

**A Comparison of Different Banking Systems'
Performance During Global Crisis: Conventional vs
Islamic Banking**

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ABSTRACT

Though overall bank performance from 2007 to 2009 was the worst since at least the Great Depression, there is significant variation in the cross-section of banks performance across the world during that period. More specifically this study is going to investigate the performance of islamic and conventional banks during crisis by looking at 20 different banks from 4 different countries. As we know banks that the market favored in 2006 had especially poor returns during the crisis.

This study tests the performance of banks that belongs to two different sectors: a) Islamic Banks (IBs) and b) Conventional Banks (CBs). The study concentrates on the pre and post 2007 financial crisis with an aim to test if there are any significant differences in performance between the two sectors.

Though canadian banks did not go bankrupt we provide some evidence that capital adequacy ratio has a significant impact on bank profitability in conventional banks. Moreover, we also found out that regulation does not affect islamic banks but management efficiency does. The reason why conventional banks were touch from the recession is because some banks that aim to maximize shareholders wealth before the crisis took some risks that were understood to create shareholder wealth, but were costly ex post because of outcomes that were not expected when the risks were taken. Another important point is that some of the financial crises derive from a human error but not from the regulation or governance.

Keywords: Islamic banking; conventional banking, regulation, governance.

ÖZ

Büyük Buhrandan sonra ilk kez Global kriz sonrası 2007-2009 yılları arasında bankalar, tüm dünyada ülkelerarası belirgin farklılık gösterse de olumsuz finansal performans yaşamışlardır. Bu çalışmada kredi krizi sonrasında zayıf performansa sebebiyet veren faktörleri değerlendirmek hedef alınmıştır. Kriz dönemindeki banka yönetim seviyeleri, ülke düzenlemeleri, bilançolar ve karlılık karakteristikleri araştırılmıştır. 2006 yılında kriz döneminde piyasaya dönük aktiflere sahip bankalar düşük getirilere sahip olmuşlardır. Geleneksel iyi yönetim ve düzenleme göstergeleri geleneksel bankaların daha kötü performansa sahip oldukları gözlemlenmiştir. İslam bankalarının ise daha iyi performansa sahip olmuşlardır.

Geleneksel Kanada bankalarında iflas yaşanmamış olması sermaye yeterliliği ile ilgili önemli bulguları ortaya koymuş ve banka karlılığı üzerindeki etkisi kanıtlanmıştır. İslam bankaları üzerinde de düzenlemelerin pek etkin olmadığı fakat etkin yönetimin önemi olduğu ortaya çıkmıştır. Bir diğer nokta ise finansal krizlerin düzenlemeler veya yönetimden değil insan hatalarından kaynaklandığı ortaya çıkmıştır.

Anahtar Kelimeler: İslam Bankacılığı; geleneksel bankacılık, düzenleme, yönetim.

To
My Family and the Chadian Community in TRNC

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LIST OF ABBREVIATIONS

CAR.....	Capital adequacy ratio
EFF.....	Management efficiency
ROA.....	Return on asset
ROE.....	Return on equity
DW.....	Durbin-Watson
CIBC.....	Canadian imperial bank of commerce
TD.....	Toronto dominion bank
NYSE.....	New York stock exchange
FGLC.....	Feasible general least square
NIM.....	Net interest margin
FOMC.....	Federal open market committee
FRS.....	Federal Reserve System
FC.....	Financial crisis
BC.....	Central bank
IS.....	Islamic bank
CB.....	Conventional bank
LR.....	Liquidity ratio
CR.....	Credit risk
BIS.....	Bank for international settlements
ATM.....	Automated teller machine

Chapter 1

INTRODUCTION

1.1 Background of the Study

Forty years ago Islamic Finance was virtually an unknown system. Interestingly it has expanded to become a distinctive and fast growing segment of the International Financial markets. With a growth rate that ranges from 15% to 20% (EL- Qoroshy 2005). Islamic Finance in general and Islamic banking in specific becomes one of the main players in the financial world. According to the IMF survey (2010) the total capital managed under Islamic Finance systems was estimated to be \$820 billion at the end of 2008. More than 200 Islamic Banks operate in over than 70 countries concentrated in the MENA region and many western countries (Hassan & lewis, 2007). Obviously, the Islamic Banking sector attracts more attention during the financial crisis that started in 2007. This attention is justified by the minor effect of the crisis on the financial institutions that comply with Islamic sharia'a (laws) (Chapra, 2008). In theory the Islamic Banks should not be involved in activities prohibited by Sharia'a. According to Shanmugam & Zahari (2009) the ownership and trading of a physical good or service is a critical element in structuring Islamic financial products and selling or buying debts is not allowed. However, the 2008 financial crisis main reason was the excessive and imprudent lending by banks as stated in the 2008 report of the Bank of International settlement. In addition to the mispricing in the massive credit default swaps market

(CDS) which has been estimated to be \$55 trillion over 4 times the publicly traded corporate and mortgage U.S debt supposed to insure (Murphy, 2008).

The collapse in the credit markets didn't affect the Islamic Banks directly as they were out of this market. This study aims to analyze, test and compare the financial performance of Islamic Banks (IBs) with the conventional Banks (CBs) pre and post the 2007 financial crisis.

1.2 The Aims of this Study

This paper contributes to previous studies in several ways. The primary intention of this study is to do a cross-country study of the USA, Canadian and Islamic countries banks' to investigate their performance during the last financial crisis and how to prevent future financial crisis by looking at the bank's balance sheet and banks profitability in 2006 because these are the most important determinants of bank performance during the crisis compared to bank governance and bank regulation. Moreover, one of the purposes of this thesis is also to search whether banks performance is somehow related to bank-level governance and regulation.

1.3 The Significance of Study

This thesis is expected to examine the performance of Islamic banks (IBs) and conventional banks (CBs) before and during the recent global financial crisis by looking at the impact of the crisis on performance, in a group of countries where the two types of banks have significant market share using the ratio analysis. Our analysis suggests that IBs have been affected differently than CBs.

As mentioned, this study aims at empirically comparing between the performance of IBs and TBs in an attempt to add to the few limited literature conducted since the financial crisis of 2007.

1.4 The Research Aims to Find Out

This paper looks at the actual performance of IBs and CBs in countries where both have significant market shares, and addresses three broad questions: (i) have IBs fared differently than CBs during the financial crisis?; (ii) if so, why?; and (iii) what challenges has the crisis highlighted as facing IBs going forward? To answer the first question, the paper focuses on the performance of the two groups of banks (conventional and Islamic) to see their performance during financial crisis. To address the second question, the paper examines a set of bank-specific variables and macro variables to explain the performance of the banks included in the sample.

1.5 Structure of the Thesis

To this end, the remaining part of the paper is structured as follows: Section 2 provides a background about a) Islamic banking b)USA banking and c) Canadian banking system . in Section 3 we will have an empirical literature review of previous similar studies. Section 4 i will present my data and the methodology. Section 5 will be the interpretation of the result and section 6 concludes the result with a recommendation for future research.

Chapter 2

USA , CANADA AND ISLAMIC BANKING SYSTEM.

2.1 Introduction

A bank is a financial institution that trades money, it receives and keeps on behalf of his clients their money, offers a variety of investments (savings), provides a means of payment (checks, credit cards, and so on.) and exchange, lending money, and generally takes care of all financial services. Moreover, it involves the collection and management of funds agents' surplus, and granting loans to officer's deficit. There are several kinds of banks. Generally the term "bank" includes commercial banks whose role is limited in accepting deposits and granting loans to short-term companies. Investment banks specialize in transactions on the exchange and issuance of securities. Universal banks combine the functions of commercial banks and some insurance companies (Allen and Santomero, 1999).

What differentiates the bank from other financial intermediaries is its ability to emit bank money in the form of deposits, savings deposits and short-term deposits term. In this view, the bank is itself a subsystem within the banking system.

The Central Bank (BC) is the bank responsible for establishing rules. Its range varies from one country to another. BC issues the currency in Central by acquiring the counterparties (debt) from the Treasury and commercial banks. The commercial banks need the money supply when they have to undergo of cash withdrawals, payments to other financial institutions or replenish their reserves. Banks are subject to strict

legislation and control exercise. They provide for the State traceability of financial transactions and contribute to the fight against trafficking. So, every system has its own banking system regulation that helps the government to control in order to avoid bankruptcy and financial crisis (Ireland, 2007).

2.2 Bank Regulation

In a narrow sense, regulation is a function performed by the state in order to control certain activities that have social significance general. We consider the regulation in a broad sense as part of a system comprising a structure of state institutions or private. These institutions are developing a network of rules to influence the behavior of agents active in the sector bank when the likely evolution of the situation is somewhat satisfaisante. It is important understanding of the aims of regulation and how as no system can claim to regulate itself, the actors self-regulation is necessarily interact with those of external regulation (Barth, 2001).

While the shock wave of the global financial crisis that erupted in the summer of 2007 continues to have effect, the question of the role of government in regulating the banking and financial system remains disputed (Loechel, Packham and Li, 2010).

Government intervenes in the banking sector in different ways and one of the methods is to implement regulations. In most countries, the level of regulatory intervention in banking has increased dramatically relative to that in other sectors since the great depression (Tchana, 2009).

2.2.1 Basel I

The Basel Committee was established by the governors of the G10 central banks in 1974, with the overarching aim of improving the stability of the international banking

system, itself a guarantor of stability of a financial system more internationalized (Prenio, 2005).

With regard firstly to limit the risk of bankruptcy, the Committee focused on credit risk.

When a bank incurs losses on loans, it cannot cover those losses by consuming its capital. When all the capital is consumed, the bank begins to consume the capital deposited or lent to it and is in a state of virtual bankruptcy (it is actually unlikely that goes in to the point where all capital is consumed).

Basel I refer to a set of recommendations in 1988 by the Basel Committee, a committee bringing together central bankers from the G-10 under the sponsorship of the Bank for International Settlements in Basel .These recommendations, also known as the Basel Accord of 1988, aimed at ensuring the stability of the international banking system by setting a minimum limit to the amount of bank capital by establishing a minimum ratio of 8% capital against all credit extended by banks .It was built in the mid-1990s to integrate the management of off-balance sheet risks, such as risks associated with derivatives, but it soon became obvious that an overhaul of the Agreement was necessary, the implemented Basel II in 2006 (Zhu, 2008).

Basel I include a supplementary capital which includes undisclosed reserves, the revaluation reserves and general provisions for doubtful debts. It also adds hybrid of debt and equity and subordinated debt. These components will be listed on equity up to an amount equal to that of core capital (BIS, 1988, p. 5).

The measurement framework allows especially assess equity in terms of credit risk for loans and interest rate risk currency and interest rate for balance-sheet activities. Taking into account other risks depends on the willingness of national authorities. The

agreement considers that the best method to assess the amount of own funds banks is that of risk-adjusted, for three main reasons. First, it would fairly compare the banking systems of different structures, then it would facilitate the incorporation of off-balance sheet risk in the measurement system, and finally it would encourage banks to hold liquid assets of a low risk (Jablecki. 2010).

2.2.2 Basel II

The Basel II (New Basel Accord) is a prudential framework for banking risks more effectively, mainly credit risk or counterparty and capital requirements. These guidelines have been prepared since 1988 by the Basel Committee, under the guidance of the Bank for International Settlements.

Basel II standards should replace the standards set by Basel I in 1988. In 2010, the minimum Tier-I required by the Basel agreements was 4% but investors instead of banks require a ratio above 10%. Faced with 500 billion Euros of products and off-balance sheet risks they pose, revision of banking standards Basel III is underway (Das, 2007).

2.2.3 Basel III

Central bankers and regulators had an agreement on a comprehensive plan to reform the banking sector, providing an increase in the equity of financial institutions to enhance their strength to face future crises.

The central bankers and supervisors leaders gathered at the headquarters of the Bank for International Settlements (BIS) published in the evening a text providing "a significant strengthening of existing standards on capital," said a statement from the Institute emission Basel (north). This reform package will also introduce new standards

on cash flow, that is going to be endorsed at the meeting of G20 leaders in November in Seoul, said the BIS.

"The agreements provide an important building of international standards for capital," said (Jean-Claude Trichet, 2010), President of the European Central Bank and the group of governors and heads of supervisory authorities. This text, informally known as "Basel III", will contribute "to financial stability in the long term" and "growth," he added.

The agreement provides for a strengthening of capital adequacy ratio of banks, one of the most important indicators to measure financial strength. Banks will raise the minimum capital ratio of "hard", from the strongest capital consisting of shares and retained earnings, 2% currently to 4.5% of assets. Add to that an additional financial buffer of 2.5%, which is the total capital "hard" to 7%. The capital ratio "tier 1" will be on the other hand increased from 4% to 6%. The details of a debt ratio will be announced early 2015. These measures shall enter into force progressively from 1 January 2013 for implementation by 2015 and a final implementation in 2019.

This reform, intended to avoid a banking collapse as in the collapse of U.S. bank. Lehman Brothers in 2008, caused an outcry in the banking sector. The bosses of major financial institutions fear that these new guidelines require them to raise huge sums. Central bankers have admitted that the major banks will require "a significant amount of additional capital to meet these new standards,"

But central bankers have warned that it will establish "rigorous process of reporting to monitor the ratios." However, they kept the door open to possible adjustments by announcing that they "will respond to unintended consequences." For the boss of the

German Central Bank, (Axel Weber, 2010) "The gradual transition will allow all banks to meet the requirements of the minimum required in terms of capital and liquidity."

The agreement "will make the global financial system more resilient to future shocks," said his counterpart in the Swiss central bank, (Philipp Hildebrand) 2010. The U.S. authorities have estimated that these standards will "reduce the frequency and severity of future crises. French Banking Federation (FBF) has meanwhile warned that "the requirements of the Basel Committee will require considerable effort on the part of banks." Only very few institutions currently meet these new requirements, which will get them to put a significant portion of their profits in reserve to raise capital even if this proves insufficiency (Wearden , 2010).

2.3 Canadian Banking System and Regulation

The financial crisis has affected Canada much less than other countries. Borrowing costs will remain relatively weak, and credit has continued to grow at a healthy pace during the crisis, partly due to the fact that Canadian financial institutions were better capitalized and they use less leverage than their counterparts International at the beginning of a global recession. Financial institutions in Canada continue to be regarded as the safest in the world; indeed, the World Economic Forum found out that the banking system in Canada is the strongest in the world, and for the third straight year. Moreover, the strong rebound since mid-2010 world prices of most Canadian commodities, combined with the strength factor Canada's economic fundamentals, increased the attractiveness of financial assets Canadian in the eyes of international investors, which has kept bond rate at a low level and supported the Canadian dollar.

The first bank of Canada was founded in Montreal in 1817 by a small group of local merchants and since then, the banking sector has become one of the main factors of economic development and job creation, and supports a very significant growth in the new economy through strategic investments in technology, innovation and Corporate Finance in the new economy .Until the mid-twentieth century, banks were essentially made to accept deposits and make commercial loans. In recent years, the banking sector has however experienced a radical transformation. Moreover, banks have been facing for the first time in more competition from other financial institutions, and revision of the Bank Act in 1954 and 1967 enabled them to offer new services, including mortgages and consumer loans. The Canadian banking system today has evolved and has become complex and highly competitive. Canadian banks derive their stability from their great diversification in Canada and the United States and the strong popularity of consumer credit. Canadian banks were also established with authority on the market for wealth management, and they have an infrastructure among the best in the world, especially in terms of automation and control systems management. In July 2002, there were 14 domestic banks, 33 foreign bank subsidiaries and 20 foreign bank branches operating in Canada. Together, these institutions were managing assets worth more than \$ 1.7 trillion. The banking sector had more than 70% of the assets of Canadian financial services sector. The six largest Canadian banks exercised most of the activity and had more than 90% of the total assets of banks. Moreover, 20 foreign banks were established in Canada the same year. The recent increase in the number of branches of foreign banks is directly attributable to legislation passed in 1999 allowing foreign banks to conduct business in Canada without having to establish subsidiaries under Canadian law. Banks are among the largest employers in Canada. In 2000, they had

more than 235,000 employees whose payroll was approximately \$ 16.1 billion. In addition, in 2001, the six largest Canadian banks have \$ 4.8 billion in taxes to various levels of government. Canadian banks operate through an extensive network of over 8,000 branches and nearly 18,000 ATMs across the country. Canada has the largest number of bank branches per capita in the world and the highest penetration rates of electronic services, including debit cards and Internet banking and telephone. In 2001, Canadians made 2.2 billion debit card transactions from more than 328,000 merchants, which rank Canada first in the world in the use of ATMs. Between 1997 and 2000, the number of Internet clients registered with the six major Canadian banks increased by 262%, totaling more than 5.8 million people. The telephone banking, allowing customers to request information about their accounts and make transfers and bill payments at any time of day, gaining popularity among customers of the six major Canadian banks, in effect, over 9.7 million customers used the service in 2000. The six largest Canadian banks are very active on international markets and their activities vary from one to the other both geographically and strategically. They are seeking markets in the U.S., where they focus their business on asset management, investment banking and corporate electronic banking. Moreover, the large Canadian banks have made investments in certain markets in Latin America, Asia, the Caribbean and around the world in 2001, their activities internationally generated almost 33% of their gross profits (Bélanger, 2005).

Although the current financial crisis is rooted in the U.S. United, they are all financial markets around the world who suffer. The stock indices have lost a lot of ground in recent weeks, the rate of Government bonds are down and most currencies depreciate vis-à-vis the U.S. dollar. Despite the adoption by the Senate and House of

Representatives plan Rescue in the United States, the uncertainty remains while the difficulties observed in the institutions financial exceed the American borders, especially in Europe.

In addition, concerns are now turning to the consequences of this financial crisis on economic outlook in the U.S. and the rest of world.

2.4 USA Banking System and Regulation

The united state of America system is unique and different from the western economies. Its uniqueness derives, to a great extent, on its system of governance. Others reasons that can be alluded to reduce the existence of anti-trust laws aimed at controlling the widespread monetarised economy as well as the fear of domination by other states, in other words, the long standing fear of money trusts.

Historically, banking in the united state started with the establishment of land banker by the colonial government. These landbankers major operation was issuance of paper currency as loans on various kinds of land and improved real estate. However, in the first half of the 18th century the course of banking in USA was over turned, when groups of merchants and traders and issue private bills of credit.

The regularity and prompt settlement of these bills brought them wide popularity and acceptability. Thus these private banks are the precursors of commercial banks in the united state of America.

2.4.1 General Features of US Banking System

I will present a panoramic view of US banking system. It highlights basic salient points forming the bedrock of its operations and functioning. First, the American banking system rests on the preponderance of single unit banks, though branch banking

is giving some grounds, because branch banking is officially allowed in some states. United States is well known for its unit banking system. In fact about 80% of US banks have no branches in states other than the states which granted it license.

Secondly, the system lacks a single monetary authority functioning as a central bank as in most western countries. At the apex of the system is the treasury department tasked with the formulation of monetary policy for the country in conjunction with the Federal Reserve System (FRS). The Federal Reserve System consists of twelve Federal Reserve banks, each operating as a central bank in each of the country's twelve regions/districts.

Third, the US commercial banks may be registered either as nation banks (under federal charter) or state banks (under state charter).

Fourth, US banking system is regulated by formal constitution. The existence of formal constitutions that regulate all aspects of US banking may not be unconnected with American's fear of money trusts. This has been explained as the historical fear of the newer west for the money power of the older east and the feeling in every region against remote control and monopoly.

Fifth, it is to be noted that US definition of money stock is not very different from those of other western countries. It consists of bank deposits (demand and time deposits) and bank notes.

Sixth, US banks expand at both home and foreign fronts. Expansion at home front has been made possible through branch banking in states where they are allowed. However, the greatest area of expansion of many US banks is abroad. These banks were able to spread their network abroad courtesy of the edge act of 1919, which allows US banks to engage in foreign banking. This opportunity was explored to the advantage of US banks chiefly between 1960 and 1970. The US banks competitive edge was

sharpened by the status enjoyed by the US dollar. It was not only widely accepted but used as a reserve currency. Concomitant to this is the international expansion of American business organizations and their attendant need to raise funds to execute foreign projects and the increasing growth of the Eurodollar market.

2.4.2 Nature of States Banks in the US Banking System

These banks chartered under the law of, and subject to the regulation of their state of domicile. They operate strictly within a state. The stock of capital of state banks are subscribed by their respective states, yet others can be wholly subscribed (and owned) by the public. State banks were formerly allowed to issue bank notes but their frequent failure to redeem their notes led to the enactment to the national banking act in 1863 vesting such function in national banks.

Branch banking is prohibited by some state charter, while some allow them. Not less than fourteen states specifically prohibit branch banking.

Examples of such states are Colorado, Florida and Illinois. However, in such states as Alaska, Arizona, New York, California and Delaware, state-wide branch banking is permitted while Alabama, Arkansas, Georgia, Indiana, etc allow limited area branch banking.

2.4.3 Nature of National Banks in the US Banking System

National banks are banks licenced by the federal government under the national banking act of 1863. About one-third of all banks are national banks and they comprise the largest banks in the US.

National banks are required to join the Federal Reserve System by becoming members of the Federal Reserve Bank in their region, for the projection of deposits; they are required to insure their deposit liabilities with the federal deposit insurance

corporation. For reserves requirement purposes, national banks can be classified under three groups.

2.4.4 Supervisory and Regulatory Framework in the US banking System.

The supervisory and regulatory authorities in the US consist of.

- ✓ The office department
- ✓ The comptroller of currency
- ✓ Federal Reserve System comprising the federal reserve banks and the federal open market committee. (FOMC)
- ✓ Federal deposit insurance corporation

The treasury department is a federal government organ tasked with government finances and it formulates the country's monetary policies in conjunction with Federal Reserve System. The US treasury department issues the coins, while the Federal Reserve System issues the bank notes (US Dollars). The ratification of the national bank act of 1963 called for the appointed of a comptroller of currency of administer the act and supervise banks licensed under the federal charter.

The national banking act of 1863 amended in 1864 is an important landmark in the annals of banking history in the US, the act was enacted to achieve two basic objectives in respect to currency matters, namely to provide a national currency secured by a pledge of the united state stocks and the second, provide for the circulation and redemption of such stocks. These objectives were to stimulate the government bond market in order to enable the government to obtain the necessary funds and to establish a sound currency system backed by government obligations.

Subsequent to the enactment of the act in 1863, the first comptroller of currency has authority to grant or withhold a charter, and authorize inspection of national banks among other functions. Earlier attempts to (in 1811 and 1836) establish a central bank in the United States of America met with a stonewall. The odds against its creation might not be unconnected with its federal character posture. This made it impossible for an easy agreement for a federal central monetary authority rested with powers to control the financial system, moreover unwillingness state government to relinquish its powers to charter and control banks in their respective domains strengthened crisis in the US in 1907, precipitated as result of con-existence of a central regulatory authority, hence the decision to establish one was consensus. Thus, the Federal Reserve System became operational with the passage of the Federal Reserve act of 1913. The reasons for its establishment include the fact that the country's desire an elastic currency, provision of liabilities for discounting commercial papers and to improve improvement of banking supervision.

The Federal Reserve System is the central bank of the United States of America. The Federal Reserve System is relatively autonomous and not subordinate to the Treasury. It is legally answerable to the President but to Congress from which it derives its powers. Perhaps, for administrative convenience and close monitoring of bank and the system, the country is divided into twelve unequal Federal Reserve districts and each has a separately incorporated Federal Reserve Bank named after the city in which it operates.

The functions of the Federal Reserve Bank include the following,

- (i) They provide discount and rediscount facilities to member banks in respect to first class bills.

- (ii) They grant advances on the security of financial papers, especially first class bills.
- (iii) They act as lender of last resort to member banks. Member banks can borrow from the Federal Reserve banks to support their operations, especially during periods of cash shortages.
- (iv) The Federal Reserve banks are able to influence the credit policies of member banks through its various monetary policy instruments such as open market operation (OMO), prescription of the volume of lending, cash reserve ratio. They also conduct periodic inspection of bank books and issuance of bank.
- (v) They engage in profitable investment opportunities without jeopardizing their supervisory and regulatory roles. A fractional part of their investment portfolio is loans extended to individuals or non member banks for periods not exceeding ninety days on the collateral of US government security. Also, on authorization of the board of governors, it may discount commercial papers for firms unable to obtain adequate credit elsewhere. This is made possible by an amendment to the original act that set it up.

2.5 Islamic Banking System and Regulation

The first experiments in Islamic banking took place in the 1950s in Pakistan and Egypt in the 1960s, spurred the development of the international banking system.

If these experiments ended in failure (the first due to demand too much and offer too low and the other following the approval of the Egyptian government), they were nevertheless important lessons that advantage to existing Islamic banks in the Gulf or Asia (Boudjellal, 2006).

Islamic view about money is that it should not be priced. The basis of this method of banking is deeply rooted in the religion of Islam. It is well known fact that Islam prohibits interest in all its forms. Islam does not allow economic relations to be dealt in such a way that one person (creditor) should take advantage of the other (debtor) by charging interest on the borrowed funds.

Islamic banking has some instruments in every country in accordance with the rules in the following manner.

- (i) Fixing of minimum and/or maximum ratio of profit for banks in their equity participation and Mudaraba activities. These ratios may vary in different fields.
- (ii) Designation of various fields for investment and equity participation within the framework of the economic policies approved and the fixing of minimum likely profit rate for the selection of investment and equity participation projects. The minimum likely profit rate may vary from field to field.
- (iii) Fixing of minimum and maximum ratio profit for banks in installment and hire purchase transactions, in proportion with the cost price of the goods transacted. The rates may vary in different cases as well.
- (iv) Fixing of types and amounts of minimum and maximum banking commissions (provided these do not exceed the actual expenses for the services rendered) and attorney fees for the activation of the investment deposits received by banks and so on.

2.5.1 Financial Methods

Let us discuss briefly some methods of Islamic bank financing which are Murabaha, Musharaka, Mudaraba and Ijarah.

➤ Murabaha is the most popular and most common mode of Islamic financing. It is also known as mark-up or cost plus financing. The word Murabaha is derived from the Arabic word Ribh. Ribh means profit.

At the earliest time, Murabaha was a contract of sale in which a commodity is sold on profit. The seller is obliged to tell the buyer his cost price and the profit made by him. In its modern form Murabaha has become the single most popular technique of banking amongst the Islamic banks. The method is operated in the following procedure. The person approaches an Islamic bank to procure finance in order to purchase a specific commodity. The bank will purchase the commodity on cash and sell it to the customer at a profit. The customer would pay for the commodity on deferred payment basis.

In order to accept the transaction as an Islamic method of a legal sale, it must be completed in two stages. The first stage requires the bank to undertake a Murabaha transaction and promises to buy the commodity specified by him, if the bank acquires the commodity the customer may not buy because the agreement is not legally binding. Consequently the banks risk the loss of the amount it has spent. In the second stage, the customer purchases the good acquired by the bank on a deferred payment basis. The Murabaha is used to provide finance in various and diverse sectors. e.g. in consumer finance, for purchase of consumer durable such as cars and household appliances, real estate to provide housing finance, in the production sector to finance the purchase of machinery equipment and raw materials etc. it is also used in financing short-term trade and in support of importation by letter of credit.

➤ Musharaka otherwise known as civil partnership is another popular method of financing by the Islamic banks. It can be defined as the mixing of capital in cash or in

kind of a partner or partners with the capital in cash or in kind of the bank on a joint-ownership basis for the performance of a specific job in the fields of production, trade and services, for a limited duration and with the intention of making a profit on the basis of the agreement and profit is shared.

In this financing method all the partners are entitled to share in the profits resulting from the project in a ratio mutually agreed to by the parties. All partners have a right to participate in the management of the project. However, partners also have the right to waive the right of participation in favor of any partner or partners.

➤ Mudaraba is an Islamic contract in which one party supplies the money and the other party provides management in order to do or specific trade. As a matter of principle of owners of the capital does not have the right to interfere into the management of the business enterprises as this is the sole responsibility of the customer, although he has every right to specify such conditions that would ensure better management of this money. The profits in a Mudaraba agreement may be shared in any proportion agreed between the parties. The loss resulting from the contract is to be completely borne by the owner of the capital. While the borrower shall lose the reward for his effort.

➤ Ijarah (leasing) is also a lawful method of earning income by Islamic law. In Islamic leasing real assets such as machine, a car, a ship, a house can be leased by the lessor to the lessee for a specific period at a specific price. The benefit and cost to each party are to be clearly spelt out in the contract so as to avoid an ambiguity.

Under this scheme of financing an Islamic bank purchase an asset as specified by customer, and lease such asset to the customer for a period determinable by mutual

agreement between the parties during the period of the lease, the asset shall remain in the ownership of the lessor(the bank) but the right of use is transferred to the lessee.

Chapter 3

EMPIRICAL LITERATURE REVIEW OF SIMILAR STUDIES.

3.1 Islamic banks

As defined, Islamic Banks aim to provide banking services that are in accordance with Islamic Principles and Shariah within the complete Islamic financial system, which in turn aims to bring the most benefit to society in terms of equity and prosperity, rather than focusing solely on creating maximum returns on capital (Zaher and Hassan, 2001: 158). Islamic banks aim to achieve the socio-economic goals of the Islamic religion which are reaching full-employment, a high rate of economic growth, equitable distribution of wealth and income, socioeconomic justice, smooth mobilization of investments and savings while ensuring a fair return for all parties and finally emphasizes the stability of money value (Hassan and Mervyn, 2007: 2; Chapra, 1995: 37, 38).

A crucial factor inhibiting Islamic banking growth is the lack of financial performance measures that are adapted to Islamic financial institutions and their special practices. This has led to the slow emergence of Islamic banks on the global markets, since they are unable to fairly and clearly represent their financial position. For this reason it becomes important to investigate and identify one of the available performance measurement tools to find a powerful tool for measuring the performance of

conventional banks, and then attempt to adapt and modify such a tool to be used for Islamic banks to overcome one of the critical challenges of Islamic banking.

Measuring the performance of Islamic banks is necessary to be able to detect problems and settle concerns about the safety and soundness of investments for depositors, managers, and regulators alike. It is highly important for managers to determine the financial position of their institution compared to their competition or industry benchmarks, as well as evaluating how effective previously taken decisions affected the bank. Islamic bank performance measurements also help Shariah Supervisory Boards and other regulators to understand the performance of banks and to ensure only transparent and clear information is available and used. Finally it helps investors to identify chances and investment opportunity and ensure that the best decision regarding use of funding is being taken (CIBAFI, 2006: 4).

Moreover, this study is going to test and compare the performance of Islamic Banks (IBs) versus conventional Banks (CBs). Generally, the early attempts to study IBs focused on the conceptual analysis and tried to explain the Sharia'a compliance tools and products (Kurdish, 1981; Karsen, 1982). A very few research have focused on the policy implications of eliminating interest payments (Khan & Mirakhor, 1987; Bashir, 1996). Haron (1996) examined the effect of competition and some other external factors on the profitability of Islamic banks and found out that Islamic banks in competitive markets earned more than those which operate in a monopolistic market. Evidence was also found to support the hypothesis that the profit-loss sharing principle practiced by Islamic banks is beneficial to both depositors and the banks.

In the last decades, several attempts, research and surveys were conducted to measure the performance of IBs. Samad & Hassan (1999) applied financial ratios

analysis to see the performance of a Malaysian Islamic bank over the period 1984-1997 and they found that bankers' lack of knowledge was the main reason for slow growth of loans under profit sharing Performance measure. Yudistira (2003) studied the performance of 18 IBs over the period 1997 -2000 using the Data Envelopment Analysis (DEA), his results suggest that Islamic banks suffered from slight inefficiencies during the global crisis in 1998-9. Another study conducted by Hussein (2004) aimed at comparing the profit efficiency of Islamic versus conventional banks in Bahrain and the findings showed that in general, Islamic banks outperform their conventional counterparts. Whereby Islamic banks are able to gain 75% of their potential profits while conventional banks earn 66% of a best-practice bank would earn.

Rosly & AbuBakr (2003) conducted a study to test the performance of IBs and CBs in Malaysia, they found that despite the fact the IBs return on assets (ROA) is higher in IBs but this didn't imply higher efficiency. The importance of this particular study is the analysis of how IBs depended on interest-like products (credit finance) is less likely to outperform CBs on efficiency terms. A research done by Bashir (2003) aimed at analyzing IBs in the Middle East. The analysis confirmed that the capital-to-asset and loan-to-asset ratios lead to higher profitability while controlling for macroeconomic environment. Notice that the term Loan is used generically to mean profit-loss-sharing (PLS) or equity financing in IBs as the regular Loans are not allowed by Islamic Sharia'a. (Rashwan, 2008) compared between the IBs and CBs internationally using the X- Efficiency metric for a random sample of 81 banks 50 belonged to CBs and 31 belonged to IBs, the results showed that IBs outperformed CBs on average.

Moreover, few empirical studies were conducted since the financial crisis started in 2008. Khan et al. (2009) provided a conceptual frame work for avoiding such a crisis

depending on the Islamic Finance principles. However, the study lacked the empirical proof of these thoughts. Using the same conceptual analysis, Farouk (2009) provided a framework of embedding financial assets backed security in the financial system to replace the traditional one. Recently, Al-Ajlouni (2008) study concluded that the financial globalization will have negative effects on Islamic banks autonomy, profit margin and competitive position. It will also enhance the Islamic banks ability to create new investments, liquidity management Instruments and methods, and develop the existing ones. The researcher suggested some strategies to be adopted by the IBs so they can compete in the international markets after the crisis.

Two major empirical studies were conducted lately, Khamis et al. (2010) studied the banks in the (GCC) and showed IBs were less affected than CBs by the initial impact of the global crisis (the first wave). However, in 2009 the IBs Profitability declined more than the CBs which could be attributed to the second wave of the crisis which hit the real economy. The second major study done by Hassan & Dridi (2010) confirmed the same result. Their analysis suggested that IBs fared differently than CBs during the global financial crisis. The IBs mechanism (complying with Islamic Sharia'a) helped in reducing the negative impact on profitability in 2008, while weaknesses in risk management practices in some IBs led to larger decline in profitability compared to CBs in 2009. In particular, adherence to Sharia'a principles precluded IBs from financing or investing in the kind of instruments that have adversely affected their Traditional competitors and triggered the global financial crisis. On the contrary to Khamis et al. (2010), the study of Hassan & Dridi (2010) suggested that IBs in general prove a better resilient to the crisis as the profit of IBs in 2008-09 was almost equal to CBs. This

indicated an efficient fund cumulative practice before and after the crisis. Interestingly, IBs assets grow twice as the CBs, which reflect the better rating of the IBs than the CBs.

3.2 Islamic and Conventional banks

According to some previous investigation done by Mohamed (2011) who aimed to do a comparison between Islamic and conventional banks performance during the global crisis, the profitability indicators ROE, ROA, and NIM of two different types of banks are compared. As independent variable he constructed as dummy variable IDV where IBs and CBs were assigned 1 and zero respectively. All the variables are standardized using the Z-scores to have a normalized pattern to satisfy MANOVA assumption that each dependent variable should be a multivariate normal.

The analyses go through 3 stages: stage one is Multivariate tests. The null hypothesis for this stage is that there exists equality among groups on linear combinations of the dependent variables. Stage two includes Univariate ANOVA (tests of between- Subjects Effects). The null hypothesis is based on the idea that there are no in-between group differences. Stage three is the Pairwise Comparisons with the null hypothesis that there is no significant difference between the two groups (IBs and TBs). The adopted significance level for all tests done is equal to 5% (0.05). and he had as dependent variables (DVs) four indicators which are ROAA, ROAE, NL/TA and LLR/TL.

As result he found out that the 2007 crisis hit both banking sectors conventional and Islamic ones. The Islamic banks outperformed their counterparts in 2007 while the conventional banks performed better in 2009 when the crisis effect start reach the real economy which in turn is the only way of investment for Islamic banks. The finding of his study was consonant with Khamisy et al. (2010), Hassan & Dridi (2010) and Askari

et al. (2010). Moreover he also found out that the reason for the decline in return is the high reserve by the IBs compared to CBs. Although the given sample is limited to the publicly traded banks, his data showed that there is an average increase in assets in the Islamic sector than in the conventional during the period of study 2007-2009. This reflects more confidence in the Islamic mechanism which is expected in the Middle East region as the majority of the population is Muslims. It's worth mentioning that the prohibition of dealing in debts and high risky financial instrument gave the Islamic products more sound in the Western societies, as the effect of the crisis was limited only to decrease on returns and not to huge losses or bankruptcy, which led to an increase in the demand for the Islamic products. Furthermore all the test statistics were significant at 0.1 significance level. In another word there is a significant difference between IBs and CBs during the period of the study (2007-09).

Another study was conducted by Hasan and Dridi (2010) for the IMF to see the Effects of the Global Crisis on Islamic and Conventional Banks. To address the lack of adequate information, bank-level data were collected for CBs and IBs in Bahrain (including offshore), Jordan, Kuwait, Malaysia, Qatar, Saudi Arabia, Turkey, and the UAE. These countries were chosen because of the importance of IBs in their banking systems and data availability. The database includes about 120 CBs and IBs, of which about one-fourth are Islamic.

As result they found out that on average, IBs have higher capital adequacy ratios, are less leveraged (i.e., have higher capital-to-assets ratio), have smaller investment portfolios, and rely less on wholesale (banks) deposits. In addition to that they also found out that the average profitability of IBs, measured by either average return on average assets or average return of average equity, for 2005–2007 (pre-crisis) was clearly

higher than that of CBs during the same period. What is more, they also found out that on average, IBs had slightly higher nonperforming loan ratios pre-crisis. This could be due to the fact that IBs have limited capacity to evergreen loans, given their inability to lend in cash. It also reflects the limited exposure to the risk-free government sector and relatively higher exposure to consumer sector, which usually has a higher default rate.

Anouar Hassoune(2002) studied the volatility of Islamic banks in terms of return on equity ROE and return on assets ROA by comparing with Conventional peers in GCC countries. He used ROE as efficiency measure and ROA as profitability measure. Moreover, he found that Islamic banks are more profitable than conventional banks with the same structure of balance sheet. And he explained his empirical results in a way that Islamic banks gets benefit from imperfection of market. Furthermore, he found that Islamic banks have weakness in terms of liquidity, concentration risks and operational efficiency.

Abdus Samad & M. Kabir Hassan(1997) assessed the differences of performance measures of Bank Islam Malaysia Berhad BIMB and eight Conventional banks in terms of profitability, liquidity, risk and solvency. They come up with output of empirical results stating that BIMB relatively is more liquid and less risky compared to the group of eight Conventional banks. In addition, Islamic banks showed significant progress on ROA and ROE during 1984-1997. However Samad & M. Kabir Hassan (1997) found that comparison of BIMB with group of 8 banks showed that difference in performance measures are statistically insignificant. They also found that the risk in BIMB increased and it is statistically significant.

M.S. Moin (2007) measured the performance of first Islamic bank in Pakistan with comparison of 5 conventional banks. The performance measure of this study was in the

field of profitability, liquidity, risk and efficiency by using financial ratios. He found that conventional banks are more profitable and significantly different from first Islamic bank in terms of ROE. His findings showed that Islamic banks are getting closer with conventional ones in terms of profitability. He found also positive relationship of net profits with profitability indicator, ROE. However, he did not find any difference between Islamic bank and conventional banks in term of liquidity, loan to deposit ratio. Conventional banks are more risky and less solvent than Islamic bank due to high profitability.

Chapter 4

DATA AND METHODOLOGY

4.1 Introduction

In this chapter I will provide the methodology that is employed in this thesis and will describe how the data that will allow me compare the bank's profitability was collected. Moreover, I will analysis those data and interpret them.

4.2 Data Collection and Analysis

I have randomly selected 20 banks in which 10 conventional banks and other 10 Islamic banks from four different countries. The data on those banks were obtain from New York Stock Exchange, Bankscope, Bankersalmanac ,World Bank and the annual financial reports that were published from the period of 2006-2010.

The data was analyzed by using the Microsoft Excel and the panel data analysis. Microsoft excel was use to calculate ratios and the panel data has been used to carry out the empirical analysis on determinants the profitability of Islamic and Traditional Banks during crisis. In another words, it was used to investigate if regulation and governance have an impact in banking performance during crisis.

Table 4.1: List of banks selected

Countries	Banks
USA	New York Community Bancorp Inc
	JPMorgan Chase & Co (NYSE)
	Bank Of New York Mellon Corp
	Wells Fargo & Co
	Citigroup Inc
CANADA	Royal Bank Of Canada
	The Bank Of Nova Scotia
	Toronto Dominion Bank
	Bank Of Montreal
	Canadian Imperial Bank of Commerce
Bahrain	Bahrain Islamic Bank
	ABC Islamic Bank
	Bahrain Middle East Bank
	Albaraka Bank Bahrain
	Citi Islamic Investment Bank E.C
Qatar	Qatar Islamic Bank
	Mashreq Bank Qatar
	Qatar International Islamic Bank
	Qatar National Bank
	Al Ahli Bank of Qatar

<http://knol.google.com/k/aidil-yusrie-shari/islamic-banking-list/3i1ji72ax7650/3#>,
<http://www.usbankslist.com/>, <http://www.richcanada.com/Banklist.htm>

4.3 Methodology

The Pooled Data approach is a combination of cross-sectional and time series statistical analysis. By combining the time series and cross-sectional dimensions, panel datasets have enriched the set of possible identification of stationary and uncorrelated shocks, in addition to integrating cross-sectional variants into our model (Harris and Mátyás, 2004).

In this comparative study ordinary regression equation is employed to measure and evaluate the difference in financial performance of the Islamic and Conventional banks during crisis. And then I will compare two different types of result which would be the profitability of conventional banks and Islamic with and without financial crisis of the period of 2006-2010. We conduct regression analysis by using Eviews software program to estimate our equation. According to Baltagi (1995), OLS model may become inefficient in the presence of heteroscedasticity. Therefore, we use a feasible general least square (FGLS) estimator to estimate the error varian with an assumption that disturbance in the model concedes to panel specific autoregressive process, allowing for heteroscedasticity across cross sections (Baltagi, 1995). So we used it to correct heterosdasticity and multicollinearity between variables.

The econometric form of the panel regression is:

$$Y_{it} = \alpha + \beta X_{it} + \epsilon_{it}$$

Where:

Y_{it} is the dependent factor in time t ,

X_{it} is the explanatory variable in the corresponding period t .

α is a scalar, and

β is our estimating parameter.

In this study our models would be.

$$\Pi = f(\text{CAR}, \text{EFF}, \text{CR}, \text{LR}, \text{DUMMY})$$

$$\text{ROA} = \alpha_1 + \beta_1 (\text{CAR}) + \beta_2 (\text{EFF}) + \beta_3 (\text{CR}) + \beta_4 (\text{LR}) + \text{dummy} + \epsilon_{it}$$

$$\text{ROE} = \alpha_2 + \beta_1 (\text{CAR}) + \beta_2 (\text{EFF}) + \beta_3 (\text{CR}) + \beta_4 (\text{LR}) + \text{dummy} + \epsilon_{it}$$

$$\text{NIM} = \alpha_3 + \beta_1 (\text{CAR}) + \beta_2 (\text{EFF}) + \beta_3 (\text{CR}) + \beta_4 (\text{LR}) + \text{dummy} + \epsilon_{it}$$

4.3.1 Dependent Variable

Since the model is based on showing the impact that banks' regulation and governance have on banks' performance, I have set the return on asset (ROA) and the return on equity as dependent variables which will represent the bank's profitability.

ROA

Return On Assets (ROA) is considered one of the most popular ratios used to measure financial performance in the banking industry, it shows the ability of management to acquire deposits at a reasonable cost and invest them in profitable investments. This is reflected in the ROA, since investments and loans are the largest portion of bank's assets, while interest on loans resembles the largest portion of the bank's revenue and returns (Simpson and Kohers, 2002: 103,104,108). Some studies even go as far as to claim that ROA is "the most meaningful financial indicator in the banking industry" (Reger, Duhaime and Stimpert, 1992: 195). ROA has the advantage that it can be used for small firms which have a very small equity base, in which case ROE may be a bit misleading compared to ROA (Reger et al., 1992: 195). ROA is considered to be highly correlated with ROE in the banking sector, where both give the same indication of performance in terms of the direction of financial performance movement, but differ in magnitude and interpreted analysis (Simpson and Kohers, 2002: 98, Castelli, Dwyer and Hasan, 2006: 9,10, Karr, 2005: 56-59).

ROE

Return On Equity (ROE) is one of the most commonly used bank financial performance measures. It can be found in much of the research surrounding bank performance as well as analyst reports and company financial results (Lindblom and Von Koch, 2002: 52,56). It is also seen as a simple method to calculate and measure

past performance while giving a fairly good indicator of future ROE (Wilcox, 1984). Hopkins et al. (1997: 642) states that the ultimate measure of the strength of any financial institution is the ROE. It also helps to compare banks differing in size and structure. Use of ROE as a measure is primarily based on the assumption that “customer value creation is positively correlated to the financial performance [measured as ROE] of the bank” (Lindblom et al., 2002: 48).

NIM

Net interest margin is a performance metric that examines how successful a firm's investment decisions are compared to its debt situations. A negative value denotes that the firm did not make an optimal decision, because interest expenses were greater than the amount of returns generated by investments. The net interest margin is measure as the interest income minus interest expense to current asset.

4.3.2 Independent Variables

As independent variable, I have set Capital adequacy, management efficiency, credit risk, and liquidity risk. Moreover, the dummy variable will represent the financial crisis.

Capital Adequacy

Capital adequacy ratio (CAR), also called Capital to Risk (Weighted) Assets Ratio (CRAR), is a ratio of a bank's capital to its risk. National regulators track a bank's CAR to ensure that it can absorb a reasonable amount of loss and complies with statutory Capital requirements.

Management efficiency ratio

Management efficiency is a ratio that is typically used to analyze how well a company uses its assets and liabilities internally. Efficiency Ratios can calculate the turnover of receivables, the repayment of liabilities, the quantity and usage of equity and the general use of inventory and machinery. The management efficiency of a bank is measured here as ratio of total expense to total income.

Credit risk

credit risk is the risk of loss of principal or loss of a financial reward stemming from a borrower's failure to repay a loan or otherwise meet a contractual obligation. Credit risk arises whenever a borrower is expecting to use future cash flows to pay a current debt. Investors are compensated for assuming credit risk by way of interest payments from the borrower or issuer of a debt obligation. Credit risk is closely tied to the potential return of an investment, the most notable being that the yields on bonds correlate strongly to their perceived credit risk. It is measure as Provision Loan Losses to Total Loans.

Liquidity risk

Liquididty risk is the risk stemming from the lack of marketability of an investment that cannot be bought or sold quickly enough to prevent or minimize a loss. It is measure as Liquid Assets over Deposits.

Dummy variable

In regression analysis, a dummy variable (also known as indicator variable or just dummy) is one that takes the values 0 or 1 to indicate the absence or presence of some categorical effect that may be expected to shift the outcome. In this our case 1 indicat a year of financial crisi and 0 represent stability.

4.4 Regression analysis

In this section i will explain the output of regression analysis which is applied on financial ratios of both Islamic and Conventional banks, in order to explain how any changes in explanatory variables may affect the determinants of profitability or the dependent variables of these banks. The model consist of 2 regression analyses, in other words firstly all banks from the same county have been taken into consideration namely US banks, Canadian banks, Bahrain banks and Qatar banks to regress dependent variables or profitability determinants. Then, regression analysis is applied on both Conventional and Islamic Banks separately and the results are compared.

4.4.1 Regression analysis of all banks

In this section we did a regression analysis by grouping the banks according to the country in which the bank is operating.in onother word we will have a regression analysis of USA, Canada, Bahrain and Qatar banks separetly.

Table .4.2: Regression output of USA banks

Independent variables	Dependent variables : USA		
	Return on assets (ROA)	Return on equity (ROE)	Net interest margin (NIM)
CAR	0.0258**	0.1485	0.7267
EFF	0.4992	0.3523	0.8323
CR	0.0541***	0.0398**	0.0155**
LR	0.0728***	0.0300**	0.0836***
D2007	0.0799***	0.0885***	0.0443**
D2008	0.0003*	0.0051*	0.0350**
D2009	0.0768***	0.0344**	0.0113**
R2	0.8196	0.7949	0.8965
Adjusted R2	0.6670	0.6213	0.8090
Durbin–Watson stat	3.2582	2.6461	1.5171
Prob(F-statistic)	0.0027*	0.0057*	0.0001*
N observations	25	25	25

*Indicates significance at 1% level

** Indicates significance at 5% level

*** Indicates significance at 10% level

Table .4.3: Regression output of Canadian banks

Independent variables	Dependent variables : CANADA		
	Return on assets (ROA)	Return on equity (ROE)	Net interest margin (NIM)
CAR	0.0446**	0.0873***	0.9988
EFF	0.7641	0.4703	0.3399
CR	0.9642	0.5337	0.0079*
LR	0.4102	0.3300	0.5483
D2007	0.6972	0.9850	0.6583
D2008	0.0017*	0.0050*	0.1603
D2009	0.1117	0.1861	0.3283
R2	0.5491	0.4925	0.7900
Adjusted R2	0.3634	0.2836	0.6124
Durbin–Watson stat	2.0309	2.3749	1.6537
Prob(F-statistic)	0.0326**	0.0704***	0.0065*
N observations	25	25	25

*Indicates significance at 1% level

** Indicates significance at 5% level

*** Indicates significance at 10% level

Table .4.4: Regression output of Bahrain banks

Independent variables	Dependent variables : BAHRAIN		
	Return on assets (ROA)	Return on equity (ROE)	Net interest margin (NIM)
CAR	0.2994	0.7917	0.2231
EFF	0.0689**	0.4335	0.0632**
CR	0.0823***	0.6126	0.4520
LR	0.2534	0.2478	0.5478
D2007	0.6410	0.4275	0.5210
D2008	0.7638	0.0954***	0.0724***
D2009	0.6311	0.1868	0.2581
R2	0.8412	0.8970	0.5762
Adjusted R2	0.7069	0.8100	0.2177
Durbin–Watson stat	2.5019	2.8760	2.1977
Prob(F-statistic)	0.0013*	0.0001*	0.2060
N observations	25	25	25

*Indicates significance at 1% level

** Indicates significance at 5% level

*** Indicates significance at 10% level

Table .4.5: Regression output of Qatar banks

Independent variables	Dependent variables : QATAR		
	Return on assets (ROA)	Return on equity (ROE)	Net interest margin (NIM)
CAR	0.0176**	0.0465**	0.1838
EFF	0.0130**	0.0248**	0.0626***
CR	0.5731	0.5205	0.7790
LR	0.6415	0.1363	0.8861
D2007	0.6308	0.6347	0.8479
D2008	0.1911	0.2653	0.6176
D2009	0.3534	0.6323	0.7539
R2	0.6633	0.6400	0.2812
Adjusted R2	0.3784	0.3354	-0.3270
Durbin–Watson stat	2.1417	2.1416	2.9268
Prob(F-statistic)	0.0747***	0.1019	0.0860***
N observations	25	25	25

*Indicates significance at 1% level

** Indicates significance at 5% level

*** Indicates significance at 10% level

4.4.2. Regression analysis of Conventional and Islamic banks

After analyzing the impact that CAR, EFF and DUMMY have on bank profitability in each country, we will try to regroup them in this section into 2 groups respective. USA and Canada will be representing conventional banks and Bahrain and Qatar will represent Islamic banks. We conducted a regression analysis on both conventional and Islamic bank to show the impact of CAR, EFF and Dummy on the financial crisis.

Table 4.6: Regression output of conventional banks

Independent variables	Dependent variables : CONVENTIONAL		
	Return on assets (ROA)	Return on equity (ROE)	Net interest margin (NIM)
CAR	0.0012*	0.0201**	0.0074*
EFF	0.3101	0.6853	0.5715
CR	0.0338**	0.0400**	0.0124**
LR	0.0765***	0.0958***	0.0137**
D2007	0.0215**	0.1536	0.0373**
D2008	0.0001*	0.0080*	0.0057*
D2009	0.0231**	0.0002*	0.0047*
R2	0.7482	0.6586	0.3880
Adjusted R2	0.6262	0.4931	0.2860
Durbin–Watson stat	2.6469	2.7137	1.6163
Prob(F-statistic)	0.0000*	0.0003*	0.0027*
N observations	50	50	50

*Indicates significance at 1% level

** Indicates significance at 5% level

*** Indicates significance at 10% level

Table 4.7: Regression output of islamic banks.

Independent variables	Dependent variables : ISLAMIC		
	Return on assets (ROA)	Return on equity (ROE)	Net interest margin (NIM)
CAR	0.0780***	0.8928	0.0705***
EFF	0.0029**	0.0857***	0.0740***
CR	0.0174**	0.3467	0.4790
LR	0.1793	0.2198	0.5055
D2007	0.6034	0.5319	0.8938
D2008	0.6500	0.2196	0.0871***
D2009	0.9924	0.3367	0.3118
R2	0.7898	0.8289	0.3737
Adjusted R2	0.6879	0.7459	0.0700***
Durbin–Watson stat	2.2829	2.7170	2.6570
Prob(F-statistic)	0.0000*	0.0000*	0.0274**
N observations	50	50	50

*Indicates significance at 1% level

** Indicates significance at 5% level

*** Indicates significance at 10% level

Chapter 5

EMPIRICAL ANALYSIS AND RESULTS

5.1 Correlation Analysis

Correlation analysis shows the relationship that exists between variables. It is presented in [Table 5.1] below. The variables are classified into three groups: All banks, Conventional banks and Islamic Banks. Correlation Analysis is applied to predict how independent variables affect the dependent variables. Another purpose of correlation is to test for multicollinearity problem, in other words whether independent variables are highly correlated with each other or not.

According to our correlation, ROA and ROE are positively correlated. Moreover, efficiency of the all banks is inversely correlated to ROE and ROA, and NIM. However NIM is inversely related to ROA and ROE. Although it is very low, CAR is positively correlated to ROA and ROE except NIM. CR and LR are negatively related to all the dependent variables. Another important point is that independent variables are not highly correlated with each other so, that can explain the absence of multicollinearity.

Table 5.1: Correlations of Variables: All banks

	ROA	ROE	NIM	CAR	EFF	CR	LR	D2007	D2008	D2009
ROA	1.00									
ROE	0.69	1.00								
NIM	0.11	0.01	1.00							
CAR	0.50	0.58	0.12	1.00						
EFF	-0.07	-0.05	-0.11	-0.04	1.00					
CR	-0.03	-0.03	0.03	-0.11	-0.05	1.00				
LR	0.02	0.16	-0.22	-0.09	0.01	0.08	1.00			
D2007	0.14	0.14	-0.04	0.00	0.12	-0.05	0.09	1.00		
D2008	0.00	-0.08	0.15	-0.01	-0.02	-0.00	-0.14	-0.25	1.00	
D2009	-0.14	-0.19	-0.04	0.00	0.02	0.02	-0.00	-0.25	-0.25	1.00

Table 5.2: Correlations of Variables: Conventional banks

	ROA	ROE	NIM	CAR	EFF	CR	LR	D2007	D2008	D2009
ROA	1.00									
ROE	0.76	1.00								
NIM	0.00	-0.23	1.00							
CAR	0.59	0.50	0.60	1.00						
EFF	0.04	0.00	0.00	-0.31	1.00					
CR	0.04	0.00	0.46	-0.25	-0.07	1.00				
LR	0.29	0.27	-0.05	-0.14	-0.09	0.07	1.00			
D2007	0.15	0.21	-0.17	-0.20	0.27	-0.14	0.14	1.00		
D2008	-0.46	-0.43	0.12	-0.05	0.04	0.09	-0.16	-0.25	1.00	
D2009	-0.20	-0.20	0.09	0.14	-0.08	0.08	-0.06	-0.25	-0.25	1.00

Table 5.3: Correlations of Variables: Islamic banks

	ROA	ROE	NIM	CAR	EFF	CR	LR	D2007	D2008	D2009
ROA	1									
ROE	0.74	1.00								
NIM	-0.14	-0.12	1.00							
CAR	0.29	-0.15	-0.10	1.00						
EFF	-0.07	0.22	-0.17	0.07	1.00					
CR	0.56	0.62	0.65	-0.01	-0.13	1.00				
LR	0.22	0.27	-0.19	0.05	0.23	-0.15	1.00			
D2007	0.25	0.11	-0.01	0.03	-0.14	0.33	0.05	1.00		
D2008	0.05	0.12	0.22	-0.00	-0.15	-0.06	-0.12	-0.25	1.00	
D2009	-0.19	-0.21	-0.12	-0.00	0.25	-0.23	0.08	-0.25	-0.25	1.00

In addition to that, we have run correlation analysis separately for each type of bank namely Islamic and Conventional. The efficiency of both types of banks is negatively correlated to performance indicators. Capital adequacy ratio of Islamic and Conventional Banks are negatively associated with dependent variables. In both banks the liquidity is inversely correlated to performance measures. The performance measures of Islamic banks are positively correlated to credit risk whereas in Conventional Banks are inversely related.

5.2 Regression Analysis result

Now that we know the relationship between our variables we will look at the result of our regression analysis output which is applied on financial ratios of both Islamic and Conventional banks, in order to explain how any changes in independent or explanatory variables may affect the determinants of performance or the dependent variables of

these banks which are Return On Equity, Return On Asset and Net Interest Margin/Net Income Margin.

5.2.1 Regression Analysis Result of All Banks

The capital adequacy variable (capital/assets) has a positive and significant effect on returns on assets in the USA. This finding is consistent with previous studies (e.g., Berger, 1995b; Demirguç-Kunt & Huizinga, 1999; [Goddard et al., 2004] and [Kosmidou et al., 2005]) providing support to the argument that well capitalized banks face lower costs of going bankrupt and reduce the cost of funding, resulting in higher profitability. Further, as Berger (1995b) points out, high capital ratio lowers the cost of insured debt. However, high capital ratio does not increase returns on equity (ROE), so when we consider ROE as dependent variable, CAR is 0.1485 is not statistically significant. implying unexpected losses have been exactly offset by an increase in the operating profit through an interest margin increase. Moreover, the effect of capital regulation on banks' profitability is not sustained over time.

So, when we consider ROA as dependent variable, the CAR probability in the USA is 0.0258 which means that the capital adequacy ratio has a positive and significant impact on the performance of the bank. The market efficiency has a negative impact on bank performance in all cases which means when we consider ROA, ROE or NIM as dependent variables. Moreover credit risk and liquidity risk affect USA banks performance as well. The 3 dummy variables which represent the financial crisis are all statistically significant which means that the financial crisis affect the bank performance in the USA. The R square is 0.8196 which means that a 81% positive or negative change in profitability is US bank can be explain in term of change by the CAR , EFF, CR, LR and FC and the remain 19% can be defined by the other variables that are not in

the model. The adjusted R square is 0.663494 which endorses that 66% of the variation in the dependent variable is explained by the independent variables of the model. Our DW is 3.553817 which indicate the absence of autocorrelation between variables. The probability of F-statistic is 0.0027 and is significant endorsing the validity and stability of the model relevant for the study.

According to the probability of CAR in Canada, the capital adequacy ratio has a significant impact on Canadian banks when we consider ROA, ROE and a negative one when NIM is consider as dependent variable. However, the EFF is not statistically significant in all cases scenario which means by considering ROA, ROE or NIM as dependent variable. LR has also a negative impact on canadian banks but CR has a possitive impact when consider NIM as dependent. Moreover the dummy variables imply that FC has an impact in canadian banks performance only is 2008 when we consider ROE as dependent. To conclude with, our F-probability is also statistically significant which means that our model is best fitted.

The banking industry is among one of the most heavily regulated industries in the world. The main reason for regulation is to provide a sound, stable and healthy financial system. Peltzman (1968) was among the first researchers to empirically test the effects of regulation on banking performance. Peltzman's findings indicated that CAR and EFF had a significant impact on the bank profitability.

As Bashir and Hassan (2004) found that Islamic banks have a higher capital-asset ratio we also found out the same result which indicates that Islamic banks do not consider the government regulatory policy that much. They are more concern about their internal policy. So, I think that will explain why we have in Bahrain a CAR which does not have a positive impact on banking performance in Bahrain. However, the EFF

does when we consider ROA and NIM as dependent variables. Moreover, the probability of dummy variables imply that Bahrain banks were a bit touch in 2008 with the FC but did not go bankrupt. On the other hand other Islamic banks in Bahrain were not affected by the FC in 2007 and 2009. The f- probability of the model are best fitted.

According to our result, the CAR and EFF have a positive impact on banking performance in Qatar in either cases scenario. Moreover, LR and CR do not have an impact on Qatar banks performance. the probabilities of the dummy variables are indicating that in all scenarios financial crisis does not affect the banks performance in Qatar. The f-probability of the model is statistically significant and that our model is best fitted.

5.2.2 Regression Analysis Result of Conventional and Islamic banks

The CAR of conventional banks has a probability which is significant. These results explain that the capital adequacy ratio has a positive and significant impact on conventional banks performance and it actually makes sense since all conventional banks follow the regulatory requirement of Basel. The management efficiency (EFF) has a negative impact on conventional bank performance in all cases scenario. Moreover, LR and CR both have also a positive impact on conventional banks performance during crisis. The dummy variables which represent the financial crisis indicate that financial crisis have an impact on conventional bank performance. Moreover, the R square of the model is 0.7482 when ROA is consider as dependent variable which means that a 74% positive or negative change in profitability in conventional banks can be explain in term of change by the CAR and the remain 26% can be defined by the other variables that are not in the model. Furthermore the adjusted R square is 0.6262 which endorses that 62% of the variation in the dependent variable is

explained by the independent variables of the model. The DW of the model is $2.64 > 1.5$ which indicates the absence of autocorrelation between variables. Finally, the probability of F-statistic is statistically significant at 1% level and the model is best fitted.

As corresponding to the findings reported by Bourke (1989), Molyneux and Thornton (1992) and Stienherr and Huveneers (1994), this study found a negative relationship between capital adequacy and profitability measures ratios. We found out the opposite which means that capital adequacy ratio affect Islamic banks performance positively in our case. Moreover, the EFF has a positive relationship with a Islamic banks performance due to the fact that they are more concern about their internal policy which comes from the Qur'an. Moreover, the dummy variables has also a negative effect on Islamic banks performance which means that the probabilities are not statistically significant. what is more, the R square of the model is 0.78 when ROA is consider as dependent variable which means that a 78% positive or negative change in profitability in Islamic banks can be explain in term of change by the CAR ,EFF, LR, CR and the remain 22% can be defined by the other variables that are not in the model. In the second case R square is 0.82 when ROE is set as dependent variable and this shows that a 82% positive or negative changes in Islamic banks profitability can be explain in term of change by the CAR ,EFF, LR, CR and the remain 18% can be clarify by the other variables that are not included in the model. In addition the adjusted R square is 0.68 when ROA is considering as dependent variable. This certifies that 68% of the variation in the dependent variable is explained by the independent variables of the model. Additionally the adjusted R square is 0.74 as ROE as dependent which demonstrate that 74% of the variation in the dependent variable is explained by the

independent variables of the model. The probability of DW when ROA is the dependent variable is 2.28 and 2.71 when ROE is taken as dependent variable. The results demonstrate the absence of autocorrelation between variables in both cases. To end with, the probability of F-statistic is 0.000 in all scenario cases. Let me clarify that we rounded up the numbers to four digit which means that it is statistically significant at 1% level and that our model is best fitted.

Chapter 6

CONCLUSION AND SUGGESTION

The aim of this investigation has been to investigate the effects of financial crisis on Islamic and Conventional banks performance during the period of crisis. Individual bank characteristics Such as capital adequacy ratio, credit risk, liquidity risk and management efficiency are considered as determinants of bank performance. For this purpose, we firstly investigated the impact that CAR, EFF, CR , LR and the financial crisis have on those countries separately and then we consider

Similarly to the single country studies, made by Furlong (1992), Haubrich and Wachtel (1993), which concluded that capital regulations in the U.S. contributed to a decrease in banks performance during crisis, our result in the table 4.2, 4.3, 4.4 and 4.5 show the significance of CAR and the financial crisis on banking performance in the USA, Canada and Qatar. However, it also tells us that management efficiency of bank in USA and Canada does not affect their performance during financial crisis. Jackson et al (1999) review a number of prior studies investigating how capital adequacy regulations influence banks performance and he found out that capital adequacy ratios does not have an impact on bank performance in every country. So this result can explain the raison why CAR does not affect the profitability of banks in Bahrain.

According to Dr Khaled A., bank efficiency is a socially optimal target since it reduces the average cost of financial transactions and therefore enhances the society's

welfare. Moreover he also found out in his study that Islamic banking is more efficient organization form than other types of banking organizations (Dr Khaled, 2010).

The consensus of opinion seems to reveal substantial efficiency advantages, it is not absolutely clear why these exist – some put it down to lower funding costs and others to lower loan-losses. As I was expecting the result to be, management efficiency has a positive impact on banks performance in Bahrain and Qatar and the financial crisis has a positive impact on USA and Canadian banks performance. During the period of crisis, LR and CR have an impact on banks performance only in the USA. However, our dummy variables which are the FC has no significance on Bahrain and Qatar banks performance for the period of 2007-2009.

In the second part of the study we did a regression analysis by considering USA and Canada as convention banks and Bahrain and Qatar banks as Islamic banks. As I mention earlier in the table 4.2 and 4.3, CAR has a strong positive relationship on conventional banks performance while Islamic banks profitability is not affect by the CAR when we take ROE as dependent variable and this is due to the fact that Islamic banks do not follow the entire Basel policy. Moreover, unlike conventional banks, management efficiency has a significant impact on Islamic banks performance and this is because IB loan portfolio is based on Islamic law (Sharia). Sharia prohibits the payment or acceptance of specific interest or fees for loans of money. However, EFF does not affect conventional banks and it is because CB are too greedy, they usually do whatever it takes to get their profit which means that ethical behavior is not that much implemented in CB. Finally we also found out that financial crisis has a positive impact on conventional banks performance on the other hand there is no significance or impact that the FC has on IB performance during the crisis because they are not involving in

speculative and forbidden transactions. Another point which could explain why Islamic banks are not affected much from recession could be because of the stage of IB in life cycle of banks. IB have just started operating around the globe so they do not have that much financial service as Conventional Banks have been doing so far which means that globalization play a major role on the regression. As we know this was not the first financial crisis around the world and after every crisis the regulatory keep on changing the regulation policy which means that they blame the regulation system but eventually the crisis keep on occurring. So, what I will suggest is that we need to build a financial systems stability commission to control or take an overview of the whole financial system, recognizing the interrelations among the various parts because after everything that has been happening I start to believe that the repetition of the global financial crisis may be a human error.

REFERENCES

- [1] Andrea Beltratti and Rene M. Stulz (2009). Why Did Some Banks Perform Better during the Credit Crisis? A Cross-Country Study of the Impact of Regulation. social science research network (SSRN).
- [2] Adam Goldstein and Neil Fligstein (2010). The Rise and Fall of the Nonconventional Mortgage Industry. University of California Berkeley, Ca. 94720. (SSRN)
- [3] Franklin Allen and Anthony M. Santomero (2009). What do financial intermediaries do? The Wharton School, University of Pennsylvania, Room 2336,
- [4] George Bragues (2009). The ethics of U.S. monetary policy in response to the financial crisis .www.shawnslyton.com/open/economics/lp-1-31.pdf
- [5] The financial crisis inquiry commission. Submitted by Pursuant to Public Law 111-21 January 2011. www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf
- [6] Claudio Borio and Haibin Zhu (2008) Capital regulation, risk-taking and monetary policy: a missing link in the transmission mechanism? BIS Working Papers No 268.

[7] Fulbert Tchana Tchana, (2009) Regulation and Banking Stability: A Survey of Empirical Studies. School of Economics, University of Cape Town. www.econrsa.org/papers/w_papers/wp136.pdf

[8] Peter N. Ireland (2007). Money, Banking, and Financial Market. Department of Economics Boston College. <https://www2.bc.edu/~irelandp/ec261/chapter15a.pdf>

[9] Graeme Wearden (2010). Basel III rules will force banks to hold more capital. www.guardian.co.uk, Sunday 12 September 2010 19.47 BST.

[10] Claude Bélanger (2005). History of the Banking system of Canada. The QuebecHistoryEncyclopedia. www.faculty.marianopolis.edu/.../quebechistory/.../BankinginCanada-...

[11] Mohammed Boudjellal (2006). Three Decades of Experimentation: Rethinking the Theory of Islamic Banking. International association for islamic economics www.iaie.net/Portal/Public/Home/default.aspx?PageID=26

[12] Paul Masson (2007). Revue du système financier. Banque du Canada Ottawa (Ontario) K1A 0G9 . ISSN 1705-1290.

[13] Mark N. Harris and László Mátyás (2004). A Comparative Analysis of Different IV and GMM Estimators of Dynamic Panel Data Models. International Statistical Review / Revue Internationale de Statistique © 2004.

[14] Samy Ben Naceur and Magda Kandil (2007). The impact of capital requirements on banks' cost of intermediation and performance. *Journal of Economics and Business*.

[15] Fotios Pasiouras and and Kyriaki Kosmidou (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance* Volume 21, Issue 2, June 2007, Pages 222-237.

[16] Michael C. Keeley & Frederick T. Furlong, 1987. "Bank capital regulation: a reconciliation of two viewpoints," *Working Papers in Applied Economic Theory* 87-06, Federal Reserve Bank of San Francisco.

[17] Joseph G. Haubrich & Paul Wachtel, 1993. "Capital requirements and shifts in commercial bank portfolios," *Economic Review*, Federal Reserve Bank of Cleveland, issue Q III, pages 2-15.

[18] James R. Barth, Gerard Caprio, Jr. Ross Levine (2008). *Rethinking Bank Regulation* .page 46.

[19] Chien-chang liao and Sheng-hung chen (2010). Are foreign banks more profitable than domestic banks? Home and host country effect on banking market structure, governance and supervision. *Journal of banking and finance* 35(2011) 819-839

[20] H. Simon Kwan (2003). Operating performance of banks among asian economies: an international and time series comparasion. *Journal of banking and finance* 27(2003) 471-489.

[21] Dilruba karim, Ray barrelle, E. Philip, Iana liadze (2010). Bank regulation property prices and early warning systems for banking crises in OECD countries. *Journal of banking and finance* 34(2010) 2255-2264.

[22] Abdel-Hameed (2000). Determinant of profitability and rate of return margins in islamic banks. Some evidence from the middle east. *social science research network*.

[23] Ahmed Mohamed Badreldin (2009). Measuring the Performance of Islamic Banks by Adapting Conventional Ratios *social science research network*

[24] Mohamed Hashem Rashwan (2010). A comparison between Islamic and traditional banks: pre and post the 2008 financial crisis. The British University in Egypt, *social science research network*.

[25] Maher Hasan and Jemma Dridi (2010). The Effects of the Global Crisis on Islamic and Conventional Banks: A Comparative Study. IMF Working Paper WP/10/201 © 2010 International Monetary Fund.