Financial Performance of Islamic Banks vs. Conventional Banks:The Case of Malaysia

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Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the Degree of

Master of science
in
Banking and Finance

Eastern Mediterranean University
January 2013
Gazimağusa, North Cyprus

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ABSTRACT

There is no doubt that banks play a vital role in the economy of all countiries. Stability of economy dependends basically on banks' well-performance within a country. This study is intended to examine financial performance of two deifferent banking systems in Malaysia: Islamic versus Conventional. Main aim of this study is to compare banks' profitability ratio including Return on Assets (ROA) and Return on Equity (ROE), and also find out their behaviour in the world 2008 financial crisis . In order to investigate and compare these two banking systems, 7 Islamic and 7 Conventional banks were selected among malaysian banking sector. Data was extracted from annual financial reports of banks for the period of 2005-2011. Applying E-views software some correlation and regression analysis were carried out on data and tried to find out the impact of some independent variables (bank spesific factors) including capital adequacy (CAR), liquidity (LQR), asset quality (ASQ), management efficiency (EFF), and Dummy on ROA and ROE of banks.Regarding our impirical analysis conventional banks performed better than itsIslamiccounterparts in terms of profitabilty. However, Islamic banks' performance during 2008 financial crisis was better as compared to conventional banks.

Keywords: Islamic Banking, Conventional Banking, Profitability.

ÖZ

Bankalar hiç kuşkusuz ki ekonomide çok önemli rol oynamaktadır. Bu nedenle banka performansları ekonomik stabilite için vazgeçilmezdir. Bu nedenle, çalışmada, Malezya'da mevcut olan İslam ve Geleneksel Bankacılık sistemlerinin performansları ele alınmaktadır. Banka performanslarının incelerken karlılık oranlarının yanı sıra 2008 finansal banka krizi de dikkate alınmıştır. Tezde toplam 14 banka olmak üzere 2005-2011 yıllarını baz alınarak E-views yardımı ile korelasyon ve regresyon analizleri yapılmış ve karlılığı etkileyen faktörler belirlenmiştir. Sonuç olarak, geleneksel bankaların genel olarak İslam bankalarına göre daha karlı oldukları belirlense de 2008 kriz döneminde İslam Bankalarının daha sağlam durdukları gözlemlenmiştir.

AnahtarKelimeler: İslam Bankacılık, Geleneksel Bankacılık, Karlılık.

To

My Lovely Wife, Ayleen, and Mohammad Amin

ACKNOWLEDGMENTS

First and foremost, my utmost gratitude goes to God who gave me power to finish my thesis, without him this study could not have seen the light of day. I would like to sincerely thank my supervisor Assoc. Prof. Dr. Nesrin Ozatac for her unfailing support and kindly guidance during completion of the thesis.

Additionally, my heartfelt thanks goes to Assoc. Prof. Dr. Salih Katircioglu, Assoc. Prof. Dr. Mustafa Besim, Miss Nigar Taspinar, and Mamadou Lamarana Guisse for their great support and help during my graduate studies in banking and finance department at Eastern Mediterranean University.

I would also like to express my gratitude towards my best friend Mousa Janeh who supported me all throughout my studies in North Cyprus.

Last but not least, I am sincerely grateful to my great mother, lovely wife, kindly daughter Ayleen, and smart son Mohammad Amin who have continuously supported me and bore being away from me during my studies in North Cyprus. I would like to dedicate this study to them as an indication of their significance in this study as well as in my life.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF GRAPHS

LIST OF ABBREVIATIONS

ASQ……..……..……..…Asset Quality

BNM…….……..…. Bank Negara Malaysia

CAR …….…..…… Capital Adequacy

CAMEL……Capital, Adequacy, Asset Quality, Management, Earnings, and Liquidity

CB ……..…….....…. Conventional Banks

CBB……...Central Bank of Bahrain

EFF ……...….. Efficiency

E-VIEWS ……....…… Econometric Views

IS……Islamic Banks

LLC…….…….....Levin, Lin, and Chu

LQR……..…Liquidity

OLS …… Ordinary Least Square

ROA……..…Return on Assets

ROE……...Return on Equity

VAR Model……..……..…Vector Auto Regression Model

Chapter 1

INTRODUCTION

1.1Background

Banks play a crucial role in the economy of all countries. Growth of any economy depends on stability of its financial sector. In general, banks operate as intermediary between depositors and borrowers. At the present time, banks provide hundreds of services to the customers around the world. It is important to note that these services are vital to our daily life. Financial performance of banks matters, not only for bankers but also for people and government authorities. In 2008, the economy of majority of countries experienced a great recession. According to economists the most important reason was the bad performance of banks. Consequently, millions of people lost their jobs and their houses. There is no doubt that well performed banks make our standard of living higher.

Islamic banking has an interest-free system; the first idea was developed in Egypt and Malaysia in 1950s. Socio-economic justice is a fundamental principal of Islamic banking and finance. Until end of the 2008, the total capital under management of Islamic finance system was evaluated to be $820 billion and its growth is 15%-20% annually (CBB, 2008). In Islamic banking, intermediation contracts cater agents with a set of instruments for example, musharakah, mudaraba, ijara, murabaha to implement financial

intermediation and to suggest various fee-based services for economic and business activities. Islamic banking system is bided by Islamic law named Shariah. Payment of interest for renting moneyisprohibited according to Shariah.

Islamic financial institutions must be based upon four basic principles; (Samad,2004):

i) All transactions are of interest free.

ii) Speculative activities or transactions (Gharar) must be abstained.

iii) Zakat (Islamic tax) is compulsory in earning from transactions.

iv) The production or consumption of all goods and services that are illegal according to Islamic shariah must be avoided in contract.

On Islamic banking, basic thought is profit loss sharing. In profit loss sharing there is a contract between two or more parties which allow them to put their resources together to invest in a project to share in profit and loss. Supporting with appropriate banking laws and regulations a wide variety of banking services can be provided by Islamic banks. However; Islamic banking is growing at a quick speed and has showed a succeeding growth in last decades. More than 200 Islamic banks are now operating around the world. During the financial crisis of 2008, the Islamic banking sector attracted more people's minds to be taken into consideration. The effect of this crisis on Islamic banks was minor, comparing to conventional banks (Chapra, 2008).

According to Bank of International Settlement (2008), the root of this crisis refers to the extravagant lending by conventional banks. However, Islamic banks did not suffer from

this great recession in 2008 as much as realized. Main reason behind this less effect is lack of interest and utilization of Islamic financial rules in Islamic banking system.

In 1867, the first bank in Malaysia started to work. Similar to other developing countries, banks have played an important role in this country's economy. 70 percent of total asset of financial system belongs to banking sector in Malaysia. Currently in Malaysia dual banking system is practiced: conventional and Islamic banking system. Islamic banking was introduced in Malaysia in 1983. According to central bank of Malaysia (BNM2012) in Malaysian banking sector there are 27 commercial banks including 8 domestic and 19 foreign banks, 16 Islamic banks numbering 10 domestic and 6 foreign owned-banks, 15 investment banks, 5 international Islamic banks, and 2 other financial institutions. These banks are major source of credit to the economy.

1.2 Aim of the Study

Evaluation of bank performance is important for depositors, bank managers and regulators. A depositor according to signals getting from bank performance wonders is it the right time for invest or withdraw money from banks. This research is intended to test profitability of 7 Islamic and 7 conventional banks in Malaysia during the period of 2005-2011.In order to compare these banks' financial performance, Return on Asset (ROA) and Return on Equity (ROE) which are main important measurementratios will beapplied as dependent variables. In addition, independent variables are formed from Asset Quality, Liquidity, Capital Adequacy, Management Efficiency and Bank Size. Impact of these banks specific factors on dependent variables will be examined.

1.3 Scope of the Study

The present study seeks to analyze the financial performance of both Islamic and conventional banks in Malaysia during period of 2005-2011. According to banks performance and finding from data analysis, some questions that may arise will be replied, such as which system performed better,Islamic or Conventional in this period of time? Furthermore, did they have the same behavior during financial crisis in 2008 or not? Finding a proper and valid answer to such kind of questions will be useful and crucial not only for Malaysian banking sector but also to whole economy of this country and likewise, for other countries as well.

1.4 Structure of the Thesis

Structure of remaining part of this study is as follows: section 2 presents a background about banking sector in Malaysia (Islamic and Conventional). In section 3 main concentrations will be on literature review of previous similar studies. Moreover, data and methodology will be taken up in section 4. Finally, section 5 and 6appertain to empirical analysis and results and conclusion respectively.

Chapter 2

MALAYSIAN BANKING SYSTEM

The economy of Malaysia is one of the fast growing and developing economy in the world. Since 1970's this country has changed itself from a producer of raw materials into a multi-sector economy. It was the third largest economy in south East Asia and 28th economy in the world in 2007. Its real GDP grew by average 6.5% per year in the period of 1957-2003. The Gross Domestic Product (GDP) in Malaysia was worth 278.67 billion US dollars in 2011 according to World Bank (2011). Today the GDP of Malaysia is equivalent to 0.45 percent of the world economy.

Despite the challenging external environment such as world economic recession, over the past few years the Malaysian economy is continuing to expand its growth. The origin of banking in Malaysia can be dated back to the 19^{th} century. In 1884, Mercantile bank (HSBC) founded its office in a commercial center of Malaysia. Since the growth of business was considerable high in that time, the expansion of banks was inevitable for preparing more and regular facilities for fast growing business. Bank Negara Malaysia (Central Bank of Malaysia) that was established in 1957 is regulating finance and banking sector. Meanwhile, its main purpose is to achieve sustained economic growth for the benefit of the nation.

Following the financial crisis in 1997 in Asia, bank Negara Malaysia started a new policyin 2001 named master plan. The major emphasis of master plan was on Islamic banking system. Therefore, Malaysia inaugurated dual banking system: Islamic andConventional. The first Islamic bank in Malaysia (Bank Islam Malaysia Berhad) established in 1983. In previous years their numbers has substantially increased due to their stable situation during world economic turmoil. Malaysia after Bahrain is the second biggest core of Islamic banking. Currently, According to Bank Negara Malaysia (2012) in Malaysian banking sector, there are 27 commercial banks including 8 domestic and 19 foreign owned- banks. In addition, 21 Islamic Banks numbering 10 domestic, 6 foreign, and 5 international Islamic Banks are serving, and also 15 investment banks that are all domestic accompanying 2 other financial institutions (ERF Sdn. Bhd, and Pengurusan Danaharta Nasional Berhad) are doing business. All of these banks are under supervision of Bank Negara Malaysia.

Table 2.1: Licensed Commercial Banks in Malaysia[1]

No.	Banks	Ownership	Date Established	Total Assets in 2011(RM'000)
1	Affin Bank Berhad	Local	2000	40,070,290
2	Alliance Bank Malaysia Berhad	Local	2004	29,380,878
3	Am Bank (M) Berhad	Local	1975	8,741,143
4	BNP Paribas Malaysia Berhad	Foreign	1974	485,133
5	Bangkok Bank Berhad	Foreign	1959	2,707,204
6	Bank of America Malaysia	Foreign	1994	2,098,958
7	Bank of China (Malaysia) Berhad	Foreign	1991	2,955,383
8	Bank of Tokyo-Mitsubishi UFJ (Malaysia) Berhad	Foreign	1959	9,274,563
9	CIMB Bank Berhad	Local	1965	300,202,707
10	Citibank Berhad	Foreign	1994	49,193,408
11	Deutsche Bank (Malaysia) Berhad	Foreign	1967	12,224,078
12	HSBC Bank Malaysia Berhad	Foreign	1994	66,897,376
13	Hong Leong Bank Berhad	Local	1905	87,650,089
14	India International Bank (Malaysia) Berhad	Foreign	2012	-
15	Industrial and Commercial Bank of China (Malaysia) Berhad	Foreign	2010	2,898,879
16	J.P. Morgan Chase Bank Berhad	Foreign	1964	7,515,482
17	Malayan Banking Berhad	Local	1960	293,660,532
18	Mizuho Corporate Bank (Malaysia) Berhad	Foreign	1973	460,512
19	National Bank of Abu Dhabi Malaysia Berhad	Foreign	2012	-
20	OCBC Bank (Malaysia) Berhad	Foreign	1912	60,008,993
21	Public Bank Berhad	Local	1972	205,433,044
22	RHB Bank Berhad	Local	1966	120,507,417
23	Standard Chartered Bank Malaysia Berhad	Foreign	1875	45,660,654
24	Sumitomo Mitsui Banking Corporation Malaysia Berhad	Foreign	2011	1,207,321
25	The Bank of Nova Scotia Berhad	Foreign	1973	4,794,521
26	The Royal Bank Scotland	Foreign	1964	4,554,913
27	United Overseas Bank	Foreign	1993	62,941,830

[1] http://www.bnm.gov.my/index.php?ch=13&cat=banking&type=CB&fund=0&cu=0, (Accessed on 20/10/2012)

Table 2.2: Licensed Islamic Banks in Malaysia[2]

	Banks	Ownership	Date Established	Total Assets in 2011 (RM'000)
1	Affin Islamic Bank Berhad	Local	2006	10,531,121
2	Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	Foreign	2006	6,150,089
3	Alliance Islamic Bank Berhad	Local	1994	6,223,100
4	Am Islamic Bank Berhad	Local	2006	22,363,288
5	Asian Finance Bank Berhad	Foreign	2007	2,438,275
6	Bank Islam Malaysia Berhad	Local	1983	32,205,637
7	Bank Muamalat Malaysia Berhad	Local	1999	18,312,240
8	CIMB Islamic Bank Berhad	Local	2003	43,097,758
9	HSBC Amanah Malaysia Berhad	Foreign	1994	10,197,379
10	Hong Leong Islamic Bank Berhad	Local	2005	12,178,617
11	Kuwait Finance House (Malaysia) Berhad	Foreign	2005	1,014,2319
12	Maybank Islamic Berhad	Local	1960	65.927,967
13	OCBC Al-Amin Bank Berhad	Foreign	2008	5,710,136
14	Public Islamic Bank Berhad	Local	2004	29,444,820
15	RHB Islamic Bank Berhad	Local	2005	22,641,412
16	Standard Chartered Saadiq Berhad	Foreign	2008	5,982,571

[2] http://www.bnm.gov.my/index.php?ch=13&cat=banking&type=CB&fund=0&cu=0(Accessed on 20/10/2012)

Table 2.3: Licensed International Islamic Bank in Malaysia[3]

No.	Banks	Ownership	Date Established	Total Assets in 2011 (RM'000)
1	Al Rajhi Banking & Investment Corporation	Foreign	2006	6,150,089
2	Alkhair International Islamic Bank Bhd	Foreign	2008	601.907
3	Deutsche Bank Aktiengesellschaft	Foreign	1967	93,167
4	Elaf Bank B.S.C. (c)	Foreign	1975	510,167
5	PT. Bank Syariah Muamalat Indonesia, Tbk	Foreign	2009	10,312.800

[3] http://www.bnm.gov.my/index.php?ch=13&cat=banking&type=CB&fund=0&cu=0(Accessed on 20/10/2012)

Table 2.4: Licensed Investment Banks in Malaysia[4]

No.	Banks	Ownership	Date Established	Total Assets n 2011 (RM'000)
1	Affin Investment Bank Berhad	Local	2006	5,392,360
2	Alliance Investment Bank Berhad	Local	2006	2,490,517
3	Am Investment Bank Berhad	Local	2004	1,861,963
4	CIMB Investment Bank Berhad	Local	1974	4,037,879
5	ECM Libra Investment Bank Berhad	Local	2008	2,608,988
6	Hong Leong Investment	Local	1905	4,918,282
7	Hwang DBS Investment Bank Berhad	Local	1973	3,688,353
8	KAF Investment Bank Berhad	Local	1975	10,685,412
9	Kenanga Investment Bank Berhad	Local	2007	3,052,208
10	MIDF Amanah Investment Bank Berhad	Local	2007	5,353,474
11	IMB Investment Bank Berhad	Local	1970	4,349,182
12	Maybank Investment Bank Berhad	Local	1973	2,276,150
13	OSK Investment Bank Berhad	Local	1996	8,584,056
14	Public Investment Bank Berhad	Local	1974	6,548,296
15	RHB Investment Bank Berhad	Local	1997	6,103,781

2.1 Islamic Banking System

Islamic Banking and Financial system that started in different Muslim countries such as Malaysia, Egypt, Turkey, Iran, Indonesia, Pakistan, and Bahrain has expanded enormously its growth since 1970. Its asset reached $750 billion in 2007 (The Asian Banker Group 2007). There are over 300 Islamic financial institutions that they have financial activities across 75 countries. Over the recent years, because of thriving economy in Middle East region, these countries have experienced considerable growth in their banking system (Boudjella, 2006).

[4] http://www.bnm.gov.my/index.php?ch=13&cat=banking&type=CB&fund=0&cu=0(Accssed on 20/10/2012)

An annual asset growth rate of 26.72% is recorded to the 100 largest Islamic banks in 2007 (The Asian Banker Group 2007). Islamic banking is a system of banking that abides by Islamic law called shariah law. In this system most important principle is mutual risk and profit sharing between parties (bank and customer).According to contract, all transactions should be based on business activity and asset. These principles that are strongly supported by Islamic rules urge activities that manage entrepreneurship, trade in which exist more benefit and economic progress for nation. All activities that include interest (riba) are prohibited. According to Qur'an (Holy Book of Muslims) that says "you who believe fear Allah and give up what remains of your demand for usury, if you are indeed believers. If you do not, take notice of war from Allah and His Apostle, but if you turn back, you shall have your capital sums deal not unjustly and you shall not be dealt unjustly."[5] Based on Islamic rules pricing money is impossible. Islamic banks cannot use a fixed rate of return on deposits and interest on loans like conventional banks. In every Islamic bank there is a shariah board that is controlling all business operations of Islamic banks that are accordance with shariah principles. Nevertheless, rights and responsibilities of parties to a contract in Islamic banks are highly transparent and frank. However, comparing Islamic banking with Conventional banking the former is more ethical and efficient, as it thinks for benefits of the whole nations not merely for benefit of itself, its aim is providing benefits to the community in a broad way rather than pure profit, and also this system is more safe from risks of financial stress stemming from speculative activities (Zaher and Hassan, 2001).

[5] Al Baqara (278 -279) Al-Qur'an

2.1.1 Islamic Banking Instruments

There are many instruments that are being used in Islamic banking sector. Using these Various tools makes Islamic banking more diversified and effective (Sudin Haron and Nursofiza, 2009).

More popular of them are the following:

Mudaraba (Passive Partnership): This instrument is a form of partnership in which the fund will be provided by one party (bank) as management and labor force, in general business activities will be catered by another party (customer) based on a contract in which share of each party from profit is predetermined and belongs to both parties. With reference to shariah there is no particular proportion of profit sharing rather it has been considered the satisfaction of parties. In this contract a lump sum amount of profit for each party is prohibited, it means the share of one party cannot be determined at a specific rate bound with the capital. All losses will be borne by bank only. There is no guarantee any income for bank.

Musharakah (Partnership): It is a relationship for sharing of profits and losses in the joint business. Besides, there is a contract in which funds from both parties (bank and customer) are mixed to gather for the performance of a specific business activities in different fields such as projects in industrial production, trade and etc. Based on pre agreed ratio at the beginning of the contract the profit is divided among the partners, whereas the loss is corresponding to their capital contributions. That is to say, loss is assigned according to ratio of investment, but profit should be divided according to their agreement.

Murabaha (sales contract at a profit mark- up): Due tothe crucial role of this instrument in growth of economy, especially in industrial sector, it is one of the most widely- used modes of Islamic financing. It is a sale of a commodity at profit. There are three parties including seller, bank and buyer (customer or borrower). The bank purchases the good on cash and sells it to customer on cost-plus-profit basis. Namely, the bank rather than paying money directly to borrower, purchases commodity from a third party and sells those goods to the customer on profit. As a result, borrower can pay for this good on installments to the bank. Murabaha is basically used for short term financing.

Ijarah wal Iqtina (a lease ending in the purchase of the leased asset): It is a kind of leasing contract in which an asset such as machines, equipments, apartments and cars transferred to lessee (borrower) by lesser (bank) for a specific period of the time . At the end of the ijarah period if the contents of the contract are performed totally accurate, the ownership of the asset will be transferred to lessee. Since the owner of property is bank during the ijarah period, the bank will bear entire liabilities arising from ownership.

Bai Salam: In this instrument there is an advance payment for goods and services that should be delivered at future. According to contract the seller has a commitment to supply goods to the buyer at a determined date subject to advance payment on behalf of buyer at the time of contract.

Qard Hassan (good loan): in this loan that is strongly recommended in Islam to Muslim to make it to others is a kind of free interest loan in which borrower should repay only the amount who borrowed. Although there is no promise to repay more, the borrower can repay an extra as a reward to lender.

2.2 Conventional Banking System

It is a banking system that based on a fixed rate of interest. In other words, it is a pure interest- based model. Banks as an intermediary borrow from savors leading to pay interest to them and also they lend to borrowers that leads to gain interest from them. The relationship between bank and costumer is basically based on debtor-creditor relationship. When banks accept deposits from depositors, banks are debtor and depositors are creditor but at the time of making loan for borrowers, this relationship will be vice versa. As mentioned earlier, the banks pay interest for depositors and get interest from borrowers. However, banks aim to make a positive interest gap. As a consequence, for conventional banking system making more profit is the main purpose rather than other ones. In general, Conventional banking system has different patterns. One pattern is commercial banking system as noted it is a system in which banks make profits from margin between the interest rate of borrowing and interest rate of lending. Trade is prohibited in commercial banks. Another pattern of conventional system called investment banks is indeed similar to client's agent. In other words, they are acting as a underwriter for corporations, institutions and government issuing bonds and different kinds of securities for raising capital. Moreover, not only these banks do not accept deposits fromlenders, but also they do not provide loan and credit for them. What is more, they provide various kinds of services such as trading of derivatives, fixed income instruments, foreign exchange, and stocks to corporations. Finally, universal banking in which there are different kinds of operations including trading, insurance and investment. In fact, there are both commercial bank and investment bank inside universal banking system. This system offers a broad variety of financial services such

as credit, deposits, loan, and costumer advisory in investment projects and securities transactions. Since universal banks have different financial activities, they are more efficient than commercial banks (Jan Schildbach, 2012).

2.3 Differences between Islamic Banks and Conventional Banks

As stated above, in Islamic banking there are all kinds of banking activities; nevertheless, borrowing and lending is not based on interest. Its basis is on profit/loss sharing (PLS). In addition, total financial activities are according to Islamic law and shariah. Islamic instruments are used to offer financial services to customers. On the contrary, conventional banking system is based on interest. Furthermore; religious rules are not allowed to interfere in banking system and financial activities. In table 4.1 some major differences of Islamic and conventional banks are indicated.

Table 2.5: Considerable Differences between Islamic Banks and Conventional Banks[6]

Conventional System	Islamic System
Money is a product, a medium of exchange and store of value.	Real Asset is a product not money, so money is just a medium of exchange.
According to time value, interest on capital is charged.	Profit is earned on exchanging of goods and services.
Loss is not shared between two parties.	Loss is shared between two parties.
There is not an agreement for exchange of goods and services in the time of paying out cash finance or working capital finance.	There is an agreement for the exchange of goods and services in the time of paying out fund under Islamic instrument such as Murabaha, Salam, and Istisna contracts.
Since there is no goods and services behind the money in the time of paying out funds, money will be expanded, so it causes inflation.	Money is not expanded because there are goods and services behind money, therefore inflation is not created.
Because of inflation, the borrower increases price of his goods and services (his products) to compensate the cost of product.	Since inflation is controlled, borrower does not charge extra price.
Long loans lending is made on basis of Window Dressed project feasibility and credibility of borrower, not according to existence of capital goods.	Before paying out funds for a capital project, existing of capital goods should be made sure.
Government can easily get loan from central bank without any capital development expenditure.	Government should deliver goods to national investment fund to obtain loan from monetary agency.
Due to lack of backing expanded moneyby real assets, deficit financing happens.	No expansion of money results balance budget.
Money remains in few hands; therefore real growth of wealth does not arise.	A lot of hands own real wealth, so real growth in the wealth of people occurs.
When there is a failure to project, the loan is considered as non-performing loan.	At the time of failure to project, the management of project can be changed to a better management.
Interest expense is deducted from taxable profit. Since this deduction affects saving and disposable income of people, the real gross domestic product is decreased.	In Mudarabah and Musharakah, extra taxes are provided to government, so this causes to minimize the tax burden to salaried persons. Likewise, savings and disposable income of people will increase that leads to increase in real gross domestic product.
Decreasing real GDP leads net exports to become negative. Therefore, foreign debt will increase and it causes a local currency becomes valueless.	When real GDPG goes up, the net exports becomes positive .As a result, there is a reduction in foreign debts burden that make a local currency becomes stronger.

[6]http//www.kantakji.com/fiqh/files/banks/c1010.pdf,(Accessed on 28/10/2012*)*

2.4 The 2008 Global Financial Crises on Malaysian Banking Sector

Major financial turmoil in 2008 that is considered the most serious recession since Great Depression in 1930, with its epicenter in the United States, persuades the world economy into its worst crisis in recent decades. Origin of this crisis refers to real estates and subprime mortgage. Due to Greed of banks to earn more, Lending standards were neglected by banks and they started to take out excessively mortgages with ease to customers. However, because of decrease in value of houses, borrowers could not continue their repayment to banks. As a result, financial institutions faced liquidity and insolvency problems.

Some of the developing countries faced with this challenge; consequently, stability of their economy experienced a big jeopardy; therefore, they did some proceedings against it to alleviate its negative effect on their economy. Due to the fact that the Malaysian government has manipulated some effective economic reforms and plans at thebeginning of the 2000s, the impact of the global crisis on Malaysian financial sector was not substantial. After Asian financial crisis in 1998, they enhanced governance and risk management practices and developed financial infra structure and established more diversified financial system. The government to manage 2008 crisis concentrated on pre-emptive measures to continue access to financing and to continue confidence in financial system (Muhammad bin ibrahim2010).

As pointed in research done by Goh Soo Khoon and Michale Lim Mah-Hui (2010) this crisis for Malaysia was not a financial crisis. It was a manufactured export crisis since its

economy is export-dependent economy, so it impacted directly to real economy of Malaysia. The big effect was on stock market. Stock markets fell down by 50%.Nevertheles, in other financial sector its effect was limited, and for instance, banking sector was in a good situation, they were not highly at risk. As said this small negative impact was because of Malaysian government economic policy that they managed in 2000s. However, Malaysian government controlled and managed the crisis by injecting a considerable monetary stimuli to economy of country.

Chapter 3

LITERATURE REVIEW

There are numerous studieson comparison of financial performance of Islamic banks and conventional banks carried out by researchers around the world. Indeed, especially after massive financial crisis in 2008 this kind of research and its importance were highlighted by researchers. Similarly, its eminence in today's global economy was perceived especially in western countries where the banking system is dominated by conventional system. Now they are seeking for a prescription for solving such a crisis in future.

There is a research conducted by Samad (2004) in which he used profitability, liquidity risk, and credit risk to compare performance of Bahrain's Islamic banks and commercial banks during the period of 1991-2001. Using t-test he found that there is no considerable difference in profitability and liquidity between Islamic banks and conventional banks. He also indicated that despite being new Islamic banks for trade market they are doing as well as conventional banks. Furthermore, in terms of credit risk Islamic banks are better than conventional banks; therefore, they are less at risk.

Jaffar and Manarvi (2011) examined performance of Islamic and conventional banks in Pakistan during 2005-2009. Using CAMEL framework, they analyzed capital adequacy, asset quality, earning ability, management quality, and liquidity position of 5 Islamic

banks and 5 conventional banks. They came to results that since Islamic banks are financing their assets more through equity than debt, they are safer than conventional banks. This research found out that Islamic banks earned less on theirassets, but conventional banks made more profit. In addition, using high loan to asset ratio by both Islamic and conventional banks, higher debt and default risk were experienced by both. But Islamic banks on average expressed lower loan to asset ratio comparing to conventional banks, it means their liquidity position was higher than conventional banks.

Siraj and Pillai (2012) investigated operation of 6 Islamic and 6 conventional banks in Arab league countries during 2005-2010. They for evaluating of banks performance utilized operating expense, profit, assets, operating income, deposits, and total equity as variables. According to ANOVA test they found that Islamic banks had higher ROA and ROE than conventional banks. This study proved that Islamic banks are heavily equity financed, but conventional banks are based on more borrowed fund financed. In Islamic banks, percentage of equity fund was 73.80% but in conventional banks it was 55.12%. Moreover, speed of increase in operating income was higher than operating expenses in Islamic banks comparing with conventional banks. Finally, this analysis showed financial crisis in 2008 affected less on Islamic banks compared to conventional peers in these countries.

Samad and Hassan (1999) did a research on one Malaysian Islamic bank (Bank Islam Malaysia berhad) and 8 conventional banks for the period 1984-1997. By application of financial ratios including profitability, liquidity, risk, and solvency, they found that Bank Islam Malaysia had a relatively progress on return on assets (ROA) and return on equity

(ROE), but comparing statistically both systems there is no difference . In terms of liquidity it is high in Islamic bank, so this Islamic bank is less risky comparing to 8 conventional banks. Moreover, they concluded that because of absence of acquainted bankers to select and manage profitable projects, in that period of time using profit sharing and joint venture loans was not widespread.

Ansari and Rehman (2011) compared Islamic banks and conventional banks in Pakistan during 2006-2009. According to ROA and ROE of banks, there is no significant difference between performance of Islamic banks and conventional banks although Islamic banks were more liquid than conventional banks, referring to this high liquidity Islamic banks are less risky. In addition, in terms of capital adequacy both banks do not indicate a big difference. Finally, according to net interest margin and cost income ratio Islamic banks' performance is better than conventional banks; thus, the former is more cost effective than latter.

According to Mokhtar, et al. (2006) Malaysian Islamic banks have developed quickly their assets, deposits, and financing base over the 1997-2003. They found Islamic banking industry has increased during mentioned period whereas conventional banks were in stable position. However, their findings also show that the conventional banks are more efficient than Islamic banks.

Anjum Iqbal (2012) examined and compared the liquidity risk managementof 5 Islamic banks and 5 conventional banks in Pakistan covering 2007-2010. The researcher used the size of the bank, nonperforming loan (NPLs), Capital Adequacy Ratio (CAR), ROA,

and ROE as independent variables and liquidity risk as a dependent variable as well. According to the analysis, Islamic banks had better liquidity than conventional counterparts. Trend of non-performing loans (NPL) in Islamic banks was toward reduction. Since the Islamic banking started in 2006, the size of the Islamic banks is less than that of conventional banks. In addition, the capital adequacy ratio of Islamic banks is higher than conventional banks.

According to Masruk, et al.(2007) who studied 5 years (2004-2008) performance of Islamic banks and conventional banks in Malaysia, in terms of liquidity, Islamic banks are better than conventional counterparts ; however, profitability of Islamic banks are less comparing to conventional banks. The reason behind high profitability of conventional banks is that they did higher net financing and had better asset quality. In addition, because of higher Loan- to- Deposit Ratio (LDR), credit risk of conventional banks is high. Regarding to efficiency, Islamic banks are more efficient than conventional banks.

Rosly and Abu Bakar (2003) according to performance of dual banking system(Islamic & conventional) during a period of 1996-1999 in Malaysia found out ,return on assets (ROA) of Islamic banks are higher than conventional banks. Since their return on assets is high because of their lower overhead expenses, it does not mean their efficiency is higher than conventional banks. They also found there is no consistency between their low asset utilization and investment margin ratios. Consequently, this study indicated that Islamic banks depend on interest-like products less than conventional banks on efficiency terms.

Zahoor, et al. (2011) attempted to know which one of banking system in Pakistan is profitable and viable. They found both banks are the same level of profitability but liquidity and solvency ratios indicated that Islamic banks are better than conventional banks. Islamic banks keep lower debt and more equity, so it decreases risk of default. Furthermore, Islamic banks are more efficient in cost although in terms of profit efficiency they are less as compared to conventional counterparts.

There is another research on Pakistan's banks done by Sehrish, et al. (2012) in which they compared financial performance of Islamic banks and conventional banks from year 2007-2011. According to analysis, they conclude that Islamic banks are less risky than conventional banks but in terms of profitability there is no big difference between both systems. However, according to this study in total Islamic banks performed more satisfactory than conventional banks.

Hassan and Dridi (2010) conducted a research on performance of Islamic banks and conventional banks during world financial crisis. They examined the effect of the crisis on profitability, asset and credit growth of banks. They found that because of some factors in Islamic banking business model such as better diversification, economies of scale, and stronger reputation, negative impact on profitability was less as compared to conventional banks. Although Islamic banks suffered from decreasing in returns of assets, they did not experience huge losses and bankruptcy similar to conventional banks especially in United States and EU countries. Besides, Islamic bank's asset growth was considerably higher than conventional banks during crisis. On the whole, this crisis

affirmed the importance of liquidity risks not only for bankers but also for policymakers; as a result, having a well-functioning liquidity management is necessary to be taken into consideration for banks.

Safiullah (2010) studied Islamic banks and commercial banks in Bangladesh. According to this research in which factors such as profitability, liquidity, business development, solvency, commitment to economy and community, efficiency, and productivity were analyzed, the performance of both systems is eminent. Regarding to commitment to economy and community, productivity and efficiency conventional banks performed better than Islamic banks whereas in profitability, liquidity, solvency, and business development Islamic banks performed well.

Hassan (2006) made a research on efficiency of Islamic banks in the world during 1995-2001. In order to examine the efficiency of banks; he applied cost and profit efficiency and Data Envelopment Analysis. Using DEA efficiency measurement, he concluded that the Islamic banking industry is less efficient than conventional banks. This study also indicated that there is high correlation between efficiency measures such as cost, allocative, technical, pure technical, and scale efficiency scores with ROA and ROE. Therefore, this researcher paved the way that in determining Islamic performance, all of these efficiency measures can be used simultaneously with conventional accounting ratios. In addition, he found that Islamic banks despite of being inefficient in terms of costs, they are efficient in making profit. This investigation also showed that majority of

Islamic banks are smaller size compared to conventional banks; thus, it is better to merge each other and also they should use up to date technology and develop the score and scale of their operations in order to compete with conventional banks.

Yudistira (2004) investigated performance of 18 Islamic banks from 1997 to 2000. Using non-parametric technique, Data Envelopment analysis (DEA), he measured efficiency of these banks. He claims inefficiency of Islamic banks is very low compared to conventional banks. During global crisis in 1998-1999 Islamic banks somehow suffered although they performed well after this crisis. To sum up, this study suggests merger to Islamic banks due to existence of diseconomies of scale for small-to- medium Islamic banks.

Suffian (2007) conducted a research on the performance of Malaysian Islamic banks during 2001-2005. Utilizing Data Envelopment Analysis (DEA), he evaluated banks efficiency during the study period. In order to find the impact of risk factor on Islamic bank efficiency, he has considered problem loans as a non-discretionary input variable. He claims that scale inefficiency domineers over pure technical inefficiency in Malaysian Islamic banks during the period of study. And also he found if risk factors are excluded, overestimation of economy of scale will be happened, so pure technical efficiency estimates will be highly sensitive to the exclusion of risk factors.

Hamid and Azmi (2011) did a comparative study between one Malaysian Islamic bank (Bank Islam Malaysia Berhad) and conventional banks of Malaysia during a period of

10 years (2000-2009). In this study, profitability, liquidity, risk, solvency, and community involvement of banks were utilized to measure the financial performance of banks. Evaluating intertemporal and interbank performance of bank Islam Malaysia (BIMB) and also using t-test they found that there is no significant difference in profitability but in terms of liquidity BIMB is more liquid and less risky than conventional peers. Furthermore, in this study they indicated that there is a cut- downs of participation in community financing for Bank Islam Malaysia Berhad due to be available other Islamic instruments that are more profitable than musharakah and mudarabah.

Chapter 4

DATA AND METHODOLOGY

4.1 Data

In the first step, data was extracted from the balance sheet and income statement of 14 banks in Malaysian banking sector (7 Islamic banks and 7 conventional banks)[7] for the period of 7 years (2005-2011) which were prepared annually by these banks. Second, using Microsoft Excel all ratios that are intended to being applied for empirical study was calculated and then with the help of E-views software these ratioswere analyzed in terms of correlation and regression. Finally, some conclusions were found out according to this analysis.

Table 4.1: Selected Islamic Banks

No	Name of Banks
1	Bank Islam Malaysia Berhad
2	Bank Moamelat Malaysia Berhad
3	CIMB Islamic Bank Berhad
4	Hong Leong Islamic Bank Berhad
5	HSBC Amanah Berhad
6	Kuwait Finance House Berhad
7	RHB Islamic BankBerhad

[7] http://www.bnm.gov.my/index.php?ch=13&cat=banking&type=CB&fund=0&cu=0(Accessed on 20/10/2012)

Table 4.2: Selected Conventional Banks

No	Name of Banks
1	Affin Bank berhad
2	Alliance Bank Malaysia Berhad
3	Public Bank Berhad
4	CITI Bank Berhad
5	OCBC Bank Malaysia Berhad
6	standard Charteredt Bank Malaysia Berhad
7	United Overseas Bank Malaysia Berhad

4.2 Variables

In order to examine the profitability of both banking system (Islamic and Conventional), two kinds of variables were applied in this study: Dependent variable and Independent variable. Number of dependent variables is two and also five independent variables were put in an application.

Table 4.3: The Variables, Measures, and Notations

Bank-Specific Factors	Variables	Measures	Notation
Dependent Variables	Profitability	Return on Assets(ROA)=Net Income/Total Assets	ROA
		Return on Equity(ROE)=Net Income/Total Equity	ROE
Independent Variables	Capital Adequacy	Equity/Total Assets	CAR
	Asset Quality	Total Loan, Advances and Financing/Total Assets	ASQ
	Efficiency	Interest Income/Interest Expense	EFF
	Liquidity	Liquid Asset/Total Assets	LQR
	Bank Size	Natural logarithm of Total Assets	LSIZE

4.2.1 Dependent Variables

In order to find out profitability of the bank, in this research, CAMEL system that is a useful tool to investigate performance of banks was applied. The most important ratio measurements that can be properly used are Return on Assets (ROA) and Return on Equity (ROE). These two variables are frequently being used for analyzing financial performance of banks.

Return on Assets (ROA):

Return on Assets ratio is calculated from Net Income divided by Total Assets. This ratio shows how well management is using assets to make profit. According to Naceur(2003) profit earned for every one dollar of assets can be measured by Return on Assets ratio.

Return on Equity (ROE):

Return on Equity is equal to Net Income over the Total Equity of the bank. This ratio is an indicator of bank profitability in terms of management of shareholder's Equity. According to these ratio bank managers understand how well they are utilizing Equity to generate profit. It indicates how profitable a bank is from every unit of capital invested by shareholders (Gul et al. 2011).

4.2.2Independent Variables

Capital Adequacy (CAR):

Capital adequacy ratio (capital to risk weighted assets ratio) is equal to equity divided by Total assets. This ratio shows a bank's capital to its risk. In other words, according to Capital Adequacy, it is estimated that how well bank is able to protect its depositors and lenders from bank failure. Therefore, if bankers manage banks in terms of Capital Adequacy properly, it brings stability and efficiency to banks position.

Asset Quality (ASQ):

This ratio is calculated by division of Total Loan, Advances, and Financing to Total Assets. This ratio expresses that how much of assets are utilized as loans. Since loan is most important and main source of earning for banks, they are more interested to make loan for borrowers. However, it makes high degree of risks to banks.

Management Efficiency (EFF):

Management Efficiency is equal to Interest Income over Interest Expense. According to this ratio we can estimate how well a bank is utilizing its assets and liabilities internally. When this ratio is high, that is a bank has been successful to make a considerable profit comparing to its expenses.

Liquidity (LQR):

It is calculated as Liquid Assets over Total Assets. When this ratio is high, bank is not highly at risk, because it has sufficient money (cash assets) to repay to its depositors. Consequently, it is safer in terms of insolvency and bankruptcy. However, higher liquidity ratio can be implied lower profitability because more and substantial of assets are kept in cash instead of utilizing it as loans to borrowers (Molyneux and Thorton, 1992). In contrast, Bourke (1989) argued that there is a positive relationship between liquidity and bank's profitability.

Bank Size:

In general, the bank size is determined by its Total Assets. (Athanasoglou, et al. 2005) pointed out that the larger the bank size leads to more profit; however, they argued that if a bank has an extravagant size of asset, this may make a negative impact on profitability of banks.

Since the total Assets are all in different level of numbers, using logarithm of the bank size (Log Size) is necessary to run regression analysis.

Dummy:

It is another variable that is applied as an indicator of profitability in a specific period of time, for instance, in the time of crisis. It shows that whether the crisis has affected the banks' profitability or not. The value 0 will be used for stable period and value 1 points out for the financial crisis 2008.

4.3 Methodology

This research is planning to run regression analysis on bank profitability. The panel data which was obtained from the balance sheet and income statement of banks will be employed during running process. However, it is necessary to know whether the data is stationary or not. According to Davydenko (2011) when the data is stationary it means there is no change to mean, variance and autocorrelation of a variable by changing the time. In this case, by employing unit root test based on Levin, Lei & Chu (LLC), Im Persaran Shin (IPS), and Wu method, we realized that variables are stationary. Therefore, by using E-views software, we can continue to run regression analysis on data.

The following is the econometric form of the panel regression:

$Y_{i,t} = \beta 0 + \beta X_{i,t} + D_{i,t} + \varepsilon t$

Where

$Y_{i,t}$ is the dependent variable in the function

B0 is the intercept

$X_{i,t}$ represents the independent variables

$D_{i,t}$ represents the dummy variable

Et is the error term

The models which will be applied are as follow:

Without dummy:

$Y = f(CAR_{i,t}, ASQ_{i,t}, EFF_{i,t}, LQR_{i,t}, SIZE_{i,t})$

$ROA = \beta 0 + \beta 1(CAR_{i,t}) + \beta 2(ASQ_{i,t}) + \beta 3(EFF_{i,t}) + \beta 4(LQR_{i,t}) + \beta 5(SIZE_{i,t}) + \varepsilon t$

$ROE = \beta 0 + \beta 1(CAR_{i,t}) + \beta 2(ASQ_{i,t}) + \beta 3(EFF_{i,t}) + \beta 4(LQR_{i,t}) + \beta 5(SIZE_{i,t}) + \varepsilon t$

With dummy:

$Y = f(CAR_{i,t}, ASQ_{i,t}, EFF_{i,t}, LQR_{i,t}, SIZE_{i,t}, D_{i,t})$

$ROA = \beta 0 + \beta 1(CAR_{i,t}) + \beta 2(ASQ_{i,t}) + \beta 3(EFF_{i,t}) + \beta 4(LQR_{i,t}) + \beta 5(SIZE_{i,t}) + D_{i,t} + \varepsilon t$

$ROE = \beta 0 + \beta 1(CAR_{i,t}) + \beta 2(ASQ_{i,t}) + \beta 3(EFF_{i,t}) + \beta 4(LQR_{i,t}) + \beta 5(SIZE_{i,t}) + D_{i,t} + \varepsilon t$

Chapter 5

EMPIRICAL ANALYSIS AND RESULTS

At first, we should check the data in terms of stationary. If a series is not stationary; consequently, for asymptotic analysis the standard assumptions cannot be valid (Gujarati2011). In order to check whether data is stationary or not, in this study, the unit root test was applied. According to results of unit root tests which implemented based on Levin, Lei & Chu (LLC), Im Persaran Shin (IPS), and Wu method shown in tables5.1, 5.2 , and 5.3 we can reject the null hypothesis (non- stationary); therefore, alternative hypothesis (stationary) cannot be rejected.

H0: data is non- stationary

H1: data is stationary

5.1 Correlation Analysis

In order to find relationship between variables, correlation analysis was employed. These relationships can be taken into consideration between independent variables and dependent variables, and also between independent variables one another as well. On the whole, Correlation analysis indicates how one variable affects another variable during a period of time. Nevertheless, this effect can be positive or negative on variables with different amounts. Checking correlations between two independent variables, we can realize whether there is multicollinearity problem or not. If two independent variables

highly correlated, there is a multicollinearity problem in which independent variables are indeterminate and their standard errors will be infinite (Gujarati2011). Therefore, for solving this problem we can employ Vector Auto Regression Estimate model in different lags (t) in E-views.

In this investigation, we have analyzed correlations in all banks, Islamic banks and Conventional banks in separate groups.

Table 5.4: Correlations of Variables forAll Banks

	ROA	ROE	CAR	LQR	ASQ	SIZE	EFF	D
ROA	1.00							
ROE	-0.12	1.00						
CAR	0.05	-0.34	1.00					
LQR	-0.11	-0.12	0.31	1.00				
ASQ	0.15	0.12	-0.28	-0.72	1.00			
SIZE	.18	0.13	-0.20	-0.32	0.25	1.00		
EFF	0.07	-0.10	0.90	0.37	-0.37	-0.10	1.00	
D	.10	-0.03	0	0	0.04	0.01	-0.05	1.00

Referring to table 5.4, the effect of Capital Adequacy (CAR), Asset Quality (ASQ), Size, and Efficiency (EFF) on Return on Asset (ROA) is positive; however, Liquidity (LQR) has affected negatively on ROA. Capital Adequacy (CAR), Liquidity (LQR) and Efficiency (EFF) are negatively related to ROE; in contrast, Asset Quality (ASQ) and Size of bank have positive impact on Return on Equity (ROE). Since there is a high

correlation between Efficiency (EFF) and Capital Adequacy (CAR) (90%) and also between ASQ and LQR (-72%), we have faced with appearance of multicollinearity. As a consequence, for solving this problem, either we can remove these variables from our model or; alternatively, we can put an application for Var model in different lags(t).

Table 5.5: Correlations of Variables for Islamic Banks

	ROA	ROE	CAR	LQR	ASQ	SIZE	EFF	D
ROA	1.00							
ROE	-0.36	1.00						
CAR	0.18	-0.29	1.00					
LQR	0.09	-0.11	0.32	1.00				
ASQ	-0.01	0.11	-0.27	-0.63	1.00			
SIZE	-0.01	0.16	-.37	-0.31	-0.06	1.00		
EFF	0.14	-0.08	0.91	0.39	-0.38	-0.18	1.00	
D	0.12	-0.04	-0.02	-0.06	0.15	0	-0.08	1.00

In the case of Islamic banks, according to table 5.5, positive effect of CAR, LQR, and EFF and negative effect of ASQ and Size on ROA can be observed. In addition, Impact on ROE is positive from ASQ and Size side; in contrast, CAR, LQR and EFF have affected it negatively. According to table above, between EFF and CAR there is a multicollinearity problem. Likewise, between ASQ and LQR can be brought to light this problem.

Table 5.6: Correlations of Variables for Conventional Banks

	ROA	ROE	CAR	LQR	ASQ	SIZE	EFF	D
ROA	1.00							
ROE	0.59	1.00						
CAR	-0.08	-0.79	1.00					
LQR	0.43	0.51	-0.33	1.00				
ASQ	-0.43	-0.50	0.27	-0.80	1.00			
SIZE	-0.32	-0.04	-0.29	-0.10	0.15	1.00		
EFF	0.47	0.03	0.23	0.38	-0.35	-0.12	1.00	
D	0.17	-0.01	0.09	0.13	-0.16	0.02	0.09	1.00

Correlation of variables in conventional banks with reference to table 5.6 expresses that there is a positive relationship between LQR and EFF with ROA; in spite of this, impact of CAR, ASQ, and Size on it is negative. Moreover, in terms of impact of independent variables on ROE, LQR, and EFF have affected positively; on contrary, we can see inverse impact on ROE from side of CAR, ASQ, and Size. Furthermore, based on highly correlation between ASQ and LQR (-0.80), solving multicollinearity problem is inevitable to avoid getting inaccurate results.

5.2 Regression Analysis

Regression analysis is one of the most popular and appropriate methods in econometrics to analyze impact of both independent and dependent variables one another. In this research as mentioned in preceding chapters, we are intended to find out which bank specific factors (variables) are affecting bank's financial performance in terms of

profitability. We should bear in mind that ROA and ROE are dependent variables that we want to find out the effect of CAR, LQR, ASQ, EFF, and Dummy as independent variables on them. To some extents, independent variables are able to affect dependent variables negatively or positively.

Since based on existence of multicollinearity between some independent variables and also according to our findings from Durbin Watson Test (D-test) with help of Panel Least Squares method, looking at table 5.7 and table 5.8 we can realize auto correlation between error terms that leads to obtain inaccurate results. Therefore, for surmounting such a serious problem, Vector Auto Regression method would be applied in different lags (t) to correct these errors from our model.

5.2.1 Regression Analysis Results of All Banks

According to Vector Auto Regression Tests, CAR is statistically significant at lag (-1), that is, it affects ROA of banks. Since t-stat is -2.43171, it has negative impact on Return on Asset of banks. It is implied that when Capital Adequacy (Equity/total Assets) increases 1 %, ROA will decrease 29.01%. Thus, if banks' managers increase Capital Adequacy, the bank will lose a considerable amount of fund. This indicates us the importance of using capital either in order to gain more profit or avoiding from losses. According to (Goddard et al. 2004), well capitalized bank are less at risk in terms of bankruptcy; in addition, costs of funding is reasonable; therefore, it leads to more profit for banks. Similarly, another independent variable that significantly affects on ROA is Asset Quality (ASQ). Based on our finding, t-stat for ASQ is -2.19638 at lag (-1). So it has negative effect on ROA. Independent variable ASQ equals to loans over total assets. Loans are main part of assets in making profit for banks; however, if non-performing

loans increase, it will cause to reduce profit. Likewise, more non-performing loans are one serious alarm for bankruptcy, because banks are highly endangeredby credit risk in which borrowers are not able to repay their debts to bank. Hence, bank managers should be alert and pay attention to negative side of using loan as a main source of generating profit that is non-performing loan. Considering profitability factor ROE, similarly to ROA, independent variable ASQ at lag (-1) has negative effect on ROE. It means when ASQ increases, return on equity will decrease. Moreover, Dummy variable that is an indicator for showing impact of 2008 financial crisis has negative effect on ROE at lag (-1). However, this effect comparing to foreign peers is not so significant. Nevertheless, Malaysian banking sector somehow suffered from world financial crisis but not first degree of impact.

5.2.2 Regression Analysis Results for Islamic Banks

Referring to table 5.15, CAR is statistically significant at lag (-2). Its t-stat is -2.13760, so it is affecting negatively to ROA. It demonstrates that when Islamic bank administrators use more capital adequacy, bank has suffered from reduction ofgenerating profit from assets. Capital Adequacy also named Capital to Risk Weighted Assets is an indicator of bank's capital to its risk. Assets are different in terms of their degree of riskiness; therefore, if bankers use more risky assets; for instance, they invest in risky projects in order to generate more profit, there is no doubt that the bank will suffer from insolvency that leads to bankruptcy in near future.ASQ is significant at lag (-1) and (-3), because t-stat in lag (-1) is -2.36689 and also in lag (-3) is -2.49195. So it has negative impact on ROA.It is certainly the case that bank managers should concern about quality of loan that they make for borrowers, because if loans are bad quality such as non-performing loan from which bank can not generate any profit, it endangers

banksituations in crisis time. Management Efficiency (EFF) has positive impact on ROA at lag (-2); on contrary, its effect on ROA is negative at lag (-3). That is to say, it demonstrates that banks management how well did in 2 year before the current year in utilizing assets and liabilities to make more profit to banks shareholders. In contrast, due to negative relationship between ASQ and ROA in lag (-3), their management in 3 years before was not successful. Regarding to Dummy variable that we used it for detecting effect of financial crisis in 2008 on bank's financial performance, is not statistically significant based on t-stat of -0.42204; as a result, it signifies no effect of world financial crisis on Islamic banks performance during recession period. Concerning ROE another bank's profitability factor, CAR is significant at lag (-3). It has affected positively on ROE of Islamic banks. On the contrary, ASQ is negatively affecting on ROE at lag (-3). Likewise, Efficiency (EFF), has positive impact at lag (-1) and (-2); however, its effect on ROE is negative at lag (-3) based on t-stat of 2.70022, 2.79403, and -3.10296 respectively. It connotes that bank has well-performed in terms of using its assets and liabilities in lag (-1) and (-2), and also it indicates that they have used equity in a proper manner to generate profit for shareholders. However, at lag (-3), it is vice versa. In accordance to Dummy variable, its t-stat is -1.00840, so it is not significant statistically to ROE of Islamic banks.

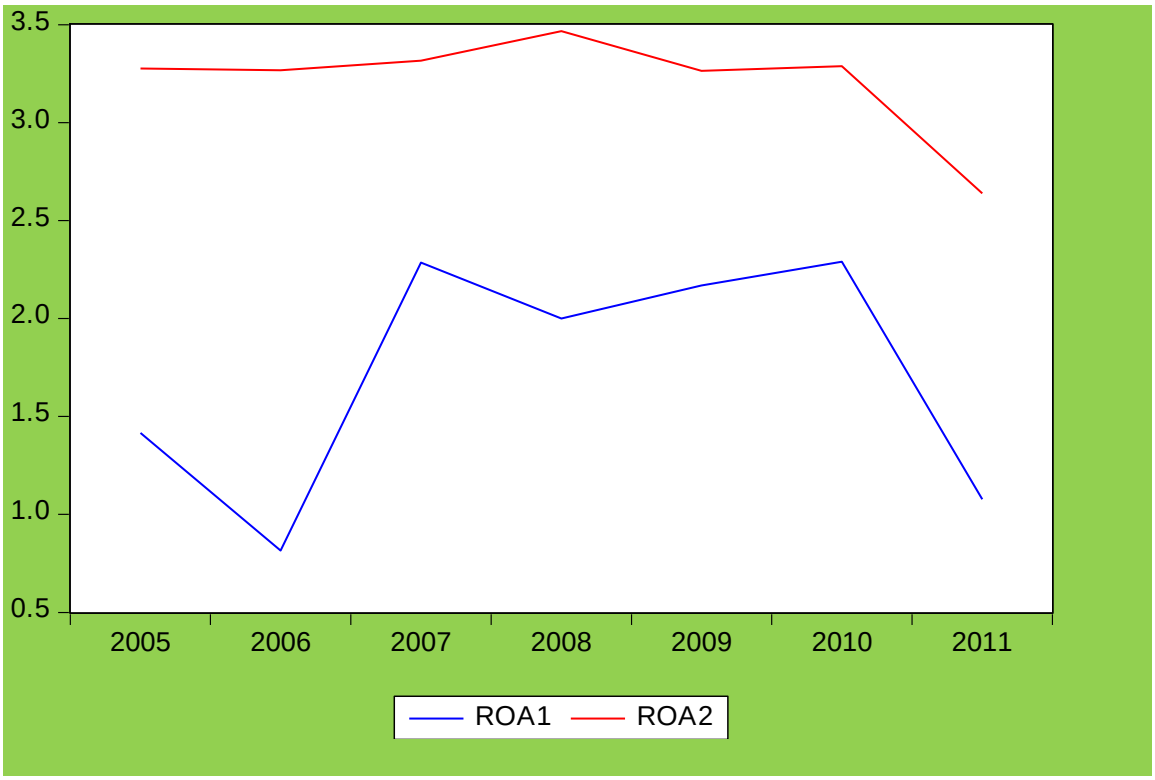
5.2.3 Regression Analysis for Conventional Banks

Considering our regression analysis results of ROA of conventional banks table 5.17 that was implemented till lag (-3) reveals among independent variables CAR, LQR, ASQ, EFF, and Dummy, only CAR and EFF are significant. Although CAR has positive relationship with ROA at lag (-2), it has affected it negatively at lag (-3). According to t-stat of 2.08667 at lag (-2) and t-stat of -2.49524 at lag (-3), when conventional banks

increase CAR, it makes to increase ROA of banks at lag (-2). Nevertheless, in lag (-3), its impact on ROA is inverse. EFF with t-stat of -2.35550 in lag (-1) and t-stat of 2.27235 at lag (-3) affirms the existence of significance on ROA from EFF side. At lag (-1) EFF has behaved negatively on Return on Assets, so when conventional banks increase this factor either by speeding up interest income or by reduction of expenses they will suffer from loss from banks operations. In contrast, at lag (-3), it is in a complete reversal position. It has affected positively on ROA. Looking to t-stat of 0.81476 for Dummy variable, it is implied that world financial crisis did not affected on ROA of conventional banks in Malaysia. Regarding Vector Auto Regression Estimate on ROE of Malaysian conventional banks, independent variable LQR is statistically significant at lag (-1). It has positive effect on ROE. Liquidity ratio is one of the most important factors of bank's financial performance in order to avoid from bankruptcy. This ratio that is calculated from division of liquid assets over total assets shows the amount of sufficient cash that banks have in order to provide urgent lenders who need their fund. If banks do not have sufficient cash, they will be threatened by bankruptcy. However, if banks keep more their assets in cash for avoiding from this thereat, they cannot generate profit very well. Therefore, bank's managers should have well-management in order to overcome this paradoxical case. EFF is significant at lag (-1). It has affected negatively on ROE. When banks have increased EFF, Return on Equity has decreased. Dummy variable in the case of ROE is not statistically significant. Therefore, it is denoted that Malaysian conventional banks similar to their Islamic counterparts have not suffered from 2008 financial crisis.

5.2.4 Comparison between Islamic and ConventionalBanks

In order to compare two different systems in terms of profitability, averages of Return on Assets of both systems were calculated for the period of 2005-2011. Graph 5.1 shows conventional banks performed better than Islamic counterparts, they generated more profits as we compared it with Islamic banks. In contrast, Islamic banks have well-performance during crisis times than conventional banks. Making profit by conventional banks has decreased during 2008-2009 whereas Islamic banks were successful in making profit.



Graph5.1: ROA of Islamic Banks and Conventional Banks of Malaysia

ROA1: Islamic Banks

ROA2: Conventional Banks

Chapter 6

CONCLUSION AND SUGGESTIONS

It is often alleged that economy of all countries depends to some degree on banks performance; moreover, it is popularly believed that, banks are backbone of the economy and financial sector. They inject fund to economy and try to circulate it in a suitable and proper way. In general, they are involved in financial intermediation activities. Bankers' aim is to generate more profit to their shareholders and government officials look to thewhole economy of country. Therefore, bank's financial performance is crucial and vital for both parties. This research carried out to take into consideration of this importance of banks financial performance. In this study, financial performance of Malaysian Islamic banks and Conventional banks were examined in order to compare one another and similarly, their behavior in time of the world financial crisis as well. In order to examine banks financial performance, two main profitability indicators of banks, including ROA and ROE were employed. Since several bank specific factors influencing these factors, some of them such a Capital Adequacy, Liquidity, Asset Quality, and Efficiency were chosen in order to find out their impact on bank's profitability. Moreover, one virtual variable called Dummy was applied to find whether 2008 financial crisis has affected these two banking systems in Malaysia or not. Due to the fact that Malaysia is pioneer in Islamic banking, 7 Islamic banks and 7 Conventional banks of this country were randomly selected. On the whole, an Islamic bank differs

from its conventional counterparts in some respects. Most important difference is lack of interest in Islamic banks. Besides, it is based on profit – loss sharing foundation.

In this study, first, Data was collected from annual financial reports of banks for the period of 2005-2011. Afterwards, applying E-views software, some correlation and regression analysis were implemented on data. To sum up, impact of independent variables on dependent variables was found. The empirical analysis indicated that independent variable CAR (-1), ASQ (-1) (-3), and EFF (-3) have affected profitability of Islamic banks negatively. In contrast, profitability of Islamic banks was impacted positively by EFF (-2). Moreover, in the case of Dummy, it is not significant; therefore, Islamic bank did not suffer from world 2008 financial crisis. Examining the effect of independent variables on profitability of Conventional banks clarified that CAR (-2) and EFF (-3) have positive effect on return on assets of conventional banks; however, its effect from the side of CAR (-3) and EFF (-1) is negative. Likewise, Dummy variable is not significant to conventional banks according to t-stat of 0.81476. Therefore, we came to conclusion that world 2008 financial crisis did not affect Malaysian conventional banks as well as Islamic banks. As pointed out in research done by Goh Soo Khoon, and Michale Lim Mah-Hui (2010) this crisis for Malaysia was not a financial crisis. It was a manufactured export crisis on the account of the fact that its economy is export-dependent economy, so it impacted directly to real economy of Malaysia.

Comparison between these two Malaysian banking sectors indicates that Islamic banks behaved better against world financial crisis. The effect of this crisis on Islamic banks was minor, comparing to conventional banks (Chapra, 2008). On the contrary, some reduction of profit can be observed in performance of conventional banks of Malaysia. However, losses of Malaysian conventional banks and degree of their sufferance from 2008 financial crisis are not as much as western countries banks.

This study tried to demonstrate that the economy of a country in general and banking sector in specific which is based on Islamic rules and foundations is able to face better against recession and crisis. It is not deniable that probably they will suffer from loss of profit; however, they are more resistant against bankruptcy according to their basic structure. Since the present study was carried out for single country with limited selected banks and also confined variables, leading it to less and restricted achievements; therefore, the same research with more and various variables can be done for other countries in which Islamic banks have financial activities to indicate and prove this fact that Islamic banking owns a proper solution in order to make stability in economy and in the same way, to avoid countries getting financial crisis.

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APPENDIX

Table 5.1: Unit Root Tests for All Banks

Variables		Levels		
		LLC	IPS	M-W
ROA	τT	-7.50*	0.35	54.63*
	τμ	-4.31*	-0.06	38.26***
	τ	-3.06*	-	39.51***
ROE	τT	-9.67	-0.73	84.38*
	τμ	-11.71*	-2.25*	68.55*
	τ	-4.22*	-	57.93*
CAR	τT	-5.90*	0.77	41.69**
	τμ	-71.10*	-0.85	49.08*
	τ	0.20	-	20.79
LQR	τT	-13.55*	-0.86	87.70*
	τμ	-6.10*	-1.62***	69.97*
	τ	-1.89**	-	43.54
ASQ	τT	-13.12*	0.44	79.32*
	τμ	-9.52*	-2.07**	69.74*
	τ	2.19	-	17.28
SIZE	τT	-11.32*	-0,53	72.54*
	τμ	-14.49*	-2.89*	65.17*
	τ	8.18	-	1,05
EFF	τT	-29.68*	-3.18*	85.68*
	τμ	-31.40*	-5.66*	68.56*
	τ	26.15		37.74

Table 5.2:Unit Root Tests for Islamic Banks

Variables		Levels LLC	IPS	M-W
ROA	τ_T	-6.19*	0.04	40.21*
	τ_μ	-4.30*	-0.51	27.46**
	τ	-2.13**		20.16
ROE	τ_T	-7.50*	-1.42***	66.98*
	τ_μ	-11.76*	-4.63*	61.94*
	τ	-0.72		11.30
CAR	τ_T	-5.29*	0.47	23.52***
	τ_μ	-6.06*	-1.10	30.75*
	τ	-1.68**		16.19
LQR	τ_T	-7.12*	0.45	44.37*
	τ_μ	-3.95*	-0.85	29.37*
	τ	-0.90		34.28*
ASQ	τ_T	-10.77*	-0.73	47.03*
	τ_μ	-7.97*	-2.18**	35.85*
	τ	2.34		7.26
SIZE	τ_T	-8.93*	-1.00	52.18*
	τ_μ	-14.41*	-5.35*	48.59*
	τ	4.80		0.90
EFF	τ_T	-26.22*	-1.75**	44.18*
	τ_μ	-33.98*	-8.21*	55.75*
	τ	-2.71*		31.45*

Table5.3: Unit Root Tests for Conventional Banks

Variables		Levels		
		LLC	IPS	M-W
ROA	τ_T	-4.18*	0.54	14.42
	τ_μ	-0.60	0.41	10.80
	τ	-2.83*		19.35
ROE	τ_T	-3.74*	0.41	17.39
	τ_μ	-0.30	1.50	6.60
	τ	-4.04*		46.62*
CAR	τ_T	-2.41*	0.61	18.17
	τ_μ	-2.65*	-0.10	18.32
	τ	0.95		4.60
LQR	τ_T	-13.04*	-0.76	43.33*
	τ_μ	-5.32*	-1.44*	40.60*
	τ	-2.39*		9.25
ASQ	τ_T	-6.02*	0.10	32.28*
	τ_μ	-4.20*	-0.74	33.88*
	τ	0.88		10.02
SIZE	τ_T	-4.79*	0.30	0.61
	τ_μ	-1.43***	1.26	16.57
	τ	6.61		0.15
EFF	τ_T	-30.99*	-2.75*	41.49*
	τ_μ	-2.07**	0.20	12.80
	τ	34.93		6.29

Note: ROA represents return on assets; ROE represents return on equity; CAR represents capital adequacy ratio; LQR represents liquidity ratio's represents asset quality ratio; size represents bank size; EFF represents management efficiency;τ_T represents the model with a drift and trend; τ_μ Represents the model with drift but without trend;τ represents the model without drift and trend.*, **,* representing rejection of H0 (non-stationary) at the 1%.5% and 10% respectively. Tests for unit root have been carried out in E-VIEWS 7.

Table 5.7: Regression Analysis for All Banks

Dependent Variable: LROA
Method: Panel Least Squares
Date: 12/12/12 Time: 14:25
Sample: 2005 2011
Periods included: 7
Cross-sections included: 14
Total panel (unbalanced) observations: 94

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCAR	-0.097850	0.117969	-0.829452	0.4091
LLQR	0.293275	0.121480	2.414172	0.0178
LASQ	0.539869	0.082883	6.513601	0.0000
LEFF	0.102710	0.125857	0.816092	0.4167
DUMMY	-0.012678	0.097223	-0.130402	0.8965
C	-2.156234	0.586895	-3.673966	0.0004

R-squared	0.333677	Mean dependent var	0.886418
Adjusted R-squared	0.295818	S.D. dependent var	0.508108
S.E. of regression	0.426382	Akaike info criterion	1.194740
Sum squared resid	15.99855	Schwarz criterion	1.357078
Log likelihood	-50.15277	Hannan-Quinn criter.	1.260312
F-statistic	8.813623	Durbin-Watson stat	0.697276
Prob(F-statistic)	0.000001		

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Table 5.8: Regression Analysis for All Banks

Dependent Variable: LROE
Method: Panel Least Squares
Date: 12/12/12 Time: 14:25
Sample: 2005 2011
Periods included: 7
Cross-sections included: 14
Total panel (unbalanced) observations: 94

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCAR	-1.097693	0.117969	-9.304945	0.0000
LLQR	0.293513	0.121480	2.416137	0.0178
LASQ	0.539993	0.082883	6.515104	0.0000
LEFF	0.102667	0.125856	0.815744	0.4168
DUMMY	-0.012670	0.097223	-0.130314	0.8966
C	2.447298	0.586895	4.169910	0.0001

R-squared	0.562219	Mean dependent var	3.493202
Adjusted R-squared	0.537345	S.D. dependent var	0.626858
S.E. of regression	0.426381	Akaike info criterion	1.194737
Sum squared resid	15.99850	Schwarz criterion	1.357075
Log likelihood	-50.15262	Hannan-Quinn criter.	1.260309
F-statistic	22.60271	Durbin-Watson stat	0.697160
Prob(F-statistic)	0.000000		

Table 5.9:Regression Analysis for Islamic Banks

Dependent Variable: LROA
Method: Panel Least Squares
Date:12/12/12 Time:13;54
Sample:2005 2011
Periods included:7
Cross-sections included:7
Total panel (unbalanced) observations:45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCAR	-0.046390	0.158272	-0.293103	0.7710
LLQR	0.478619	0.168158	2.846251	0.0070
LASQ	0.415581	0.102836	4.041185	0.0002
LEFF	0.071024	0.155535	0.456641	0.6505
DUMMY	-0.036307	0.162012	-0.224099	0.8239
C	-2.694062	0.725642	-3.712662	0.0006

R-squared	0.382730	Mean dependent var	0.593800
Adjusted R-squared	0.303592	S.D. dependent var	0.591108
S.E. of regression	0.493286	Akaike info criterion	1.548111
Sum squared resid	9.489912	Schwarz criterion	1.788999
Log likelihood	-28.83249	Hannan-Quinn criter.	1.637911
F-statistic	4.836275	Durbin-Watson stat	0.928119
Prob(F-statistic)	0.001551		

Table 5.10:Regression Analysis for Islamic Banks

Dependent Variable ROE
Method: Panel Least Squares
Date:12/12/12 Time:13:53
Sample:2005 2011
Periods included:7
Cross-sections included:7
Total panel (unbalanced)observatios:45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCAR	-1.046226	0.158261	-6.610744	0.0000
LLQR	0.478917	0.168146	2.848216	0.0070
LASQ	0.415687	0.102830	4.042484	0.0002
LEFF	0.070977	0.155524	0.456372	0.6507
DUMMY	-0.036264	0.162001	-0.223850	0.8240
C	1.909265	0.725593	2.631315	0.0121

R-squared	0.572053	Mean dependent var	3.154264
Adjusted R-squared	0.517188	S.D. dependent var	0.709873
S.E. of regression	0.493253	Akaike info criterion	1.547977
Sum squared resid	9.488645	Schwarz criterion	1.788865
Log likelihood	-28.82948	Hannan-Quinn criter.	1.637778
F-statistic	10.42655	Durbin-Watson stat	0.928021
Prob(F-statistic)	0.000002		

Table 5.11: Regression Analysis for Conventional Banks

Dependent Variable: LROA
Method: Panel Least Squares
Date: 12/12/12 Time: 14:01
Sample: 2005 2011
Periods included: 7
Cross-sections included: 7
Total panel (balanced) observations: 49

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCAR	-0.017633	0.104435	-0.168845	0.8667
LLQR	0.021256	0.139458	0.152422	0.8796
LASQ	-0.534078	0.246256	-2.168790	0.0357
LEFF	0.038889	0.123791	0.314146	0.7549
DUMMY	0.039159	0.051632	0.758435	0.4523
C	3.245170	1.422288	2.281654	0.0275

R-squared	0.235468	Mean dependent var	1.155149
Adjusted R-squared	0.146569	S.D. dependent var	0.161017
S.E. of regression	0.148750	Akaike info criterion	-0.858825
Sum squared resid	0.951439	Schwarz criterion	-0.627174
Log likelihood	27.04122	Hannan-Quinn criter.	-0.770937
F-statistic	2.648707	Durbin-Watson stat	1.533431
Prob(F-statistic)	0.035709		

Table 5.12: Regression Analysis for Conventional Banks

Dependent Variable: LROE
Method: Panel Least Squares
Date: 12/12/12 Time: 14:03
Sample: 2005 2011
Periods included: 7
Cross-sections included: 7
Total panel (balanced) observations: 49

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCAR	-1.017641	0.104441	-9.743725	0.0000
LLQR	0.021175	0.139465	0.151827	0.8800
LASQ	-0.534181	0.246269	-2.169097	0.0356
LEFF	0.038846	0.123798	0.313786	0.7552
DUMMY	0.039177	0.051635	0.758733	0.4522
C	7.851087	1.422362	5.519753	0.0000

R-squared	0.786407	Mean dependent var	3.804472
Adjusted R-squared	0.761571	S.D. dependent var	0.304648
S.E. of regression	0.148757	Akaike info criterion	-0.858722
Sum squared resid	0.951537	Schwarz criterion	-0.627070
Log likelihood	27.03868	Hannan-Quinn criter.	-0.770834
F-statistic	31.66354	Durbin-Watson stat	1.533293
Prob(F-statistic)	0.000000		

Table 5.13: Vector Auto Regression Estimates of All Banks (ROA)

Vector Autoregression Estimates
Date: 12/12/12 Time: 14:27
Sample (adjusted): 2006 2011
Included observations: 80 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LROA	LCAR	LLQR	LASQ	LEFF
LROA(-1)	0.794024	-0.089311	0.041214	0.046395	-0.022774
	(0.12829)	(0.10299)	(0.10370)	(0.12954)	(0.12801)
	[6.18937]	[-0.86718]	[0.39742]	[0.35816]	[-0.17791]
LCAR(-1)	-0.290177	0.677024	-0.191442	0.004279	0.089970
	(0.11933)	(0.09580)	(0.09646)	(0.12049)	(0.11907)
	[-2.43171]	[7.06718]	[-1.98462]	[0.03551]	[0.75559]
LLQR(-1)	-0.141072	-0.297759	0.397736	-0.331772	0.093711
	(0.12174)	(0.09773)	(0.09841)	(0.12293)	(0.12148)
	[-1.15878]	[-3.04663]	[4.04156]	[-2.69896]	[0.77143]
LASQ(-1)	-0.257889	-0.042395	-0.268693	0.257473	0.002687
	(0.11742)	(0.09426)	(0.09491)	(0.11856)	(0.11716)
	[-2.19638]	[-0.44976]	[-2.83088]	[2.17170]	[0.02294]
LEFF(-1)	-0.173082	-0.059585	0.056361	0.049502	-0.037196
	(0.14481)	(0.11626)	(0.11706)	(0.14622)	(0.14450)
	[-1.19522]	[-0.51253]	[0.48146]	[0.33854]	[-0.25741]
C	2.409563	1.992394	3.490799	4.017598	0.249992
	(0.67332)	(0.54054)	(0.54429)	(0.67987)	(0.67186)
	[3.57862]	[3.68592]	[6.41348]	[5.90933]	[0.37209]
DUMMY	-0.015667	0.116437	0.090628	0.062007	0.059490
	(0.09432)	(0.07572)	(0.07625)	(0.09524)	(0.09412)
	[-0.16610]	[1.53767]	[1.18859]	[0.65105]	[0.63207]
R-squared	0.415111	0.438082	0.381651	0.245473	0.024300
Adj. R-squared	0.367038	0.391897	0.330828	0.183457	-0.055895
Sum sq. resids	11.47214	7.393634	7.496543	11.69647	11.42254
S.E. equation	0.396425	0.318249	0.320457	0.400282	0.395567
F-statistic	8.635005	9.485353	7.509376	3.958223	0.303013
Log likelihood	-35.83086	-18.25879	-18.81170	-36.60551	-35.65757
Akaike AIC	1.070772	0.631470	0.645292	1.090138	1.066439
Schwarz SC	1.279199	0.839897	0.853720	1.298565	1.274867
Mean dependent	0.904557	1.998636	3.635762	3.914417	0.753243
S.D. dependent	0.498278	0.408111	0.391742	0.442972	0.384955

Determinant resid covariance (dof adj.)	6.85E-06
Determinant resid covariance	4.34E-06
Log likelihood	-73.63474
Akaike information criterion	2.715869
Schwarz criterion	3.758005

Table 5.14: Vector Auto Regression Estimates of All Banks (ROE)

Vector Autoregression Estimates
Date: 12/12/12 Time: 14:31
Sample (adjusted): 2006 2011
Included observations: 80 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LROE	LCAR	LLQR	LASQ	LEFF
LROE(-1)	0.883444	-0.089449	0.041155	0.046312	-0.022842
	(0.09534)	(0.10298)	(0.10370)	(0.12953)	(0.12800)
	[9.26594]	[-0.86860]	[0.39688]	[0.35754]	[-0.17845]
LCAR(-1)	-0.083843	0.587587	-0.150291	0.050587	0.067131
	(0.12944)	(0.13981)	(0.14078)	(0.17585)	(0.17378)
	[-0.64773]	[4.20274]	[-1.06754]	[0.28767]	[0.38630]
LLQR(-1)	0.156422	-0.297699	0.397741	-0.331763	0.093735
	(0.09049)	(0.09774)	(0.09842)	(0.12293)	(0.12149)
	[1.72862]	[-3.04585]	[4.04131]	[-2.69869]	[0.77157]
LASQ(-1)	-0.215760	-0.042298	-0.268662	0.257518	0.002732
	(0.08727)	(0.09427)	(0.09492)	(0.11857)	(0.11717)
	[-2.47221]	[-0.44871]	[-2.83036]	[2.17193]	[0.02332]
LEFF(-1)	-0.113473	-0.059569	0.056368	0.049513	-0.037188
	(0.10763)	(0.11625)	(0.11706)	(0.14622)	(0.14450)
	[-1.05428]	[-0.51240]	[0.48153]	[0.33862]	[-0.25736]
C	0.955983	2.403815	3.301192	3.804191	0.354971
	(0.47875)	(0.51710)	(0.52070)	(0.65040)	(0.64274)
	[1.99685]	[4.64864]	[6.33995]	[5.84898]	[0.55228]
DUMMY	-0.132103	0.116449	0.090629	0.062009	0.059495
	(0.07011)	(0.07572)	(0.07625)	(0.09524)	(0.09412)
	[-1.88434]	[1.53784]	[1.18860]	[0.65107]	[0.63211]
R-squared	0.756092	0.438100	0.381647	0.245468	0.024303
Adj. R-squared	0.736045	0.391917	0.330824	0.183452	-0.055892
Sum sq. resids	6.337301	7.393388	7.496588	11.69654	11.42251
S.E. equation	0.294639	0.318244	0.320457	0.400283	0.395566
F-statistic	37.71551	9.486073	7.509259	3.958126	0.303046
Log likelihood	-12.09214	-18.25746	-18.81194	-36.60575	-35.65747
Akaike AIC	0.477303	0.631436	0.645298	1.090144	1.066437
Schwarz SC	0.685731	0.839864	0.853726	1.298571	1.274864
Mean dependent	3.511085	1.998636	3.635762	3.914417	0.753243
S.D. dependent	0.573490	0.408111	0.391742	0.442972	0.384955

Determinant resid covariance (dof adj.)	6.85E-06
Determinant resid covariance	4.33E-06
Log likelihood	-73.61211
Akaike information criterion	2.715303
Schwarz criterion	3.757439

Table 5.15: Vector Auto Regression Estimates of Islamic Banks (ROA)

Vector Autoregression Estimates
Date: 12/12/12 Time: 13:50
Sample (adjusted): 2008 2011
Included observations: 24 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LROA	LCAR	LLQR	LASQ	LEFF
LROA(-1)	0.842493	-0.136705	-0.003178	0.131527	-0.133487
	(0.25273)	(0.16657)	(0.12749)	(0.41298)	(0.14558)
	[3.33357]	[-0.82071]	[-0.02493]	[0.31849]	[-0.91694]
LROA(-2)	1.515194	-0.007243	-0.336827	0.823354	-0.479361
	(0.49970)	(0.32934)	(0.25208)	(0.81653)	(0.28784)
	[3.03223]	[-0.02199]	[-1.33620]	[1.00835]	[-1.66538]
LROA(-3)	1.009477	0.057065	-0.086165	0.829274	1.236031
	(0.38620)	(0.25454)	(0.19482)	(0.63108)	(0.22246)
	[2.61386]	[0.22419]	[-0.44227]	[1.31406]	[5.55612]
LCAR(-1)	0.202816	1.050199	0.350529	-0.371822	0.773339
	(0.43424)	(0.28620)	(0.21906)	(0.70957)	(0.25013)
	[0.46706]	[3.66947]	[1.60017]	[-0.52401]	[3.09170]
LCAR(-2)	-1.365153	-0.108125	-0.184142	1.093653	-0.174824
	(0.63864)	(0.42092)	(0.32217)	(1.04357)	(0.36787)
	[-2.13760]	[-0.25688]	[-0.57157]	[1.04799]	[-0.47523]
LCAR(-3)	0.391173	-0.312884	-0.205629	-1.554115	-0.605802
	(0.55974)	(0.36892)	(0.28237)	(0.91465)	(0.32243)
	[0.69884]	[-0.84811]	[-0.72823]	[-1.69913]	[-1.87887]
LLQR(-1)	-0.366985	-0.408801	0.074882	-1.221770	-0.057159
	(0.52064)	(0.34314)	(0.26264)	(0.85075)	(0.29990)
	[-0.70488]	[-1.19135]	[0.28511]	[-1.43611]	[-0.19059]
LLQR(-2)	0.032845	-0.081310	0.417671	-1.176590	0.367842
	(0.45026)	(0.29676)	(0.22714)	(0.73575)	(0.25936)
	[0.07295]	[-0.27399]	[1.83883]	[-1.59917]	[1.41825]
LLQR(-3)	-0.568362	0.157958	-0.055864	1.026441	0.080826
	(0.42609)	(0.28083)	(0.21495)	(0.69626)	(0.24544)
	[-1.33389]	[0.56247]	[-0.25990]	[1.47421]	[0.32931]
LASQ(-1)	-1.066116	-0.337469	-0.494729	1.291957	-0.685012
	(0.45043)	(0.29687)	(0.22722)	(0.73603)	(0.25946)
	[-2.36689]	[-1.13676]	[-2.17726]	[1.75531]	[-2.64015]
LASQ(-2)	-0.351412	0.271812	-0.096877	-0.850468	0.527760
	(0.67738)	(0.44645)	(0.34171)	(1.10688)	(0.39019)
	[-0.51878]	[0.60883]	[-0.28350]	[-0.76835]	[1.35257]
LASQ(-3)	-0.837405	0.067212	0.256923	-0.976864	-0.551836
	(0.33604)	(0.22148)	(0.16952)	(0.54912)	(0.19357)
	[-2.49195]	[0.30347]	[1.51557]	[-1.77897]	[-2.85082]

LEFF(-1)	0.418375	-0.185212	-0.094786	0.062688	-0.038414
	(0.21192)	(0.13968)	(0.10691)	(0.34630)	(0.12207)
	[1.97417]	[-1.32602]	[-0.88661]	[0.18103]	[-0.31468]
LEFF(-2)	0.533610	-0.124020	0.068278	-0.018688	0.052301
	(0.22308)	(0.14703)	(0.11253)	(0.36452)	(0.12850)
	[2.39205]	[-0.84353]	[0.60673]	[-0.05127]	[0.40702]
LEFF(-3)	-2.183968	-0.056218	0.540490	-0.466217	-1.370474
	(0.65018)	(0.42852)	(0.32799)	(1.06243)	(0.37452)
	[-3.35903]	[-0.13119]	[1.64788]	[-0.43882]	[-3.65927]
C	12.88747	2.344926	3.339349	11.44586	2.637733
	(3.28481)	(2.16496)	(1.65706)	(5.36757)	(1.89214)
	[3.92335]	[1.08313]	[2.01522]	[2.13241]	[1.39405]
DUMMY	-0.086343	0.131547	0.058807	0.204802	0.438133
	(0.20459)	(0.13484)	(0.10321)	(0.33430)	(0.11785)
	[-0.42204]	[0.97559]	[0.56980]	[0.61262]	[3.71781]
R-squared	0.867078	0.918619	0.885921	0.639308	0.942907
Adj. R-squared	0.563256	0.732604	0.625170	-0.185131	0.812407
Sum sq. resids	0.940564	0.408570	0.239358	2.511444	0.312087
S.E. equation	0.366560	0.241593	0.184916	0.598981	0.211149
F-statistic	2.853899	4.938421	3.397567	0.775446	7.225374
Log likelihood	4.817431	14.82321	21.23968	-6.968174	18.05581
Akaike AIC	1.015214	0.181399	-0.353307	1.997348	-0.087984
Schwarz SC	1.849669	1.015854	0.481148	2.831803	0.746471
Mean dependent	0.622442	2.065312	3.751845	3.840078	0.859766
S.D. dependent	0.554666	0.467204	0.302035	0.550211	0.487507

Determinant resid covariance (dof adj.)	5.55E-07
Determinant resid covariance	1.17E-09
Log likelihood	76.51143
Akaike information criterion	0.707381
Schwarz criterion	4.879655

Table 5.16: Vector Auto Regression Estimates of Islamic Banks (ROE)

Vector Autoregression Estimates
Date: 12/12/12 Time: 13:53
Sample (adjusted): 2008 2011
Included observations: 24 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LROE	LCAR	LLQR	LASQ	LEFF
LROE(-1)	0.979179	-0.136708	-0.003197	0.131363	-0.133538
	(0.26657)	(0.16657)	(0.12749)	(0.41301)	(0.14560)
	[3.67325]	[-0.82072]	[-0.02508]	[0.31806]	[-0.91718]
LROE(-2)	1.522414	-0.007386	-0.336954	0.823246	-0.479888
	(0.52717)	(0.32941)	(0.25212)	(0.81678)	(0.28793)
	[2.88789]	[-0.02242]	[-1.33650]	[1.00792]	[-1.66668]
LROE(-3)	0.952565	0.057057	-0.086198	0.829349	1.236447
	(0.40748)	(0.25462)	(0.19487)	(0.63133)	(0.22256)
	[2.33772]	[0.22409]	[-0.44233]	[1.31366]	[5.55567]
LCAR(-1)	0.131828	0.913458	0.347223	-0.240142	0.639780
	(0.44345)	(0.27710)	(0.21208)	(0.68707)	(0.24221)
	[0.29727]	[3.29648]	[1.63723]	[-0.34952]	[2.64147]
LCAR(-2)	0.265855	-0.115497	-0.520935	1.916596	-0.654545
	(0.62016)	(0.38752)	(0.29659)	(0.96084)	(0.33872)
	[0.42869]	[-0.29804]	[-1.75643]	[1.99470]	[-1.93242]
LCAR(-3)	1.655557	-0.255766	-0.291766	-0.725039	0.630520
	(0.68890)	(0.43047)	(0.32946)	(1.06735)	(0.37626)
	[2.40318]	[-0.59415]	[-0.88558]	[-0.67929]	[1.67574]
LLQR(-1)	0.041921	-0.408711	0.074978	-1.221788	-0.056822
	(0.54918)	(0.34317)	(0.26264)	(0.85088)	(0.29995)
	[0.07633]	[-1.19100]	[0.28547]	[-1.43592]	[-0.18944]
LLQR(-2)	0.112666	-0.081251	0.417715	-1.176704	0.367795
	(0.47494)	(0.29677)	(0.22714)	(0.73585)	(0.25940)
	[0.23722]	[-0.27378]	[1.83905]	[-1.59912]	[1.41786]
LLQR(-3)	-0.725839	0.157866	-0.055830	1.026168	0.080309
	(0.44944)	(0.28084)	(0.21494)	(0.69635)	(0.24548)
	[-1.61497]	[0.56211]	[-0.25974]	[1.47364]	[0.32716]
LASQ(-1)	-0.729141	-0.337418	-0.494716	1.291860	-0.685262
	(0.47511)	(0.29688)	(0.22722)	(0.73612)	(0.25950)
	[-1.53467]	[-1.13653]	[-2.17725]	[1.75496]	[-2.64072]
LASQ(-2)	-0.622875	0.271921	-0.096741	-0.850286	0.528743
	(0.71460)	(0.44653)	(0.34175)	(1.10717)	(0.39030)
	[-0.87164]	[0.60896]	[-0.28307]	[-0.76798]	[1.35471]
LASQ(-3)	-0.904765	0.067241	0.256942	-0.976868	-0.552223
	(0.35451)	(0.22152)	(0.16954)	(0.54927)	(0.19363)
	[-2.55214]	[0.30354]	[1.51549]	[-1.77850]	[-2.85198]

LEFF(-1)	0.603606	-0.185239	-0.094821	0.062701	-0.038489
	(0.22354)	(0.13968)	(0.10691)	(0.34634)	(0.12209)
	[2.70022]	[-1.32613]	[-0.88696]	[0.18104]	[-0.31524]
LEFF(-2)	0.657422	-0.124039	0.068243	-0.018684	0.052303
	(0.23530)	(0.14703)	(0.11253)	(0.36456)	(0.12851)
	[2.79403]	[-0.84364]	[0.60645]	[-0.05125]	[0.40698]
LEFF(-3)	-2.128013	-0.056138	0.540570	-0.466128	-1.370645
	(0.68580)	(0.42854)	(0.32798)	(1.06255)	(0.37457)
	[-3.10296]	[-0.13100]	[1.64817]	[-0.43869]	[-3.65924]
C	-0.753420	2.744815	5.301386	3.232167	-0.231539
	(1.74098)	(1.08789)	(0.83261)	(2.69739)	(0.95089)
	[-0.43276]	[2.52307]	[6.36716]	[1.19826]	[-0.24350]
DUMMY	-0.217564	0.131585	0.058750	0.205044	0.438260
	(0.21575)	(0.13482)	(0.10318)	(0.33428)	(0.11784)
	[-1.00840]	[0.97603]	[0.56938]	[0.61340]	[3.71914]
R-squared	0.921060	0.918621	0.885940	0.639263	0.942897
Adj. R-squared	0.740627	0.732611	0.625231	-0.185279	0.812376
Sum sq. resids	1.046348	0.408560	0.239318	2.511759	0.312139
S.E. equation	0.386624	0.241590	0.184901	0.599018	0.211166
F-statistic	5.104718	4.938562	3.398194	0.775294	7.224093
Log likelihood	3.538453	14.82352	21.24164	-6.969679	18.05380
Akaike AIC	1.121796	0.181373	-0.353470	1.997473	-0.087817
Schwarz SC	1.956250	1.015828	0.480985	2.831928	0.746638
Mean dependent	3.162323	2.065312	3.751845	3.840078	0.859766
S.D. dependent	0.759149	0.467204	0.302035	0.550211	0.487507

Determinant resid covariance (dof adj.)	5.55E-07
Determinant resid covariance	1.17E-09
Log likelihood	76.51039
Akaike information criterion	0.707468
Schwarz criterion	4.879742

Table 5.17: Vector Auto Regression Estimates of Conventional Banks (ROA)

Vector Autoregression Estimates
Date: 12/12/12 Time: 14:02
Sample (adjusted): 2008 2011
Included observations: 28 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LROA	LCAR	LLQR	LASQ	LEFF
LROA(-1)	0.537209	-0.026560	0.126085	-0.074148	0.183448
	(0.33101)	(0.20631)	(0.20461)	(0.13226)	(0.49876)
	[1.62293]	[-0.12874]	[0.61622]	[-0.56064]	[0.36781]
LROA(-2)	-0.772895	-0.488165	0.293827	-0.086047	-0.590300
	(0.39726)	(0.24761)	(0.24557)	(0.15873)	(0.59859)
	[-1.94554]	[-1.97151]	[1.19653]	[-0.54210]	[-0.98616]
LROA(-3)	0.194631	0.021812	-0.332697	0.090523	-0.215143
	(0.28545)	(0.17791)	(0.17645)	(0.11405)	(0.43010)
	[0.68185]	[0.12260]	[-1.88554]	[0.79370]	[-0.50021]
LCAR(-1)	-0.197140	0.761703	0.201150	0.070529	-0.599381
	(0.33552)	(0.20912)	(0.20740)	(0.13406)	(0.50555)
	[-0.58756]	[3.64233]	[0.96987]	[0.52611]	[-1.18560]
LCAR(-2)	0.885365	0.541168	-0.412769	0.077825	1.008258
	(0.42430)	(0.26446)	(0.26227)	(0.16953)	(0.63931)
	[2.08667]	[2.04634]	[-1.57380]	[0.45906]	[1.57709]
LCAR(-3)	-0.671942	-0.458905	0.362133	-0.176507	-0.365647
	(0.26929)	(0.16784)	(0.16646)	(0.10760)	(0.40576)
	[-2.49524]	[-2.73411]	[2.17551]	[-1.64046]	[-0.90115]
LLQR(-1)	0.111783	-0.142881	0.250354	0.069156	-0.207556
	(0.17554)	(0.10941)	(0.10851)	(0.07014)	(0.26450)
	[0.63678]	[-1.30588]	[2.30719]	[0.98598]	[-0.78470]
LLQR(-2)	-0.173000	0.015151	0.182038	-0.140478	0.069393
	(0.19993)	(0.12461)	(0.12358)	(0.07988)	(0.30125)
	[-0.86531]	[0.12158]	[1.47299]	[-1.75856]	[0.23035]
LLQR(-3)	0.313984	0.087806	-0.049431	0.019883	0.285346
	(0.18421)	(0.11482)	(0.11387)	(0.07360)	(0.27757)
	[1.70445]	[0.76474]	[-0.43410]	[0.27014]	[1.02803]
LASQ(-1)	-0.475676	-0.789638	-1.715864	1.361048	0.058415
	(0.60969)	(0.38001)	(0.37687)	(0.24360)	(0.91866)
	[-0.78019]	[-2.07794]	[-4.55288]	[5.58711]	[0.06359]
LASQ(-2)	0.471967	0.856532	1.782373	-0.969536	0.138161
	(0.81173)	(0.50594)	(0.50176)	(0.32433)	(1.22309)
	[0.58143]	[1.69295]	[3.55221]	[-2.98933]	[0.11296]
LASQ(-3)	-0.373206	-0.421536	-0.737868	0.419007	-0.387818
	(0.56191)	(0.35023)	(0.34734)	(0.22451)	(0.84667)
	[-0.66418]	[-1.20360]	[-2.12435]	[1.86629]	[-0.45805]

LEFF(-1)	-0.791710	-0.225470	0.336932	-0.327528	1.159283
	(0.33611)	(0.20949)	(0.20776)	(0.13429)	(0.50644)
	[-2.35550]	[-1.07626]	[1.62170]	[-2.43887]	[2.28908]
LEFF(-2)	1.138836	0.585280	0.229014	-0.156162	1.023938
	(0.71193)	(0.44374)	(0.44008)	(0.28446)	(1.07272)
	[1.59964]	[1.31898]	[0.52040]	[-0.54898]	[0.95453]
LEFF(-3)	0.531262	0.317948	0.139776	-0.075612	0.299917
	(0.23379)	(0.14572)	(0.14452)	(0.09341)	(0.35227)
	[2.27235]	[2.18190]	[0.96719]	[-0.80943]	[0.85137]
C	1.178727	2.016770	4.025914	1.468666	-0.181472
	(2.45309)	(1.52897)	(1.51636)	(0.98014)	(3.69624)
	[0.48051]	[1.31904]	[2.65499]	[1.49842]	[-0.04910]
DUMMY	0.064032	0.090214	0.044153	0.003967	0.289580
	(0.07859)	(0.04898)	(0.04858)	(0.03140)	(0.11842)
	[0.81476]	[1.84170]	[0.90886]	[0.12633]	[2.44542]
R-squared	0.842425	0.941666	0.942041	0.955131	0.722784
Adj. R-squared	0.613224	0.856816	0.857737	0.889867	0.319561
Sum sq. resids	0.157842	0.061319	0.060311	0.025199	0.358355
S.E. equation	0.119788	0.074662	0.074046	0.047862	0.180493
F-statistic	3.675494	11.09801	11.17433	14.63494	1.792516
Log likelihood	32.76687	46.00393	46.23596	58.45417	21.28781
Akaike AIC	-1.126205	-2.071709	-2.088283	-2.961012	-0.306272
Schwarz SC	-0.317367	-1.262871	-1.279444	-2.152174	0.502566
Mean dependent	1.133066	2.020835	3.539229	4.068901	0.735069
S.D. dependent	0.192613	0.197312	0.196316	0.144223	0.218809

Determinant resid covariance (dof adj.)	2.56E-12
Determinant resid covariance	2.40E-14
Log likelihood	240.4063
Akaike information criterion	-11.10045
Schwarz criterion	-7.056259

Table 5.18: Vector Auto Regression Estimates of Conventional Banks (ROE)

Vector Autoregression Estimates
Date: 12/12/12 Time: 14:19
Sample (adjusted): 2008 2011
Included observations: 28 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LROE	LCAR	LLQR	LASQ	LEFF
LROE(-1)	0.564572	-0.026035	0.125707	-0.074180	0.184857
	(0.25704)	(0.20634)	(0.20465)	(0.13228)	(0.49887)
	[2.19648]	[-0.12617]	[0.61425]	[-0.56077]	[0.37055]
LROE(-2)	-0.285805	-0.488920	0.294232	-0.086060	-0.592933
	(0.30868)	(0.24780)	(0.24577)	(0.15886)	(0.59910)
	[-0.92589]	[-1.97301]	[1.19717]	[-0.54172]	[-0.98970]
LROE(-3)	0.172988	0.022064	-0.332937	0.090679	-0.213101
	(0.22163)	(0.17792)	(0.17646)	(0.11406)	(0.43015)
	[0.78053]	[0.12401]	[-1.88675]	[0.79500]	[-0.49542]
LCAR(-1)	-0.394560	0.735426	0.327075	-0.003667	-0.415321
	(0.30440)	(0.24437)	(0.24236)	(0.15666)	(0.59080)
	[-1.29618]	[3.00950]	[1.34952]	[-0.02341]	[-0.70298]
LCAR(-2)	0.058953	0.052611	-0.118832	-0.008223	0.416678
	(0.30448)	(0.24443)	(0.24242)	(0.15670)	(0.59094)
	[0.19362]	[0.21524]	[-0.49018]	[-0.05248]	[0.70511]
LCAR(-3)	-0.040146	-0.437013	0.029344	-0.085831	-0.579227
	(0.30714)	(0.24657)	(0.24455)	(0.15807)	(0.59612)
	[-0.13071]	[-1.77238]	[0.11999]	[-0.54299]	[-0.97167]
LLQR(-1)	0.254524	-0.142758	0.250337	0.069146	-0.207202
	(0.13626)	(0.10939)	(0.10849)	(0.07013)	(0.26446)
	[1.86794]	[-1.30507]	[2.30748]	[0.98602]	[-0.78350]
LLQR(-2)	-0.188116	0.015011	0.182244	-0.140510	0.068962
	(0.15517)	(0.12457)	(0.12355)	(0.07986)	(0.30117)
	[-1.21230]	[0.12050]	[1.47508]	[-1.75946]	[0.22898]
LLQR(-3)	0.226278	0.087729	-0.049394	0.019884	0.285344
	(0.14299)	(0.11479)	(0.11385)	(0.07359)	(0.27752)
	[1.58249]	[0.76426]	[-0.43386]	[0.27020]	[1.02819]
LASQ(-1)	0.313459	-0.790138	-1.715588	1.361001	0.057532
	(0.47334)	(0.37999)	(0.37687)	(0.24360)	(0.91867)
	[0.66223]	[-2.07938]	[-4.55219]	[5.58694]	[0.06263]
LASQ(-2)	-0.383497	0.857733	1.781747	-0.969450	0.140504
	(0.63030)	(0.50599)	(0.50184)	(0.32438)	(1.22331)
	[-0.60844]	[1.69515]	[3.55041]	[-2.98860]	[0.11486]
LASQ(-3)	0.047292	-0.422436	-0.737260	0.418910	-0.389617
	(0.43630)	(0.35025)	(0.34738)	(0.22454)	(0.84678)
	[0.10839]	[-1.20609]	[-2.12235]	[1.86563]	[-0.46011]

LEFF(-1)	-0.566557	-0.225424	0.336970	-0.327558	1.159243
	(0.26090)	(0.20944)	(0.20772)	(0.13427)	(0.50636)
	[-2.17159]	[-1.07631]	[1.62219]	[-2.43954]	[2.28938]
LEFF(-2)	0.553726	0.585029	0.229366	-0.156289	1.022748
	(0.55268)	(0.44368)	(0.44005)	(0.28444)	(1.07267)
	[1.00189]	[1.31857]	[0.52123]	[-0.54946]	[0.95346]
LEFF(-3)	0.213074	0.317987	0.139716	-0.075566	0.300281
	(0.18150)	(0.14570)	(0.14451)	(0.09341)	(0.35226)
	[1.17398]	[2.18243]	[0.96683]	[-0.80899]	[0.85244]
C	1.688648	4.287930	3.623295	1.789351	2.680205
	(2.54892)	(2.04623)	(2.02945)	(1.31181)	(4.94706)
	[0.66250]	[2.09553]	[1.78536]	[1.36403]	[0.54178]
DUMMY	-0.026053	0.090288	0.044146	0.003963	0.289764
	(0.06102)	(0.04898)	(0.04858)	(0.03140)	(0.11843)
	[-0.42698]	[1.84321]	[0.90869]	[0.12618]	[2.44681]
R-squared	0.951146	0.941686	0.942055	0.955142	0.722839
Adj. R-squared	0.880087	0.856866	0.857772	0.889893	0.319697
Sum sq. resids	0.095114	0.061297	0.060296	0.025193	0.358283
S.E. equation	0.092988	0.074649	0.074037	0.047856	0.180475
F-statistic	13.38514	11.10216	11.17725	14.63855	1.793012
Log likelihood	39.85808	46.00885	46.23940	58.45748	21.29061
Akaike AIC	-1.632720	-2.072061	-2.088529	-2.961248	-0.306472
Schwarz SC	-0.823882	-1.263222	-1.279690	-2.152410	0.502366
Mean dependent	3.717389	2.020835	3.539229	4.068901	0.735069
S.D. dependent	0.268529	0.197312	0.196316	0.144223	0.218809

Determinant resid covariance (dof adj.)	2.56E-12
Determinant resid covariance	2.40E-14
Log likelihood	240.4100
Akaike information criterion	-11.10072
Schwarz criterion	-7.056524