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Comparative Analysis of Risk Management Practices of Commercial Banks in Afghanistan

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Abstract. The main objective of the study was to compare the risk management practices of public and private banks and rank different types of risks faced by public and private banks in Afghanistan banking sector. The study empirically tested the level of efficient risk management practices in the banking sector of Afghanistan. A representative sample of 110 individuals was used from both public and private banks. The analysis was based on correlation, regression analysis, and t-statistics. The findings suggest that private banks are more efficient than public banks in terms of risk assessment and analysis, risk monitoring, and credit risk management. Furthermore, RAA, RMON, and CRA are the significant determinants of RMPS. Overall, there is no significant difference in the risk management practices of public and private banks. The study found credit risk, country risk, and liquidity risks as the major risks for the banking sector in Afghanistan. Financial statement analysis, audit and physical staff, and value at risk analysis are the three top instruments respectively for the assessment of risk. This study is the first attempt to understand and analyze the risk management practices of the banking sector of Afghanistan, the results of which will assist various stakeholders of the banking industry in their decision-making process.

Key words: Risk management practices, risk identification, risk monitoring, risk assessment, Da Afghanistan Bank (DAB), Credit risk, Liquidity risk.

1 Introduction

In todays financial markets, especially the banking sector, nothing is persistent but risk. Shafiq and Nasr (2010) defined risk as anything that can create hindrances in the way of achievement of certain objectives. A particular situation decides on the type of risk which may be caused due to internal or external sources. Banks are exposed to several risks ranging from simple operational risks to sophisticated market and credit risks. With such exposure to diverse risks, the core operations of banks should be to manage such risks. That is why effective risk management is more important in the financial industry compare to any other major industry (Carey and Hrycay, 2001). There have been some recent banking failures due to poor management of risks like Fayette County Bank (2017), The Bank of Georgia (2015), Kabul Bank (2010), Colonial

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bank (2009), and Washington Mutual (2008). Such failures put a question mark on the performance of risk management practices in the banking sector. To assure the reliability and quality of operations and processes, the Basel Committee has been working since 1988. For standardized banking supervision, Basel Committee has given Basel I (1988), Basel II (2004), and Basel III accord (2010).

Effective and efficient risk management practices are considered the basis of the banking sector (Hussain and Al-Ajmi, 2012). Sensarma and Jayadev (2009) found risk management practices as a factor affecting banks stock returns. Risk management practices create value for banks and thats why it should be given considerable focus in the integral processes of banks. The survival of banks is dependent on banks risk exposure management (Fadel and Al-Ajmi, na). To mitigate the possibility of future losses it is a must for banks to use contemporary risk management practices (Khalil et al., 2015) and the banking sector of Afghanistan is no exception. A total of 14 commercial banks operate in Afghanistan (Da Afghanistan Bank - Central Bank of Afghanistan). Out of these 14 banks, 3 banks are state-owned, 3 are foreign banks branches, and 8 are private banks. Regulation and supervision of these banks are conducted by the central bank of Afghanistan, Da Afghanistan Bank (DAB). After the Kabul bank scandal in 2010, the DAB took a series of steps to improve its regulations and supervision and Basel II was implemented to standardize banking practices across the country. The central bank of Afghanistan is still facing challenges in the full implementation of Basel II. Some major challenges for financial markets include lack of human capacity, implementation of risk management guidelines, security situation, growth of informal financial markets, lack of government support, lack of anti-money laundering mechanism, and over the counter illegal transactions (Khan et al., 2018). These obstacles limit the financial growth of the banking sector of Afghanistan. To improve the financial performance banks must understand and analyze their risk exposure. Such an understanding and assessment of risk exposure is possible with the proper application of risk management practices.

In continuation of risk management literature, this study explores the current practices of risk management in the banking sector of Afghanistan. The study compares the risk management practices of public and private banks and ranks different types of risks faced by public and private banks. The research study empirically tested the level of efficient risk management practices in the banking sector of Afghanistan. The contribution of the study (significance) is that it adds to the literature of risk management in Afghanistan and reduce the gap as risk management in the banking industry is also context-dependent. Furthermore, it also provides useful insights about risk management which can be used by academicians and practitioners. The findings are particularly useful for the management of banking sector organizations in assessing and managing risk management in the Afghanistan context.

2 Literature Review

This section of the study discusses the brief review of relevant literature to the area of risk management. Empirical studies related to risk management practices are comparatively infrequent (Fatemi and Fooladi, 2006). Shafique et al. (2013) defined risk as inconsistency of returns related to a specific asset. Meulbroek (2002); Smithson and Simkins (2005); Tufano (1998) believe that risk management organization, through mitigating volatility of cash flow, financial distress losses, and the tax burden, can create value for financial institutions. Risk management is a systematic and methodic process (Ojasalo, 2009). ISO-IEC (2002) considers that risk management

practices (RMPs) are very important for the strategic management of the organization. RMPs should be integrated into the core operations of financial institutions to achieve their goals. Such integration should be a continuous process where proper monitoring and control is ensured.

Hahm (2004) investigated the exchange rate and interest rate exposure of Korean banks before the Asian economic crisis of 1997. He found out that commercial banks performance is related to pre-crisis risk exposure. According to Hahm (2004), it is important to improve the regulation, supervision, and risk management practices of banks for safeguarding effective financial liberation. Berg (2010) studied the major factors affecting price fluctuations in the 2007-08 financial crises and found credit risk and market risk as the causes affecting price fluctuations. Al-Tamimi (2002) studied the commercial banks in the UAE. The objective of the study was to find out the degree to which commercial banks use RMPs. The study reported that the main risk faced by these banks was credit risk while the main method of risk identification was bank managers inspections and analysis of financial statements. Al-Tamimi and Al-Mazrooei (2007) compared the risk management practices of national and foreign banks in the UAE. The study found that these commercial banks face three major types of risks including foreign exchange rate risk, credit risk, and then operational risk. These banks are found to be efficient in risk management practices. These two studies suggest that over time the nature and types of risks faced by commercial banks changed. With the evolving nature and types of risks, the risk management practices evolved as well. Shafique et al. (2013) analyzed the comparative risk management practices of conventional and Islamic financial institutions. The study found that overall RMPs are not different in both conventional and Islamic financial institutions of Pakistan. The result is in line with the findings of Hussain and Al-Ajmi (2012). The study further concluded that credit risk, equity investment risk, market risk, liquidity risk, rate of return risk and operational risk management practices in Islamic financial institutions are not different from the practices in conventional financial institutions.

3 Research Methodology

3.1 Data Collection Instrument

The study used the questionnaire used by Hussain and Al-Ajmi (2012), which is the modified version of the questionnaire developed by Al-Tamimi and Al-Mazrooei (2007) and Hassan (2009). The questionnaire consists of three major parts. The first part is about the demographics of the respondents and the banks in which they work. The second part is about the six dimensions of risk management including understanding risk and risk management (URRM), risk identification (RI), risk assessment and analysis (RAA), risk monitoring (RMON), risk management practices (RMPs), and credit risk analysis (CRA). There is a total of 51 statements collectively for six dimensions of risk management. Out of these 51 statements, eleven statements are related to URRM, 5 to RI, 7 questions to RAA, 5 questions to RMON, 15 questions to RMPs, and 8 questions are related to CRA. For these statements, a seven-points Likert scale has been used to find the respondents level of agreement. The third part asks two close ended questions; first question is about ranking risks faced by banks while second question is to find risk identification methods. First question is based on ordinal scale while the second is a binary scaled question. Responses from this section are classified into two portions i.e. private and public banks.

3.2 Sampling and Data Collection

The Islamic Republic of Afghanistan has a total of 14 commercial banks, of which 3 are public while the rest are privately owned banks (Banks - Da Afghanistan Bank - Central Bank of Afghanistan, n.d.). Out of the privately owned banks, 3 are foreign banks. The study sample targeted all these 14 commercial banks operating in Kabul city only. The questionnaires are handed over to banks staff as the sample is not restricted to specialists from the risk management department. In todays complex and sophisticated banking industry, it is not the job of the risk specialists only but every staff member of the bank needs to understand the nature of risks faced, banks risk appetite, and risk management systems of banks (KPGM International, 2009).

A total of 125 questionnaires were distributed through personal visits in the risk department of these banks, out of which only 110 questionnaires were received with no missing data. The response rate for the complete questionnaire is 88%. Considering the higher response rate, the study analyzed the evidence of non-response biases by finding the difference between early 30 and late 30 respondents. The analysis found out that there is no significant difference in answers to questions between the early 30 and late 30 respondents.

4 Results

4.1 Demographic Analysis

The demographic characteristics of the respondents are shown in the following Table 4.1.

A total of 110 respondents participated through a survey questionnaire, out of which 74.5% are male and the rest 25.5% are female. According to World Bank data on female labor force percentage, out of the total labor force of Afghanistan, is only 17.4% for the year 2018. Our study made sure to take on female respondents above 17.4%. The respondents include all three levels of management, where middle management has a higher representation of 55.5%. Table 4.1 shows 56.4% of respondents are from public banks while 43.6% are private banks employees. It can also be seen that the majority of our respondents are undergraduate and graduate-level employees, strengthening the presumption that respondents have an understanding of risk and risk management practices.

4.2 Reliability Analysis

For measuring the consistency in the respondents answers, the study checked the reliability of the data instrument with the help of Cronbachs α. Cronbachs α helps in measuring the reliability of the questions used in the questionnaire. As a general rule, an instrument with a value of 0.6 or above is acceptable and a good indication of construct reliability.

The questionnaire used in the study has 51 questions for the six measures of risk. Values for URRM, RI, RAA, RMON, RMP, and CRA are 0.623, 0.721, 0.827, 0.846, 0.900, and 0.797 respectively. These values show that each of the variables has a value above the acceptable level and the instrument used is reliable and there is an acceptable level of consistency among the six aspects responses.

Table 4.1: Demographic Characteristics of Respondents

Attributes	Frequency	Percentage (%)
Gender		
Male	82	74.5
Female	28	25.5
Position		
Top Management	25	22.7
Middle Management	61	55.5
Lower Management	24	21.8
Length of Experience		
Less than 5 years	52	47.3
Less than 10 years	45	40.9
less than 15 years	10	9.1
above 15 years	3	2.7
Type of Bank		
Public	62	56.4
Private	48	43.6
Qualification		
Matriculate	2	1.8
Undergraduate	68	61.8
Graduate	39	35.5
Post-Graduate	1	0.9

Source: Authors Compilation

4.3 Normality of Data

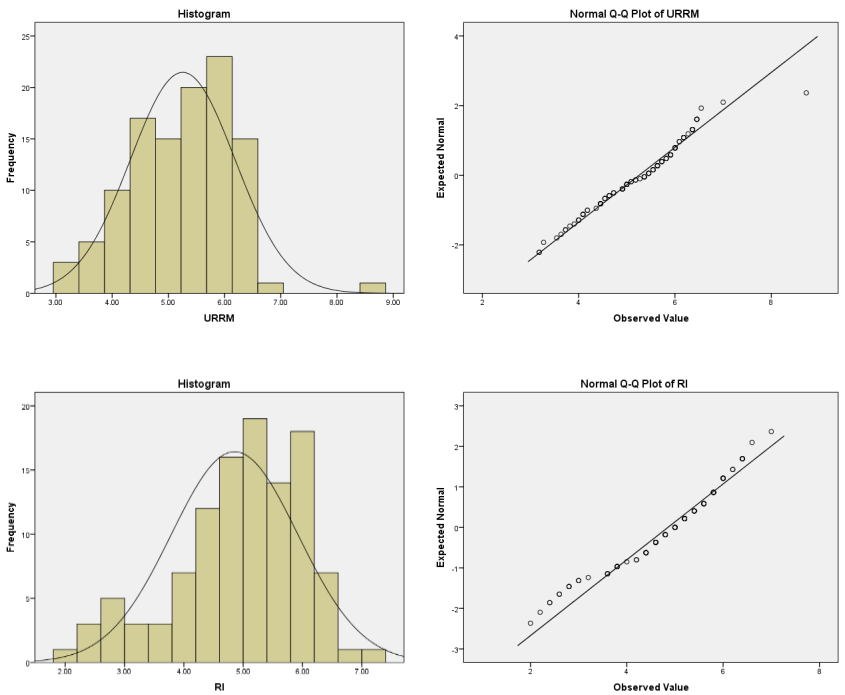
For checking the normality of the data, the study employs visual inspection through histogram and Quantile-Quantile (Q-Q plots). A bell-shaped histogram suggests the normality of data. In Q-Q plot, observations or quantiles lying on the straight-line signaling normality of

Table 4.2: Reliability Analysis of Data Instrument

S. No	Risk Measurement Aspects	Cronbach's α	No. of Items
1	Understanding Risk and Risk Management (URRM)	0.623	11
2	Risk Identification (RI)	0.721	5
3	Risk Assessment and Analysis (RAA)	0.827	7
4	Risk Monitoring (RMON)	0.846	5
5	Risk Management Practices (RMP)	0.900	15
6	Credit Risk Analysis (CRA)	0.797	8

Source: Authors Compilation

data.



The histograms show bell-shaped curves with a lower level of negative skewness and the Q-Q plots show that most of the observations lie on the straight line. All these suggesting the acceptable normality of our data.

4.4 Multicollinearity

Multicollinearity refers to a situation where the independent variables are correlated with each other leading to unreliable analysis outcomes. Table 4.3 shows Tolerance and Variance Inflation Factor (VIF) values. The Tolerance value should be less than 1.0 or according to Ringle et al. (2015), if the VIF value is less than 5, there is no problem of Multicollinearity.

Table 4.3: Collinearity Diagnostic Coefficients

		Collinearity Statistics	
	Model	**Tolerance**	**VIF**
1	URRM	0.579	1.727
	RI	0.449	2.228
	RAA	0.336	2.972
	RMON	0.497	2.013
	CRA	0.685	1.461

Source: Authors Compilation

Table 4.3 shows that all variables Tolerance values are less than 1.0 and VIF values are less than 5.0, confirming that there is no multicollinearity problem in our data set.

4.5 Correlation Analysis

For analyzing and estimating the relationship between the variables, the study utilized Pearsons product-moment correlation coefficient (Γ).

Table 4.4 shows the correlation coefficients suggesting significant correlations among the stated variables. These variables are significant at a 1% confidence level. Based on Cohens standards (1988, 1992), RMPs have a medium positive relation with URRM, RI, and CRA while RAA and RMON are strongly positively correlated with RMPs.

4.6 Regression Analysis

The study developed the null hypothesis that Risk Management Practices (RMPs) are not determined by URRM, RI, RAA, RMON, and CRA. To test the hypothesis, the study used the following multiple regression model:

RMPs = α + β1 (URRM) + β2 (RI)+ β3(RAA)+ β4)RMON) + β5(CRA)+ε

Such multiple regression model is accepted and used in studies of Al-Tamimi and Al-Mazrooei (2007); Bilal et al. (2013); Hassan (2009); Hussain and Al-Ajmi (2012). Table 4.5 shows the output of the regression analysis. R-square value is reported at 76.1% showing that the five explanatory variables are responsible for the 76.1% variations in the dependent variable (RMPs). F-value is above 4 with a P-value of less than 0.05, showing the significance of the overall model. The

Table 4.4: Bi-Variate Correlation Coefficients

		URRM	RI	RAA	RMON	RMPs	CRA
URRM	Pearson Correlation	1					
RI	Pearson Correlation	.475**	1				
RAA	Pearson Correlation	.556**	.735**	1			
RMON	Pearson Correlation	.582**	.530**	.657**	1		
RMPs	Pearson Correlation	.511**	.651**	.761**	.784**	1	
CRA	Pearson Correlation	.460**	.441**	.513**	.435**	.580**	1

*** Correlation is significant at the 0.01 level (2-tailed).*

Durbin Watson value is near to 2, which means that there is no problem of autocorrelation in variables employed in the model.

Table 5 reports that RAA, RMON, and CRA are the significant determinants of the RMPs at a 1% level. While RI is significant at a 10% significant level. The results are partially supporting the findings of Hussain and Al-Ajmi (2012) where they found all the five variables significantly affecting the RMPs in a positive direction. While in this study, URRM has a negative and insignificant relationship with RMPs. This may be because of the lack of awareness of the overall understanding of risk management in Afghanistans context. The relationship of these variables with the RMPs is positive while URRM has a negative relationship, in line with the findings of Shafique et al. (2013).

Table 4.5: Regression Coefficients

Model	Coefficients (β)	Std. Error	t	Significance (p)
Constant	0.387	0.318	1.217	0.226
URRM	-0.097	0.068	-1.419	0.159
RI	0.127	0.067	1.881	.063*
RAA	0.267	0.076	3.488	.001***
RMON	0.413	0.058	7.166	.000***
CRA	0.207	0.059	3.486	.001***
R-square = .761	F-value = 66.206 (p=0.000)		N = 110	Durbin Watson = 1.999
Level of Acceptance: *Significant at p $\leq$ .001, **Significant at p.05, ***Significant at p$\leq$ .01				

Source: Authors Compilation

4.7 Comparison of Risk Management Practices

Table 4.6: Risk Management Practices of Public and Private Banks

Variable	Mean			t-value	Sig.
	Public	Private	Combined		
Understanding Risk & Risk Management	5.1832	5.3484	5.2553	-0.924	0.36
Risk Identification	4.8967	4.8	4.8545	0.469	0.64
Risk Assessment and Analysis	4.9262	5.0208	4.9675	-0.451	0.65
Risk Monitoring	5.2064	5.2833	5.24	-0.336	0.74
Credit Risk Analysis	4.9355	5.3411	5.1125	-2.192	0.03
Risk Management Practices	4.9623	5.1486	5.0436	-0.963	0.34
Total Combined	5.0183	5.157	5.0789	-0.732	0.46

Source: Authors Compilation

Table 4.6 provides a comparative analysis of risk management practices of public and private banks in Afghanistan. As the histograms and Q-Q plots show that data is normal, the study uses paired comparison t-statistics for mean comparative analysis. The mean values for public and private banks range from 4.8967 to 5.2064 and 4.8000 to 5.3484 respectively. The highest mean value for public banks is recorded for risk monitoring while URRM has the highest mean value for private banks respectively. The total average of all the RMPs is higher for private banks but there are no overall significant differences in the risk management practices of public and private banks. Table 4.6 also shows that there is a significant difference in credit risk analysis practice between public and private banks.

4.8 Types of Risks

Depository Financial Institutions (DFIs) of any country face various types of risks. The importance of these risks for each bank depends upon the regulatory framework of the banking sector in that country, investment portfolios of the bank, etc. The following Table 4.7 prioritized the importance of risk faced by banks in Afghanistan. Looking at the mean values of the whole sample, credit risk has the highest mean value of 6.3455 followed by country risk with a mean value of 6.1091. The result of credit risk being the most prioritized risk by banks in Afghanistan confirms lending activities as the primary business of the banks. Credit risk has been a profound risk of DFIs because of its lead role in banking operations. Credit has also been identified as the top prioritized risk by Hussain and Al-Ajmi (2012). Country risk is the second most important risk signifies the fact that the banking sector considers law and order situation as a threat to development (Khan et al., 2018). The third prioritized risk based on relative importance is liquidity risk showing the banks concerns over liquidity issues. Liquidity risk is ranked second in the study of Hussain and Al-Ajmi (2012) and fourth by Hassan (2009) and Al-Tamimi and Al-Mazrooei (2007). Overall, there are no significant differences between public and private banks, the average t-value is 1.04, except for legal risk, operational risk, and country risk.

Table 4.7: Types of Risks

Type of Risk	Whole Sample		Public Banks		Private Banks		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	t
Credit Risk	6.346	1.2521	6.242	1.4221	6.479	0.9891	-0.99
Liquidity Risk	6.082	1.3212	6.065	1.4127	6.104	1.2071	-0.16
Operational Risk	6.073	1.4444	5.855	1.6481	6.354	1.0816	-1.82
Legal Risk	5.882	1.4572	5.581	1.5842	6.271	1.1803	-2.52
Regulatory Risk	5.764	1.4896	5.597	1.3845	5.979	1.6044	-1.34
Reputational Risk	5.555	1.418	5.419	1.4206	5.729	1.4103	-1.14
Strategic Risk	5.382	1.7026	5.403	1.6641	5.354	1.7684	0.149
Solvency Risk	5.4	1.6153	5.452	1.3752	5.333	1.8944	0.379
Interest Rate Risk	5.518	1.3796	5.565	1.3504	5.458	1.4286	0.399
Settlement Risk	5.136	1.6506	5.258	1.4703	4.979	1.8622	0.878
Concentration Risk	5.091	1.6675	5.307	1.5847	4.813	1.7462	1.551
Price Risk	5.236	1.6696	5.242	1.7805	5.229	1.5332	0.04
FX Risk	5.9	1.306	6.032	1.28	5.729	1.3327	1.21
Country Risk	6.109	1.2875	6.323	1.1703	5.833	1.3889	2.004
Average	5.677	1.4758	5.667	1.4677	5.689	1.4591	1.04

Source: Authors Compilation

4.9 Risk Assessment Techniques

When it comes to risk techniques for the measurement and assessment of risk, the banking sector of Afghanistan relies more on traditional methods instead of using some contemporary and sophisticated techniques. The evidence is compiled in the following Table 4.8 which shows financial statement analysis as the most widely used technique for risk assessment with 87 respondents out of 110 confirming the usage of financial statement analysis. The least favored and used technique is stress testing with only 46.36% confirming the use of the technique. Stress testing is a comprehensive method of assessing the resilience of the banks stability in the times of worst cases. Stress testing is the least favored method also signifies the fact of the insufficient capable workforce for the banking sector.

5 Conclusions and Recommendations

With the increasing level of globalization, the financial markets are becoming more volatile amid the extensive flow of information exposing the financial institutions to the diverse nature of risks. The banking sector is also experiencing more financial integration with each passing day at the cost of exposure to complex risks. Such a situation leaves banks with no choice but

Table 4.8: Ranking of Risk Assessment Techniques

Ranking	Assessment Technique	Response	Public Bank	Private Bank	Whole Sample
1.	Financial Statement Analysis	Yes	48 (77.42%)	39 (81.25%)	87 (79.09%)
		No	14 (22.58%)	09 (18.75%)	23 (20.91%)
2.	Audit and Physical Staff	Yes	45 (72.58%)	39 (81.25%)	84 (76.36%)
		No	17 (27.42%)	09 (18.75%)	26 (23.64%)
3.	Value at Risk Analysis	Yes	44 (70.97%)	38 (79.17%)	82 (74.55%)
		No	18 (29.03%)	10 (20.83%)	28 (25.45%)
4.	Inspection by the Bank Staff	Yes	47 (75.81%)	34 (70.83%)	81 (73.64%)
		No	15 (24.19%)	14 (29.17%)	29 (26.36%)
5.	Process Analysis	Yes	43 (69.35%)	37 (77.08%)	80 (72.73%)
		No	18 (29.03%)	11 (22.92%)	29 (26.36%)
6.	SWOT Analysis	Yes	41 (66.13%)	35 (72.92%)	76 (69.09%)
		No	21 (33.87%)	13 (27.08%)	34 (30.91%)
7.	Risk Survey	Yes	41 (66.13%)	31 (64.58%)	72 (65.45%)
		No	21 (33.87%)	17 (35.42%)	38 (34.55%)
8.	Scenario Analysis	Yes	35 (56.45%)	32 (66.67%)	67 (60.91%)
		No	27 (43.55%)	16 (33.33%)	43 (39.09%)
9.	Bench Marking	Yes	30 (48.39%)	25 (52.08%)	55 (50.00%)
		No	32 (51.61%)	23 (47.92%)	55 (50.00%)
10.	Stress Testing	Yes	30 (48.39%)	21 (43.75%)	51 (46.36%)
		No	31 (50.00%)	27 (56.25%)	58 (52.73%)

Source: Authors Compilation

to manage their risks. This study analyzes the risk management practices of public and private banks in Afghanistan to see if there exists a significant difference among these practices. The results found that that RAA, RMON, and CRA are the significant determinants of the RMPs at a 1% level while RI is significant at a 10% significant level. Overall, there has been no significant difference in the risk management practices of public and private banks. The study found credit risk, country risk, and liquidity risks as the major risks for the banking sector in Afghanistan. Financial statement analysis, audit and physical staff, and value at risk analysis are the three top instruments respectively for the assessment of risk. The analysis also shows that private banks are more efficient in risk assessment and analysis, risk monitoring, and credit risk management than public banks.

The study has significance for the customers, management, regulators, and investors. The customers should be aware that private banks are more efficient than public banks in terms of risk assessment and analysis, risk monitoring, and credit risk management so the customers

may demand higher returns from public banks. The regulators and management of the bank should develop effective and sophisticated models for risk management to meet the tailored needs of each risk management. Such development will ensure sustainability and transparency in banking operations. Future research can be conducted to evaluate the risk management techniques of conventional and Islamic banks. Additionally, the role of Basel II in improving the effectiveness of risk management practices can be analyzed.

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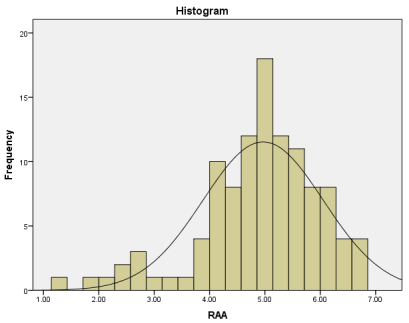
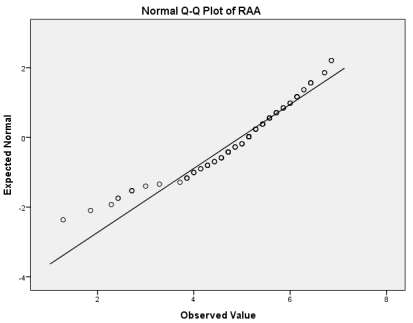
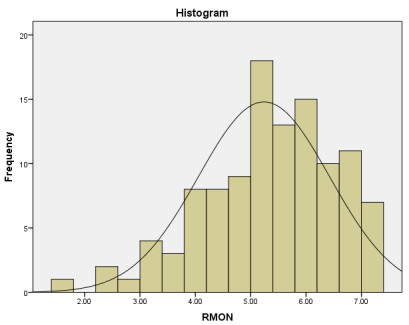
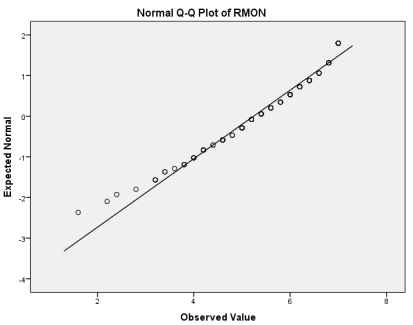
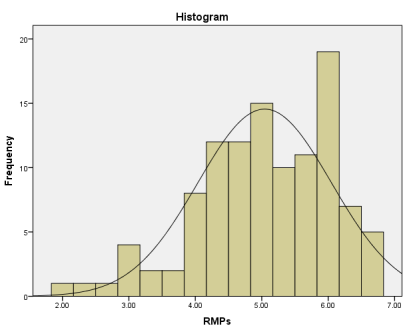
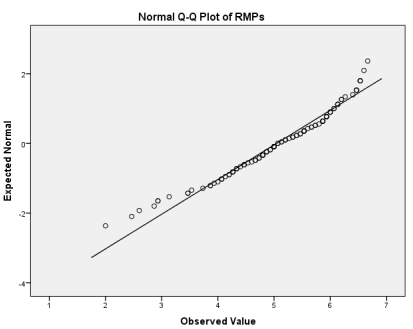

Histogram
Frequency
RAA

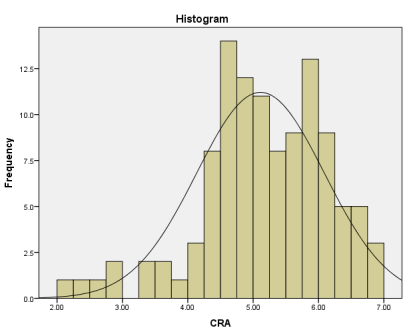

Normal Q-Q Plot of RAA
Expected Normal
Observed Value

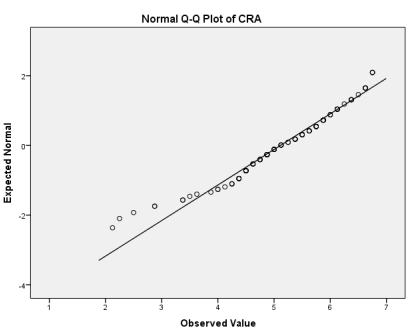

Histogram
Frequency
RMON


Normal Q-Q Plot of RMON
Expected Normal
Observed Value


Histogram
Frequency
RMPs


Normal Q-Q Plot of RMPs
Expected Normal
Observed Value


Histogram
Frequency
CRA


Normal Q-Q Plot of CRA
Expected Normal
Observed Value