The Impact of Risk Management on Financial Performance of Banking Sector in Pakistan

Dr. Khurshed Iqbal
Ms. Marium Saleem
Ms. Aqsa Siddiq
Saman Gohar
Mr. Zohaib Ali

ABSTRACT:

The aim of the study is to examine the effect of risk management practices on the performance of the banking sector in Pakistan. Primary data was collected via adopted questionnaire whereas secondary data was collected from SBP and security exchange commission websites over the period of 2011 to 2015. The study found positive relationship among credit risk identification (CRI), credit risk appraisal (CRA), credit risk control (CRC) & return on asset (ROA), while negatively association was found between credit risk monitoring (CRM) & return on assets (ROA). Moreover, positively association was noticed among credit risk identification (CRI), credit risk appraisal (CRA), credit risk monitoring (CRM) and return on equity (ROE), whereas negatively associated was observed between credit risk control (CRC), and return on equity (ROE). The study concluded that credit risk identification (CRI), credit risk appraisal (CRA), and credit risk control (CRC) positively influenced the financial performance measured by ROA and ROE of the banking sector in Pakistan. The study recommended that risk manager should give more focus to the CRI since properly identification of risk would help to develop the basis for the other stages of management of credit risk.

KEY WORDS: Risk Management, Financial Performance, CRI, CRA, CRC & CRM
1.1: Background of the Study

Risk management is a building block in banking sector. In every block, risk is involved and volatility of environment is the main reason like liquidity risk, risk related to foreign exchange, credit, counter party, reputational risk. Therefore, in the battle of success and survival in banking sector, such risks are being a barrier. Thus, risk management play a vital role in banking sector. The empirical study of Carey (2001) concluded that risk management is more important in financial institution as compared to non-financial institution. One of the ultimate goal of financial institution is to improve their net profit and increase the shareholders wealth. This goal can be get by efficiently utilizing various financial services.

Generally, there are two types of risks namely unavoidable (also called systematic risk) and avoidable risk (also called unsystematic risk). Unavoidable risk is linked to whole economy while, avoidable risk is related with specific an organization or assets.

As systemic risk can be eliminated by mitigation strategies and might not by transmission technique. Santomero and Oldfield (1997) suggested the following mitigation plans.

- Simple business particles are used for efficient risk management at bank level;
- Removing or avoiding risks and
- Efforts being made for risk transfer.

Economist experts conducted survey by evaluating the techniques of strengthening risk management of financial institution related to worldwide crisis. They documented in their survey that fixing risk management and its enhancement can play a major role in making better risk
management. They found that 40 percent of respondents of the study were well aware of the importance of risk management and gave suggestion that risk management culture is needed to be established (Bashar & Islam 2014).

Akhtar, Ali & Sadaqat (2011) financial crisis had a great impact on both the non-financial as well as financial sector and it became the cause for organization to get worried about risk management. Initially, financial institutions to manage risk adopted regulatory standards and achieving these requirements were considered fallacious to achieve risk management. According to Siddiqi (2008), risk management has three aspects i.e. to identify risk, then risk measurement and risk mitigation. In interest based banking and interest free banking, all of these perspectives are considered to vary from one another due to its independence and dependence on interest accordingly.

In Pakistan, many practices are avoided by the financial institution due to which the losses can be occur. In Pakistan banking setup, the standard of Basel\(^1\) II are adopted. Due to the standard of Basel II. The bank must hold the minimum need of wealth. Settlement related to loan, Basel II is utilized as an incentive and powerfully manage the uncertainty in financial institution provide a competitive edge. In 1999, consultative paper was provided by the Basel II for the claimed of most risky loans (Harvey, Lins, & Roper 2004). In Pakistan conditions there are many uncertainty in marketplace, credit event, business risk, bank rate risk etc. are encountered due to inconsistent conditions in Pakistan (Haque & Nasir 2016).

Kalui and kiawa,(2015) concluded that the uncertainty of credit management is determined the organization rule and practices , which are fixed by association to assure efficient gathering payments from consumer thereby diminishing potential of default. Tanui , Wanyoike & Ngahu, (2015) examined that uncertainty of credit management guidelines consist of decision making that are meant to minimizes the hazards of those assets which are on credit basses.

\(^1\) In 1974 ,Basel committee was developed by central bank governors of G-ten countries of the world namely Spain, Canada , Germany, Japan , Belgium, Sweden, France , Luxemburg, UK, Italy , Netherlands . Basel 1, is developed by international banking regulation (IBR).It was set for the purpose to minimize credit risk in financial institution by maintaining minimum capital requirement. Basel II is an universal business accepted by the desire monetary institutions to sustain sufficient reserves to cover uncertainty acquired by activity (operations). The Basel deal are a list of suggestion for money dealing act  and governance issued by the Basel Committee on Banking Supervision
Kibor, Ngahu & Kwasira (2015) highlighted that credit risk management is a serious problem that many financial institution are faces. Raad, (2015) he concluded that the management of credit uncertain includes identifying, monitoring, calculating, lessen and controlling the hazards of credit uncertainty. Kwaku (2015) documented that identification of risk is a procedure to pointedly examined, analysis and forecast possible uncertainty.

1.2 Research objectives:

1. To examine the effect of risk management practices on the performance of the banking sector in Pakistan.
2. To find out what sort of risk management factors play important role in banking sector.

METHODOLOGY

3.1 INTRODUCTION:

The key theme of this chapter is to develop and design research methodology, its consists design of the research, population of the research, the sample size, collection of data and econometric models.

3.2 POPULATION:

Zikmund et al., (2010) examined that population is a human being or elements having a similar features that a researcher desire to conduct study. Moreover, Gall et al., (2006) noticed that the identical characteristics of human being or parts is known as population. Population of this study consists of fifty-six banks (N=56) operated in Pakistan. These banks include public sector schedule banks, specialized schedule banks, private banks, Islamic banks, foreign banks, microfinance banks, and development finance institutions. The list of these banks has been attached (appendix I).

3.3 SAMPLE SIZE & SAMPLE TECHNIQUE:

The subset of population is known as sample study. Thirty-eight banks (n=38) were selected out of fifty-six for conducted the study. Convenient sample technique was used in this study.
3.4 DATA COLLECTION:

Both primary and secondary data were used for conducted this study. Primary data was collected through adopted questionnaire used by Kauna Kaimuri Evelyn, 2016. The data is collected from thirty-eight commercial banks. One hundred and fifty questionnaires were distributed and one hundred and ten questionnaires were return. The response rate is 73 percent, which is satisfactory. On the other hand, the secondary data took from the financial reports of the selected banks over the period of five years from 2011 to 2015.

3.5 ANALYTICAL MODEL:

The main purpose of this study is to investigate the impact of risk management practices on financial performance of banking industry in Pakistan. The descriptive statistics (mean, standard deviation), correlation analysis and multiple regression tests were used by examines the impact of risk management practices on financial performance of banking industry in Pakistan.

The equation of regression models are:

MODEL 1:

\[ Y = f (CRA + CRM + CRI + CRC) \]  
\[ ROA = \alpha + \beta_1 X_2 + \beta_2 X_3 + \beta_3 X_4 + e \]  
\[ ROA = \alpha + B \text{CRA} + \beta_2 \text{CRM} + \beta_3 \text{CRI} + \beta_4 \text{CRC} + e \]
MODEL 2:

Y = f (CRA+CRM+CRI+CRC) 

--------- eq IV 

ROE= \alpha + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e  

--------- eq V 

ROE= \alpha + \beta_{CRA} + \beta_{CRM} + \beta_{CRI} + \beta_{CRC} + e 

--------- eq VI 

Where:

\alpha = intercept 

\beta = coefficients of equations. 

X_1 = CRA = Credit Risk Analysis 

X_2 = CRM = Credit Risk Monitoring 

X_3 = CRI = Credit Risk Identification 

X_4 = CRC = Credit Risk Control 

ROA = Return On Assets 

ROE = Return On Equity 

\mu = error term
Figure 3.1: CONCEPTUAL FRAMEWORK:

Independent Variables

- CRA (credit risk analysis)
- CRM (credit risk monitoring)
- CRI (credit risk identification)
- CRC (credit risk control)

Dependent Variables

- Financial Performance:
  - ROA
  - ROE

Banks Operated in Pakistan
RESULTS AND DISCUSSION

4.1 CORRELATION ANALYSIS:

Table 4.1 Correlation analysis

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Return on Assets</th>
<th>CRI</th>
<th>CRA</th>
<th>CRC</th>
<th>CRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson</td>
<td>1.000</td>
<td>.165</td>
<td>.156</td>
<td>.150</td>
<td>-.124</td>
</tr>
<tr>
<td>CRI</td>
<td>.165</td>
<td>1.000</td>
<td>.632</td>
<td>.573</td>
<td>.596</td>
</tr>
<tr>
<td>CRA</td>
<td>.156</td>
<td>.632</td>
<td>1.000</td>
<td>.648</td>
<td>.585</td>
</tr>
<tr>
<td>CRC</td>
<td>.150</td>
<td>.573</td>
<td>.648</td>
<td>1.000</td>
<td>.811</td>
</tr>
<tr>
<td>CRM</td>
<td>-.124</td>
<td>.596</td>
<td>.585</td>
<td>.811</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 4.1 presents the correlation analysis between dependent and independent variables of the study. The analysis presented in table 4.1 reveals that there is positive correlation between financial performance measured by the return on assets and CRI (uncertain credit identification). As presented in table 4.1 that there is positive correlation between the return on assets and CRA (uncertain credit appraisal). According to table 4.1 the correlation between the return on assets and CRC (uncertain credit control) is 0.150; while there is negative correlation between the return on assets and CRM (uncertain credit monitoring) that is -0.124. Moreover, Credit Risk Identification is positively correlated with CRA, CRC and CRM.
4.2 REGRESSION ANALYSIS:
Outcomes of regression contain model summary, ANOVA (analysis of variance) and coefficients (summary)

Table 4.2 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.499a</td>
<td>.491</td>
<td>.581</td>
<td>.87055</td>
</tr>
</tbody>
</table>

Predictors: (Constant), CRM, CRA, CRI, CRC

Table 4.2 demonstrates that, R-square (coefficient of determination) is 0.491, that express that CRI (uncertain risk identification), CRA (uncertain risk appraisal), CRC (uncertain risk control), CRM (uncertain risk monitoring) justify there are 49.1 percent of deviation (variation) in performances of banking sector in Pakistan. Hence, 49 percent of deviation in work (performance) is explained by the flaw term and other determinant.

4.3 ANALYSIS OF VARIANCE:
Table 4.3 ANOVA:

ANOVAb

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>8.304</td>
<td>4</td>
<td>2.076</td>
<td>2.739</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>25.009</td>
<td>33</td>
<td>.758</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>33.313</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CRM, CRA, CRI, CRC
b. Dependent Variable: Return on Assets

Table 4.3 depicts the analysis of variance which exhibits the overall model fitness. Hypothesis for ANOVA as below:
Ho: The overall model is not adequately fit.
H1: The overall model is adequately fit.

As presented in table 4.3, F-Value is 2.739 with significant value 0.045, which is less than 0.05. Therefore, the study rejects the null hypothesis, and hence alternate hypothesis is accepted, as the p-value is significant.

**4.4 COEFFICIENTS REGRESSION:**

Table 4.4 Coefficients regression.

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.227</td>
<td>.592</td>
<td>1.227</td>
<td>2.072</td>
<td>.046</td>
</tr>
<tr>
<td>CRI</td>
<td>.377</td>
<td>.314</td>
<td>.250</td>
<td>1.200</td>
<td>.239</td>
<td>.522</td>
</tr>
<tr>
<td>CRA</td>
<td>.130</td>
<td>.380</td>
<td>.074</td>
<td>.341</td>
<td>.735</td>
<td>.479</td>
</tr>
<tr>
<td>CRC</td>
<td>.878</td>
<td>.388</td>
<td>.627</td>
<td>2.263</td>
<td>.030</td>
<td>.297</td>
</tr>
<tr>
<td>CRM</td>
<td>-1.076</td>
<td>.349</td>
<td>-.825</td>
<td>-3.080</td>
<td>.004</td>
<td>.317</td>
</tr>
</tbody>
</table>

Table 4.4 presents the VIF (Variance Inflation Factors) of independent variables of the study and it exhibits that whether multicolinearity problem exist in the model or not. The correlation among the independent variables should not increase by ten percent. As seen in table 4.4, all of the values of independent variables are less than 4, therefore there is no problem of multicolinearity.

The table 4.4 shows the regression outcome of ROA (Return on Assets) model 1, according to table 4.5 CRI (credit risk identification) having positively influence the ROA (return on assets). The coefficient value of CRI (credit risk identification) is 0.377 in regression model 1. The significant value of the CRI is greater than the 0.05, which present that the CRI insignificantly affect the ROA. The analysis in the above table present that the CRA (credit risk appraisal) having positively affect the ROA (return on assets).the coefficient value of CRA is 0.130 in the regression model 1. The significant value of the CRA is greater than the 0.05, which present that CRA insignificantly affect the return on assets. The conclusion shows in table 4.5 that the CRC having positive impact on the ROA. The coefficient value of CRC is 0.878 in the regression model 1.the significant value of CRC is less than the 0.05, which depict that CRC significantly affect the ROA. This tables show that the CRM (credit risk monitoring) having negative
influence the return on assets. The coefficient value of CRM is -1.076 in the regression model. The significant value of the CRM is 0.04 which is less than the 0.05 so it shows that it significantly affect the return on assets.

4.5 CORRELATION ANALYSIS:

Table 4.5 Correlation analysis.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Return On Equity</th>
<th>CRI</th>
<th>CRA</th>
<th>CRM</th>
<th>CRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>Return on Equity</td>
<td>1.000</td>
<td>.283</td>
<td>.046</td>
<td>.343</td>
</tr>
<tr>
<td></td>
<td>CRI</td>
<td>.283</td>
<td>1.000</td>
<td>.209</td>
<td>-.093</td>
</tr>
<tr>
<td></td>
<td>CRA</td>
<td>.046</td>
<td>.209</td>
<td>1.000</td>
<td>.214</td>
</tr>
<tr>
<td></td>
<td>CRM</td>
<td>.343</td>
<td>-.093</td>
<td>.214</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>CRC</td>
<td>-.224</td>
<td>-.313</td>
<td>-.134</td>
<td>.133</td>
</tr>
</tbody>
</table>

According to Table 4.5 the correlation analysis between dependent (repressor) and independent (regressent) variables of the study. The analysis presented in table 4.5 reveals that there is positive correlation between financial performance measured by the return on equity and CRI (uncertain credit identification). As presented in table 4.5 that there is positive correlation between the return on equity and CRA (uncertain credit appraisal). According to table 4.5 the correlation between the return on equity and CRM (uncertain credit monitoring) is 0.343; while there is negative correlation between the return on equity and CRC (uncertain credit control) that is -0.224. Moreover, Credit Risk Identification is positively correlated with CRA and negatively correlated with the CRM, CRC.
4.6 REGRESSION ANALYSIS:

Outcomes of regression contain model summary, ANOVA (analysis of variance) and coefficients (summary)

Table 4.6 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>.517a</td>
<td>.637</td>
<td>.578</td>
<td>12.52605</td>
<td>2.025</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CRC, CRM, CRA, CRI
b. Dependent Variable: ROE

Table 4.6 demonstrates that, R-square (coefficient of determination) is 0.637, that express that CRI (uncertain risk identification), CRA (uncertain risk appraisal), CRC (uncertain risk control), CRM (uncertain risk monitoring) justify there are 63.7 percent of deviation (variation) in performances of banking sector in Pakistan. Hence, 63 percent of deviation in work (performance) is explained by the flaw term and other determinant.

There is no auto-correlation.

4.7 ANALYSIS OF VARIANCE:

Table 4.7 ANOVA:

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1887.505</td>
<td>4</td>
<td>471.876</td>
<td>3.007</td>
<td>.032a</td>
</tr>
<tr>
<td>Residual</td>
<td>5177.766</td>
<td>33</td>
<td>156.902</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7065.271</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.7 depicts the analysis of variance which exhibits the overall model fitness. Hypothesis for ANOVA as below:

Ho: The overall model is not adequately fit.

H1: The overall model is adequately fit.
As presented in table 4.7, F-Value is 3.007 with significant value 0.032, which is less than 0.05. Therefore, the study rejects the null hypothesis, and hence alternate hypothesis is accepted, as the p-value is significant.

4.8 COEFFICIENTS REGRESSION:

Table 4.8 Coefficients regression

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Tolerance</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 (Constant)</td>
<td>-11.864</td>
<td>15.603</td>
<td>-.760</td>
<td>.452</td>
</tr>
<tr>
<td>CRI</td>
<td>5.758</td>
<td>3.243</td>
<td>.285</td>
<td>1.776</td>
</tr>
<tr>
<td>CRA</td>
<td>-2.612</td>
<td>3.098</td>
<td>-.133</td>
<td>-.843</td>
</tr>
<tr>
<td>CRM</td>
<td>10.152</td>
<td>3.709</td>
<td>.426</td>
<td>2.737</td>
</tr>
<tr>
<td>CRC</td>
<td>-3.819</td>
<td>2.896</td>
<td>-.209</td>
<td>-1.319</td>
</tr>
</tbody>
</table>

* a. Dependent Variable: ROE

Table 4.8 presents the VIF (Variance Inflation Factors) of independent variables of the study and it exhibits that whether multicolinearity problem exist in the model or not. The correlation among the independent variables should not increase by ten percent. As seen in table 4.8, all of the values of independent variables are less than 2, therefore there is no problem of multicolinearity.

The table 4.8 illustrates the regression outcome of ROE (return on equity) model 2. According to table 4.8 CRI (credit risk identification) having positively influence the ROE (return on equity). The significant value of the CRI is greater than the 0.05, which present that the CRI insignificantly affect the ROE. The analysis in the above table presents that the CRA (credit risk appraisal) having negatively affect the ROE (return on equity).The coefficient value of CRA is -2.612 in the regression model 2. The significant value of the CRA is greater than the 0.05, which present that CRA insignificantly affect the return on equity. This table reveals that the CRM (credit risk monitoring) have positively influence the return on equity. The coefficient value of CRM is 10.152 in the regression model 2. The significant value of the CRM is 0.010 which is less than the 0.05 so it demonstrates that it significantly affect the return on equity. The conclusion shown in table 4.10 that the CRC having negative impact on the ROE (return on equity). The coefficient value of CRC is -3.819 in the regression model 2 .The significant value of CRC is greater than the 0.05, which depict that CRC insignificantly affect the ROE.
This study establish an indirect relationship between the CRA and performance of Banks. Which means that if one unit increase in the CRA there will be -2.612 unit decrease in the performance of Banks.

This study illustrate that there is positive relationship between the CRM and performance of banks. Which shows that if one unit increase in the CRM there will be 10.152 unit increase in the performance.

This research found that there is positive (significant) association between the CRI and banks performance of Pakistan. Which shows that there is direct association. If one unit increase in the CRI, there will be 5.758 unit increase in the performance.

This study found the negative relationship between the CRC and bank performance measured by ROE, which demonstrates that one unit increase in the CRC there will be -3.819 units decrease in the bank performance.

**Conclusion**

Risk management is a building block in banking sector. In every block, risk is involved and volatility of environment is the main reason like liquidity risk, risk related to foreign exchange, credit, counter party, and reputational risk. The major aimed of this study is to examine the effect of risk management practices on the performance of the banking sector in Pakistan. Both primary and secondary data were used in this study. Primary data was collected via adopted questionnaire while secondary data was collected from SBP and security exchange commission websites over the period of 2011 to 2015. One hundred and ten questionnaire is distributed to collect the information and from the financial reports, the secondary information is taken. This study contain a structured survey .the scale 1-5 is utilize in this research. The explanatory statistic are used to analyze the data such as regression, mean, standard deviation, correlation. The study found the association among credit risk identification (CRI), credit risk appraisal (CRA), credit risk control (CRC) & return on asset (ROA), while negatively association was found between credit risk monitoring (CRM) & return on assets ( ROA). Moreover, positively association found among credit risk identification (CRI), credit risk appraisal (CRA), credit risk monitoring (CRM) and return on equity (ROE),while negatively associated was noted between credit risk control (CRC), and return on equity (ROE). The result showed that CRI (credit risk identification) having positively influence on the ROA return on assets). The credit risk appraisal (CRA) positively influenced bank performance measured by return on assets (ROA).The conclusion showed that the CRC (credit risk control) having positive impact on the return on assets (ROA).
The CRM (credit risk monitoring) having negative influence on the return on assets (ROA). The result confirm positive relationship between credit risk identification (CRI) and ROE (return on equity). The analysis showed that the CRA (credit risk appraisal) having negatively affect the ROE (return on equity). The finding revealed that the CRM (credit risk monitoring) have positively influence the return on equity. The study found that the credit risk control (CRC) having negative impact on the ROE (return on equity). The study concluded that credit risk identification (CRI) and credit risk monitoring (CRM) positively influenced that bank performance is measured by return on assets (ROA) and return on equity (ROE).

REFERENCES


