative relationship between bank size and its profitability. Interest rate shows positive impact over ROA which implies that larger portion of Islamic banks' profits accrues from direct investment, shareholding and/or other

trading activities e.g. *Murabaha, Musharkah, Ijarah, Salam* etc. DETA has also positive impact over ROA which means increasing deposits are generating more returns for IBI. TETA is also positively related with profitability which implies that the large size of equity of Islamic banks is reducing their risk on capital and Islamic banks have the advantage of providing a larger menu of financial services to their customers, and hence mobilize more funds. This study confirms the results presented by Bashir (1999).

Inflation has negative relationship with profitability. Boyd et al (2000) found there is a negative relationship between inflation and profitability. According to the theory of Perry (1992), it can be assumed that Islamic banks could not anticipate the inflation and thus the inflation cost has decreased its profitability. NBR shows the positive and significant relation with ROA and confirms the result presented by Berger et al. (1995).

EXTA shows negative and significant relationship with ROA. It suggests that higher returns can be generated by decreasing expenses. According to Berger (1995) negative relation of expenses with returns indicates that expenses are not being controlled and monitored by management. This study confirms the results presented by Kosmidou, Tanna and Pasiours (2005) and Sufian and Habibullah (2010), Ramadan, Kilani and Kaddumi (2011) and Teng et al., (2012).

5.6 Short Run relationship between ROA and Independent Variables:

To check the significance of relationship between dependent and independent variables in short-run, we applied following Error Correction Model (ECM) (Table-5.10).

$$\Delta \boldsymbol{ROA}_t = \beta_0 + \beta_1\ \Delta\,(LSIZE)_t + \beta_2\,\Delta\,(\mathrm{EXTA})_t + \beta_3\ \Delta(\mathrm{NBR})_t + \beta_4\ \Delta\,(LTETA)_t$$
$$+\beta_5\ \Delta(\mathrm{INT})_t + + \beta_6\ \Delta\,(DETA)_t + + \beta_7\ \Delta\,(INF)_t + \mu_t \qquad \ldots\ldots 6$$

Table 5.10 **Error Correction Model (ECM)**

Dependent Variable: ROA

Variable	Coefficient	Prob.
C	2.221	0.062
LSIZE	-0.272	0.000
INT	0.050	0.029
DETA	2.214	0.006
TETA	2.082	0.013
INF	-0.010	0.179
NBR	0.003	0.000
EXTA	-0.340	0.000
ECM(-1)	0.392	0.000

Results showed that Inflation (INF) was insignificant which meant it did not have any immediate impact over profitability. So we skipped INF after applying restriction (Table 5.11).

Table 5.11 **Restriction applied on INF**

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	1.816826	(1, 223)	0.1791
Chi-square	1.816826	1	0.1777

We dropped the insignificant variable from the model and estimated the eq. 7.

$$\Delta \boldsymbol{ROA}_t = \beta_0 + \beta_1\ \Delta\,(LSIZE)_t + \beta_2\,\Delta\,(\mathrm{EXTA})_t + \beta_3\ \Delta(\mathrm{NBR})_t + \beta_4\ \Delta\,(LTETA)_t$$

$$+\beta_5\ \Delta(\mathrm{INT})_t + + \beta_6\ \Delta\,(DETA)_t + \mu_t \qquad \ldots\ldots 7$$

We found remaining variables were highly significant in short run (see table 5.12)

Table 5.12 Error Correction Model (ECM) after dropping INF

Dependent Variable: ROA		
Variable	**Coefficient**	**Prob.**
C	2.484	0.052
LSIZE	-0.272	0.000
INT	0.032	0.019
DETA	2.029	0.029
TETA	1.889	0.046
NBR	0.003	0.000
EXTA	-0.338	0.000
ECM(-1)	0.397	0.000

Results showed that SIZE, INT, DETA, TETA, NBR and EXTA have significant impact over profitability of Islamic banks even in short run.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

The findings provide an insight into the characteristics and practices of successful Islamic banks in term of profitably. In view of these findings certain recommendations can be made which may be useful for bank management and policy makers regarding the Islamic banking industry.

6.1 Conclusion

Most of the external and internal variables are highly insignificant except SIZE, Expense management, Employment, Interest rate, liquidity, capital ratio and inflation which shows that both external and internal variables are important determinants of profitability of Islamic banking industry of Pakistan. The results suggest that well capitalized banks a more profitable. Also, larger banks tend to enjoy economy of scale impacting positively on profitability. Efficient management of bank operations can enhance bank profitability. Islamic Banks should improve their capability to predict inflation and as result, adjust profit rates accordingly. Theory of economies of scale explains the negative relationship between the bank size and ROA which implies that greater the size of bank, lesser the profits it earns. Number of branches and deposits to asset ratio also shows positive impact over profitability.

6.2 Recommendations

The following recommendations are provided for policy direction based on the finding of this study:

1. Bank capitalization should be encouraged so that bank performance can be enhanced. A well capitalized banking system will ensure financial stability and make the industry more resilient against external shocks and risk. This is because well capitalized banks have lower financial risk and thus are more likely to survive financial crisis.
2. Efficient and effective liquidity management should be adopted by bank managers to ensure that banks do not become insolvent. Since banks are less profitable when less liquid (less deposits), bank managers should be encouraged to invest in more liquid assets. This will not only improve bank profitability but it will also enable banks meet their short term obligations as they fall due.
3. Islamic banks should improve diversification of their asset portfolio and reduce their agency and operational cost to maximize their returns and to obtain economy of scale.
4. Islamic banks should expand their branches network as it will generate more deposit and returns. But branch location does matter in this regard according to previous studies e.g. Scholterns (2000)

6.3 Limitations of the Study

There are few limitations in our study. The biggest limitation in our study is we only able to get a sample of five conventional banks operating through Islamic banking divisions. This is because data on Islamic banking operations of other conventional banks was not

violable or it was not enough to present precise results. Moreover we also could not include year 2013 because required data was not fully available for selected banks at the time of study. Besides, we used secondary data in our study to analyze the profitability of Islamic banking industry of Pakistan since it is difficult to be conducted through primary data due to time constraint.

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Annexture-1 **Branches Network Growth**

A Comparison between full-fledged Islamic banks and Conventional banks operating standalone Islamic branches