Risk Management Practices and Financial Performance in Jordan:
Empirical Evidence from Islamic Banks

Yousfi Imane Assistant Professor at Setif University

Abstract

This study aims to determine the impact of risk management practices on Jordanian Islamic banks' performance. For this purpose the current study selects credit risk (debt and risk), operational risk (efficiency, income and cost) liquidity risk (liquidity, capital) and market risks (inflation, interest rates and financial crisis) as explanatory variables while return (ROA) on assets and return on equity (ROE) , are utilized as dependent variables for the period of fifteen years from 1998 to 2012. The pooled least square method with fixed effect is used to analyze and test the study hypotheses. The results reveal that:

First, Liquidity, credit and operational risk management practices have a negative and significant statistical impact on Islamic banks' performance, and these banks failed at the same time in managing these risks. Second, market risk management practices have a positive and significant statistical impact on banks' performance which, means that these banks don't suffer neither from the operational risk during the study period nor from managing this type of risk. The researcher recommends that:

- The Islamic banks would establish a separate entity that regulate and supervise the Islamic banks, to be responsible for regulating the banks in terms of Shariah compliance principles.

- Governments should open the door to scholars for more financial innovations comply with Islamic Shariah.

Keywords: Islamic Banks, liquidity risk, credit risk, market risk, operational risk, risk management, Performance, Jordan.

الملخص

سعت هذه الدراسة الى تحديد اثر تطبيقات ادارة المخاطر على الاداء المالي للبنوك الاسلامية العاملة في الاردن وقد تم استخدام المتغيرات التالية : مخاطر السيولة ومخاطر التشغيل والمخاطر الائتمانية ومخاطر السوق كمتغيرات مستقلة وتم استخدام معدل العائد على الاصول ومعدل العائد على حقوق الملكية كمتغيرات تابعة أ خلال الفترة الممتدة من 1998 إلى 2012. ولتحقيق ذلك تم تطبيق طريقة المربعات الصغرى للبيانات التجميعية بالأثر الثابت وتم تحليل النتائج باستخدام برنامج ال *Eviews* .

أظهرت نتائج الدراسة وجود اثر سالب ذو دلالة احصائية بين كل من مخاطر السيولة والمخاطر الائتمانية ومخاطر التشغيل من جهة وبين الاداء المالي من جهة اخرى مما يدل على عدم القدرة على ادارة هذه المخاطر بشكل جيد من طرف البنوك الاسلامية الاردنية. بينما اظهرت الدراسة وجود علاقة موجبة بين مخاطر السوق والأداء المالي للبنوك الإسلامية مما يدل على الادارة الفعالة لتلك المخاطر من بينها مخاطر معدلات العائد والأزمة المالية والتضخم.

في الاخير اوصت الدراسة بضرورة انشاء مؤسسات مالية رقابية على البنوك الاسلامية كما اوصت بضرورة فتح المجال للإبداع والابتكار المالي الاسلامي لابتكار منتجات جديدة تساعد على ادارة مخاطر البنوك الإسلامية .

الكلمات المفتاحية: البنوك الإسلامية، إدارة المخاطر، مخاطر السيولة ، مخاطر الائتمان، مخاطر التشغيل ،مخاطر السوق ،الأداء المالي ، الأردن.

1. Study Background
1.1.Introduction

Islamic finance has experienced considerable growth over the last three decades. Total worldwide assets managed in accordance with the principles of Islamic finance are estimated at over US$ 800 billion, with growth of between 10% and 15% over the last ten years (Ilias, 2010). There are now about 270 Islamic financial institution worldwide, including banks, mutual funds, mortgage companies, and insurance firms. However, Islamic finance is not limited to stakeholders with common religious backgrounds. Britain, as an example, has announced plans to turn London into the world centre of Islamic finance (Ariss, 2010).

According to Ernst & Young, Islamic banking assets are to grow to $1.8 trillion in 2013 and beyond $2 trillion by 2014. The industry in the Gulf cooperation Council constitutes about 28.7 per cent of assets at $445 billion as of 2012 and registered a growth of 14 per cent over 2011.

Global sukuk issuances reached about $140 billion in 2012. Worldwide year-to-date issuance dipped 25 per cent from last year to $77.4 billion, as of September 22, 2013.S&P said worldwide, Shariah-compliant assets are estimated at upward of $1.4 trillion are likely to sustain double-digit growth in the coming two to three years.

In efforts to build stronger defences against a repeat of the events that precipitated the 2008 global financial crisis, the global regulatory reform agenda had placed significant focus on addressing elements of the regulatory and supervisory systems that allowed the build-up of excessive leverage. These elements included the unfettered innovation by financial institutions and the prevailing incentive system. "Financial engineering had led bankers and investors to lose focus on their risk exposures when they failed to understand the increasingly complex products that purported to reduce the risks (Zeti, 2013).

Islamic banks appeared to operate alongside conventional banks. This was done either through the opening of Islamic windows in conventional institutions or establishing separate banks or branches under the Islamic law that specialized in Islamic financial operations. Islamic finance has shown resilience at a time when the global economy has slowed and conventional banking in Western countries has been under pressure. By contrast global assets of Islamic finance have doubled since the start of the 2008 economic downturn.

Therefore, Risk management in financial institutions has undoubtedly attracted more attention from the regulators, practitioners, and also academics over the last decade. One of the reasons is because of the huge losses incurred by a number of financial institutions due to the malfunctioning of their risks management.

Due to the importance of risk management to the growth, resilience and survival of the Islamic banking institutions, this study attempts to analyze this topic from a new perspective. This study aims to explain the risks that Islamic banks face and show how they are different from the risks faced by conventional banks then it attempts to identify the main methods of risk management in Islamic banks as well as to analyze empirically the relationship between risk management practices and financial performance in the Islamic banks.

1.2.Problem Statement

Uncertainty and volatility are the main attributes of today's nations' economies. While, banks represent the major players in these economies, its risk management practices are crucial issues that need more investigation. Accordingly, the main problem of this research can be summarized in the following question: *what are the different types of risks faced by an Islamic bank and is there any relationship between risk management practices and financial performance in these banks?*. Consequently, the following sub questions are developed in order to solve the main problem of this research:

1. What are the different types of risks faced by an Islamic bank?
2. What are the major tools and methods of risk management in Islamic banks?
3. Is there a relationship between risk management practices and financial performance in the Islamic banks?

1.3.Study Importance

The importance of this study stems from the following:

- Studies on the relationship between risk management and financial performance of banks mostly have been conceptual in nature however this study is an empirical one.

- The Islamic banks which presented themselves as the better alternative to the conventional banking system, in the aftermath of the global financial crisis, give a motivation to conduct a research about the risk management practices in these banks.

1.4.Study Objectives

This study aims specifically at achieving the following objectives:

1. To explain the risks that Islamic banks face and show how they are different from the risks faced by conventional banks.
2. To analyze empirically the relationship between risk management practices and financial performance in the Islamic banks.
3. To identify the main methods of risk management in Islamic banks.
4. To determine the main performance determinants of the Islamic banks in Jordan during the period of 1998-2012 by using selected financial ratios.

1.5. Research Hypotheses

In order to achieve the study objectives and to answer the study questions the following hypotheses are developed:

H_1: Liquidity risk management practices have a positive and significant statistical impact on Jordanian Islamic banks' performance.

$H_{1.1}$: Capital has a positive significant statistical impact on Jordanian Islamic banks' performance.

$H_{1.2}$: Liquidity has a negative significant statistical impact on Jordanian Islamic banks' performance.

H_2: Credit risk management practices have a positive and significant statistical impact on Jordanian Islamic banks' performance.

$H_{2.1}$: Debt has a positive significant statistical impact on Jordanian Islamic banks' performance.

$H_{2.2}$: Risk has a positive significant statistical impact on Jordanian Islamic banks' performance

H$_3$: Operational risk management practices have a positive and significant statistical impact on Jordanian Islamic banks' performance.

H$_{3.1}$: Cost has a negative significant statistical impact on Jordanian Islamic banks' performance.

H$_{3.2}$: Efficiency has a positive significant statistical impact on Jordanian Islamic banks' performance.

H$_{3.3}$: Income has a positive significant statistical impact on Jordanian Islamic banks' performance.

H$_4$: Market risk management practices have a positive and significant statistical impact on Jordanian Islamic banks' performance.

H$_{4.1}$: Interest has a positive significant statistical impact on Jordanian Islamic banks' performance.

H$_{4.2}$ Inflation has a positive significant statistical impact on Jordanian Islamic banks' performance.

H$_{4.3}$ Financial crisis has a negative significant statistical impact on Jordanian Islamic banks' performance.

The hypotheses are accepted or rejected at 5% significance level.

2. Theoretical Frame Work and Literature Review

2.1 What is Islamic Banking?

Before defining what an Islamic bank is like, it is better to give a short description of conventional banking. Conventional banking does not follow one pattern. In Anglo-Saxon countries, commercial banking dominates, while in Germany, Switzerland, the Netherlands, and Japan, universal banking is the rule. Naturally, then, a comparison between banking patterns becomes inevitable Commercial banking is based on a pure financial intermediation model, whereby banks mainly borrow from savers and then lend to enterprises or individuals. They make their profit from the margin between the borrowing and lending rates of interest. They also provide banking services, like letters of credit and guarantees. A proportion of their profit comes from the low-cost funds that they obtain through demand deposits. Commercial banks are prohibited from trading and their shareholding is severely restricted to a small proportion of their net worth (Al-Jarhi and Iqbal, 2001).

Al-Jarhi and Iqbal (2001) identify An Islamic bank as a deposit-taking banking institution whose scope of activities includes all currently known banking activities, excluding borrowing and lending on the basis of interest. On the liabilities side, it mobilizes funds on the basis of a Mudarabah or Wakalah (agent) contract. It can also accept demand deposits which are treated as interest-free loans from the clients to the bank and which are guaranteed. On the assets side, it advances funds on a profit-and–loss sharing or a debt-creating basis, in accordance with the principles of the Shariah.

However, Silva (2006) states that Islamic banking can be considered banking with a conscience. Islamic banks each have a Shariah board made up of Shari'ah scholars as well as financial experts who are responsible for determining what activities are and are not Shari'ah-compliant.

In conclusion, Islamic banking is defined as banking system which is in compliance with the spirits, beliefs and values of Islam and governed by the principles laid down by Islamic Shari'ah. In other word,

An Islamic Banking is a financial institution that operates with the objective to implement and materialise the economic and financial principles of Islam in the banking field. Interest free banking is a narrow concept denoting a number of banking instruments or operations which avoid interest. Islamic banking, the more general term, is based not only to avoid interest-based transactions prohibited in Islamic Shari'ah but also to avoid unethical and un-social practices.

In practical sense, Islamic Banking is the transformation of conventional money lending into transactions based on tangible assets and real services. The model of Islamic banking system leads towards the achievement of a system which helps achieve economic prosperity.

2.2 A Brief Review of Developments in Islamic Banking

The first Islamic social bank was established in Pakistan in the 1950s to help poor farmers. At about the same time, Malaysian Muslims established funds that helped pilgrims gather their savings for the pilgrimage to Makkah (Mecca). Then the Mit Ghamer savings bank in Egypt was established in 1963 and closed down in 1967 after this the Nasser Social Bank was established in 1971 (Gait and Worthington, 2009).

The accumulated intellectual and theoretical knowledge during the 1960s and early 1970s had laid the ground for the first private Islamic bank (Dubai Islamic Bank) as the world's first private interest-free bank and the Jeddah-based Islamic Development Bank in 1975(Ayub, 2007). Followed by the Kuwait finance house in 1977 and the Bahrain Islamic bank in 1978, all these banks where extensively involved in shari'ah compliant trade finance especially of imports from Europe using s structure known as *Murabahah.* Whereby, an Islamic bank would purchase an imported good on behalf of a client. And then resell the good to the importer for deferred payment covering the costs of the purchase plus a murk-up representing a bank's profit (Iqbal and Mirakhor, 2007).

Islamic banking spread dramatically during the final decades of the last century. Currently, there are about 270 Islamic financial institutions worldwide, including banks, mutual funds, mortgage companies, and Takaful or insurance firms (Ariss, 2010). Moreover, the growth of Islamic banking world-wide has been phenomenal with assets under management generally growing at annual rates of 12% to 15% per year (Olson and Zoubi, 2008). Aioanei (2007), mentioned that there are Islamic banks opening branches or subsidiaries in Europe or US, and they are "forcing" the authorities to find some ways to integrate these services into the global financial system. Much progress was made in UK for launching Islamic products from an UK authorized and established Islamic bank. This is expected to be followed by US and Canada. It is worth mentioning that a large number of traditional banks are providing Islamic products through their Islamic windows.

2.3 Risks and Risks Management In Islamic Banks

In this section the researcher will provide the main issue and definitions related to types of risks that may face the Islamic banks as well as the modes and the tools of management of these types of risks.

2.3.1 Defining Risk

According to Ross, Westerfield and Jordan (2007) risks can be classified into systematic and unsystematic components. The systematic risk is one that influences a large number of assets, each to a greater or lesser extent. Because systematic risks have market wide effects, they are

sometimes called market risks. The unsystematic risk is one that affects a single asset or a small group of assets. Because these risks are unique to individual companies or assets, they are sometimes called unique or asset-specific risks.

According to the business dictionary risk is a probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive action.

2.3.2 Risks in Islamic banks

The difference between Islamic banks and conventional banks is more apparent in the area of risks and risk management. The distinct nature of relationship with customers and different kinds of financing and investing activities entail unique risks besides general risks faced by the Islamic banks. The common risks faced both by Islamic and conventional banks are credit risk, market risk, operational risk and liquidity risk while unique risks such as displaced commercial risk and Shariah compliance risk are related to Islamic banks only.

A conventional bank lends money and earns interest on the lent money. It lends money for any financial need, be it for the purchase of assets or not. Even, if it provides financing for the purchase of assets, it does not own the assets and is only concerned with the return of its principal amount and interest. Therefore, it avoids facing many risks that Islamic banks have to face due to their Shariah compliant operations. Riba (interest) free and Gharar (uncertainty) free nature of Islamic banking together with real asset/service-backed transactions ensure that an efficient, effective and robust risk management mechanism is in place in Islamic banks.

Risk is legitimate when it is necessary for value creating. But when no value is added, it is a form of gambling. To be accepted in an Islamic view, the risk shall be inevitable and thus inseparable from real value adding transactions. Islamic banks face other types of risks different from those encountered by their conventional counterparts due to specific requirements to comply with the Islamic teachings:

a. Rate of Return Risk

Rate of return risk differs from interest rate risk in that Islamic banks are concerned with the result of their investment activities at the end of the investment-holding period. Such results cannot be pre determined exactly. This may increase responsibility in managing their investment deposit holders' expectations and their liabilities to current account holders. A consequence of rate of return risk may be the displaced commercial risk which arises from the probability of the bank not being able to compete with other Islamic or conventional banks. Therefore the Islamic bank may be under market pressure to pay a return that exceeds the rate that has been earned on assets financed by Profit Loss Sharing deposit holders when the return on assets is under-performing as compared with competitors' rates (Ben Arab and Elmelki, 2009).

b. Operational Risk

Operational risk is often considered as a residual risk given the fact that any risk faced by a bank that is not market risk or credit risk falls under this category. To produce an estimate of operational risk, we could then look at the bank's financial statements and remove from the income statement (a) the impact of credit losses and (b) the profits or losses from market risk exposure. The variation in the resulting income

would then be attributed to operational risk. Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (Basel Committee on Banking Supervision, 2001). This definition includes legal risk, but does not include reputational risk or the risk resulting from strategic decisions. Some operational risks result in increases in the bank's operating cost or decreases in its revenue. Other operational risks interact with credit and market risk.

c.   Shariah Compliance Risk

Islamic Financial Service Board guiding principles of risk management for institutions offering Islamic financial services—other than insurance institutions, clearly mentions the definition of Shariah non-compliance risk. It is the risk which arises from "IIFSs' failure to comply with the Shariah rules and principles determined by the Shariah board of the IIFS or the relevant body in the jurisdiction in which the IIFS operate" (IFSB, 2005a). For Islamic banks, to be Shariah compliant is paramount. According to IFSB Principle 7.1, Islamic banks shall have in place adequate system and controls, including Shariah Board/Advisor, to ensure compliance with Shariah rules and principles (IFSB, 2005). Such compliance requirements must be pervasively infused throughout the organisation as well as in their products and activities. Shariah compliance is considered by IFSB as a higher priority in relation to the other identified risks, since violation of Shariah principles will result in the transactions being cancelled or income generated from them shall be considered as illegitimate.

d.   People Risk

People risk is another type of operational risk arising from incompetence or fraud, which exposes Islamic banks to potential losses. This includes human errors, lack of expertise, and fraud (Akkizidis and Kumar, 2008). Another aspect which has to be taken into consideration is that whether the risk of a loss is intentional or unintentional. Unfortunately, as Akkizidis and Kumar (2008) contend, the largest amount of losses comes from intentional activities such as fraud and unauthorized trading. The Basel Committee on Bank Supervision (2001) has identified seven categories of operational risk associated with:

- Internal fraud: an act of a type intended to defraud, misappropriate property or circumvent regulations, the law or company policy, excluding diversify/ discrimination events which involve at least one internal party.
- External fraud: an act of a type intended to defraud, misappropriate property or circumvent the law by a third party.
- Employment practices and workplace safety: an act inconsistent with employment, health or safety laws or agreements from payment of personal injury claims or from diversity/ discrimination events.
- Client, products and business practices: an unintentional or negligent failure to meet a professional obligation to specific client (including fiduciary and suitability requirement) or from the nature or design of a product.
- Damage to physical assets: the loss or damage to physical assets from natural disaster or other events.
- Business disruption and system failures: disruption of business or system failures.

    –   Execution, delivery and process management: failed transaction processing or process management from relations with trade counterparties and vendors.

Basel II requires banks to keep capital for operational risk in addition to improving the way banks calculate credit risk capital. The regulators are introducing a capital charge for operational risk for three reasons. First, in an increasingly complex environment banks face many risks arising from the possibilities of human and computer error (failure). Second, regulators want banks to pay more attention to their internal systems to avoid catastrophes like that at Barings Bank. Third, the effect of the Basel II credit risk calculation will be to reduce the capital requirements for most banks and regulators want another capital charge to bring the total capital back to roughly where it was before.

The accord asks a minimum capital requirement which has to be detected against credit risk, market risk and operational risk, as well as other type of risks. In particular, it has stated a figure of 12% of minimum capital requirement that would produce a capital amount in line with the operational risk actually faced by large and complex banking institutions. In the same time, it allows different calculation approaches for the regulatory capital, rising in complexity and decreasing in capital requirements. Banks have three alternatives or approaches for determining operational risk regulatory capital. They are the basic indicator approach (BIA); the standardized approach (STA); and the advanced measurement approach (AMA). The use of these approaches depends on the sophistication of the bank (Abdullah; Shahimi and Ismail, 2011).

e.   Technology Risk

In an advanced financial industry, an Islamic bank's operations are very much dependent on its technological system. Its success depends, in great part, on its ability to assemble increasingly rich databases and make timely decisions in anticipation of client demands and industry changes. The advanced use of information technology (IT) has also brought a new facet in the current competition of Islamic banking industry (Izhar, 2010).

It is often that a success of an Islamic bank's business is determined by the ability to capitalise the use of an information technology in different ways. An inability to keep up with the advanced use of an information technology could cause an Islamic bank fall behind its competitors. Therefore, every Islamic bank must be committed to an ongoing process of upgrading, enhancing, and testing its technology, to effectively meet (Chorafas, 2004); (a) sophisticated client requirements, (b) market and regulatory changes, and (c) evolving internal needs for information and knowledge management.

f.   Credit Risk

Credit risk happens when the counterparty fails to meet its obligations timely and fully in accordance with the agreed terms. It is the risk of loss due to the other party defaulting on contracts or obligations. This can lead not only to an increase in the liquidity crises but also declines the quality of the bank assets. This problem may arise for Islamic banks especially when there is a problem of asymmetry of information. The uncertain honesty of the entrepreneur and his misdirected use of funds can lead banks into difficulty. The prohibition of interest does not permit Islamic banks to postpone debts on the basis

of a re-negotiated higher mark-up rate. This can provide an incentive to their dishonest clients to default, thereby exposing these banks to additional credit risk (Ben Arab and Elmelki, 2009).

g.   Liquidity risk

The potential loss arising from the Bank's inability either to meet its obligations or to invest fund increases in assets as they fall due without incurring unacceptable costs or losses. Form this definition it's obvious that liquidity risk doesn't mean just the shortage in financial resources but also the excess of these unused funds.

h.   Market risk

The market risk can be defined as the potential impact of adverse price movements such as interest rates, foreign exchange rates, and equity prices on the economic value of an asset. As well, Market risk: according to the World Bank's definition (2009), has been defined as "risk of capital loss resulting from adverse market price movements related to commodity, equity, fixed interest and commodity markets". Market risk arises due to a number of factors. These are known as 'rate of return risk, bench mark risk, price volatility risk, etc. Islamic financial instruments due to being necessarily asset backed or equity based are faced with all of these risks and additionally owing to their unique characteristics some extra risks too.

i.   Commodities and Inventory Risk

This type of risk arises from holding items in inventory either for resale under a Murabaha contract, or with a view of leasing under an Ijara contract. In a murabaha contract the client has a right to change his mind and may decide not to go ahead with the transaction. It's probable that the client may go back on his terms in the murabaha or ijara contracts which will introduce an element of risk in the transaction. Once, this latter found, the bank will be responsible for the charge, In Ijarah contract, Islamic bank is exposed to the risk on the residual value of the leased asset at the term of the lease or if the client terminates the lease earlier (by defaulting), during the contract (Ben Arab and Elmelki, 2009). In addition to prices' change which may affect the Islamic banks performance , for instance if the Islamic bank holds a commodity for a period of time then the price of this commodity decrease here the Islamic banks will face a loss.

j.   Foreign Exchange Risk

This risk refers to the adverse exchange rate movements on foreign currency positions taken by the Bank which causes suffering losses. According to the Islamic teaching, currency transactions on a deferred basis are not permissible. Trading of currencies wherever undertaken by an Islamic bank is on a spot basis Letter of credit and trade finance for example often poses an exchange risk.

k.   Equity investment risk in Islamic finance

Islamic financial firms offer instruments based on equity investments. The two contracts generally used for these instruments are mudaraba (partnership) and musharaka (joint venture partnership). Equity investment risk arises because of a potential decrease in the fair value of the equity position held by the Islamic firm.

A firm's equity participation can range from direct investment in projects or joint venture businesses to indirect shari'ah-compliant investment, such as in stocks. If the firm faces a decline in the value of its equity position, it can lose any potential return on its investments and

may even lose its invested capital. This situation can trigger additional problems, such as credit risk and liquidity risk (Jamaldeen, 2014).

l.   Displaced commercial risk

Islamic financial institutions don't provide fixed returns in exchange for their customers' deposits or investments. Instead, people who provide funds expect to share profits and losses with the firm.

The shared-risk-and-reward scenario is nice in theory, but in practice, investors expect returns! If they don't get them, they may move their money to other financial institutions. This becomes more likely as more Islamic banks and other firms enter the market place and shari'ah-compliant customers' options increase.

As a result, Islamic firms face displaced commercial risk; they're forced to pay returns to fund providers even if the underlying assets don't earn profits. The financial institution must smooth out what may otherwise be a bumpy road for depositors and investors.

2.3.3   Risk management in Islamic banks

Risk management refers to the practice of identifying potential risks in advance, measuring and analyzing them and taking preventive steps to avoid or reduce the risk. The process of risk management can be illustrated as follows:

a. *Identify the risk:*

The purpose of this step is to identify what could go wrong (likelihood) and what is the consequence (loss or damage) if these risk occur.

b. *Measure and analyze the risk*:

In this step the banks should analyze the likelihood and consequences of each identified risk and decide which risk factors will potentially have the greatest effect and should, therefore, receive priority with regard to how they will be managed.

c. *Mitigate the risk*: Risk mitigation involves identifying the range of options for treating the risk, evaluating those options, preparing the risk treatment plans and implementing those plans. It is about considering the options for treatment and selecting the most appropriate method to achieve the desired outcome.

d. *Report and monitor the risk: Regular risk monitoring provides management with assurance that established controls are functioning properly.*

When establishing a risk management process or initiative, auditors should recommend that organizations examine best management practices in the area. Typically, risk management plans have the following objectives:

−   To avoid the risk as much as possible.
−   To eliminate negative risks and reduce the negative effects.
−   To reduce risks to an acceptable level if risks cannot be eliminated. This means a risk level the organization can live with, making sure that proper controls are in place to keep risks within an acceptable range.

Basel II is based on three "pillars". In Pillar 1, the minimum capital requirement for credit risk in the banking book is calculated in a

new way that reflects the credit ratings of counterparties. The general requirement in Basel I that banks hold a total capital equal to 8% of risk-weighted assets remain unchanged. The capital requirement for market risk is also remains unchanged from the 1996 Amendment. However, there is a new capital charge for operational risk. A risk-weighted asset for operational risk is defined as 12.5 times the calculated operational risk capital.

Pillar 2 which is concerned with the supervisory review process allows regulators some discretion in how rules are applied but seeks to achieve overall consistency in the application of the rules. It places more emphasize on early intervention when problem arise. Supervisors are required to do far more than just ensure that the minimum capital required under Basel II is held. Part of their role is to encourage banks to develop and use better risk management techniques and to evaluate these techniques.

Pillar 3 which is concerned with market discipline requires banks to increase disclosure to the market of their risk assessment procedures and capital adequacy. Also, in some instances, banks will have to increase their disclosure in order to be allowed to use particular methodologies for calculating capital. The banks will be subjected to added pressure to make sound risk management decisions if shareholders and potential shareholders have more information about those decisions.

2.4   Literature Review

A growing literature suggests that risk management is even more challenging for the Islamic banks compared to the conventional counterpart. This is largely attributed to the fact that the Islamic banks are faced with additional risks due to the specific features of the financing contracts, liquidity infrastructure, legal requirements and governance underlying the Islamic banks' operations (Cihak and Hesse, 2008).

Studies on the relationship between risk management and financial performance of banks mostly have been conceptual in nature, often drawing the theoretical link between good risk management practices and improved bank performance. There are limited studies providing empirical evidence to the relationship between risk management practices and bank financial performance.

Angbazo (1997). By testing the influence of risk factors in determining banks' performance , the study finds that default risk is a determinant of banks' net interest margin (NIM) and the NIM of super-regional banks and regional banks are sensitive to interest rate risk as well as default risk. The study by Saunders and Schumacher (2000) provides further support to the importance of controlling risks to financial performance. By investigating the determinants of NIM for 614 banks of 6 European countries and US from 1988 to 1995, the study finds that interest rate volatility has a positive significant impact on the banks performance .

Hakim and Neamie (2001) examine the relationship between credit risk and bank's performance of Egypt and Lebanon bank in 1990s. Using data for banks from the two countries over the period 1993-1999, the study estimates a fixed effects model of bank return with varying intercepts and coefficients. The findings show that credit variable is positively related to performance , while liquidity variable is insignificant across all banks and have no impact on performance . The study also finds a strong link between capital adequacy and commercial bank return,

with high capitalization being the hindrance to return. The study concludes that the capital is a sunk cost with large banks realizing high profits in absolute but not in percentage terms. As a policy implication, the study provides important input for the policymakers in the MENA region to set better performance targets, and enable bank managers to allocate capital more efficiently across their business units. The study also contributes in terms of how commercial banks can better employ their current capital and evaluate their future performance.

The study by Drzik (2005) shows that following the 1991 recession, financial institutions invested heavily in risk management capabilities. These investments targeted financial (credit, interest rate, and market) risk management. And shows that these investments helped reduce earnings and loss volatility during the 2001 recession, particularly by reducing name and industry-level credit concentrations. He also suggests that the industry now faces major risk challenges (better treatment of operational, strategic, and reputational risks and better integration of risk in planning, human capital management, and external reporting) that are not addressed by recent investments and that will require development of significant new risk disciplines.

Ariffin and Kassim (2009) analyze the relationship between risk management practices and financial performance in the Islamic banks in Malaysia. In achieving this objective, the study assesses the current risk management practices of the Islamic banks and links them with the banks' financial performance. The study uses both the primary (survey questionnaires) and secondary data (annual reports). The results of the study shed some lights on the current risk management practices of the Islamic banks in Malaysia. By assessing their current risk management practices and linking them with financial performance, the study hopes to contribute in terms of recommending strategies to strengthen the risk management practices of the Islamic banks so as to increase the overall competitiveness in the Islamic banking industry.

In the same vein, the study by Pagach and Warr (2009) examines the effect of Enterprise Risk Management (ERM) adoption on a firm's corporate reputation. ERM may impact corporate reputation in a variety of ways. First, ERM is a management process that enables a firm to holistically manage all risks. This creates a process in which individual risks, including reputation risk, are identified, assessed, and managed in a unified manner so that the firm value is maximized. Second, ERM encourages disclosure of risks, so that stakeholders can better understand which risks a firm is accepting and which it is avoiding. This greater disclosure is generally viewed positively by outside stakeholders because it allows them to better manage their own risk profiles. Finally, ERM provides a strategic response to a reputation damaging event. From their examination of a range of reputation proxies, they find evidence that implementation of a ERM program may enhance corporate reputation, although not in the short-term. In addition, they find evidence that ERM adoption tends to occur during a period in which various reputation measures tend to be decreasing.

Al-Smadi (2010) applies risk index to measure exposure to risk of several Jordanian banks, using data over 1995 to 2008. His findings indicate that three major macroeconomic variables are statistically significant. They are GDP, inflation rate and market interest rate. He

provides evidence that internal variables have effects on credit risk more than external variables. He finds that the relationship between GDP and credit risk is significantly negative, while it is positive on inflation and also positive on interest rate. There are five bank-specific variables: NPL, loan concentration in risky sectors, loan growth, bank size and net interest margin in their study. These five variables have significant relationship with credit risk. Loan growth and loan concentration in risky sectors have positive effects as well. Bank size has a negative effect on credit risk.

Since, most of the previous studies and theoretical the current study aims to fill the gap in the literature by focusing on the risk management practices of the Islamic banks and linking the practices with the financial performance of the Islamic banks.

3. Data and methodology

The data and the used methodology in this paper are illustrated as follows:

1.1 Sample of the Study

The *secondary data* is used to achieve the study aim and objectives and complete the theoretical framework, by using journals articles and professional associations' reports, in addition to books and web sites. Whereas, the sources of the data used in analyses are the daily reports, the balance sheets and the income statements available on Amman Stock Exchange's and the World Bank's websites (2014).

Furthermore, the data used in this paper comprises two Islamic banks operating in Jordan over the period of 1998-2012 (annual data), yielding a total of 30 (15*2) observations. Few banks are dropped from the sample because of the following reasons:

- The lack of data which is unavailable for some banks.
- The data for some years is not available.
- Some banks are unlisted in Amman stock exchange.
- Some banks were only quoted very recently, and a sufficient history of data was not available.

It is important to refer, that the data used in this paper is a pooled data which blends the characteristics of both cross-sectional and time series data. The OLS method is not suitable in this case since it does not consider the bank specific effect. Whereas, the Fixed Effect method (or the Least Squares Dummy Variable, LSDV) solves this problem and allows taking into consideration the bank-specific effects on the regressions estimates.

1.2 Study Variables Definitions

The definitions of dependent and independent variables are summarized in the following table:

Table 1: Variable and their Proxies

Variables	Proxies	Symbol
Performance	*RETURN ON ASSETS* is defined as the after tax net income divided by total assets of each bank.	ROA
	RETURN ON EQUITY" is defined as the after tax net income divided by total equity of each bank.	ROE
Credit Risk	RISK: Ratio of Total Debt to Total Assets	RIS
	DEBT: Total bank Debt to/ equity	DEB
Liquidity Risk	CAPITAL: total equity to Total Assets	CAP
	LIQUIDITY: Loan to deposit	LIQ
Operation risk	INCOME :Asset Utilization Ratio = Operating Income/Total Assets	INCM
	COST: Cost to Income Ratio	COST
	EFFICIENCY: total overheads to total assets	EFF

Market risk	Inflation	INF
	Interest rates	INT
	Financial crisis	FIN

Source: prepared by the researcher.

1.3   The Study Model

In this study return on assets (ROA) and return on equity (ROE) are used as proxies for financial performance. ROA is the most comprehensive accounting measure of a banks' overall performance. Since it is defined as net income over total assets, it shows the profit earned per dollar of assets. It is an indicator of banks' efficiency and performance. Besides, the ROE reflects how effectively a bank management is using shareholders' investment. It tells the banks' shareholders how much the institution is earning on the book value of their investment (Goudreau, 1992). In fact, ROE is the most important measurement of banking returns because it is influenced by how well the bank is performed on all other return categories, and indicates whether a bank can compete for private sources in the economy.

As indicated in the previous sections the linear model is used to examine the impact of risk management practices on the financial performance of Jordanian Islamic banks as follows:

$$PER_{i,t} = \alpha_0 + \beta_1 \, CAP_{i,t} +$$
$$\beta_2 \, LIQ_{i,t} + \beta_3 \, DEB_{i,t} + \beta_4 \, RIS_{i,t} + \beta_5 \, COST_{i,t} + \beta_6 \, EFF_{i,t} + \beta_7 \, INCM$$
$$+ \beta_8 \, INT + \beta_9 \, INT + \beta_{10} \, FIN + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (1)$$

Where: $PER_{i,t}$ represents two alternative profitability measures (ROA or ROE) for the bank i during the period t. $CAP_{i,t}$ is capital ratio of bank i at time t; $LIQ_{i,t}$ the liquidity ratio for the bank i during the period t; $DEB_{i,t}$ the debt for bank i between period t and t-1; $RIS_{i,t}$ the debt-to-total assets ratio that represent the risk born by the bank i during the period t. $EFF_{i,t}$, the bank' i efficiency during the period t; $INCM_{i,t}$ asset utilization ratio; $INT_{i,t}$ the interest rates. $INF_{i,t}$ the inflation rate . FIN, is a dummy variable used as an independent variable to reflect effect of financial crisis on banks profitability, of which 0 is allocated to the non crisis period and 1 to the crisis period. α_0, is a constant; β_i ($i = 1 \, to \, 10$) is variable coefficient; while ε_{it} is an error term.

4. Results and Discussion

This section presents the study results after applying the methodology described previously:

4.1 Unit Root Test

The *unit root* test examines the Stationarity of the data, the data series are stationary if its mean and variance are constant over time and the value of the covariance between the two time periods depends only on the distance or lags between the two time periods (Gujarati and porter, 2010).To single time series the early work that used the *unit root* is backed to (Dickey and Fuller, 1979).

It has been noticed that the unit root test for a single time series, such as Augmented Dickey–Fuller test, has low power in the sense that it tends to reject overly the stationarity hypotheses of a time series. Levin, Lin and Chu (LLC) (2002) have shown that the use of a unit root test for a pooled time series and cross-sectional (panel) data can significantly increase the power of the test. They developed their method from a

multivariate generalization of the *ADF* test, and provided statistical foundation for panel unit root tests.

The unit root test results applying LLC test, are reported in table (2), these results show that the null hypotheses of the *unit root* existence (non- stationarity) are rejected at 1% level, which indicate that all the study variables are stationary at the level during the study period. These findings imply that the study's variables show a degree of time dependency that allows applying the Pooled Least Square method.

Table (2): Unit Root Test Results

Variable	T-Statistic	Probability	Decision
ROE	-2.9401	0.0016***	Reject H_0.There is no unit root
ROA	-4.5535	0.0000***	Reject H_0.There is no unit root
LIQ	-2.6793	0.0037***	Reject H_0.There is no unit root
EFF	-3.4062	0.0000***	Reject H_0.There is no unit root
INCM	-2.6394	0.0061***	Reject H_0.There is no unit root
CAP	-2.9149	0.000***	Reject H_0. There is no unit root
RIS	-5.3264	0.0000***	Reject H_0.There is no unit root
INF	-3.4497	0.0009***	Reject H_0.There is no unit root
INT	-3.2689	0.0005***	Reject H_0.There is no unit root
DEB	-2.0968	0.0018***	Reject H_0.There is no unit root
COST	-4.6833	0.0000***	Reject H_0.There is no unit root

"***", Significant at 1% level

1.2. Multicollinearity Test

Multicollinearity originally it meant the existence of a "perfect," or exact, linear relationship among some or all explanatory variables of a regression model.

✓ High R^2 but few significant t ratios.
✓ High pair-wise correlations among regressors.
✓ Tolerance (TOL) and variance inflation factor (VIF): the larger the value of VIF, the more "troublesome" or collinear the variable Xj. As a rule of thumb, if the VIF of a variable exceeds 10, or the tolerance less than 0.1, which will happen if, R^2 exceeds 0.90, that variable is said to be highly collinear (Gujarati, 2004).

Table (3) reveals that all the variables have *VIF* less than 10 and a *TOL* more than 0.1, which indicates that there is no multicollinearity problem and the independent variables are not highly correlated.

Table (3): The Multicollinearity Test Results

Variables	ROE		ROA	
	TOL	VIF	TOL	VIF
CAP	0.527	1.894	0.717	1.394
LIQ	0.979	1.201	0.841	1.190
DEB	0.412	2.422	0.284	3.510
EFF	0.750	1.332	0.812	1.231
COST	0.829	1.206	0.829	1.205
RIS	0.306	3.271	0.301	3.324
INCM	0.903	1.108	0.524	1.879
INT	0.846	1.182	0.267	3.738
INF	0.842	1.187	0.783	1.277

1.2 Fitness of the Regression Models

It can be seen from table (4) that the explanatory power of the R^2 explained about 57% from the variation, of Islamic banks' performance when ROA is used as dependent variable and 73% when ROE is used. The adequacy of the model as predicting is validated by the F-test. As indicated in the same table, the values of all F-ratios are statistically significant at 5% for all performance models. The results of these tests

confirmed that the models applied are useful for measuring the relationship between management practices items and the performance ratios.

1.3 The Impact of Management Practices on banks' performance

In this section the researcher provides the hypotheses testing and the main estimation results:

1.3.1 The Impact of Management Practices on ROE

ROE is regressed against risk management practices variables of Jordanian Islamic banks, beside the interest rates, the inflation and the financial crisis as a dummy variable. The results reveal that the following variables (RIS, COST, INT, and INF) have a statistical significant impact on the ROE, whereas the rest of the investigated variables have an insignificant impact on the ROE.

$H_{1.1}$: *Capital has a positive significant statistical impact on performance.*

Total equity-to-total assets ratio (CAP) trails behind a *negative* and statistically *significant* impact at 1 and 5 percent levels respectively, with a 1% change in total equity to total assets ratio triggers about -215, 42 change in Islamic banks' return on equity. So, the first hypothesis ($H_{1.1}$) is *rejected.*

$H_{1.2}$: *Liquidity has a negative significant statistical impact on performance.*

The Estimated results reveal that *net loans-to-total deposits ratio* (LIQ) has a *negative* but statistically *insignificant* effect on banks' return on equity (ROE). This insignificant effect is supported by Said and Tumin (2010) which means that the second hypothesis ($H_{1.2}$)   is *rejected.*

$H_{2.1}$: *DEBT has a positive significant statistical impact on Jordanian Islamic banks' performance.*

Whereas, *Total Bank Debt -to- Equity* (DEB) is appeared to have a negative and statistically significant effect on Islamic banks' ROE, with a 1% change in total bank debt to total equity ratio results about -35, 56 change in Islamic banks' return on equity. So, the hypothesis ($H_{2.1}$) is *rejected*

$H_{2.2}$: *RISK has a positive significant statistical impact on Jordanian Islamic banks' performance.*

The *net loans-to-total assets ratio* (RIS) trails behind a positive and statistically significant impact at 1 and 5 percent significance level respectively, with a 1% change in *total loan to total assets ratio* results about 14 4, 2 % change in Islamic banks' return on equity (ROE). So, the hypothesis ($H_{2.2}$) is *accepted.*

$H_{3.1}$: *COST has a negative significant statistical impact on Jordanian Islamic banks' performance*.

The Cost to Income Ratio (COST) has a negative statistical significant effect at 5% level on Islamic banks' return on equity, and it generates the highest economic significance among the statistically significant variables. Indeed, a 1% change in COST entails about -25, 33 % change in the performance. So, the hypothesis ($H_{3.1}$) is *accepted.*

$H_{3.1}$: *EFFECIENCY has a positive significant statistical impact on Jordanian Islamic banks' performance.*

While, *total overheads-to- total assets ratio* (EFF) is appeared to have a positive but *statistically* insignificant effect on Islamic banks' ROE, and this results support what Hassan and Bashir (2003) found in their study. So, the hypothesis ($H_{3.1}$) is *rejected*.

$H_{3.3}$: *INCOME has a positive significant statistical impact on Jordanian Islamic banks' performance.*

While, *Operating Income /Total Assets* (INCM) is appeared to have a positive but *statistically* insignificant effect on Islamic banks' ROE, and this results support what Hassan and Bashir (2003) found in their study. So, the hypothesis ($H_{3.3}$) is *rejected*.

$H_{4.1}$: *INTEREST has a positive significant statistical impact on Jordanian Islamic banks' performance.*

On the other hand, *the INT* has a positive and statistically significant effect on Islamic banks performance represented by the ROE measure. Indeed, a 1% change in INT entails about 244.55 % change in the performance. As a result, the hypothesis ($H_{4.1}$) is *accepted*.

$H_{4.2}$ *INFLATION has a positive significant statistical impact on Jordanian Islamic banks' performance.*

The INF has a positive and statistically significant effect on Islamic banks performance represented by the ROE measure. Indeed, a 1% change in INF entails about 535, 73 % change in the performance. Therefore, the hypothesis ($H_{4.2}$) is *accepted*.

$H_{4.3}$ *FINANCIAL CRISIS has a negative significant statistical impact on Jordanian Islamic banks' performance.*

The *financial crisis* is regressed to the Islamic banks' return on equity as a dummy variable, and the results are as expected indicate that the recent financial crisis has no statistically significant effect, on the performance of Islamic banks expressed by the return on equity. Consequently, the hypothesis ($H_{4.3}$) is *rejected*.

1.3.2   The Impact of Management Practices on ROA

ROA is regressed against all Jordanian Islamic banks' specific variables, in addition to the inflation, the interest rate and financial crisis as a dummy. From this regression it can be concluded that just LIQ, RIS, COST, INT, and INF are the most significant factors affecting Islamic banks' ROA.

$H_{1.1}$: *Capital has a positive significant statistical impact on Jordanian Islamic banks' performance.*

Total equity-to-total assets ratio (CAP), has a negative and statistically significant impact on the ROA at 5% statistical significant level, with a 1% change in total equity to total assets ratio triggers about 97, 50 % changes in Islamic banks' return on assets. *So, $H_{1.1}$ is rejected.*

$H_{1.2}$: *LIQUIDITY has a negative significant statistical impact on Jordanian Islamic banks' performance.*

The Estimated results reveal that *net loans-to-total deposits ratio* (LIQ) has a *negative* and statistically *significant* effect on banks' return on assets (ROA) at 5% statistical significant level, with a 1% change in total equity to total assets ratio triggers about 4% changes in Islamic banks' return on assets, which means that the second hypothesis ($H_{1.2}$) is *accepted*.

$H_{2.1}$: *DEBT has a positive significant statistical impact on Jordanian Islamic banks' performance.*

Whereas, *Total Bank Debt -to- Equity* (DEB) is appeared to have a negative and statistically significant effect on Islamic banks' ROA at 5% statistical significance level, with a 1% change in total bank debt to total equity ratio results about -549.41 % changes in Islamic banks' return on assets. So, the hypothesis ($H_{2.1}$) is *rejected*.

$H_{2.2}$: *RISK has a positive significant statistical impact on performance*.

The *net loans-to-total assets ratio* (RIS) trails behind a positive and statistically significant impact at a 5 percent significance level respectively, with a 1% change in *total loan to total assets ratio* results about 22.55 % change in Islamic banks' return on assets. So, the hypothesis ($H_{2.2}$) is *accepted*.

$H_{3.1}$: *COST has a negative significant statistical impact on Jordanian Islamic banks' performance*.

The *Cost to Income Ratio* (COST) has a negative statistical significant effect at 5% statistical significance level on Islamic banks' return on assets, variables. Indeed, a 1% change in COST entails about -4, 31 % change in the performance . So, the hypothesis ($H_{3.1}$) is *accepted*.

$H_{3.1}$: *EFFICIENCY has a positive significant statistical impact on Jordanian Islamic banks' performance*.

While, *total overheads-to- total assets ratio* (EFF) is appeared to have a positive but *statistically* insignificant effect on Islamic banks' ROA. So, the hypothesis ($H_{3.1}$) is *rejected.*

$H_{3.3}$: *INCOME has a positive significant statistical impact on Jordanian Islamic banks' performance*.

While, *Operating Income /Total Assets* (INCM) is appeared to have a positive but *statistically* insignificant effect on Islamic banks' ROA, So, the hypothesis ($H_{3.3}$) is *rejected.*

$H_{4.1}$: *INTEREST has a positive significant statistical impact on Jordanian Islamic banks' performance*.

On the other hand, *the INT* has a positive and statistically significant effect on Islamic banks performance represented by the ROA measure at 5% statistical significance level. Indeed, a 1% change in INT entails about **931.04** % change in the performance. As a result, the hypothesis ($H_{4.1}$) is *accepted*.

$H_{4.2}$ *INFLATION has a positive significant statistical impact on Jordanian Islamic banks' performance*.

The INF has a positive and statistically significant effect on Islamic banks performance represented by the ROA measure at 5% statistical significance level. Indeed, a 1% change in INF entails about 19. 07 % change in the performance. Therefore, the hypothesis ($H_{4.2}$) is *accepted*.

$H_{4.3}$ *FINANCIAL CRISIS has a negative significant statistical impact on Jordanian Islamic banks' performance*.

The *financial crisis* is regressed to the Islamic banks' return on ROA as a dummy variable, and the results are as expected indicate that the recent financial crisis has no statistically significant effect, on the performance of Islamic banks expressed by the return on assets. Consequently, the hypothesis ($H_{4.3}$) is *rejected*.

Table (4): Regression Results

	Variables	Regression (1) ROE		Regression (2) ROA	
		Coefficient (β_i)	Probability	Coefficient (β_i)	Probability
	α_0	12.6221 (2.8316)	0.0115	207.0442 (1.3559)	0.2001
LIQUIDITY RISK	CAP	-2.1542 (4.7090)	0.0000	-0.975019 (4.177181)	0.0019
	LIQ	-0.0357 (-1.0313)	0.3168	-0.0400 (-21.1365)	0.0000
CREDIT RISK	DEB	-0.3556 (-29.0586)	0.0000	-5.4941 (-3.4657)	0.0047
	RIS	1.442124 (7.8998)	0.0000	0.2255 (4.709)	0.0002
OPERATIONAL RISK	COST	-0.2533 (-4.442785)	0.0004	-0.0431 (-9.7367)	0.0000
	EFF	0.3717 (0.699)	0.4937	**0.0562 (1.5912)**	**0.1375**
	INCM	5.9812 (1.5191)	0.1471	4.585120 (0.8880)	0.3920
MARKET RISK	INT	2.4455 (24.807)	0.0000	**9.3104 (1.9808)**	**0.0410**
	INF	5.3573 (4.709)	0.0000	0.1907 (2.8232)	0.0154
	FIN	-9.45554 (-1.3690)	0.1961	-0.5435 (-0.3622)	0.7235
R^2	0.73			0.57	
Adj R^2	0.5555			0.1679	
F	4.18***			(2.61)**	
DW	2.18			2.12	

Note: numbers in parentheses are *t*-statistics. "***" and "**"indicate that the coefficients are significant at 1% and 5% respectively.

1.4 Summary for the Hypotheses Testing

Te following table summarizes the results of hypotheses testing:

Table (5): Summary of Hypotheses Testing Results

Alternative hypotheses	ROA		ROE		
	The expected coefficient sign	Decision	The detected coefficient sign	The expected coefficient sign	Decision
H$_1$: Liquidity risk management practices have a positive and significant statistical impact on Jordanian Islamic banks' (JIB) performance.	(+)	Rejected	(-)	(-)	**Rejected** Rejected
H$_{1.1}$: Capital has a positive significant statistical impact on JIB performance.	(-)	Accepted	(-)	(-)	Rejected **Rejected**
H$_{1.2}$: Liquidity has a negative significant statistical impact on JIB performance.	(+)	Rejected	(-)	(-)	Rejected
H$_2$: Credit risk management practices have a positive and significant statistical impact on JIB performance.	(+)	Accepted	(+)	(+)	Accepted **Rejected**

Hypothesis					
H₂.₁: Debt has a positive significant statistical impact on JIB performance.	(-)	Accepted	(-)	(-)	Accepted
H₂.₂: Risk has a positive significant statistical impact on JIB performance.	(+)	Rejected	(+)	(+)	Rejected
H₃: Operational risk management practices have a positive and significant statistical impact on JIB performance.	(+)	Rejected	(+)	(+)	Rejected **Accepted**
H₃.₁: Cost has a positive significant statistical impact on JIB performance.	(+)	Accepted	(+)	(+)	Accepted
H₃.₂: Efficiency has a positive significant statistical impact on JIB performance.	(+)	Accepted	(+)	(+)	Accepted
H₃.₃: Income has a positive significant statistical impact on JIB performance.	(-)	Rejected	(-)	(-)	Rejected
H₄: Market risk management practices have a positive and significant statistical impact on JIB performance.					
H₄.₁: Interest has a positive significant statistical impact on JIB performance.					
H₄.₂ Inflation has a positive significant statistical impact on JIB performance.					
H₄.₃ Financial crisis has a negative significant statistical impact on JIB performance.					

1.5   Results Discussion

The study results indicate that the Liquidity risk management practices have a negative and significant statistical impact on performance, which means that these banks suffered from the liquidity risk during the study period and failed at the same time in managing this type of risk.

Liquidity management is difficult in Islamic banks due to the lack or limitation of practical instruments and the small number of participants on the money market. Because most of the conventional liquidity tools are not according to Shari'ah, Islamic banks sustain higher liquidity ratios compared to conventional banks. The Islamic firm can try to reduce equity risk by analyzing certain key factors, including the following, before entering a contract:

–   The background and business plan of the managing partner or management team

–   The projected legal and economic environment in which the project will take place

–   In addition, the firm must continue to monitor the investment after the contract is signed to avoid information asymmetry with its partner(s).

However, credit risk management practices have a negative and significant statistical impact on performance, which means that these banks suffered from the credit risk during the study period and failed at the same time in managing this risk.

The results revealed that Operational risk management practices have a negative and significant statistical impact on performance, which means that these banks suffered from the operational risk during the study period and failed at the same time in managing this risk.

Operational risk is a recent addition to the list of risks faced by financial institutions and it is now recognized as a type of risk which can contribute to significant losses in all financial institutions.

The management of operational risk in Islamic banks is similar to that in conventional banks but includes several additional elements. In addition, due to the unique features of their financial contracts, operational risk in Islamic banks can be substantially different from what is exposed to the conventional ones. The relative complexity of contracts, combined with the fiduciary obligations of Islamic banks, imply that for Islamic banks, operational risk is a very important consideration. More importantly, Shariah compliance risk as part of operational risk is paramount to Islamic banks, which means Islamic banks must ensure, at all times, that all activities and products are in conformity with Shariah principles.

Finally, market risk management practices show a positive and significant statistical impact on banks' performance which, means that these banks don't suffer neither from the market risk during the study period nor from managing this type of risk. This result indicates that the Jordanian Islamic banks applied the best risk management practices concerning the market risk.

Conclusions and Recommendations

Risk management in Islamic banks is significant and become more complicated compared to conventional banks because of their unique contractual features and general legal environment. Specific aspects and diversity of contract could raise types of risk in Islamic banks. Thus risk management in financial institution has attracted more attention from the regulators, practitioners and also academics over the last decade. Another reason is due to the huge losses incurred by a number of financial institutions as a result of the malfunctioning of their risks management. Therefore, this paper aims to assess risk management practices and their impact on performance of Jordanian Islamic banks.

The results of this study revealed that:

First, Liquidity risk management practices have a negative and significant statistical impact on performance, which means that these banks suffered from the liquidity risk during the study period and failed at the same time in managing this type of risk.

Second, credit risk management practices have a negative and significant statistical impact on performance, which means that these banks suffered from the credit risk during the study period and failed at the same time in managing this risk.

Third, Operational risk management practices have a negative and significant statistical impact on performance, which means that these banks suffered from the operational risk during the study period and failed at the same time in managing this risk.

Finally, market risk management practices show a positive and significant statistical impact on banks' performance which, means that these banks don't suffer neither from the market risk nor from managing this type of risk during the study period. This result indicates that the Jordanian Islamic banks applied the best risk management practices concerning the market risk.

The researcher recommends that:
- ✓ The Islamic banks would establish a separate entity that regulate and supervise the Islamic banks, to be responsible for regulating the banks in terms of Shariah compliance principles.

✓ Governments should open the door to scholars for more financial innovations comply with Islamic Shariah.

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