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## **Risk Assessment and Handling in Ethiopian Commercial Banks: A Comparative Study of Public and Private Sectors**

**Abdella Kossa**

Lecturer, Department of Management, College of Business and Economics  
Debre Berhan University, Ethiopia

**Dr. Shaik Abdul Majeed Pasha**

Professor, Department of Finance, College of Business and Economics,  
Arba Minch University, Ethiopia

### **Abstract:**

*In recent times Ethiopian economy is one of the booming in African countries. In modern business world operating banking business is a challenging one, especially in developing country like Ethiopia. At this juncture researcher tries to find how both public and private sector banks are performing in risk assessment and handling/managing risks effectively to overcome their problems. By applying Statistical Package for Social Sciences (SPSS) tools, for data analysis, the researcher identifies that there is approximately similar extent of credit risk exposure between state owned and private banks for all attributes of credit risks, operating efficiency is good in public sector than private sector and better risk management environment could found in private banks compared to state owned banks. All banks are influenced by many factors such as credit risk, liquidity risk and operational risk. Hence, it is recommended for banks' management to effectively assess and handle risks during this typical time.*

**Keywords:** Risks, banking, assessment, public and private sectors.

### **1. Introduction**

#### *1.1. Background of the Study*

In modern times Ethiopian economy is one of the booming economies in African continent with around 93,000,000 populations. In the complex business world operating banking business is a challenging one, especially developing country like Ethiopia. It is not surprise that there is much uncertainty in today's world. Recent financial disasters in financial and non-financial firms in governmental agencies point up the need for various forms of risk management (Pyle, 1997). The financial industry has always been affected by unsystematic changes such as changes in the economic situation (uncertain interest rates, foreign exchange rates), political changes, social changes and systematic risk such as internal controls, corporate governance and information technology systems as well (Ranong, and Phuengnam, 2009). Besides, opportunities and threats have always been present in society, but the increasing complexity and interconnectedness within society, contribute to the emergence of new types of risk.

According to Bessis, 2012, Banking risks are defined as adverse impacts on profitability of several distinct sources of uncertainty. To survive in this uncertain world, banks should have efficient risk management system. This is the reason for which banks have plenty of motives for developing risk-based practices and risk model. There are a number of methods and techniques which facilitate handling the risks.

Risk assessment is the careful analysis and evaluation of the diverse factors that can bring risks. Risk assessment provides the banks an opportunity to determine the vulnerabilities and risk associated with a banking system. As Thomas Lee (2008), the significance of risk assessment is apparent once a risk management system is developed and management wants to recognize the effectiveness of such a system. It's an important step of risk management in protecting the business from loss.

In Ethiopia, commercial banks are playing an important primary role as financial intermediaries in the economic growth process, channeling funds from savers to borrowers for investment. As financial intermediaries, banks play an important role in the operation of an economy. In such a way, commercial banks are key providers of funds and their stability is of paramount importance to the financial system (Birhanu, 2012). But the system is dominated by the state owned banks. The Commercial Bank of Ethiopia accounts for almost 50% of all lending, by itself. So it is important that understanding the determinants of managerial efficiency which has impact on banks profitability useful for success of the banks in state owned and private banks. This is the reason for which this study focus on examining the effects banking risks on operating efficiency of Ethiopian commercial banks industry by using both primary and secondary data.

### *1.2. Statement of the Problem*

There is no agreement on how the risks are impacting the operating efficiency or performance of banks since different studies provide different findings. The financial institutions operate in a very uncertain environment where conditions can change due to inflation, interest rate fluctuation, financial crises, competition, government influence and etc. The operational problem and poor financial position in financial institutions can be life-threatening to businesses (Carey, 2001) and national income, since the banking crises affect the country's economy. It's known that risks may hinder the activities of financial institutions in performing their operation. Assessing these and other risks and deciding on techniques used to handle them is a major challenge for management of banks.

In this study we have a glance of all types of risks that exist in public and private banking sector, but assessing risk in the banking sector is a single step and is part of a broader risk management procedure. The operating inefficiency in banks leads to loss and failure. This inefficiency occurred as a result of poor risk assessment and handling mechanism. Without effective risk assessment, proper risk handling mechanism and efficient operation, the life of the institution is not long.

### *1.3. Objectives of the Study*

The main purpose of this study is to compare risk assessment and handling mechanism between state owned and private bank and specific objectives are:

- To examine the banks risk management environment.
- To know and analyze the extent to which identified risks create loss.
- To suggest the major tools or techniques used by banks to manage their risk.
- To evaluate the significant difference between state-owned and private banks in risk assessment and handling.
- To identify the relationship between risk assessment and handling techniques

### *1.4. Significance of the Study*

The ultimate success or failure of a company depends on its ability to manage risks. Therefore, the company management should pay their attention to risk is highly essential issue in business. As a result, this study was addressed how to control this essential issue. There is no detail study were made on assessing and handling risks in Ethiopia. Therefore, this study helps to society or other researchers who want to conduct further study on this issue in the future and it signifies commercial banks of the country to evaluate its risk assessment and handling practices.

### *1.5. Scope of the Study*

The study was focus on methods of assessing and handling risks in Commercial Bank of Ethiopia (CBE), Construction and business Bank (CBB), Nib International Bank (NIB) and Bank of Abyssinia (BoA). The main areas covered by this study includes overview of risk management practice in Ethiopian banks, the extent of banking risks and its management measures, and the relationship between risk amount and handling practice.

## **2. Literature Review**

### *2.1. Overview of Risk Management in Banks*

Risks are invisible and intangible uncertainties which might be lead the business to future losses, and to shut down. Risk Management is an everyday activity that protects the business from unexpected hazards. Banking risk means the perceived uncertainty connected with some event related to the banking business. Now a day the banking sector becomes strong, complex and very risky business. Therefore, it needs to take care in identifying, assessing and handling the type as well as the degree of its risk exposure.

As Stavroula (2009), Banks often classify the losses connected with the banking risks into expected or traditional and unexpected or non-traditional losses. Expected/ traditional losses are those that the bank knows with reasonable certainty will occur and arise from the basic functions of banks (e.g. the expected default rate of corporate loan portfolio or credit card portfolio). Unexpected/ non-traditional losses are those associated with unforeseen events and arise from the developments in banking environment, domestically or globally- (e.g. regulation, losses due to a sudden down turn in economy or falling interest rates).

### *2.2. Assessing and Handling Different Kinds of Banking Risk*

Banking risks are risks that have adverse impact on performance and profitability an institution. Since every transaction in the banks is associated with some level of uncertainty, it contributes to the overall risks faced by the banks. The different risks need careful definition to provide sound bases serving for quantitative measures of risk. As a result, risk definitions have gained precision over the years. Some of the risks that may be faced by banks are, risk of loan repayment/credit risk, liquidity risk, market risk, interest rate fluctuation risk, foreign exchange risk, risk related with operation and legal risk.

### *2.3. Risk Handling Techniques*

After the risk manager has identified and measured the risks facing by the firm, he or she must decide how to handle them. In the process of providing financial services, banks assume various kinds of financial risks. The adoption of appropriate risk handling techniques is an essential ingredient of a successful banking system. Practicing Poor risk handling technique can lead to significant

loss. Winch (2002), cited in Gajewska and Ropel (2011), claims that the lower impact the risk has, the better it can be managed. There are two basic approaches of handling risks, which are risk control and risk financing.

### 2.3.1. Risk Control

First the risk manager can use risk control measures to alter the exposures in such a way as to: To reduce the firm's expected property, liability and personal losses, or to make the annual loss experience more predictable. Risk controlling techniques include: avoidance, loss control, separation, combination and transfers.

### 2.3.2. Risk Financing

Risk manager can use risk financing measures to finance the losses that do occur. Fund may be required to repair or restore damaged property, to settle liability claims, or to replace the services of disabled or deceased employees or owners (Williams, Smith and Young, 1998). Risk financing techniques used to handle risks, includes transfer and retention

## **3. Methodology of the Study**

The study that gives an overview of the methodology and design used to address the research problem and achieve objectives of the research, which includes: the study's research design, data sources, sample size selected, sampling techniques, method of data collection, data collection instrument, data processing, methods of data analysis. In addition, it describes the methodology that is used in the empirical analysis to test the different hypotheses.

### *3.1. Study Design*

The researcher was used both quantitative and qualitative methods; the data gathered through questionnaire was analyzed quantitatively through tables, graphs, frequency, percentages, mean, standard deviation, t-test and correlation and to give a condensed picture of the data by using SPSS to analyze the questionnaire data. The data collected through open ended questionnaire and interview was analyzed qualitatively.

### *3.2. Data Sources*

The researcher used primary data such as questionnaire and interview. A well designed questionnaire which has four sections such as general information, banking risk environment, risk assessment and handling techniques questionnaire, and open ended questions will be distributed to the target respondents, in order to realize the objective. This questionnaire was filled by branch managers, vice managers, auditors and accountants of the banks.

The sources for secondary data gathered from different books, annual reports of the banks, empirical studies, related research papers, internet, and other Published and unpublished documents.

### *3.3. Sample Size and Sampling Techniques*

The researcher used purposive sampling by considering the time concern, the cost allocated for the research and availability of data and selected four out of 19 commercial banks, two from state owned and two from private which are; Commercial bank of Ethiopia, Construction and Business bank, Bank of Abyssinia, and Nib International Bank. The sample size represents 21.05% of all registered and fully operated commercial banks in Ethiopia. These banks were selected by using judgmental sampling method by assuming their potential representativeness in light of public and private banks in Ethiopia. The data was gathered through questionnaire and interview from selected four banks. This primary data was collected from each banks branch managers, vice managers, auditors and accountants, since they have more knowhow about risk than other employees.

### *3.4. Method of Data Analysis*

The data gathered through questionnaires and interview shall be analyzed and presented through both quantitative and qualitative methods of data analysis. The analysis will be conducted according to the type of data gathered. The data collected using closed-ended questions will be presented and interpreted using descriptive statistics such as mean, standard deviation, figures, graphs, tables and percentages, and inferential statistics such as t-test distribution and correlation analysis by using SPSS version 16

## **4. Analysis and Discussion**

### *4.1. Introduction*

This part consists the presentation, analysis and discussion of findings from data's gathered through primary data which are questionnaire and interview, and secondary data's obtained from banks annual report. Under this section, result of respondent's response, the relationship between different kinds of banking risks and handling, and the impact of banking risks on operational efficiency were presented and analyzed respectively.

## 4.2. The Results of General Information

		State owned banks		Private banks	
		frequency	percentage	frequency	Percentage
Respondents service year	1-4yrs	16	84.21%	6	40.00%
	5-7yrs	3	15.79%	4	26.67%
	8-10yrs	-	-	3	20.00%
	10yrs and more	-	-	2	13.33%
Respondents educational level	Diploma	3	15.79%	-	-
	First degree	16	84.21%	9	60.00%
	Masters degree	-	-	6	40.00%
	Above masters	-	-	-	-
Respondents position in the bank	Branch manager	4	21.05%	4	26.67%
	Vice manager	4	21.05%	4	26.67%
	Auditor	7	36.85%	3	20.00%
	Accountant	4	21.05%	4	26.67%
Authorized body to assess risk	Branch manager	7	12.28%	5	10.64%
	Senior manager	12	21.05%	8	17.02%
	Internal auditor	8	14.04%	6	12.77%
	External auditor	5	8.77%	5	10.64%
	Board of director	14	24.56%	12	25.53%
	Risk mgmt dep't	11	19.30%	10	21.28%
	Other	-	-	1	2.13%

Table 1: Respondents' general information

Source: Questionnaire survey, 2013

The respondent's service years in government banks mostly fall in the range of 1-4 years, which is 84.21% and the remaining 15.79 % serves 5-7 years in the bank. In private banks 40%, 26.67%, 20%, and 13.33% of respondents serve in the bank for 1-4 years, 5-7 years, 8-10 years, and more than 10 years respectively. These results indicate that the private banks have more experienced staff than government banks, which shows employees of government banks understand less about risk when compared to private banks employees. There are 84.21% first degree holders and 15.19% diploma holders in government banks while 60% first degree holders and 40% master's degree holders in private banks. This also indicates private banks have more educated staffs which are able to understand risks than government banks. For the Risk assessing body, the result in the above table shows highest percentage for senior manager, board of director and risk management department. Similarly, the NBE's risk management guideline indicates that in all banks top management and board of directors have the authority to assess risk in their organization because the top-level management has the authority to establish risk management and decides the objectives and strategies for organizational risk management activities.

## 4.3. Descriptive Statistics Analysis for Risk Management Environment of Banks

		State owned banks		Private banks	
		CBE	CBB	BOA	NIB
The existing organizational culture helps to know how to assess and handle risks	Mean	3.27	4.12	4.14	4.25
	S.d.	.786	.641	.690	.707
Risks are assessed regularly and its changes handled properly	Mean	3.73	4.12	4.00	4.00
	S.d.	.905	.641	.816	.756
The reported hazards been effectively controlled	Mean	3.64	4.00	3.57	3.88
	S.d.	.809	.535	1.272	.641
Adequate resources are allocated for assessing risk	Mean	4.00	2.50	3.00	3.12
	S.d.	.447	.756	1.155	.991
Banks have strong group risk and internal audit functions which report directly to the center	Mean	3.09	3.00	3.86	3.00
	S.d.	.701	.756	.900	.756
There is experienced staff, which recognizes potential problems, and brings them to the attention of their supervisors.	Mean	3.27	4.00	4.14	4.25
	S.d.	.467	.756	1.069	.707
There is appropriate information system on the asset and liability or the bank's liquidity positions	Mean	3.82	4.88	4.71	4.50
	S.d.	.603	.354	.488	.756
The organization's internal auditors periodically assess the adequacy of the organization's internal control systems.	Mean	3.91	4.12	4.57	4.75
	S.d.	.539	.641	.787	.463

Banks should assess the credit worthiness of the borrower before sanctioning loan	Mean	4.45	4.75	4.45	4.62
	S.d	.688	.463	.688	.744
The bank offer training for employees on risk management	Mean	2.64	2.25	2.43	2.38
	S.d	.809	1.035	.976	.744
I understand the credit risk management guideline or policy	Mean	3.18	3.38	3.86	3.12
	S.d.	.603	.744	1.069	.835
The bank arranges for adequate liquidity especially in paper money to meet day-to-day cash demand	Mean	4.00	4.12	.00	4.64
	S.d.	.674	.354	.577	.535
Banks have strongly affected by external events such as inflation, interest rate and foreign exchange fluctuation.	Mean	2.45	2.75	2.57	2.88
	S.d.	.524	.707	.787	.518

*Table 2: Descriptive statistics for banks' risk management environment*

*Source: Questionnaire survey, 2013.*

Among the banks, the private banks i.e. NIB and BOA score the highest mean i.e. 4.25 and 4.14 with standard deviation of .25 and .26 respectively. The mean score for government banks is 3.27 and 4.12 with standard deviation of .237 and .227 for CBE and CBB respectively. This shows that there is a good organizational culture which helps to understand risks in private banks when compared to the government banks. These negative effects lead to carelessness of employees in their work, which brings high risk to the bank. But in Ethiopian banking environment there is similar rules and guidelines developed at the Head Office for each bank, which helps to understand the risks that affect the bank. In addition, the interview held with branch managers state that the banks followed policies and guidelines of National Bank of Ethiopia (NBE), which may help to control risks, especially external risks like interest rate risk, foreign exchange risk, and risks come from countries economic and monetary policy. The banking organizational culture encourages teamwork and there is reward for well performing branch. Besides, banking environment is suitable for working which leads to a common perception the organization's member's hold. Most of the branches of the banks are online connected with the other to ensure fast money transfer and other services for the customers. The Ethiopian banks are continuously introducing up to date technology including ATM/ VISA card machine to build maximum market share, with minor defects. The financial capacities of all banks are on improvement as total deposit, loans and advances, profitability and balance sheet size have been raised from year to year, which builds strong organizational culture. Besides, branches have also their own culture. No bank can be isolated from its cultural environment that is bank as a social unit have been operate within the frame work of the larger cultural system. Bank may be considered a sub culture within a framework of total broader Organizational Culture (Agarwal and Kusmakar, 2011).

The result from the table also shows a proper risk assessment and handling practices in BOA and NIB. On average, relatively similar practices are there between state and private banks. As shown in Table 2 above for effective control of assessed hazards, a mean score for government banks is 3.64 and 4.00. That is, the average score of the respondents with regard to controlling the reported hazards indicates their agreement with little difference among state and government banks. The interview result indicates that the risks found and reported to the center have been controlled by head office Board of Directors (BoD) and senior management by informing branches through reports, meeting and direct contacts. These risks have been controlled in the branch through different practices in day to day activities.

With regard to allocation of resources for assessing risk, the mean score is highest for Commercial Bank of Ethiopia i.e. 4.00 With standard deviation of .447. This indicates resources are allocated well, since there is high mean. On the other hand, the mean score for CBB, BOA and NIB is 2.05, 3.00 and 3.12 with standard deviation of .756, 1.155 and .991 respectively. This shows that these banks have a problem with allocating adequate resources to handle risks effectively. In NBE's risk management survey report, Ethiopian banks (75%) are overlooking budget for risk management. The mean scores and standard deviations clearly show respondents agreement on the variables. That is mean scores for BOA is 3.86 with standard deviation of .900 and the mean score for CBE is 3.09 with standard deviations of .701. Finally, both CBB and NIB have a mean of 3.00 with standard deviation of .756. The result shows moderate group risk and internal audit functions which are directly report to the Head Office because internal auditors of banks do not independently review effectiveness of banks' risk management functions and also the authority to deal with risk management is given to risk management department at the Head Office.

The result presented in Table 2 shows that for the variable of having experienced staff, the highest score is in NIB and BOA, which is a mean of 4.25 and 4.14 with standard deviation of .707 and 1.069 respectively. The mean scores of CBE and CBB is 4.00 and 3.27 with standard deviation of .467 and .756 respectively. This result shows there is experienced staff, which recognizes potential problems and brings them to the attention of their supervisors in private banks than those in state banks. In Ethiopia the banking sector is one of the institutions with experienced and educated staff, but government banks especially CBE is treated as a training place. After they serve some years, most employees leave to private banks and other organizations. Almost in all banks there is appropriate information system on the asset and liability of the banks depicted from the above table. As per the above table, internal auditors periodically assess the adequacy of the organization's internal control systems public banks. The mean scores and standard deviations are 3.91 and .539 for CBE respectively, which is the lowest score, compared to private banks.

In assessing credit worthiness of borrower before sanctioning loan, all state and private owned banks have high performance. That is a means of 4.45, 4.75, 4.45 and 4.62 respectively for CBE, CBB, BOA and NIB. On the other hand, the table reveals that Ethiopian banks are weak in providing training on risk management. Risk management becomes a part of good business practice and should include training staff appropriately. There is no high variation in understanding the credit risk management guideline or policy



between banks. The mean score 3.18, 3.38 and 3.12 with standard deviation of .603, .744 and .835 for CBE, CBB and NIB respectively indicates, on average the respondents are undecided on their understanding, compared with BoA.

The mean scores and standard deviations in table above shows, both state owned and private banks strongly arrange for adequate liquidity position to meet day-to-day cash demand. The table indicates, the mean score for CBE, CBB, BOA and NIB are 4.64, 4.12, 4.00 and 4.00 with standard of .674, .354, .577 and .535 respectively. To compare, the government banks have good liquidity position and able to meet day to day demand than those private banks. As it can be seen in table above, external events like inflation, interest rate and foreign exchange fluctuation are not strongly affecting the banks performance. The mean scores for all banks show low amount, which is 2.45, 2.75, 2.57 and 2.88 and their respective standard deviations are .525, .707, .787 and .518 for CBE, CBB, BOA and NIB respectively.

#### 4.4. Descriptive Analysis of Risk Assessment and Handling Techniques

##### 4.4.1. Credit Risk Analysis and Handling Techniques

	<b>Banks</b>	<b>N</b>	<b>Mean</b>	<b>Std deviation</b>
Collateral risk	state owned	19	3.8421	.83421
	Private	15	3.6667	.97590
Risk of payment collection	state owned	19	3.6842	.94591
	Private	15	3.4000	.82808
Credit rationing	state owned	19	2.6316	.95513
	Private	15	2.8000	.94112

Table 3: Descriptive statistics for credit risk analysis

Source: Questionnaire survey, 2013

Credit risk arises whenever a borrower is expecting to use future cash flows to pay a current debt. In banks, Credit risks have been revised several times as a response to the changes in the regulatory framework. The main reason for which the banks are taking collateral is credit default reduction, especially during the time of the debt default. The above table shows that the average collateral risks faced by state owned banks have been 3.84 with standard deviation of 0.83, and a mean of 3.67 with standard deviation of 0.98 for private banks. This indicates there is a little difference between state owned and private owned banks on faced amount of risks related to collateral.

The other type of credit risk is the payment collection risk, which has a mean of 3.68 with standard deviation of 0.95 for state owned banks and a mean of 3.4 with standard deviation of 0.83 for private banks. It indicates almost similar amount of risks in state owned and private banks. This loss is also generated from loss of principal from a borrower's failure to repay a loan or meet a contractual obligation. The bank losses some gains in limiting borrowers, since it obtains gain from the difference of loan to deposit or calculates some gain from interest rate on lent amount. The result of this study indicated in table above shows that, this type of exposures may bring moderate risks to the bank. To compare those private and state owned banks, it is exposure is higher in private banks than government banks with a mean and standard deviation of 2.80 and 0.9411 respectively, while the mean and standard deviation in government banks are 2.63 and 0.9551.

Generally, its known that the biggest risk faced by the banks today remains to be the credit risk. As a result, the banks are now more equipped in handling credit risk, in the allocation of its on-going credit allocation activities. But, the analysis of credit risk was limited to reviews of individual loans, which the banks kept in their books to maturity. Similarly, as indicated in NBE's 2009 survey report, credit risk is the highest and most important risk than other type of risks in Ethiopian banks. It is known that for most banks, loans are the largest and most obvious sources of credit risk. Credit Risk can't be avoided but has to be managed by applying various risk mitigating processes. Banks can reduce its credit risk as it can get vital information of the inherent weaknesses of the account by applying a regular evaluation and rating system of all investment opportunities

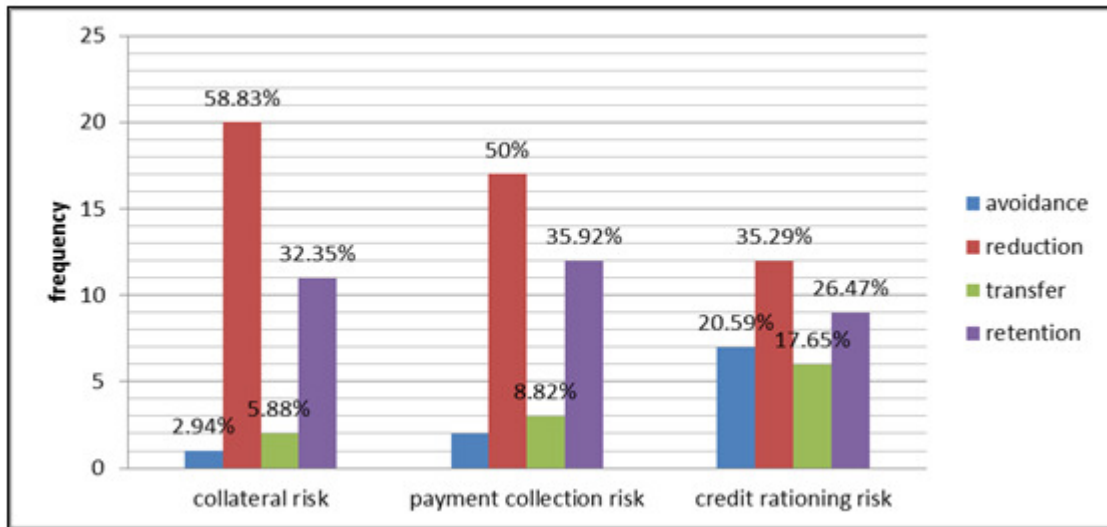


Figure 1: Credit risk handling techniques frequency and percentages  
 Source: Questionnaire survey, 2013

To handle specifically each type of credit risk, different techniques have been used by the bank. For collateral risks, reduction is the most suggestible technique followed by retention as 58.83% of respondents suggest reduction and 32.35% suggested retention. The remaining 2.94% and 5.88% responded as avoidance and transfer respectively. Similarly, for payment collection risk, risk reduction and retention is suggestible by respondents to handle it. 50% of the respondents respond that risk reduction is the suitable risk controlling tool for payment collection. While 35.92% of them says accepting and financing payment collection risk is suitable and a small percentage suggests avoidance and transfer. Also risks of limiting borrowers are also better to be reduced or accepted. As indicated in the above table, 35.29% and 26.47% of respondents suggest risk reduction and retention respectively. The result of open ended question stated that there are a number of techniques banks used in the mitigation of credit risk. Among them the most commonly used are Collateral and guarantees. In credit risk, all collateral risks, payment collection risks and limiting borrower’s risks are handled through risk reduction, since it is not possible for the banks to avoid businesses in this area and unprofitable to transfer all risks to another parties which takes premium. Next to reduction, accepting and financing credit risk is advisable depends on finding of this study. Generally, in order to reduce credit risk, Banks should assess the credit worthiness of the borrower before sanctioning loan and fix prudential limits on various aspects of credit. There should be maximum limit exposure for single/ group borrower. Alertness on the part of operating staff at all stages of credit dispensation is required.

As stated in CBE’s 2011 Annual report, in monitoring credit risk exposure, consideration is given to trading instruments with a positive fair value and to the volatility of the fair value of trading instruments. To manage the level of credit risk, the Group deals with counter-parties of good credit standing, enters into master agreements whenever possible, and when appropriate, obtains collateral. The Group also monitors concentrations of credit risk by industry and type of customer in relation to the Group loans and advances to customers by carrying a balanced portfolio. The Group has a significant exposure to individual customers or counter parties.

4.4.2. Liquidity Risk Analysis and Handling Techniques

	Banks	N	Mean	Std deviation
Failing to attract new retail to deposit	state owned	19	3.2105	.91766
	private	15	3.6667	.81650
Imbalance in loan and deposit	state owned	19	4.0000	.88192
	private	15	3.6667	.97590
Cash flow forecasting risk	state owned	19	3.3158	.67104
	private	15	3.2667	.70373

Table 4: Descriptive statistics of liquidity risk analysis  
 Source: Questionnaire survey, 2013

The above table reveals high risks in private banks than government banks in relation to failure to attract new retail to deposit. Their mean shows 3.21 and 3.67 with a standard deviation of 0.92 and 0.82 respectively. On the other hand, risks of imbalance in loan and deposit are higher in state owned banks with a mean of 4.00 and standard deviation of 0.88. The mean of Imbalance in loan and deposit risk in private banks shows a mean of 3.67 and standard deviation of 0.98. Finally, the mean and standard deviation for the risk of cash flow forecasting reveals that 3.32 and 0.67 respectively for state owned banks, and 3.27 and 0.70 respectively for private owned banks.

To summarize, the banks management of risk is achieved by applying stress tests to all liquidity components in order to determine what would happen if conditions were to change. The banks were effectively handle liquidity risks in order to meet its cash and collateral obligations without incurring unacceptable losses. In addition, government banks are efficiently met both expected and unexpected cash flows and collateral needs without adversely affecting either daily operations or the financial condition of their institution than private banks. Most of the time private banks ever actually run out of cash than government banks, because of the ease with which liquid funds can be borrowed from other banks. The liquidity position of CBE is stronger than other banks. Something more common is a shortage of liquidity due to unexpected heavy deposit withdrawals, which forces a bank to borrow funds at an interest rate. Nevertheless, banks do not have an effective mechanism to prevent a reduction in deposits which match their assets, which tend to be loans granted on a medium-term basis. There is, therefore, a liquidity risk.

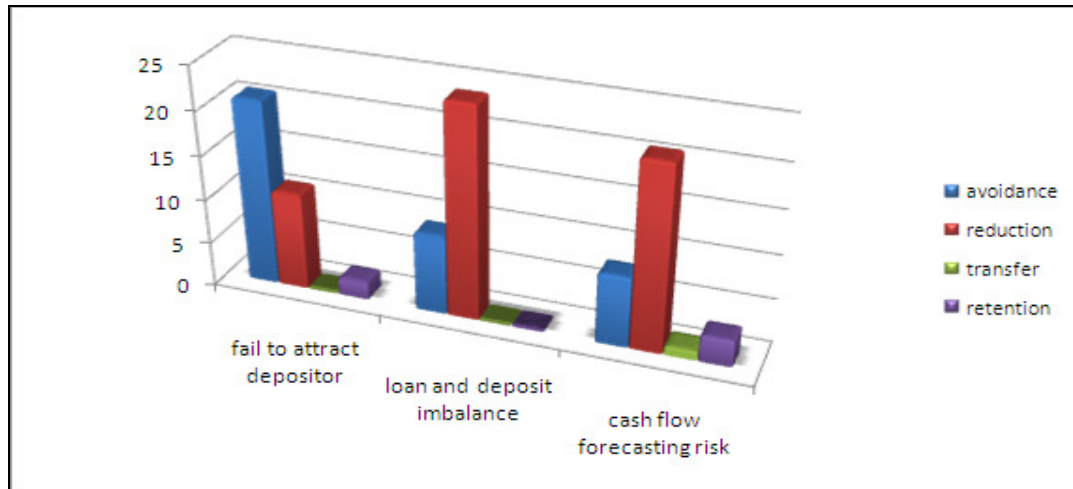


Figure 2: Liquidity risk handling techniques

Source: Questionnaire survey, 2013

For the liquidity risk, avoidance and risk reduction techniques are mainly recommended to mitigate risks. The respondent's response indicates that in failure of attracting new depositors, 67.74% of respondents says avoidance is the most important technique followed by reduction which covers 32.35%. Transfer and retention covers 0% and 5.88% respectively. This means failing to attract new depositors should be avoided; in case it is not avoided reducing the risks is the next option for the banks. This type of risk is not transferred as insurance or as hedging and it is not recommended to accept it. Balancing loan and deposit is the main function of banks and it is profitable areas of banking business. As a result, banks should not avoid, transfer or accept risks related to imbalance in loan and deposit, instead they try to reduce this type of risks. From the above graph, 67.65% of respondents suggest risk reduction and 26.47% suggests risk avoidance. This shows the bank must balance its loan and deposit or it should eliminate failing to balance loan and deposit. But in case of failure in risk reduction avoidance is the appropriate mitigating tool. Besides, cash flow forecasting risks have been reduced by the banks as respondent's response. The response shows that 61.76% of respondents recommended risk reduction technique of risk handling while 23.53% of them suggests avoidance. To summarize, the appropriate management response for handling liquidity risk is avoidance and reduction of the risks associated with it. In addition, Standard remedies for reducing a bank's exposure to liquidity risk include increasing the proportion of bank funds committed to cash and readily marketable assets, such as government securities, or using longer-term liabilities to fund the bank's operations.

#### 4.4.3. Market Risk Analysis and Handling Techniques

	Banks	N	Mean	Std deviation
Poor market reaction	state owned	19	3.8421	1.0145
	private	15	3.9333	.59362
Lack of benchmarking against competitors	state owned	19	4.0526	.77986
	private	15	4.1333	.63994
Declining commercial locations	state owned	19	3.4737	.69669
	private	15	3.9333	.88372
demand and expectation imbalance	state owned	19	2.8947	.99413
	private	15	3.5333	.83381
Interest rate instability	State owned	19	2.6842	.94591
	private	15	2.9333	1.0998

Table 5: Descriptive analysis of market risk analysis

Source: Questionnaire survey, 2013



Poor reaction in the market leads to negative reactions from investors to the banks poor earnings declarations which rocked the market. As the above table indicates, almost there is similar market reaction between state owned and private banks. The mean and standard deviation for government banks shows 3.84 and 1.01 respectively which indicates high risk of poor market reaction and high variation between respondents. The mean and standard deviation for private banks is 3.93 and 0.59 respectively. The result of this study shows there is high exposure related to lack of benchmarking between Ethiopian commercial banks, since the mean for state owned and private banks show 4.05 and 4.13 respectively. The other market risk which affects Ethiopian banks is declining of commercial location. As the above table shows, declining commercial location affects more private banks as its mean shows high risk or a mean of 3.93. On the other hand, the mean of state owned banks indicates extent of risks in between moderate and high. Finally, the imbalance in customer's expectation and demand shows less than moderate in state owned banks, which is its mean is 2.89 with standard deviation of 0.99. The mean and standard deviation of commercial banks are 3.53 and 0.83 respectively. If the customers demand is not fulfilled they may have switched to other banks. Besides this the CBE's 2011 Annual report shows, The Group's transactional exposures give rise to foreign currency gains and losses that are recognized in the income statement. In respect of monetary assets and liabilities in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying and selling foreign currencies at spot rates when considered appropriate.

In Ethiopia the interest rate risk did not bring high loss, since the interest rate is constant for a long period of time and no competition between Ethiopian banks in interest rate. In Ethiopia Bank deposits and lending held for a fixed interest rate, which is determined by national bank of Ethiopia. The benchmark interest rate in Ethiopia was last recorded at 5 percent. Similarly, Regarding the result from the above table the risks of interest rate fluctuation shows less than the average amount of risks in both state owned and private banks. The mean and standard deviation for government banks are 2.68 and .95 respectively while 2.93 and 1.10 for private owned banks. Similarly, the NBE's Annual report indicates Risk management activities are aimed at optimizing net interest income, given market interest rates levels consistent with the Group's business strategies. The Group does not have any significant interest rate risk exposures.

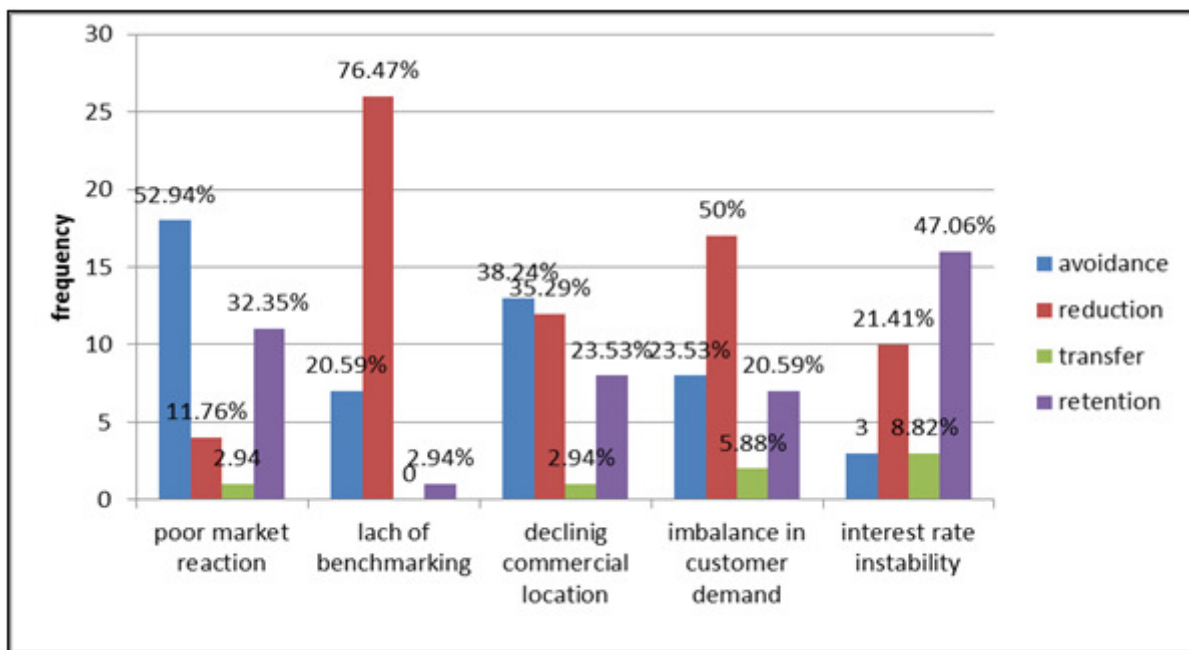


Figure 4: Market risk handling techniques frequency and percentages  
Source: Questionnaire survey, 2013

Handling market risk is a challenging task for banks, since the action of other banks or competitors is not known. To highlight the respondents' response, 52.94% of respondents suggest avoidance as a poor market reaction risk handling tool while 32.35% suggests retention which is accepting and financing of risks. The rest 11.76% and 2.94% suggests reduction and transfer respectively. Banks which have practicing poorly in the market are closed to failure; therefore, these banks should avoid this poor market activity in order to overcome risks associated with it. Otherwise, it will be accepted and financed once the banks failed in avoiding risks of this type. Lack of benchmarking against competitors also brings a risk to a bank. Therefore, it can be handled through risk reduction as indicated in the above graph, in which 76.47% of them recommend reduction as the most important technique to handle risks. 20.59% and 2.94% suggests avoidance and retention respectively while no one suggests transfer of this risk. This type of risk cannot be accepted, avoided or transferred, the only option is reducing. When the banks commercial location declines, they may face loss. This risk handled through either avoidance or reduction. Regarding this, the respondent's response shows 38.24% and 35.29% says avoidance and reduction respectively, which are the most appropriate techniques that will be used to handle this kind of risks. On the other hand, 23.53% and 2.94% says retention and transfer are the appropriate technique to handle these risks. In the first place ignorance of

establishing in poor location is a prevention method and changing location of the existing branch is also a good mechanism of handling this type of risks. The imbalance of customer demand and expectation is another marketing risk faced by the banks. In this case 50% suggests risk reduction and 23.53% suggests avoidance while 20.59% suggests retention as the suitable technique of handling this kind of risk. The remaining 5.88% suggests transfer. To conclude from the above response, the technique used to handle this type of risk is mostly reduction and in some cases avoidance and retention have been used.

Interest rate risk is not challenging for Ethiopian banks, since there is no competition on interest rate change because the interest rate is determined by National Bank of Ethiopia. The national bank of Ethiopia may determine the rate before the banks aware, which brings risk to commercial banks. The banks should establish the way to control this unexpected interest rate instability exposure. As per the above result, 47.06% and 29.41% of the respondents says retention and reduction are the recommended techniques to handle interest rate instability risks and 8.82% for each avoidance and transfer. This indicates acceptance is the most important technique to control interest rate instability risks, followed by reduction. Similarly, the only way to fix the rates of future transactions as of today is through hedging (Bessis, 2002). There are no foreign banks in Ethiopia to give a high competition to Ethiopian banks. Additionally, Ethiopian banks are not allowed to invest in foreign securities and, therefore, have no exposure to the subprime mortgage backed securities that are the primary cause of the recent crisis in western countries. Movements in market interest rates can have serious effects on a bank's profit if the structure of the institution's assets and liabilities is such that interest expenses on borrowed money increase more rapidly than interest revenues on loans and investments.

#### 4.4.4. Operational Risk Analysis and Handling Techniques

	Banks	N	Mean	Std deviation
Risk of transition from the existing process to the new one	state owned	19	2.5882	.85697
	Private	15	2.5333	1.12546
worker's skill, experience and training risk	state owned	19	3.8000	.96124
	Private	15	3.5789	.94112
Systems failure	state owned	19	3.6316	1.11607
	Private	15	3.3333	.97590
Transaction risk	state owned	19	3.6842	.88523
	Private	15	3.0000	.84515
Failure to communicate with each other	state owned	19	3.4211	.83771
	Private	15	2.7333	.96115
Internal/external reporting risk	state owned	19	3.2105	.85498
	Private	15	3.0000	.84515
Electronic transfer of payments	state owned	19	3.4211	.90159
	Private	15	3.4000	.98561

Table 6: Descriptive analysis of operational risk

Source: Questionnaire survey, 2013

Currently Operational risk becomes another source of danger to a bank. In modern flexible world there is no single working process continued ever. When banks change the existing process and implement the new one, they may face different risks. Over the years, Ethiopian commercial banks have been involved in a process of upgrading their business process. With this upgrading they improve their risk management capabilities, with introduction of more rigorous control practices, in measuring and managing risk. The Ethiopian banks faced low risk during their implementation of new process like business process reengineering, since they follow the processes tested in other foreign institutions. In similar way the finding of this study shows in the above table, approximately low risk with a mean of 2.59 and 2.53 for state owned and private banks respectively.

Lack of Workers skill, experience and training are another exposure that leads bank to loss. The banks should improve the worker's skill by providing appropriate training through establishing best practices for professional development. In addition, improving access to publications related to employees working area is another method which reduces risk of worker's skill, experience and training. In relation to this, the results from the above table show a risk in between moderate and high for government banks and high in private banks. The mean and standard deviation for the government banks are 3.58 and .96 respectively. The mean and standard deviation for private banks are 3.80 and .94 respectively, which indicates higher risks in the area for private banks when compared to government banks. Training bank employees in service skills is the best way to avoid losing customers and income to negative customer experiences.

The risk of system failure which includes, network failure, hardware failure, software failure, interdependency risk, and so on leads the banks to loss. Table 5 above shows a mean and standard deviation of 3.63 and 1.12 respectively for state owned banks while the mean and standard deviation of private owned banks are 3.33 and .98. Banks have a sound information security program and data that identifies, measures, monitors, and manages potential risk exposure to overcome system failure. To have sound information system, ongoing risk assessment of threats and vulnerabilities surrounding there is network and/or Internet systems.

Transaction risks such as execution error, booking error, settlement error, commodity delivery risk and etc have another exposure which leads banks to loss. Most of the banks do not relies entirely on external sources of information for transactional risks, but

smaller banks are more inclined to rely more heavily on such sources due to lack of resources. The result of this study on transactional risk shows a mean of 3.68 and 3.00 for state owned and private banks respectively, and their standard deviation is .89 and .85. This indicates risks due to Transaction risks are moderate in private banks and relatively high in state owned banks.

Failure to communicate with each other brings risks related to misunderstanding of information. The mean and standard deviation for state owned banks are 3.42 and 0.84 respectively while for private banks are 2.73 and 0.96. This shows lower risks in private banks than state owned banks.

Banks have internal and external reporting requirements regarding the different kinds of risks and impacts associated with its portfolio. There are some risks related to this Internal/external reporting which includes not reporting Overall exposure to banks and performance at the branch level. The values from the table indicate a mean and standard deviation of 3.21 and 0.85 for state owned banks and 3.00 and 0.85 for private banks respectively. It shows moderate risk in both state owned and private banks. Banks in Ethiopia are started Electronic transfer of payment, which is a risky business. But the result of this study shows a moderate risk, which has a mean of 3.42 and 3.40 for state owned and private banks respectively.

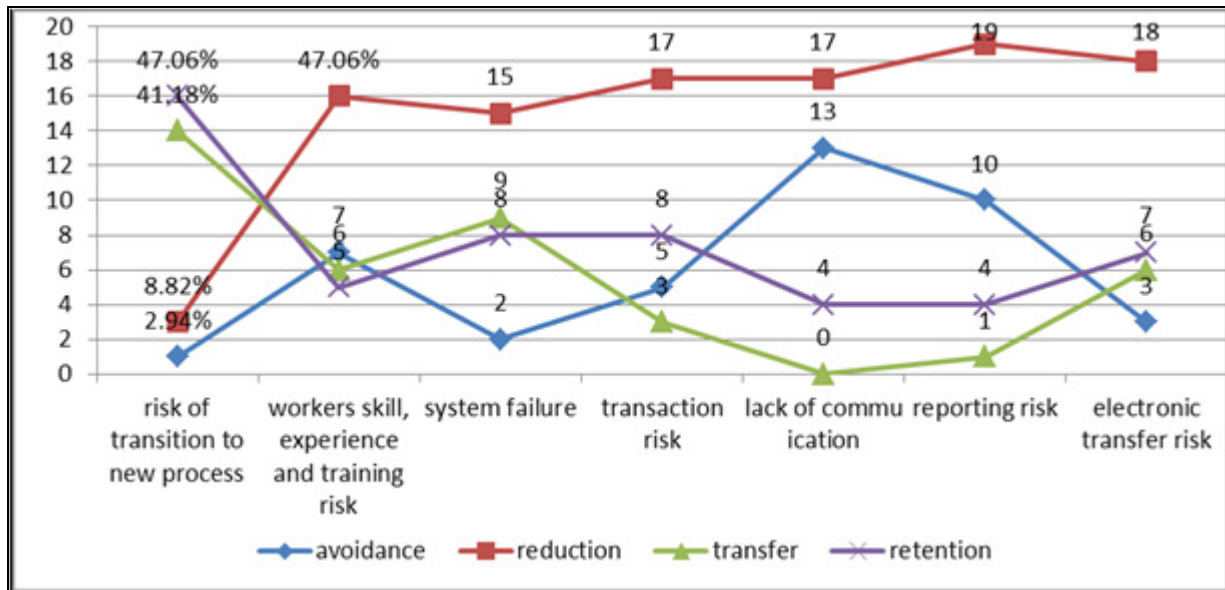


Figure 5: Operational risk handling techniques frequency and percentages  
 Source: Questionnaire survey, 2013

Among banking risks operational risks are the most existed risk in branch level when compared to other risks. Ethiopian banks involved in many changes, and test the risks associated with these processes. For this risk 47.06% of respondents respond that retention is recommended technique and 41.18% recommended transfer of risks to other party. Therefore, it is suggestible for the banks to transfer this kind of risks to other party or accepting it. On the other hand, for risks related to worker’s skill, experience and training, most of the respondents or 47.06% recommended reduction while 20.59% of them say avoidance and 17.65% say transfer. The least or 14.71% of them says retention are the suitable technique for handling risks of this type. As a result, this kind of risks have been mitigated through reduction by giving training that improve their skill and hiring and retaining experienced employees. In some cases, avoidance is also possible, for instance not hiring unskilled and those with low experience. Banks faced risk of system failure especially network failure, which hinders performance and reduces customer’s expectation. From the above table indicates that, to control system failure risk reduction is more suitable than other tools and for some cases transferring and retention is also used to overcome this risk. Regarding transactional risk such as execution error, booking error and settlement error which occurred in day to day activity, half or 50% of the respondents suggest reduction and 23.53% of them suggest retention. Additionally, 14.71% and 8.82% says avoidance and transfer respectively. Therefore, Transaction risks have been handled through effectively reducing the exposures related with it. Accepting and financing is also the second option to manage this type of risk. The respondent’s response for this kind of risk shows that, 50% of respondents say reduction is an appropriate technique for handling this type of risk while 38.24% of them say avoidance is a recommended tool. On the other hand, 11.76% have been recommended retention and no one suggest transfer. Therefore, this risk has been mainly handled by reducing risks associated with it, since it is unadvisable to transfer or accept this kind of risk. The other risk under operational activity is reporting risk, which occurred during either internal or external reporting. For this risk 55.88% and 29.41% suggest reduction and avoidance respectively. The remaining 11.76% and 2.94% suggest retention and transfer respectively. Therefore, Risk reduction and avoidance is the most important tool of handling risk of this kind. Lastly, 52.94% and 20.59% says the appropriate techniques to handle risks of electronic payment transfer are reduction and retention respectively while 17.65% and 8.82% says transfer and acceptance. This shows, the best technique to handle Electronic transfer of payment is risk reduction. To conclude, operational risks affect the day to day operation of the business, which may have impact on the overall survival of the business. Therefore, it should be carefully handled from the branch employees to Board of Directors.

4.4.5. Legal Risk Analysis and Handling Techniques

	Banks	N	Mean	Std deviation
Misinterpretation of law and legislation	state owned	19	2.6842	.94591
	private	15	2.9333	1.09978
Criminal activities	state owned	19	3.3158	.94591
	private	15	3.2000	1.01419
Documentation/contract risk	state owned	19	3.5789	.90159
	private	15	3.6000	1.12122

Table 7: Descriptive analysis of legal risk  
Source: Questionnaire survey, 2013

The legal exposures of any particular bank which includes the risk of collateral damage, misinterpretation of law and whether the documentation is relatively easy to understand or difficult to understand were depends on the independence of judge and the sophistication of contract associated with risks. To analyze the result from the table above, the risks related to misinterpretation of law is higher in private banks than state owned banks. This indicates in between low and moderate in government banks and moderate risk in private banks. Similarly, the NBE’s survey report (2009), majority of banks having strategies, policies, programs and procedures related to risk management, have also secured approvals on the documents from relevant authorities. The mean of the amount of risk related to criminal activities shows 3.32 and 3.20 for state owned and private banks respectively. Similarly, 3.58 and 3.6 in documentation risk for state owned and private banks respectively. Documentation performed mostly during lending and deposit, since banks in Ethiopia are not allowed to trade foreign securities. Similarly, legal issues leading to delays in settling commercial disputes was also identified as a contributing factor (Waweru and Kalani, 2009).

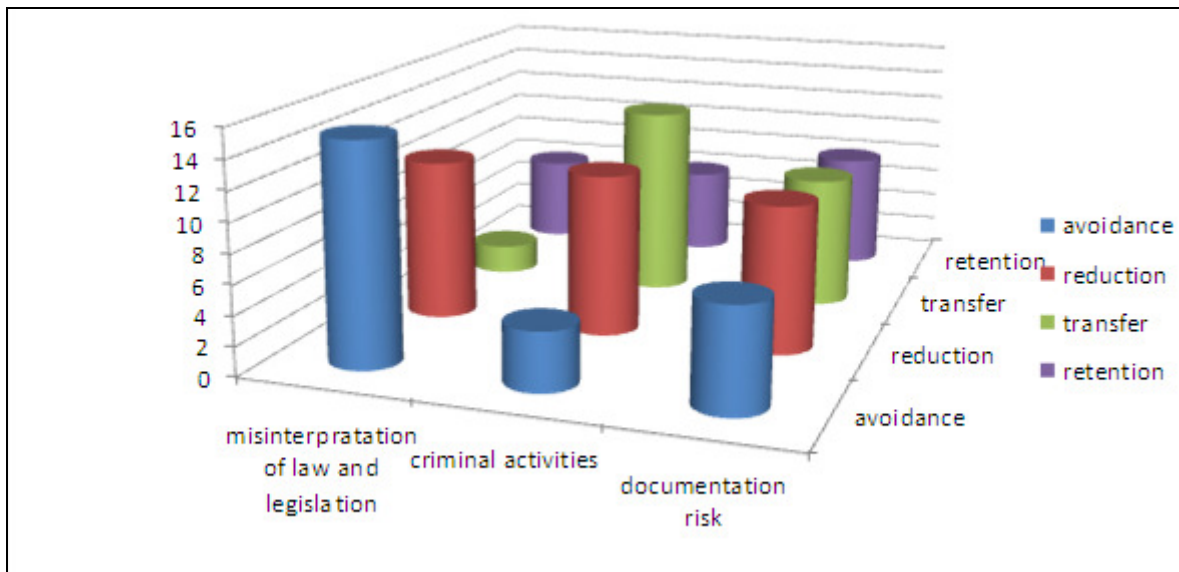


Figure 6: Legal risk handling techniques frequency and percentages  
Source: Questionnaire survey, 2013

Risks related to legal occurred due to unauthorized activities, breach of contract, fraud, government regulation and etc. for risk of misinterpretation of law and legislation 44.12% of respondents suggests avoidance of misinterpretation while 32.35% of them suggests reduction of risks related to it. On the other hand, 17.65% and 5.88% suggest retention and transfer respectively. This indicates exposures associated with misinterpretation of law have been handled through avoidance or risk reduction technique. Criminal activities risk such as fraud, theft and property damage will be handled through financing it by transferring to the other party. This is suggested by 38.24% of the respondents followed by reduction, which is suggested by 32.35% of respondents. The rest 17.65% and 11.76% recommend retention and avoidance respectively. This is because if the bank has no comparative advantage in managing a specific kind of risk, there is no reason to absorb and/or manage such a risk, because—by definition—for these risks no added value is possible. Therefore, the bank should transfer these risks (Schoerck, 2002). Finally contract risk has been handled by almost all techniques. Generally, legal risks in Ethiopian banks are performed at the level of district and head office, but exposures related to it have been reported from the branch.

4.5. Analysis of Significant Differences among State Owned banks and Private Banks Using T-Test for Banks Risk Management environment



Statements	t-value	Sig.
The existing organizational culture helps to know how to assess and handle risks	-2.146	.040
Risks are assessed regularly and its changes handled properly	-.388	.701
The reported hazards been effectively controlled	-.906	.372
Adequate resources are allocated for assessing risk	1.549	.131
Banks have strong group risk and internal audit functions which report directly to the center.	-2.515	.017
There is experienced staff, which recognizes potential problems, and brings them to the attention of their supervisors.	-6.283	.000
There is appropriate information system on the asset and liability or the bank's liquidity positions	-3.379	.002
The organization's internal auditors periodically assess the adequacy of the organization's internal control systems.	-4.196	.000
Banks should assess the credit worthiness of the borrower before sanctioning loan	-.744	.463
The bank offer training for employees on risk management	.024	.981
I understand the credit risk management guideline or policy	1.693	.100
The bank arranges for adequate liquidity especially in paper money to meet day-to-day cash demand	1.023	.314
Banks have strongly affected by external events such as inflation, interest rate and foreign exchange fluctuation.	.020	.985

Table 8: Banks' risk management environment t-test analysis for state owned and private banks

Source: SPSS output, 2013

From the above table, the analysis suggests that private banks have stronger than state owned banks in having the organizational culture which helps to know how to assess and handle risks. The banks have significant difference in having strong group risk and internal audit functions which reported directly to the center, appropriate information system on bank's liquidity positions and experienced staff which recognizes potential problems, and brings to the attention of their supervisors, which are stronger for private banks than government banks. Similarly, the organization's internal auditors periodically assess the adequacy of the organization's internal control systems more strongly in private banks. For the remaining attributes there is no significant relationship.

#### 4.6. Analysis of Significant Differences among state owned banks and private banks Using T-Test for risk analysis

Statements	t-test			
	Extent of risk		Risk handling techniques	
	t-value	Sig.	t-value	Sig.
<b>Credit risk</b>				
Collateral risk	.565	.576	2.215	.034
Risk of payment collection	.918	.365	2.877	.007
Credit rationing/limiting borrowers	-.514	.611	3.023	.005
<b>Liquidity risk</b>				
Failing to attract new retail or wholesale to deposit	-1.510	.141	.840	.407
Imbalance in loan and deposit	1.044	.304	1.574	.126
Cash flow forecasting risk	.857	.398	1.627	.114
<b>Market risk</b>				
Poor market reaction	4.938	.000	1.839	.075
Lack of benchmarking against competitors	5.469	.000	2.853	.008
Declining commercial locations	-1.697	.099	2.055	.048
Imbalance in customer demand and expectation	-1.994	.055	2.577	.015
interest rate instability	-.710	.483	1.698	.100
<b>Operational risk</b>				
Risk of transition to the new process	2.886	.007	2.593	.014
Risk with worker's skill, experience and training	-.672	.506	3.050	.005
Systems failure (network, hardware and software failure, interdependency risk)	.817	.420	2.398	.022
Transaction risk (execution error, booking error, settlement error, commodity delivery risk)	2.282	.029	2.413	.022
Failure to communicate with each other	2.228	.033	1.185	.245
Internal/external reporting risk	.716	.479	1.869	.071
Electronic transfer of payment	.065	.949	2.208	.035
<b>Legal risk</b>				
Misinterpretation of law and legislation	.343	.734	1.843	.075
Criminal activities (fraud, theft, and property damage)	-.061	.952	2.483	.018
Documentation/contract risk	6.521	.000	2.407	.022

Table 9: Risk analysis t test analysis for state owned and private banks

Source: SPSS output, 2013.



The t-test analysis in Table 9 reveals the statistical significance difference between attributes under each dimensions among state owned banks and private banks extent of risk and risk handling techniques. Although the mean scores in descriptive analysis indicates differences in extent of risk among state owned and private banks in almost all dimensions, this table indicates that there is a statistical significance difference only in one or more attributes under market, operational and legal risk dimensions among state owned and private banks extent of risk. There is no statistically significance difference for credit risk and liquidity risk dimensions.

In market risk dimension, state owned banks have faced higher exposures than private banks at 5% statistical significance level in poor market reaction and also a significance difference was found in lack of benchmarking against competitors. Under operational risk dimension, for three attributes there is a statistically significant difference among state owned and private banks. There is a higher exposure in government banks in risk of transition to the new process, transaction risk and risk of failure to communicate with each other with 5% significance level.

There is statistically significant difference for all dimensions under credit risk, which indicates using of different risk handling techniques among government and state owned banks. Under market dimension there is significant difference among banks in using risk handling tools for all attributes except interest rate instability.

#### 4.7. Correlation Result for Risk Assessment and Risk Handling Techniques

		CDTRA	LQTRA	MKTRA	OPRRA	IRRA	LGRA
	N	34	34	34	34	34	34
CDTRHT	Pearson Correlation	.398*	.368*	.076	.212	-.010	.254
	Sig. (2-tailed)	.020	.032	.671	.229	.956	.148
	N	34	34	34	34	34	34
LQTRHT	Pearson Correlation	-.081	-.383*	.095	-.533**	-.683**	-.272
	Sig. (2-tailed)	.654	.028	.600	.001	.000	.126
	N	33	33	33	33	33	33
MKTRHT	Pearson Correlation	-.025	.115	-.219	.028	.047	-.102
	Sig. (2-tailed)	.888	.518	.214	.875	.792	.566
	N	34	34	34	34	34	34
OPRRHT	Pearson Correlation	-.066	-.045	-.212	.122	-.064	.044
	Sig. (2-tailed)	.716	.805	.237	.498	.725	.809
	N	33	33	33	33	33	33
IRRHT	Pearson Correlation	-.049	-.077	-.245	.068	-.119	-.077
	Sig. (2-tailed)	.783	.665	.162	.701	.503	.665
	N	34	34	34	34	34	34
LGRHT	Pearson Correlation	-.026	.023	-.266	.180	.032	-.005
	Sig. (2-tailed)	.886	.899	.128	.307	.858	.978
	N	34	34	34	34	34	34

Table 10: Risk assessment and handling techniques correlation result

Source: SPSS output, 2013

The correlation between the amount of exposures and techniques of risk handling matrix is presented in table above (The grand table can be referred from the appendices). As per the table above, the correlation coefficient between extent of credit risk and credit risk handling techniques shows the significant medium positive correlation, this mean that the amount of credit exposures has medium association with the tools used to handle it. There is a significant negative medium correlation between extent of liquidity risk and liquidity risk handling technique. Which is, somewhat the tools implemented to handle risk has relation with the amount of risk faced. There is a negative low correlation between extent of market risk and market risk handling tools. From this value we can say that, the risk handling technique and extent of market risk are almost independent of each other. Regarding operational risk, there is a positive small correlation between amount of operational risk and tools used to handle it. Similarly, the correlation between extent of interest exposure and interest rate risk handling technique is small negative. Finally, there is a negative very low correlation between amount of legal risk and legal risk handling techniques. This indicates the management will not depend on the extent of risk to decide on the tools they use to handle risks. For instance, the risk which is high can be handled through reduction, avoidance or transfer; almost it did not depend on the extent of risk.

## 5. Summary, Conclusion and Recommendation

The major findings and recommendations of the study are summarized below.

### 5.1. Summary of Major Findings

Private banks have more educated and experienced staff than state owned banks and in both banks there is equal number of branch managers, vice managers, and accountants which were responded. The risks are mostly assessed by senior manager, board of directors

and risk management department at the head office but branch managers and internal auditors have indirectly assessed risks that will be solved at the branch level or they report to the head office. It is possible to conclude that better risk management environment is there in private banks when compared to state owned banks.

There is approximately similar extent of credit risk exposure between state owned and private banks for all attributes of credit risks and the appropriate technique to handle this type of risk is highly depending on risk reduction technique rather than avoidance or transfer. To some extent retention was also used as a risk handling tool for credit risks. Liquidity risks are highly impacted private banks than state owned Ethiopian commercial banks and it is suggested by respondents to handle it mainly through reduction and in some cases through avoidance. Market risks have a little high impact on private banks than state owned and it will be handled by either of reduction, avoidance or retention. It can be concluded that in most cases comparatively operational risks are higher in government banks than private banks. This risk is better if it is handled by reduction in most of the cases except for risk of transition to the new process. Both state owned and private banks face almost similar extent of legal risks, which are suggested to handle them using reduction and transfer. For risks related to misinterpretation of law avoidance is the most suggested technique.

In banking risk management environment significant difference found for five of thirteen variables between state owned and private banks. In most cases there is no significant difference in extent of risk and there is significant difference in risk handling techniques for majority of variables. The correlation result shows that, there is weak correlation between extent of risk and state owned banks in general.

### 5.2. Recommendations

Based on the findings the researcher would recommend that;

- Public sector banks have no more experienced staff which effectively understands risks of the bank. Therefore, the government banks should hire more educated and trained staffs to improve the employee's knowhow on risk management practice and reduce risks coming from employee's experience and education. Better to provide more training on risk management to employees to eliminate or reduce risks.
- There are risks which specifically faced by branch level, therefore the bank management should establish risk management department at branch level or regional level.
- Public sector banks should have good organizational culture; they should have appropriate information on liquidity position of the bank and improve internal auditing system. The private banks should control risks connected with attracting new depositors by avoiding their failures with working on the area and the state owned banks should avoid their weaknesses on balancing loan and deposit. Further, the management of private banks should focus on selecting commercial location, balancing demand and expectation to overcome the problems related to them by using mostly avoidance and risk reduction techniques.
- The private banks should explain the organizational laws to their employees in order to avoid risks related to misinterpretation of law and they can handle risks of criminal activities and documentation. The management operating efficiency is good in government banks than private banks, so specifically private banks has to focus more on activities then they can improve operating efficiency.

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