RISK MANAGEMENT PRACTICES IN EGYPT: A COMPARISON STUDY BETWEEN ISLAMIC AND CONVENTIONAL BANKS

Hassan M. Hafez*

Abstract

The purpose of this research is to examine the degree to which the Egyptian banks use risk management practices and techniques to eliminate associated risks to their business. Not only has that but also to compare between Islamic and conventional banked in terms of risk management practices. A standardized questionnaire was used to cover the main aspects of risk management: understanding risk, risk management, risk identification, risk assessment and analysis; risk monitoring and risk management practices and finally the types of risks faced by the two set of banks. The study found that the most challenging types of risks facing Islamic and conventional banks in Egypt are credit and liquidity risks. Conventional banks are more efficient in risk management and use more sophisticated techniques and practices. Liquidity risk is the most prominent and vital risk for Islamic Banks**.

Keywords: Islamic Banks, Risk Management, Egypt, Conventional Banks

*Business School at American University of the Middle East in Kuwait, Block 3, Building 1, Egaila, Kuwait, P.O. BOX: 220 Dasman, 15453 Kuwait

**To My wife Eng. Asmaa Sahrawi for giving me all aspiration, to My son Ali the King of math, my daughter Hana; my little princess and my naughty son Omar*

1 Introduction

The Islamic banking system started in 1963.The first Local Islamic Bank was created in Mit Ghamar, Egypt then Dubai Islamic Bank & the Islamic Development Bank were launched in 1970's. The sector has grown and became the most growing segment of the International Financial markets. It is obvious that the Islamic banking sector is growing rapidly nowadays and it expanded to be an important player in the international financial markets with a 20% growth rate (EL- Qoroshy 2005). According to the World Bank's report 2013-2014 it estimated that the assets belongs to the global Islamic banking reached a range of $1 to $1.5 trillion as of 2012 and the average ROE of top 20 Islamic banks is 12.6%, compared to conventional banks average of 15%. In terms of the assets conventional banks reached $1.7 trillion. The past global financial crisis that happened in the USA generated questions regarding the effectiveness and efficiency of risk management practices (RMPs) applied by banks since risk management failure is considered one of the main causes of the crisis and banks need more appropriate risk management tools. (Dridi, 2010) and Islamic banks were better than conventional banks during the global financial crisis since Islamic banks operate according to Sharia'a rules which forbid speculation.

The key difference between the Islamic and the conventional banking sector is that the Islamic financial sector's foundation is Islamic sharia'a this means that each activity should be sharia'a compliant. A key principle that differentiates between the two sectors is Risk Sharing. This principle shows that the suppliers of the fund are not creditors; they are investors as the concept of the fixed interest rate is forbidden in Islamic Sharia'a. Unlike in conventional sector the suppliers of the fund are creditor. Furthermore, Full disclosure of information is a must in all the transactions and contracts and everything must be clear to all of the parties that are involved. The main features that distinguish between Islamic and conventional banks are shown in the below table 1.

Another feature is justice; it is achieved through risk sharing as Stakeholders share profits and losses. Hence, interest or (Riba) is prohibited (IMF, 2011). Prohibition of interest was also mentioned in the Quran. Fixed interest rates are prohibited in Islamic sharia'a unlike the conventional system which operates mainly on the fixed interest rates. The technical meaning of Riba is any excess benefit derived on a loan over the principle. So the definition of Riba includes usury and interest taken on commercial loans as well. Although the conventional Banks works on the fixed interest base it is a debate nowadays to stop operating with the fixed interest base as it was prohibited by the majority of religions like Islam, Christianity and Judaism 14 centuries ago (Ghamidi, 2007). Another factor that distinguishes between the

two systems is the profit and loss sharing (PLS) scheme. As Islamic sharia'a encourages Muslims to invest their money and become partners not creditors and this is to distribute the risk among all partners as the profit is shared as well as the loss. In the conventional system people who have shortage and borrow are the ones who take all the risk. Islamic banks are keen on granting loans based on the profitability of the project as well as its benefit regarding the economy and the society and also it cares about the competence of the entrepreneur. However, conventional banks only consider the strength of the credit situation of the borrower.

Table 1. The main features that distinguish between Islamic and conventional banks

Feature	*Islamic Bank*	*Traditional Bank*
Business Framework	Based on Holy Quran & Sunna. All activities must be Sharia'a compliant	Based on secular principles
Interest Charging	Financing not interest based. Based on profit loss sharing.	Interest Based
Interest on Deposits	Do not receive fixed interest. Depositors take part in profit loss sharing	Depositors receive fixed interest based on macroeconomic variables. Also guarantee of principal repayment
Risk Sharing in Equity financing	Islamic banks offer Musharaka as a means of equity financing. Profits are distributed based on pre-agreed ratio, while losses are based on equity share.	Only offered through investment firms and venture capital firms
Restrictions	All activities must be Sharia'a compliant & legal.	Activities must be legal.
Zakat	Islamic banks must pay 2.5% religious tax on all profits.	Not applicable
Penalty on Default	Not allowed to charge penalties on default, but can charge penalties to discourage activity.	Charge additional money (compounded interest) for being late.
Avoidance of Gharar	Not allowed to participate in speculative activities.	Allowed to participate in speculative investments
Customer	As an investor	As creditor

According to Islamic sharia'a, all financial transactions should be on tangible assets which mean that making money out of money is prohibited like trading in currency derivatives market in conventional systems yet all contracts should be free from excessive uncertainty "Gharar" (Obaidullah, 2005). Money in Islam has no value on itself and that it is just a tool for individuals in order to purchase and sell. Therefore, it is only source of capital when it is invested in a productive and sharia'a compliant investment unlike the conventional system which allows trading in currency derivatives as mentioned above. Management and supervision in Islamic banks is different than Conventional banks. As in Islamic Banks there is a Sharia'a Supervisory Board (SSB) that should be monitoring and ensuring that all the financial transactions are sharia'a compliant. It assures all the contracts and transactions and that the entire bank's operation is halal (allowed) and following Sharia'a. Islamic banks have unique products that differ from the conventional banks These products are: Ijarah, Ijarag Muntahia Bittamleek, and Investment risk reserve, Istisnah, Mudarabah, Musharakah, Murabahah, Murabahah for the purchase order (MPO) and Diminishing Musharakah.

2 Literature review and hypothesis development

Risk management is a core activity of every financial institution; it involves identification, measurement, monitoring and controlling risks. Hence, a risk manager should have a comprehensive understanding of the risk and the measurement in order to control any barrier that may face the bank's main strategy and objectives and to minimize any potential loss. (khan & Ahmed, 2001) Assert that risk avoidance techniques should include setting standards for all the activities of the business. There are several points of views and studies regarding the types of risks faced by Islamic and conventional banks. Risks that banks face are divided into: financial and non-financial risks. Financial risks are credit risk and market risk whilst the non-financial risks are operational, regulatory and legal risks.

Al-Tamimi et al (2007) asserts that foreign banks in UAE face credit risk, foreign exchange risk, liquidity risk, market risk and interest rate risk and that these risks are a great barrier for a bank to achieve its goals and to survive (Al-Mazrooei & Al Tamimi, 2007). Helmy, 2012 discovered that there are common risks between Islamic and conventional banks such as credit risk, market risk, liquidity risk and operational risk. The study also found unique risks for Islamic

banks such as Sharia'a noncompliance risk. It happens as the result of the failure to comply with the Sharia'a rules and principles. The second unique risk is the rate of return risk. The third risk is displaced commercial risk. Another unique risk is the equity investment risk; it arises from entering a partnership in order to participate in a certain financing activity as mentioned in the contract, and that the provider of finance share in the business risk and this risk is relevant under Mudarabah and Musharakah contracts. The study also showed another risk which is inventory risk and it arises from keeping items in inventory either from resale under Mudarabah' contract or with a view to leasing under Ijarah contract. Another risk that faces Islamic banks is profit and loss sharing (PLS). As banks are not creditors; they are investors if the project succeeded and earned profits then the profit will be distributed among the bank and the entrepreneur according to certain ratios mentioned in the contract. On the other hand, if the project did not succeed and there are losses, the bank is going to take all the loss and the entrepreneur is going to lose his/her time and effort.

Ilias, 2012 showed in his study applied on Islamic banks in Malaysia that each of the Islamic contracts leads to a specific risk. For example, products based on Murabahah and Ijarah thumma al-bay has credit risk. Market risk is accompanied with Musharakah and Mudarabah. Ijarah waiktina leads to operational risk. Salam and Istisna' have delivery risk.

According to the Asian institute of finance's study in risk management in Islamic banks, there are major differences between the operations of Islamic and conventional banks and this caused a unique set of extra risks. The five key differences are:

1) Prohibition of interest (riba).

2) Prohibition of gambling and excessive speculation (qimar, maysir and gharar).

3) Transactions could only be asset based or asset backed.

4) Loand and investments could only be made into products and services considered halal.

5) Accumulation and distribution of Zakat.

There are four common risks that both banks face: Credit risk, market risk, liquidity risk and operational risk. A study done by (Hussain & Al-Ajmi, 2012) on Bahrain showed common risks that faces Islamic and conventional banks such as credit risk, liquidity risk and operational risks The study also showed that in order to determine the RMPs, we should see to what extent managers understand risk and risk management, efficient risk identification, risk assessment analysis, risk monitoring and credit risk analysis. The study found that the levels of risks faced by Islamic banks are higher than those faced by conventional banks. Furthermore, country, liquidity, and operational risks were found to be higher in Islamic banks.

Rahman & Omar, 2011, showed that, risk management tools and systems for Islamic Banking needs to be improved. On the other hand, (Khalid & Amjad, 2012, found that Islamic banks are efficient in risk management. They also found that URM, RM and CRM are the most important and influencing variables in RMPs. Hassan, 2012 found that foreign-exchange risk, followed by credit risk and operating risk are the three most important types of risk that the Islamic banks in Brunei Darussalam face. It also found that Islamic banks are efficient in risk management and the most influencing variables in RMPs are RI and RAA.

2.1 Risk Management Practices (RMPs)

The economic crisis generated questions regarding the effectiveness of risk management practices (RMPs) applied by banks and bad the crisis happened because of the week risk management. Academics and practitioners agreed that efficient and effective risk management is accepted and considered as a main factor of bank management. The Basel Committee introduced the Basel I Accords, then formulated the Basel II Accords and recently formulated the Basel III in order to deal with this problem. In addition that risk management is considered to be one of the most important determinants of returns of banks' stocks.

Mokni and Rachdi (2012) defined risk management as a core activity of every financial institution that involves identification, measurement, monitoring and controlling risks. Hence, it is imperative on the risk manager to have a comprehensive understanding of the risk and the measurement of the risk exposure in order to effectively carry the tasks entrusted on him.

(Al-Mazrooei & Al Tamimi, 2007) showed that monitoring and screening is important to be done by auditors and managers through investigations and analyzing the financial system. The study showed important variables affecting risk management such as (RI), assessment and analysis have proved to be more influential in the risk management process, understanding risk and risk management (URRM), risk assessment and analysis (RAA), and in risk monitoring and controlling (RMON). While Khaled & Amjad, 2012, showed that Islamic banks manage their risks efficiently and URM, RM and CRM are the most important and affecting variables in RMPs. Hussain & Al-Ajmi, 2012, showed that Islamic banks and conventional banks are different when it comes to URM. The study also showed that Islamic banks face higher level of risks than the conventional banks. While (Mokni, Echchabi, Azouzi, & Rachdi, emerald insight, 2014) showed in their study that Islamic banks use extensively the traditional tools in mitigating risk.

Salem, (2013) claimed that, risk assessment is a very important step that is highly challenging financial institutions and organizations and it is necessary to develop the approach to measuring risks. The study showed widely accepted risk management tools for each identified risk. Khan and Ahmed (2012) claimed that the tools that are most widely used are Value at Risk (VaR), credit rating, credit scoring, scenario

analysis, Risk adjusted rate of returns (RAROC) and derivatives. The overall risk management process should be comprehensive embodying all departments/sections of the bank so as to create a risk management culture. The specific risk management process of individual financial institutions depends on the nature of activities and the size and sophistication of an institution.

3 Hypothesis development

There is no research showing the risk management tools practiced in banks in Egypt (Islamic Banks, conventional banks and conventional banks with Islamic windows) and to what extent Egyptian banks use effective risk management techniques which revealing the importance of this study. The research will also compare between Islamic and conventional banks in terms of effective risk management. The research try to find answers to the following questions:-

- Do Egyptian banks understand risk and risk management (URRM)?
- Do Egyptian banks have strong risk assessment and analysis (RAA)?
- Do Egyptian banks have appropriate risk monitoring and controlling (RMON)?
- What are the most prominent types of risks that face Egyptian banks?
- What are the risk management tools practices in Islamic, Conventional Banks and conventional with Islamic window in Egypt?
- Who is efficient in managing risk cross Egyptian banks: Conventional banks, Islamic banks or Conventional with Islamic windows?

3.1 Research hypothesis

"Islamic banks and banks with Islamic windows are better than conventional banks in Egypt in terms of risk management tools and practices"

- Islamic banks and banks with Islamic windows are better in understanding risk and risk management (URRM) than conventional banks.
- Islamic banks and banks with Islamic windows are better in risk assessment and analysis than other banks conventional banks
- Islamic banks and banks with Islamic windows have more proper risk monitoring and controlling process than Conventional banks.
- Islamic banks and banks with Islamic windows in Egypt use better risk management tools and techniques.

4 Methodology

4.1 Data

An edited version of a questionnaire made by (Al-Mazrooei & Al Tamimi, 2007) and (Hassan, Risk management practices of Islamic banks of Brunei Darussalam, 2009).The questionnaire will cover the main variables of the risk management process such as risk identification (RI), understanding risk and risk management (URRM), Risk analysis and assessment (RAA) and risk monitoring and controlling (RMON). The questionnaire will be distributed among senior staff in senior banks. The questionnaire will include close ended questions.

4.2 Research design

4.2.1 Sample

There are 40 listed banks in Egypt including conventional, conventional banks with Islamic windows, international commercial and Islamic banks. The 40 Banks include only three fully fledged Islamic banks which are Abu Dhabi Islamic bank, Faisal Islamic Bank of Egypt and Al Baraka Bank of Egypt S.A.E. The Egyptian market also includes Banks with Islamic window count eight banks. The sample used for the questionnaire consists of 36 banks including Islamic banks, Islamic banks with Islamic windows and conventional banks. Thus, the questionnaire has covered 90% of banks in Egypt.

5 Data analysis

Statistical models have been used on both conventional banks and conventional banks with Islamic windows and Islamic Banks and will be compared based on statistical analysis. ANOVA and regression analysis has been used in order to test the mentioned hypothesis. The dependent variable of the multiple regression models will be the risk management practices (RMPs). The independent variables of the model will be Risk identification (RI), Risk assessment and analysis, Understanding risk and risk management (URM), Risk monitoring and controlling (RMON):

$$RMP = F (URM, RAA, RM) \quad (1)$$

5.1 Reliability of the measures

Cronbach's Alpha statistical test was conducted and a standardized questionnaire was used. Cronbach's alpha helps in measuring the reliability of the variables. It includes estimates of how much variation in scores of the different variables is attributed to random errors and this is according to Al-Tamimi and Al-Mazrooei (2007). According to (Nunnally, 1978), A coefficient greater than or equal to 0.7 is considered acceptable and is considered as good indication of reliability. The overall Cronbach's alpha for the 4 aspects used in the model is 0.768 Thus; it is reliable according to the general rule by (Nunnally, 1978). In terms of the Cronbach's alpha for the individual variables – understanding risk and risk management(URM); Risk assessment and analysis (RAA); risk monitoring (RM); risk management practices (RMPs) – is 0.702, 0.798, 0.711, 0.732 respectively. Table 3 scores show that all the aspects and variables are reliable.

Table 2. List of banks included to the sample

Conventional Banks	*Islamic Banks & Banks with Islamic window*
Bank of Alexandria and San Polo	Al Baraka Bank
Suez Canal Bank	Faisal Islamic Bank
Credit Agricole Bank	Abu Dhabi Islamic Bank
Commercail International Bank	Qatari National Bank
Bloom Bank	National Bank of Kuwait
Piraeus Bank	Societe Arabe International De Banque (SAIB)
Emirates NBD	Banque Misr
HSBC	Audi Bank
Banque Du Caire	Al Ahli united Bank
Union National Bank	Egyptian Gulf Bank
Arab African International Bank	National Bank of Egypt
Egyptian and Arab Land Bank	
Arab International Bank	
United Bank	
Arab Bank Corporation	
Egyptian and Arab Land Bank	
Barclays Bank	
CITI Bank	
Misr Iran Development Bank	
Arab Investment Bank	
Industrial Development and workers Bank	
Housing and Development Bank	
Principal Bank for development and agricultural credit	
African Import and Export Bank	
Export Development Bank of Egypt	

Table 3. Cronbach's Alpha for various Risk Management Aspects

Risk Management Aspects	*Cronbach's Alpha*
Understanding	0.702
Assessment	0.798
Monitoring	0.711
Practices	0 .732

5.2 Regression analysis for conventional banks

A multiple regression model was used to identify and assess the factors that affect risk management practices (RMPs); having the RMPs as a dependent variable and the URM, RAA, RM as independent variables. After conducting a multicollinearity test it was found that the risk identification (RI) variable is highly correlated with the other variables and should be removed from the model.

$$RMP = f(URM, RAA, RM) \quad (2)$$

Where RMP – Risk management practices
URM – Understanding risk and risk management
RAA – Risk analysis and assessment
RM – Risk Monitoring

Table 4 shows the correlations between the independent variables. The "rule of thumb" test suggested by Anderson et al. (1990) asserts that the correlation coefficient preferably should not exceed (0.7). The table shows also the examination of the correlation results showing no problems in the multicollinearity between the independent variables.

Table 5 shows the R^2 of the model which is 0.841. That means that the 3 independent variables explain 84% of the variations in the risk management practices and the model succeeded to explain the relation between the dependent and the independent variables by 84%.

Table 6 shows that the model has 0.021 as significance level meaning that the model is significant as it is less than 0.05. Also the sum square of error was found to be 32.102, which is quite low.

Table 7 shows the level of significance of the independent variables were significant as all of them are less than 0.05.

5.2.1 The regression model

$$Y = 3.030 + 0.947X_1 + 1.194X_2 + 1.491X_3 \quad (3)$$

Where B_0= 3.030 the estimated score on the risk management practices when no factors are influencing the RMPs.

B_1= .947 when understanding risk and risk management increase by 1 unit, the score of the risk management practices will increase by 0.947; this indicates that there is a positive relation between URRM and RMPs showing that banks with high risk and risk management understanding have more accurate risk management practices which seems logical. The significance level is 0.043 which is less than 0.05 indicating that the variable is significant.

B_2= 1.194 when the risk assessment increase by 1 unit, the score of the risk management practices will increase by 1.194 which also indicates that there is positive relation between risk assessment and risk management practices. Thus, banks with high level of risk assessment and analysis have high level of risk management practices. The variable has a significance level of 0.04 which is less than 0.05

B_3= 1.491 when the risk monitoring increase by 1 unit, the score of the risk management practices will increase by 1.491 showing a positive relation between risk monitoring and risk management practices. Thus, banks with high performance in risk monitoring have high performance in risk management practices. The variable has significance level of 0.008, which is highly significant as it is less than 0.05

Table 4. The correlations between the independent variables

		Practices	***Understanding***	***Assessment***	***Monitoring***
Pearson Correlation	Practices	1.000	.327	.127	.720
	Understanding	.327	1.000	.711	.172
	Assessment	.127	.711	1.000	.358
	Monitoring	.720	.172	.358	1.000
Sig. (1-tailed)	Practices	.	.195	.372	.012
	Understanding	.195	.	.007	.329
	Assessment	.372	.007	.	.172
	Monitoring	.012	.329	.172	.
N	Practices	9	9	9	9
	Understanding	9	9	9	9
	Assessment	9	9	9	9
	Monitoring	9	9	9	9

Table 5. Model summary

Model	***R***	***R^2***	***Adjusted R Square***	***Std. Error of the Estimate***
1	0.920[a]	0.841	0.767	2.11109

Table 6. ANOVA[b]

Model	***Sum of Squares***	***df***	***Mean Square***	***F***	***Sig.***
Regression	155.888	3	51.963	7.616	.021[a]
Residual	32.102	5	6.822		
Total	190.000	8			

Table 7. Coefficients[a]

Model	***Unstandardized Coefficients***		***Standardized Coefficients***	***t***	***Sig.***
	B	***Std. Error***	***Beta***		
(Constant)	3.030	10.171		0.298	0.778
Understanding	0.947	0.353	0.829	2.687	0.043
Assessment	1.194	0.463	-0.840	-2.580	0.049
Monitoring	1.491	0.345	0.893	4.325	0.008

5.2.2 Conclusion

There is a positive relation between the dependent variable which is the RMPs and all the independent variables. This can lead us that banks that set strategies that make them have a strong risk understanding, risk assessment and analysis; risk monitoring and controlling will lead them to applying accurate and strong risk management practices. These findings are similar to other studies like the studies done by Al-Tamimi and Al-Mazrooei (2007) in UAE and Hassan (2009) in Brunei Darussalam.

6.3 Regression analysis for Islamic banks and banks with Islamic windows

Table 8 shows the examination of the correlation results showing no problems in the multicollinearity between the independent variables.

Table 8. Correlations

		RMPs	*Understanding risk management*	*Risk monitoring*	*Risk Assessment*
Pearson Correlation	RMPs	1.000	.314	.171	.643
	Understanding risk management	.314	1.000	.177	-.408
	Risk Monitoring	.171	.177	1.000	-.301
	Risk Assessment	.643	-.408	-.301	1.000
Sig. (1-tailed)	RMPs	.	.225	.342	.043
	Understanding risk management	.225	.	.338	.158
	Risk Monitoring	.342	.338	.	.234
	Risk Assessment	.043	.158	.234	.
N	RMPs	8	8	8	8
	Understanding risk management	8	8	8	8
	Risk Monitoring	8	8	8	8
	Risk Assessment	8	8	8	8

Table 9 shows the R^2 of the model which is 0.931. That means that the 3 independent variables succeeded in explaining 93% of the variations in the risk management practices as it shows that the model succeeded by 93% to explain the relation between the dependent and the independent variables.

Table 9. Model Summary

Model	*R*	*R^2*	*Adjusted R^2*	*Std. Error of the Estimate*
1	.965[a]	.931	.879	1.330

Table 10 shows that the model has a significance level of 0.009; meaning that the model is highly significant as it is less than 0.05. Also the sum square of error was found to be 7.081, which is quite low.

Table 10. ANOVA[b]

Model	*Sum of Squares*	*df*	*Mean Square*	*F*	*Sig.*
Regression	94.919	3	31.640	17.874	.009[a]
Residual	7.081	4	1.770		
Total	102.000	7			

Table 11 shows the level of significance of the independent variables as the table shows that all the variables were significant as all of them are less than 0.05.

Table 11. Coefficients[a]

Model	*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
	B	*Std. Error*	*Beta*		
(Constant)	45.208	13.585		3.328	.029
Understanding risk management	.750	.162	.668	4.620	.010
Risk Monitoring	1.055	.404	.362	2.615	.059
Risk Assessment	1.660	.242	1.025	6.866	.002

5.3.1 The regression model

$$Y = 45.2 + 0.757X_1 + 1.055X_2 + 1.660X_3 \quad (4)$$

B_0= 45.2 the estimated score on the risk management practices when no factors are influencing the RMPs.

B_1= .757 when understanding risk and risk management increase by 1 unit, the score of the risk management practices will increase by .947; this indicates that there is a positive relation between URRM and RMPs showing that Islamic banks with high risk and risk management understanding have more accurate risk management practices which seems

logical. The significance level is 0.01 which is less than 0.05 indicating that the variable is significant.

B_2= 1.055 when the risk monitoring increase by 1 unit, the score of the risk management practices will increase by 1.055 which also indicates that there is positive relation between risk monitoring and risk management practices. Thus, banks with high level of risk monitoring that keep tracking the risks have high level of risk management practices. The variable has a significance level of 0.05

B_3= 1.660 when the risk assessment and analysis increase by 1 unit, the score of the risk management practices will increase by 1.660 showing a positive relation between risk assessment and risk management practices. Thus, banks with high performance in risk assessment have high performance in risk management practices. The variable has significance level of 0.002, which is highly significant as it is less than 0.05

5.3.2 Conclusion

There is a positive relation between the dependent variable which is the RMPs and all the independent variables in both conventional and Islamic Banks. It also shows that banks with high risk understanding, risk assessment and analysis and risk monitoring have apply appropriate risk management practices and the analysis proved the positive relation in both banks with their different mechanisms and their own style of operations.

5.4 Descriptive analysis

5.4.1 Understanding risk and risk management

Table 12. Descriptive statistics for conventional banks

Questions	*Mean*	*Std. Deviation*
There's a common understanding of risk management across the bank.	4.11	0.782
Responsibility of risk and risk management is clearly set and understood throughout the bank.	3.78	1.302
Accountability for risk management is clearly set out and understood throughout the bank.	4	0.707
Managing risk is important to the performance and success of the bank.	4.44	0.527
It is crucial to apply the most sophisticated techniques in risk management.	4.11	0.928
The bank's objective is to expand the applications of advance and sophisticated risk management techniques.	4.44	0.726
It is important for your bank to emphasize on the continuous review and evaluation of the techniques used in risk management.	4.22	0.833
Applications of risk management techniques reduce costs or expected losses.	4.67	0.5
Average	4.22125	0.788125

Table 12 shows that the mean of responses on the eight questions about understanding risk and risk management is 4.221. All of the respondents answered the eight questions showing that there is a clear understanding of risk and risk management in the conventional banks in Egypt. The table also shows that there is no big difference between the highest and the lowest mean of the questions. The highest mean 4.67 was for question 8 as respondents showed the importance of the idea that applications of risk and risk management techniques reduce costs and expected losses and that it matters for banks to cut down their cost and minimize their losses. While on the other hand, the lowest mean was (3.78) and it went for question 2 which was reflects that there are some sort of problems when it comes to responsibility of risk and risk management to be widely understood throughout conventional banks in Egypt.

Table 13. Descriptive statistics for Islamic banks

Questions	*Mean*	*Std. Deviation*
There's a common understanding of risk management across the bank.	3.5714	0.7868
Responsibility of risk and risk management is clearly set and understood throughout the bank.	3.5714	0.9759
Accountability for risk management is clearly set out and understood throughout the bank.	3.2857	0.95119
Managing risk is important to the performance and success of the bank.	4.5714	0.53452
It is crucial to apply the most sophisticated techniques in risk management.	3.7143	0.95119
The bank's objective is to expand the applications of advance and sophisticated risk management techniques.	3.8571	0.69007
It is important for your bank to emphasize on the continuous review and evaluation of the techniques used in risk management.	4.2857	0.48795
Applications of risk management techniques reduce costs or expected losses.	3.5714	1.39728
Average	3.80355	0.8468625

For Islamic banks and banks with Islamic windows, it was found that the average mean of the eight questions is 3.80355 which is less than the average score for conventional banks by 9%. Islamic banks in Egypt got the highest mean in question 4 which means that Islamic banks in Egypt see that it is important to manage the risks in order to perform well. The lowest mean of 3.2 went to question 3 which asks about the accountability for risk management. It shows that Islamic banks in Egypt are facing some problems in the accountability of risk management among banks, hence; they should set proper criteria regarding accountability. These findings moved in the same direction of other studies of Al-Tamimi and Al-Mazrooei (2007); Rosman (2009); Hassan (2009) in Brunei Darussalam; Al-Ajmi and Hussein (2011) in Bahrain.

5.4.2 Risk assessment and analysis

Table 14. Descriptive statistics for conventional banks

Questions	*Mean*	*Std. Deviation*
The bank assesses the likelihood of occurring risks.	4.21	0.782
The bank's risks are assessed by using quantitative analysis methods.	3.78	0.833
The bank's risks are assessed by using qualitative analysis methods (High - Medium - Low)	4.22	0.833
The bank's response to analysed risks includes an assessment of the costs and benefits of addressing risks.	4.10	0.601
The bank's response to analysed risks includes prioritizing of risks and selecting those that need active management.	4.11	0.782
Your bank's response to analysed risks includes prioritizing risks treatments where there are resource constraints on risk treatment implementation.	4.33	0.707
Average	4.11	0.756333333

In terms of risk assessment and analysis in conventional banks in Egypt, it was found that the average mean for the 6 questions that assess the risk assessment is 4.11 which is a high score. That indicates that conventional banks in Egypt do have proper risk assessment and analysis as they got a positive answer. Question 6 got the highest mean of 4.33 indicating that it is important to prioritize risks treatments as there are resource constraints regarding the risk implementation. While question 4 got the lowest mean of 4.1 indicating that banks consider the cost and the benefits of risks during the assessment phase. It can also be seen that the discrepancies between the means of the 6 questions are not big. Indicating that respondents viewed fairly equally the questions of risk assessment, such as the analysis of the likelihood of risks, the use of quantitative analysis methods, the use of qualitative analysis methods, the assessment of the costs and benefits of addressing risks, and the prioritizing of risks.

Table 15. Descriptive statistics for Islamic banks

Questions	*Mean*	*Std. Deviation*
The bank assesses the likelihood of occurring risks.	4	0
The bank's risks are assessed by using quantitative analysis methods.	4.1429	0.37796
The bank's risks are assessed by using qualitative analysis methods (High - Medium - Low)	3.7143	0.48795
The bank's response to analysed risks includes an assessment of the costs and benefits of addressing risks.	3.7143	0.48795
The bank's response to analysed risks includes prioritizing of risks and selecting those that need active management.	3.5714	0.9759
Your bank's response to analysed risks includes prioritizing risks treatments where there are resource constraints on risk treatment implementation.	4	0.57735
Average	3.85715	0.484518333

For Islamic banks and banks with Islamic windows, the average mean of the 6 questions is 3.857 which is less than the average mean of conventional banks by 6% indicating that conventional banks in Egypt are more efficient in risk assessment and analysis. The highest mean for Islamic banks was for questions 1 and 2 which show that they care about assessing the likelihood of occurring risks and prioritizing their risks.

5.4.3 Risk monitoring

Table 16. Descriptive statistics for conventional banks

Questions	*Mean*	*Std. Deviation*
Monitoring the effectiveness of risk management is an integral part of routine management reporting.	4.22	0.667
The level of internal and external control by the bank is appropriate for the risks that it faces.	4.22	0.833
Reporting and communication processes within the bank support the effective management of risk.	4.67	0.5
The bank's response to risk includes an evaluation of the effectiveness of the existing controls and risk management responses.	4.22	0.833
The bank's response to risk includes action plans for implementing decisions about identified risks.	4	0.707
The bank's response to risk includes an assessment of the costs and benefits of addressing risks.	4.22	0.667
Average	4.258333	0.701166667

When it comes to risk monitoring and controlling, conventional banks in Egypt got an average mean of 4.26 for the 6 questions that measures the variable. That indicates that conventional banks in Egypt are efficient in risk monitoring and controlling. Question three got the highest mean of 4.67, meaning that they are keen on having strong reporting and communication flow that supports effective risk management. Questions one, two, four and six got same mean of 4.22 indicating that the respondents viewed fairly equally the questions of risk monitoring.

Table 17. Descriptive statistics for Islamic banks

Questions	*Mean*	*Std. Deviation*
Monitoring the effectiveness of risk management is an integral part of routine management reporting.	3.8571	0.37796
The level of internal and external control by the bank is appropriate for the risks that it faces.	3.5714	0.7868
Reporting and communication processes within the bank support the effective management of risk.	3.8571	0.37796
The bank's response to risk includes an evaluation of the effectiveness of the existing controls and risk management responses.	4	0.57735
The bank's response to risk includes action plans for implementing decisions about identified risks.	3.5714	0.53452
The bank's response to risk includes an assessment of the costs and benefits of addressing risks.	3.5714	0.53452
Average	3.738067	0.531518333

When comparing to Islamic banks, it was found that Islamic banks got an average mean of 3.7 for the six questions which is less than the average mean of conventional banks with 13%, showing that conventional banks in Egypt have more efficient risk monitoring and controlling.

5.4.4 Risk management practices

In terms of risk management practices in conventional banks in Egypt, the respondent's answers got an average mean of 4.366 showing that conventional banks seem to be applying suitable risk management practices. While on the other hand, Islamic banks got an average mean of 3.8 which is less than conventional banks by 13%. That indicates that conventional banks are applying better risk management practices.

Table 18. Descriptive statistics for conventional banks

Questions	*Mean*	*Std. Deviation*
The bank's executive management regularly reviews the organization's performance in managing its business risks.	4.56	0.527
The bank has highly effective continuous feedback on risk management strategies and performance.	4.33	0.707
The bank's risk management procedures and processes are documented and provide guidance to staff about managing risks.	4.56	0.726
The bank's policy encourages training programs in the area of risk management.	4.33	0.707
This bank emphasizes the recruitment of highly qualified people in risk management.	4.22	0.972
Efficient risk management is one of the bank's objectives.	4.44	0.726
It is too dangerous to concentrate bank's funds in one specific sector of the economy.	4.44	0.726
The application of Basel capital accord by the bank would improve the efficiency of risk management.	4.56	0.527
Bank's capital is adequate if the ratio of capital to total risk-weighted assets is equal to 8 percent.	4.11	1.616
Overall, I consider the level of risk management practices of this bank to be excellent.	4.11	0.601
Average	4.366	0.7835

Table 19. Descriptive statistics for Islamic banks

Questions	*Mean*	*Std. Deviation*
The bank's executive management regularly reviews the organization's performance in managing its business risks.	4.2857	0.48795
The bank has highly effective continuous feedback on risk management strategies and performance.	3.2857	0.95119
The bank's risk management procedures and processes are documented and provide guidance to staff about managing risks.	4.1429	0.69007
The bank's policy encourages training programs in the area of risk management.	3.2857	1.1127
This bank emphasizes the recruitment of highly qualified people in risk management.	3.1429	0.69007
Efficient risk management is one of the bank's objectives.	3.8571	0.89974
It is too dangerous to concentrate bank's funds in one specific sector of the economy.	4.4286	0.53452
The application of Basel capital accord by the bank would improve the efficiency of risk management.	4.2857	0.75593
Bank's capital is adequate if the ratio of capital to total risk-weighted assets is equal to 8 percent.	3.6667	1.21106
Overall, I consider the level of risk management practices of this bank to be excellent.	3.7143	0.75593
Average	3.80953	0.808916

5.4.5 Conclusion

Conventional banks in Egypt has achieved higher scores than Islamic banks and banks with Islamic windows in all the variables that was tested – understanding risk and risk management; risk assessment and analysis; risk monitoring and controlling; risk management practices – indicating that Conventional banks in Egypt are more stable in terms of risk management and have a better performance than Islamic banks and banks with Islamic windows. Hence, the findings contradict the mentioned hypothesis:

H11: Islamic banks and conventional banks with Islamic windows In Egypt is better in understanding risk and risk management (URRM).

H12: Islamic banks and conventional banks with Islamic windows in Egypt are better in risk assessment and analysis than conventional banks.

H13: Islamic banks and banks with Islamic windows in Egypt have more proper risk monitoring and controlling process than Conventional banks.

H14: Islamic banks and banks with Islamic windows in Egypt use better risk management tools and techniques.

These findings are matching the findings of the studies done by Al-Tamimi and Al-Mazrooei (2007); Rosman (2009); Hassan (2009) in Brunei Darussalam; Al-Ajmi and Hussein (2011) in Bahrain.

5.5 Risks faced by Islamic and conventional banks

Banks faces several types of risks and it depends on the asset portfolio of the bank and the way they conduct their business line. In order to identify the types of risks faced by Islamic, banks with Islamic windows and conventional banks, respondents were asked to state their perception of the level of the importance of 13 different types of risks on a scale that ranges from 1 to 6.

Table 20. Descriptive statistics for Islamic banks

	Minimum	*Maximum*	*Mean*	*Std. Deviation*
Foreign exchange risk	3	6	4	0.8165
credit risk	3	6	4.5	0.57735
operating risk	3	6	3.7143	0.75593
liquidity risk	3	6	4	0.57735
legal risk	3	6	4.2857	0.75593
solvency risk	3	6	3.7143	0.95119
interest rate risk	3	6	4	0.8165
market risk	3	6	4.1429	0.69007
reputation risk	3	6	3.5714	0.7868
strategic risk	2	3	2.7143	0.48795
inventory risk	1	3	2.1429	0.89974
shariaa noncompliance risk	1	6	2.8571	1.46385
other	0	6	1.5714	2.0702
Average			3.439561538	0.896104615

Starting with Islamic banks, when conducted the descriptive statistics, it was found that Islamic banks and banks with Islamic windows are highly credit risk. They also face foreign exchange risk, liquidity risk and market risk. That was based on the questionnaire which was distributed to the risk and credit managers. It can be also seen that inventory and other risks got the lowest mean among all risks mentioned in the questionnaire. A study done by (Al-Wesabi & Ahmad, 2013) in Malaysia showed that Islamic banks are highly facing credit risk and the income is negatively related to the bank's income. It also mentioned that the bank's leverage and liquidity are relevant variables that affect the credit risk. Also credit risk is highly relevant to macro variables. And this can be witnessed as Egypt has unstable macro variables in the past four years. According to (Hussain & Al-Ajmi, 2012)This type of risk has long been identified and considered as the dominant risk for banking firms and is an inherent part of their core lending business. Credit extended to customers and customers' deposits generally represents the most significant asset and liability classes on a bank's balance sheet. It can be seen in the table that liquidity risk is ranked as the second most important risk faced by Islamic banks and banks with Islamic windows and it matches the findings of the study done by (Hussain & Al-Ajmi, 2012). However, a study done by Al-Tamimi and Al-Mazrooei (2007) in UAE has ranked liquidity risk as the fourth important risk. However, the difference in the ranking is probably due to the different periods of collecting the data.

Moving to conventional banks, the table below shows the rankings of the different risks faced by conventional banks. It can be seen that credit risk got the highest mean for conventional banks. And liquidity got the second place among the most important risks. It can be seen that the results does not differ between Islamic and banks with Islamic windows and conventional banks. A study done by (Hussain & Al-Ajmi, 2012) also found that there are no differences between the means of risks faced by Islamic and banks with Islamic windows and conventional banks. The ranking of liquidity risk also is different from other studies like the ones done by Al-Tamimi and Al-Mazrooei (2007) and Hassan (2009) as found that liquidity risk took the fourth place among the thirteen risks in the questionnaire. The reason behind the differences in the findings regarding the liquidity risk is the different timing of the data collection. As Al-Tamimi's study was conducted in 2007 which was a year behind the financial crisis that took place in 2008. Also the study done by Hassan (2009) was conducted in 2009 which means that the economies did not recover from the financial crisis yet.

Table 21. Descriptive statistics for conventional banks

	Minimum	*Maximum*	*Mean*
Foreign exchange risk	3	6	4.1
credit risk	3	6	4.5
operating risk	3	6	3.7143
liquidity risk	3	6	4.4
legal risk	3	6	4.2857
solvency risk	3	6	3.7143
interest rate risk	3	6	4.2
market risk	3	6	4.1429
reputation risk	3	6	3.5714
strategic risk	2	3	2.7143
inventory risk	1	3	2.1429
shariaa noncompliance risk	1	6	2.8571
other	0	6	1.5714
Average			3.531869231

5.5.1 Conclusion

Regression analysis was conducted in order to examine the relation between the variables: understanding risk and risk management (URM); risk assessment and analysis (RAA); risk monitoring (RM) and risk management practices (RMP) in Islamic, banks with Islamic windows and conventional banks. It was found that there is positive relation between the all independent variables and the risk management practices in Islamic and conventional banks. Hence, banks that have strong performance in understanding risk management, risk analysis and assessment and risk monitoring will be having accurate and strong risk management practices. These findings were supported by several studies in different countries such as the studies done by AL-Tamimi and Al-Mazrooei (2007) in United Arab Emirates (UAE); Hassan (2009) in Brunei Darussalam; Rosman (2009); Al-Ajmi and Hussein (2011) in Bahrain and Amjad and khalid (2012) in Pakistan.

Descriptive analysis was done, it was found that conventional banks has achieved higher means among all the variables - understanding risk and risk management; risk assessment and analysis; risk monitoring; risk management practices -. Hence, conventional banks in Egypt do have better risk management process and based on that, the research hypothesis were rejected as it all claimed that Islamic banks and banks with Islamic windows are better than conventional banks in applying risk management in Egypt. These findings were supported by other studies that was done by Hassan (2009); (2007) in UAE; Rosman (2009). The descriptive statistics analysis also showed that both Islamic, banks with Islamic windows and conventional banks suffer mostly from credit risk as it got the highest mean among all risks mentioned in the questionnaire. They also got the same rankings regarding liquidity risk coming in the second place. However, a study done by (Hussain & Al-Ajmi, 2012) also found that there are no differences between the means of risks faced by Islamic, banks with Islamic windows and conventional banks. The ranking of liquidity risk also is different from other studies like the ones done by Al-Tamimi and Al-Mazrooei (2007) and Hassan (2009) as found that liquidity risk took the fourth place among the thirteen risks in the questionnaire. The reason behind the differences in the findings regarding the liquidity risk is the different timing of the data collection.

6 Further research suggestions

Credit risk can be examined in future studies at it's the most challenging risk that is faced by banks in Egypt. The study did not also examine in detail the liquidity risk management. It can be also be examined in future studies as it represents the second most challenging risk faced by banks in Egypt. Future studies can also address the role of the board of directors (BOD) in enhancing risk management practices.

References

1. Ainley, M., Mashayekhi, A., Hicks, R., Arshadur, R, A. &Ravalia, A. (2007). Islamic Finance in the UK: Regulation and Challenges. London: Financial Services Authority
2. Akkizidis, I. & Kumar, K.S. (2008). Financial Risk Management for Islamic Banking and Finance, Palgrave Macmillan: London
3. Al-Ajmi J. &Hameeda, A.H. (2012).Risk Management practices of conventional and Islamic banks in Bahrain. The Journal of Risk Finance
4. Al-Tamimi, H. & Al-Mazrooei, M. (2007). Banks' risk management: a comparison study of UAE national and foreign banks.
5. Al-Tiby, M, A.(2011). Islamic Banking: How to Manage Risk AndImpove Profitability. Wiley Finance: USA
6. Apostolik, R., Donohue, C., & Went, P. (2009). Foundations of Banking Risk: An Overview of Banking, Banking Risks, and Risk-Based Banking Regulation. 1st edirion. Wiley Finance: London
7. Bank for International Settlements and Financial Stability Board.(2009). Risk Management Lessons

from the Global Banking Crisis of 2008. Bank for International Settlements: Basel.
8. Akhtar, M. F., Ali, K., &Sadaqat, S. (2011). Liquidity Risk Management: A comparative study between Conventional and Islamic Banks of Pakistan. *Interdisciplinary Journal of Research in Business*.
9. Al-Wesabi, H. A., & Ahmad, N. H. (2013).Credit risk of Islamic banks in GCC countries. *International Journal of Banking and Finance*.
10. ELGARI, M. A. (2003). Credit Risk in Islamic Banking and Finance..Islamic Economic Studies.
11. El -Qorashi, M. (2005). Islamic Finance Gears Up, *Finance and Development Quartley*, 42, 1-11.
12. Ernst & Young (2012). World Islamic Banking Competitiveness Report (2012-2013). Growing Beyond DNA of the Successful Transformation.
13. Echchabi, A. (2014). Risk management tools practiced in Islamic banks: evidence in MENA region. *Journal of Islamic Accounting and* Finance.
14. Hussain, H. A., & Al-Ajmi, J. (2012). Risk management practices of conventional and islamic banks in Bahrain.
15. Hasan, M. &Dridi, J. (2011). The effects of the global crisis on Islamic and conventional banks: a comparative study. Journal of international commerce, economics and policy.
16. Hassan, A. (2009). Risk management practices of Islamic banks of Brunei Darussalam. The journal of Risk Finance 10 (1) pp. 23-37. Retrieved from Emerald Database.
17. Hassan, M., &Dridi, J. (2010). Islamic banks were more resilientthan conventional banks during theglobal financial crisis. *Finance and development.*
18. Hussain, H. A., & Al-Ajmi, J. (2012). Risk management practices of conventional and Islamic banks in Bahrain. *The Journal of Risk Finance*.
19. Ikha, S. & Abdullah, N. (2011).A comparative study of financial performance of Islamic banks and Conventional Banks in Indonesia.International Journal of Business and Social Science.
20. Khaled, S., & Amjad, S. (2012). Risk management practices in Islamic banks in Pakistan.
21. khan, T., & Ahmed, H. (2001). *An analysis of issues in islamic financial industry.* Jeddah - Saudi Arabia.
22. Mokni, R. B., Echchabi, A., Azouzi, D., & Rachdi, H. (2012). Risk management tools practiced in Islamic banks: evidence in MENA region.
23. Khalid, S., &Amjad, S. (2012). Risk management practices in Islamic banks of Pakistan. *The Journal of Risk Finance*.
24. Masood, O., & Al Suwaidi, H. (2012). Credit risk management: a case differentiating Islamic and non-Islamic banks in UAE. *Qualitative Research in Financial*.
25. Tafri, F. H., Abdul Rahman , R., & Omar, N. (2011). Empirical evidence on the risk management tools practised in Islamic and conventional banks. *Qualitative Research in Financial*.