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Risk Management Practices Followed by the Commercial Banks in Pakistan

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Risk management is one of the most important practices to be used especially in banks, for getting assurance about the reliability of the operations and procedures being followed within them. In today's dynamic environment, nothing is constant but risk. Even banking is not deprived of risk and all banks are exposed to a variety of risks including credit risk, liquidity risk, foreign exchange risk, market risk and interest rate risk. An efficient risk management system is the need of time. Managing risk is one of the basic tasks to be done, once it has been identified and known. The risk and return are directly related to each other, which means that increasing one will subsequently increase the other and vice versa.

The purpose of this study is to explore the current risk management practices that are being followed and exercised by the banks, specifically, commercial banks in Pakistan. Primary and secondary data sources are used to serve the purpose. Results reveal a significant difference in the application of risk management aspects among the pubic sector commercial banks and local private banks. Also the financial soundness indicators differ in value for each type of commercial bank. Although there is a general understanding about risk and its management among staff of commercial banks, still there is a need for commercial banks to devise training courses tailored to the needs of Banking Personnel in Risk Management.

This study has been conducted to estimate the average returns on investment portfolio and risk involved in the return on investment of portfolio in each of selected insurance companies before and after GATS membership. Descriptive statistics, correlation analysis, Paired samples statistics and multiple comparisons have been used to evaluate the insurance investment activities.

The study concludes that there is a significance difference between the average return of investment of each of the Pakistani insurance companies before and after GATS. Risk involved in this investment before membership was 1.74 % and increased to 12.869 % after this membership. Even after performing well, there is an intensive increase in the risk involved in investment after GATS membership. The study is expected to provide a useful reference for Insurance managers as well as the ministry of Finance and Securities & Exchange Commission of Pakistan in their efforts to control and improve the performance of insurance in Pakistan.

Field of Research: Financial Risk Management, Financial Modeling.

1. Introduction

Risk is defined as anything that can create hindrances in the way of achievement of certain objectives. It can be because of either internal factors or external

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factors, depending upon the type of risk that exists within a particular situation. Exposure to that risk can make a situation more critical. A better way to deal with such a situation; is to take certain proactive measures to identify any kind of risk that can result in undesirable outcomes. In simple terms, it can be said that managing a risk in advance is far better than waiting for its occurrence.

The idea of risk differs from that of probability and uncertainty. Risk is said to be absent within a situation where a person is 100% certain about the outcome. This idea also brought the rise of insurance with its origin. Insurance is the basis upon which people show a good deal of willingness to take risk; it creates the foundation of the security where fortune has been ousted by an active engagement with the future. On the other hand, the practice of Risk Management is a measure that is used for *identifying, analyzing and then responding to a particular risk*. It is a process that is continuous in nature and a helpful tool in decision making process. According to the Higher Education Funding Council for England (HEFCE), Risk Management is not just used for ensuring the reduction of the probability of bad happenings but it also covers the increase in likeliness of occurring good things. A model called “Prospect Theory” states that a person is more likely to take on the risk than to suffer a sure loss.

Risk exists as a part of an environment in which various organizations operate (Tchankova, 2002). Banking is a business mostly associated with risk because of its large exposure to uncertainty and huge considerations. Risk management is one of the most important practices to be used especially in banks, for getting assurance about the reliability of the operations and procedures being followed. In today’s dynamic environment, all banks are exposed to a large number of risks such as credit risk, liquidity risk, foreign exchange risk, market risk and interest rate risk, among others – the risks which may create some source of threat far a bank's survival and success (Al-Tamimi and Al-Mazrooei, 2007).

Due to such exposure to various risks, efficient risk management is required. Managing risk is one of the basic tasks to be done, once it has been identified and known. The risk and return are directly related to each other, which means that increasing one will subsequently increase the other and vice versa. And, effective risk management leads to more balanced trade-off between risk and reward, to realize a better position in the future (Fatemi and Fooladi, 2006).

It is also realized recently that Risk Management is essentially more important to be carried upon in the financial sector than any other part of the economy. It makes more sense when it is known that the main purpose of the financial institutions is to maximize revenues and offer the maximum value to the shareholders by facilitating them with a variety of financial services especially by administering risks (Al-Tamimi and Al-Mazrooei, 2007). The prime reason to adopt risk management practices is to avoid the probable failure in future. But, in realistic terms, risk management is clearly not free of cost. In fact, it is expensive in both resources and in institutional disruption. But the cost of delaying or

avoiding proper risk management can lead to some adverse results, like failure of a bank and possibly failure of a banking system (Meyer, 2000).

The banking industry recognizes that an institution needs not do business in a manner that unnecessarily imposes risk upon it; nor should it absorb risk that can be efficiently transferred to other participants. Rather, it should only manage risks at the firm level that are more efficiently managed there than by the market itself or by their owners in their own portfolios. In short, it should accept only those risks that are uniquely a part of the bank's array of services.

Banking is one of the most sensitive businesses in any economy since it acts as a life-blood of modern trade and commerce to provide them with the major sources of finance. Pakistan is one of the key emerging markets of South Asia and its banking sector consists of Commercial Banks and Specialized Banking Institutions, regulated by the State Bank of Pakistan. Pakistan is one of few developing countries, where the public sector banks were privatized within a limited time span. The Federal Government is now left with only the National Bank and First Women Bank, while the State Province owned banks are the Bank of Khyber and Bank of Punjab. The Banking Sector has significantly improved its performance during the last few years as more foreign banks have also started their operations in this region.

The time period between “2002-2007” proved to be of significant growth for the banking sector of Pakistan. Classified as Pakistan’s and region’s best performing sector, the banking industry’s assets increased over $60 billion, its profitability remains high, non-performing loans (NPLs) are low, credit is fairly diversified and bank-wide system risks are well-contained. Almost 81% of banking assets are in private hands. It shows that privatization of the major portion of the banks has increased competition among them and resulted in the continuous increase in performance to retain their customers through efficient means. Currently, it is more obvious that increased competition in consumer banking has increased the need for effective and efficient risk management for the banks to gain a competitive edge.

The risk arises from uncertainty of a particular situation and certainty of being exposed to that situation. Risk Management as commonly perceived does not mean to minimize risk; in fact, its goal is to optimize the risk-reward trade off. And, the role of risk management is to assure that an institution does not have any need to engage in a business that unnecessarily imposes risk upon it. Also, it should not absorb any such risks that have the tendency to be transferred to other participants. Rather it should only accept those risks that are uniquely a part of the array of bank’s services. In this regard, risk management aspects such as Understanding risk and risk management, risk identification, risk assessment and analysis, risk monitoring, risk management practices and credit risk analysis of the banks have to be considered for assessing their risk management approach.

2. Literature Review

Within the last few years, a number of studies have provided the discipline into the practice of risk management within the corporate and banking sector. An insight of related studies is as follows:

Amran, *et al*. (2009), explored the availability of risk disclosures in the annual reports of Malaysian companies. The study was aimed to empirically test the characteristics of the sampled companies. The level of risk faced by these companies with the disclosure made was also assessed and compared. The findings of the research revealed that the strategic risk came on the top, followed by the operations and empowerment risks being disclosed by the selected companies. The regression analysis proved significantly that size of the companies did matter. The stakeholder theory explains well this finding by stating that "As company grows bigger, it will have a large pool of stakeholders, who would be interested in knowing the affairs of the company." The extent of risk disclosure was also found to be influenced by the nature of industry. As explored within this study, infrastructure and technology industries influenced the companies to have more risk information disclosed.

Hassan, A. (2009), made a study "Risk Management Practices of Islamic Banks of Brunei Darussalam" to assess the degree to which the Islamic banks in Brunei Darussalam implemented risk management practices and carried them out thoroughly by using different techniques to deal with various kinds of risks. The results of the study showed that, like the conventional banking system, Islamic banking was also subjected to a variety of risks due to the unique range of offered products in addition to conventional products. The results showed that there was a remarkable understanding of risk and risk management by the staff working in the Islamic Banks of Brunei Darussalam, which showed their ability to pave their way towards successful risk management. The major risks that were faced by these banks were Foreign exchange risk, credit risk and operating risk. A regression model was used to elaborate the results which showed that Risk Identification, and Risk Assessment and Analysis were the most influencing variables and the Islamic banks in Brunei needed to give more attention to those variables to make their Risk Management Practices more effective by understanding the true application of Basel-II Accord to improve the efficiency of Islamic Bank's risk management systems.

Al-Tamimi (2008) studied the relationship among the readiness of implementing Basel II Accord and resources needed for its implementation in UAE banks. Results of the research revealed that the banks in UAE were aware of the benefits, impact and challenges associated in the implementation of Basel II Accord. However, the research did not confirm any positive relationship between UAE banks readiness for the implementation of Basel II and impact of the implementation. The relationship between readiness and anticipated cost of implementation was also not confirmed. No significant difference was found in

the level of Basel II Accord's preparation between the UAE national and foreign banks. It was concluded that there was a significant difference in the level of the UAE banks Basel II based on employees education level. The results supported the importance of education level needed for the implementation of Basel II Accord.

Al-Tamimi and Al- Mazrooei (2007) provided a comparative study of Bank's Risk Management of UAE National and Foreign Banks. This research helped them to find that the three most important types of risks facing the UAE commercial banks were foreign exchange risk, followed by credit risk and then operating risk. They found that the UAE banks were somewhat efficient in managing risk; however the variables such as risk identification, assessment and analysis proved to be more influencing in risk management process. Finally, the results indicated that there was a significant difference between the UAE National and Foreign banks in practicing risk assessment and analysis, and in risk monitoring and controlling.

Koziol and Lawrenz (2008) provided a study in which they assessed the risk of bank failures. They said that assessing the risk related to bank failures is the paramount concern of bank regulations. They argued that in order to assess the default risk of a bank, it is important considering its financing decisions as an endogenous dynamic process. The research study provided a continuous-time model, where banks chose the deposit volume in order to trade off the benefits of earning deposit premiums against the costs that would occur at future capital structure adjustments. Major findings suggested that the dynamic endogenous financing decision introduced an important self-regulation mechanism.

3. Research Methodology and Design

This study aims to investigate the awareness about risk management practices within the banking sector of Pakistan. This study is comprised of data collected through both, primary as well as secondary sources. The purpose of using primary source data is to check the extent to which different risk management practices have been followed by the commercial banks in Pakistan. Primary data is collected through the use of a questionnaire. The questionnaire comprises a number of statements under one macro-statement (variable). The questionnaire is comparable to one provided in a study by Al-Tamimi and Al-Mazrooei (2007). It includes Risk Management Practices (RMP) as the dependent variable, and different aspects of risk management as the independent or explanatory variables. Whereas, the objective to use secondary data is to link the risk weighted Capital Adequacy Ratio (CAR) to the different financial indicators of the commercial banks that are used to measure their soundness.

3.1 Study Sample

Out of the total 36 of commercial banks in Pakistan 15 commercial banks were approached; however, the commercial banks that responded timely and positively were 12 in total. A total of 7 questionnaires were distributed in each of the bank approached to be filled by the staff working specifically in the Risk Management department. After the elimination of the erroneous responses the effective response rate obtained was around 58% of the total sample. An attempt is made to collect data from each of the sampled commercial bank's risk management department in the major cities of Pakistan including Islamabad, Rawalpindi, Lahore and Karachi.

The secondary data is collected and assembled from the different quarterly reports on "performance review of the banking system. The available data covers a period of total 9 years from 2000-2008. The data is mainly related to the Risk Weighted Capital Adequacy Ratio (RWCAR) and its impact on different financial indicators of the commercial banks that are used to measure their soundness. The data mainly related to the commercial banks in Pakistan is decomposed into three main categories: Public sector commercial banks, local private banks and foreign banks.

3.2 Variables

This study is mainly related to the risk management practices being followed by the commercial Banks in Pakistan. The questionnaire is used as a main tool to collect primary data and check the extent to which the risk management practices are being carried upon by the commercial banks in Pakistan. The six important aspects of risk management process are categorized as one dependent and five explanatory variables.

Dependent Variable: The dependent variable of this study is *risk management*. It is measured with the help of risk management practices and specifically their degree of usage within the commercial banks of Pakistan.
Independent or Explanatory Variables: The explanatory variables include the five main aspects of risk management. These variables are as follows:

- Understanding Risk and Risk Management.
- Risk Identification
- Risk Assessment and Analysis
- Risk Monitoring
- Credit Risk Analysis

3.3 Financial Soundness Indicators: The secondary data is comprised of four main financial soundness indicators, each of which is evaluated through a number of sub-indicators are to aimed to evaluate the performance of the banks within a span of a year. Their division is shown as follows:

i. Capital Adequacy Ratio

ii. Asset Quality
iii. Earning
iv. Liquidity

3.4 Hypothesis Testing

Based on the research questions and problem of the study, a set of hypotheses are developed and tested to show the degree of relationships between risk management practices and each of the five aspects of risk management process. Each of the alternative hypotheses formulated is stated below:

H_{11} There is a positive relationship between risk management practices and understanding risk and risk management, risk identification, risk assessment and analysis, risk monitoring and credit risk analysis.

H_{21} There are significant differences between Pakistan's public sector and private local banks in the use of understanding risk and risk management, risk identification, risk assessment and analysis, risk monitoring and controlling, risk management practices and credit risk analysis.

Based on the secondary data, the following alternative hypothesis is formulated to check the difference between the values of all the financial soundness indicators among the three separate groups of commercial banks in Pakistan.

H_{31} There is significant difference between the financial soundness indicator's values between Pakistan's public sector, local private and foreign banks for all of the nine years ranging from 2000-2008.

3.5 Data Analysis Methods

A regression model is applied to estimate the relationship between one dependent variable and the five explanatory variables. The model is as follows:

$$\mathbf{RMP = \mathit{f}\ (URM, RI, RAA, RM, CRA)}$$

Where:
RMP = Risk Management Practices;
URM = Understanding Risk and Risk Management;
RI = Risk Identification;
RAA = Risk Assessment and Analysis;
RM = Risk Monitoring; and
CRA = Credit Risk Analysis

This model is adopted to test the second hypothesis of the study. For the purpose of testing rest of the hypotheses developed specifically for analyzing the primary data, ANOVA test is run. Its purpose is to check the differences among various Pakistan's public sector and local private banks in use of all the six major

aspects of the Risk Management Process. Another tool used to determine whether a linear relationship exists between the variables is Product Moment Correlation, r. For the purpose of testing the secondary data analytically, Analysis of Variance test is used for each of the major financial soundness indicator separately.

4. Data Analysis

4.1 Primary Data Analysis

The reliability of the scales used within the questionnaire is evaluated using Cronbach's alpha. It allows measuring the reliability of different variables. The questionnaire adopted for this study contains 43 statements representing each of the six aspects of risk management. It is used to estimate how much variation in scores of different variables is attributable to chance or random errors (Selltiz et al., 1976). There is a general rule that a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability (Nunnally, 1978). The overall Cronbach's alpha (α), for the six aspects of risk management process is 0.771 as shown below in table 4.1. It means that there is an acceptable degree of consistency among the responses against each item.

Table 4.1: Overall Reliability Statistics for six Aspects of Questionnaire

Cronbach's Alpha	N of Items
.771	6

Multiple-Regression Model:
The regression model is applied to estimate the relationship between Risk Management Practices and the five explanatory variables as follows:

RMP = *f* (URM, RI, RAA, RM, CRA)

Product moment correlation is used to analyze correlations among the explanatory variables, namely understanding risk and risk management (URM), risk identification (RI), risk assessment and analysis (RAA), risk monitoring (RM), and credit risk analysis (CRA). Table 4.2 reveals the correlation coefficients between all the variables.

This table of bi-correlations is useful to detect any potential case of multicollinearity. An examination of the results of correlations presented in Table 4.2 shown below suggests that there is no problem of multicollinearity among all explanatory variables.

Table 4.2: Correlation Coefficients between Explanatory Variables

		RMP	URM	RI	RAA	RM	CRA
RMP	Pearson Correlation	1					
	Sig. (2-tailed)	.					
URM	Pearson Correlation	.269	1				
	Sig. (2-tailed)	.062	.				
RI	Pearson Correlation	.361(*)	.439(**)	1			
	Sig. (2-tailed)	.011	.002	.			
RAA	Pearson Correlation	.322(*)	.403(**)	.184	1		
	Sig. (2-tailed)	.024	.004	.207	.		
RM	Pearson Correlation	.305(*)	.575(**)	.413(**)	.470(**)	1	
	Sig. (2-tailed)	.033	.000	.003	.001	.	
CRA	Pearson Correlation	.249	-.015	.255	.253	-.089	1
	Sig. (2-tailed)	.084	.919	.077	.079	.541	.

Notes: * Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 4.3 below shows the regression results. It can be seen from the results provided in Table 4.3 that R^2 is 0.351. This indicates that the five explanatory variables explain 35.1 percent of the variations in risk management practices.

Table 4.3: Model Summary for all explanatory variables

Model	R	R^2	Adjusted R^2	F	Sig
1	.592(a)	.351	.275	4.645*	0.002*

Predictors: (Constant), CRA, URM, RI, RAA, RM * significant at α = 1%

The estimated coefficients of all the explanatory variables are insignificant but still show a positive impact on risk management practices except URM that is slightly negatively correlated with RMP. These results obtained using the study multiple-regression model is displayed in Table 4.4.:

Table 4.4: OLS Regression Result for all Explanatory Variables Coefficients[(a)]

	Beta	*t*	Sig.
(Constant)	1.293	1.164	.251
URM	-.004	-.023	.982
RI	.158	1.219	.230
RAA	.213	1.259	.215
RM	.265	1.794*	.080*
CRA	.151	1.000	.323

a. Dependent Variable: RMP * Significant at α = 10%

4.2 Linear Regression Model

Since the results shown on table 4.2 reflect mild multicollinearity, each of the explanatory variable is regressed alone to check its impact on RMP. All the results are summarized in two tables, one of which shows the Model summary for checking the impact of each of the explanatory variables upon RMP. The first explanatory variable is URM and it shows that the value for R^2 is .097, which means that URM explains only 9.7 percent of the variation in risk management practices.

Table 4.5: Model Summary of Linear Regression for all Independent or Explanatory Variables

Model	R	R^2	Adjusted R^2	F	Sig
URM	.312(a)	.097	.078	5.071*	0.029**
RI	.395(a)	.156	.138	8.699*	0.005*
RAA	.451(a)	.204	.187	12.016*	0.001*
RM	.511(a)	.261	.245	16.567*	0.000*
CRA	.297(a)	.088	.069	4.533*	0.039**

a. Predictors: (Constant), URM, RI, RAA, RM, CRA * Significant at α = 1% ** Significant at α = 5%

The second explanatory variable whose impact is checked in relation to RMP is RI. Table 4.5 shows that the value for R^2 is .156, which means that RI explains 15.6 percent variations in the risk management practices. Similarly the model summary for RAA shows that the value for R^2 is .204, which means that RAA explains 20.4 percent variations in the risk management practices. Likewise, the values depicted in the table 4.5 for R^2, for RM and CRA are .261 and .088 respectively and thus explain 26.1 percent and 8.8 percent of the risk management practices respectively.

The table 4.6 below depicts the individual estimated coefficient of linear regression of the independent or explanatory variables on RMP. URM is showing positive and significant impact on risk management practices. It shows a positive relation between both the variables. It means that results are significant and with one degree change in URM, RMP will also change by 0.327 degrees in the same direction.

Table 4.6: Regression Coefficient Results for all Independent or Explanatory Variables

Independent or Explanatory Variables	Beta	*t*	Sig.
(Constant)	3.627	4.373*	.000*
URM	.327	2.252**	.029**
(Constant)	3.759	6.359*	.000*
RI	.350	2.949*	.005*
(Constant)	3.943	3.988*	.000*
RAA	.478	3.466*	.001*
(Constant)	2.965	4.752*	.000*
RM	.463	4.070*	.000*
(Constant)	3.650	4.213*	.000*
CRA	.324	2.129**	.039**

a. Dependent Variable: RMP * Significant at α = 1% ** Significant at α = 5%

The estimated coefficient of linear regression for RI is showing positive and significant impact on risk management practices. It shows a positive relation between both the variables. It means that results are significant and one degree change in RI will change the value of RMP by 0.35 degrees. Likewise, the estimated coefficients of linear regression for RAA, RM and CRA show positive and significant impact on risk management practices. A positive relationship is shown between each of these variables with RMP. It means that results are significant and one degree change in RAA, RM and CRA will bring a significant change in the value of RMP by 0.478, 0.463 and 0.324 degrees respectively.

The results from all the linear regression lines between five explanatory variables and the study dependent variable RMP show that there are significant relationships between them. This result is obtained when each of the explanatory variables is regressed alone on RMP. All the results are highly significant and show the positive relation between each of the five explanatory variables and risk management practices.

4.3 Analysis of Variance

To test rest of the other hypotheses ANOVA is used. The main purpose is to show the difference in the risk management and all the six aspects of risk management process among the public sector commercial banks and local private banks of Pakistan.

Table 4.7 shows the ANOVA results and the difference among the risk management aspects followed by public sector commercial banks and local private banks of Pakistan.

Table 4.7: Analysis of Variance

		Sum of Squares	d.f.	Mean Square	F	Sig.
URM	Between Groups	1.987	1	1.987	6.302**	.016**
	Within Groups	14.822	47	.315		
	Total	16.809	48			
RI	Between Groups	.508	1	.508	1.037	.314
	Within Groups	23.056	47	.491		
	Total	23.564	48			
RAA	Between Groups	.597	1	.597	1.764	.191
	Within Groups	15.911	47	.339		
	Total	16.508	48			
RM	Between Groups	5.239	1	5.239	14.234*	.000*
	Within Groups	17.298	47	.368		
	Total	22.537	48			
RMP	Between Groups	.850	1	.850	2.264	.139
	Within Groups	17.650	47	.376		
	Total	18.500	48			
CRA	Between Groups	.292	1	.292	.904	.347
	Within Groups	15.209	47	.324		
	Total	15.501	48			

- Significant at α = 1% Significant at α = 2%

The above ANOVA table clearly shows that only two of the explanatory variables namely URM and RM are practiced differently in public sector commercial banks and private local banks in Pakistan. There is a significant difference between the groups in case of these two variables as shown in the above table 2.25.

The secondary data analysis consists of both descriptive and analytical analysis. This data type is used for the purpose of showing various facts and figures related to the risk management of the commercial banks in Pakistan. The secondary data is composed of three separate groups of commercial banks. The three types of commercial banks are as follows: Public Sector Commercial Banks, Local Private Banks and Foreign Banks.

The data is related to all the three bank types within the SBP's quarterly performance review reports for banking system. The secondary data is comprised of four major financial soundness indicators.

1- Capital Adequacy Ratio: Capital Adequacy Ratio is the amount of risk-based capital as a percent of risk-weighted assets. It further contains the risk weighted items and sub-indicators such as Risk Weighted CAR, Tier I Capital to Risk Weighted Assets and capital to total assets.

2- Asset Quality: This financial soundness indicator contains the items related to Non-Performing Loans, which are loans and advances whose mark-up/interest or principal is overdue by 90 days or more from the due date. It contains four sub indicators all related to NPLs.

3- Earning: It contains return on assets before and after tax and return on equity before and after taxes as well. Return on assets measures the operating performance of an institution. It is a widely used indicator of earning and is calculated as net profit as percentage of average assets. Net Interest Income is included under the same earnings indicator that it is the total interest income less total interest expense. This residual amount represents most of the income available to cover expenses other than the interest expense.

4- Liquidity**:** The final financial soundness indicator is liquidity. It comprises all the liquidity ratios and it is used to represent the bank's ability to efficiently and economically accommodate decreases in deposits and to fund increases in loan demand without negatively affecting its earnings. In the same way, liquid assets are those assets that are easily and cheaply convertible to cash.

The commercial banks are divided into three main types of public sector commercial banks, local private banks and foreign banks. The ANOVA results are shown in tables 4.8, 4.9, 4.10, and 4.11 below. The table 4.8 below shows a significant difference between all sub-indicators of financial soundness related to CAR among the three groups of commercial banks in Pakistan.

Table 4.8: Analysis of Variance Results for CAR

Capital Adequacy Ratio		Sum of Squares	d.f.	Mean Square	F	Sig.
Risk Weighted Capital Adequacy Ratio	Between Groups	16839.870	2	8419.935	182.472*	.000*
	Within Groups	1107.451	24	46.144		
	Total	17947.321	26			
Tier I Capital to Risk Weighted Assets	Between Groups	22245.443	2	11122.721	1179.087*	.000*
	Within Groups	226.400	24	9.433		
	Total	22471.843	26			
Capital to Total Assets	Between Groups	558.314	2	279.157	29.702*	.000*
	Within Groups	225.564	24	9.399		
	Total	783.879	26			

* Significant at α = 1%

Table 4.9: Analysis of Variance results for Asset Quality

Asset Quality		Sum of Squares	d.f.	Mean Square	F	Sig.
NPLs to Total Loans	Between Groups	687.380	2	343.690	13.282*	.000*
	Within Groups	621.047	24	25.877		
	Total	1308.427	26			
Provision to NPLs	Between Groups	23454.279	2	11727.139	179.214*	.000*
	Within Groups	1570.473	24	65.436		
	Total	25024.752	26			
Net NPLs/Net Loans	Between Groups	22548.732	2	11274.366	98.230*	.000*
	Within Groups	2754.609	24	114.775		
	Total	25303.341	26			
Net NPLs/Capital	Between Groups	49467.205	2	24733.603	13.639*	.000*
	Within Groups	43522.538	24	1813.439		
	Total	92989.743	26			

* Significant at α = 1%

Table 4.9 above shows a significant difference between all sub-indicators of Asset Quality among each of the three groups of commercial banks in Pakistan.

Table 4.10 below is a good indication that at there is a significant difference between all sub-indicators of financial soundness related to Earnings among each of the three groups of commercial banks in Pakistan except ROA after tax.

Table 4.11 below shows that there is a significant difference between all sub-indicators of financial soundness related to Liquidity among each of the three groups of commercial banks in Pakistan except for the ratio of ROA after taxes which clearly shows the drastic impact of taxes on Pak banks.

Table 4.10: Analysis of Variance results for Earning

Earning		Sum of Squares	df	Mean Square	F	Sig.
ROA before Tax	Between Groups	13401.327	2	6700.664	6.733*	.005*
	Within Groups	23884.247	24	995.177		
	Total	37285.574	26			
ROA after Tax	Between Groups	1.676	2	.838	.099	.906
	Within Groups	202.622	24	8.443		
	Total	204.299	26			
ROE before Tax	Between Groups	2561.659	2	1280.829	28.316*	.000*
	Within Groups	1085.589	24	45.233		
	Total	3647.247	26			
ROE after Tax	Between Groups	2922.183	2	1461.091	14.202*	.000*
	Within Groups	2469.124	24	102.880		
	Total	5391.307	26			
NII/Gross Income	Between Groups	14342.054	2	7171.027	69.162*	.000*
	Within Groups	2488.442	24	103.685		
	Total	16830.496	26			
Cost/Income ratio	Between Groups	13648.092	2	6824.046	60.438*	.000*
	Within Groups	2709.831	24	112.910		
	Total	16357.923	26			

* Significant at α = 1%

Table 411: Analysis of Variance results for Liquidity

Liquidity		Sum of Squares	d.f.	Mean Square	F	Sig.
Liquid Assets/Total Assets	Between Groups	2034.367	2	1017.184	13.460*	.000*
	Within Groups	1813.711	24	75.571		
	Total	3848.079	26			
Liquid Assets/Total Deposits	Between Groups	1372.005	2	686.003	12.390*	.000*
	Within Groups	1328.778	24	55.366		
	Total	2700.783	26			
Advances/Deposits	Between Groups	1180.476	2	590.238	5.449*	.011*
	Within Groups	2599.584	24	108.316		
	Total	3780.061	26			

* Significant at α = 1%

From all the results, it can be interpreted that there is a significant difference among all the each of the three groups of commercial banks in Pakistan as shown by the values from the financial soundness indicators; the ratio of Advances : Deposits is almost at the same level of significance.

5. Conclusion

From the descriptive and analytical results, it is concluded that there is a general understanding of risk and risk management among the staff working in the risk management department of the commercial banks of Pakistan. The study reveals that most of the daily operations that they perform are risky by nature. The most critical types of risk are: Credit risk, liquidity risk, interest rate risk foreign exchange risk, and operating risk. The foreign exchange risk is important since Pakistan is part of the Global Village and spills of international financial crises such as fluctuations in foreign exchange rates and inflation affect the Pak banks drastically. Each of the independent variable is regressed separately on the dependent RMP; and show encouraging results.

Results of ANOVA regarding the financial rations are encouraging except for ROA after taxes which means that either the government of Pakistan has to reduce its corporate taxes to improve performance of the Pak Banks or another study is needed with extended period of time and including the Pak Islamic Banks who are less risk taking that the conventional Pak Banks in order to corroborate or refute this finding.

5.1 Study Limitations and Future Research

Islamic Banks were not included in the sample since their structure and type of operations are quite different from those of Conventional Banks; so they were not included in the study. Since Islamic Banks form a growing segment in Pak Banking and are here to stay, the conventional banks need to cooperate with them and study their specific types of risk and risk management to improve theirs. Other studies are needed for specific type of risk and method of management at the Islamic Banks in Pakistan according to Islamic Shari'ah.

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