

MBA 149

RISK ATTITUDE AND RATIONAL DECISION MAKING

Comparative analysis of Commercial Bank of Ethiopia with Bank of Abyssinia
Partial fulfillment of the requirement for the completion of Masters Degree in Business Administration

By

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To

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MBA PROGRAM
FACULTY OF BUSINESS AND ECONOMICS
ADDIS ABABA UNIVERSITY

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Risk Attitude and Rational Decision-making: A comparative
Analysis of Commercial Bank of Ethiopia with Bank of Abyssinia.

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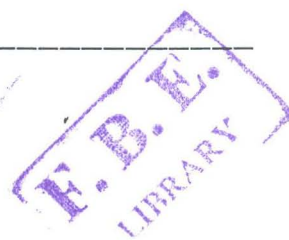
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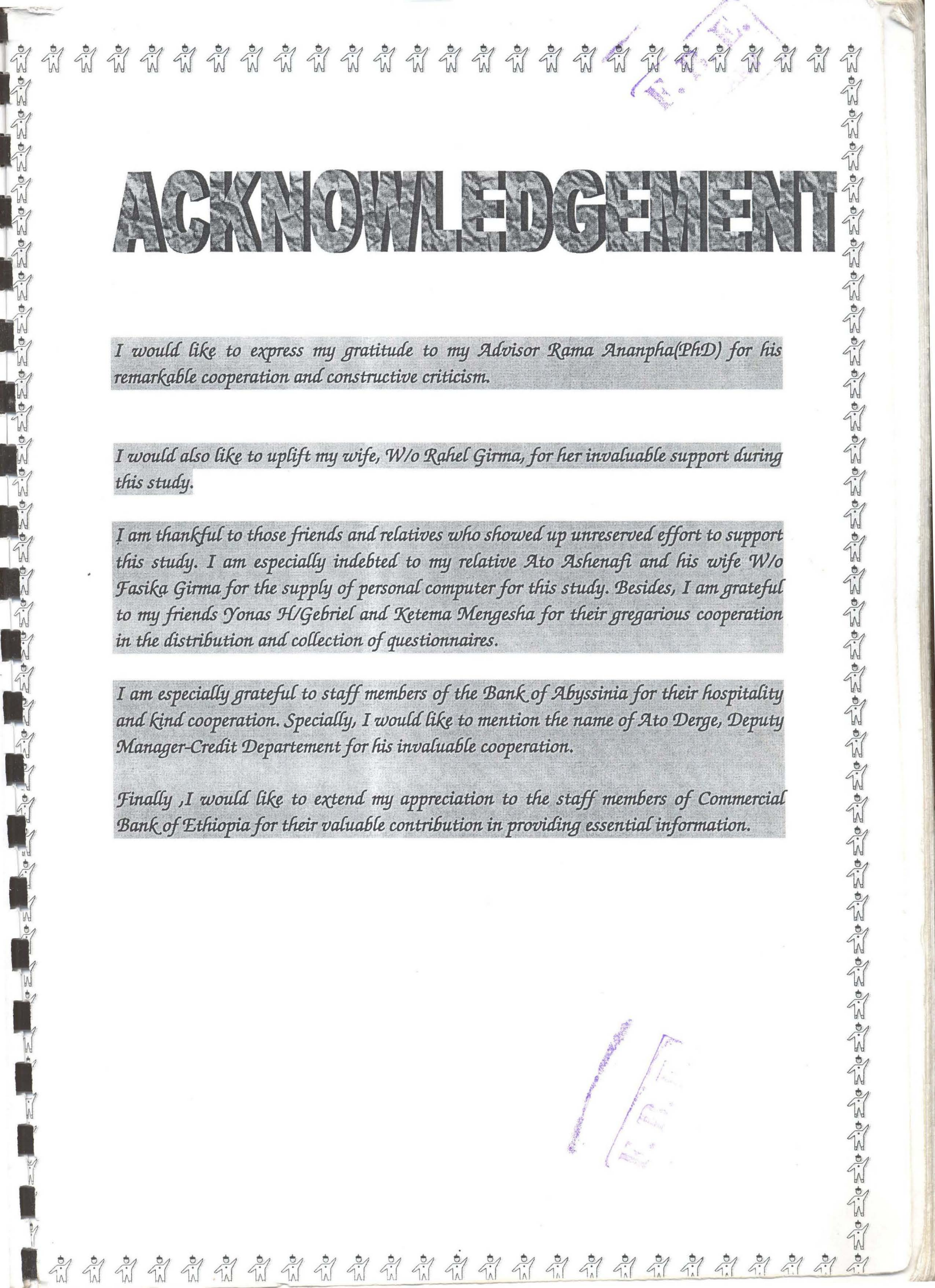
Statement of Approval

This is to certify that Ato Dilnesahu Samuel has completed a research paper entitled "Risk Attitude and Rational Decision making: "A comparative Analysis of Commercial Bank of Ethiopia with Bank of Abyssinia." under my guidance. I also approve that his work is appropriate enough to be submitted in partial fulfillment for the requirement of the degree in Masters in Business Administration.

A handwritten signature in blue ink, appearing to be "Rama A. Krishman", written over a horizontal line. To the right of the signature, the date "26 March 2007" is handwritten in blue ink.

Professor Rama A. Krishman (PhD)





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Acronyms

CBE: Commercial Bank of Ethiopia

BOA: Bank of Abyssinia

NPL: Non Performing Loans

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ABSTRACT

The players in the financial sectors such as banks face multifaceted forces of risk that calls for decision makers who tend to take risks while ensuring proper risk management. Although there is a need for proper risk taking behavior in the Ethiopian banking industry, there is a blurred picture of decision makers' behavior in this regard. Whether the risk taking behavior of the existing managers in the Ethiopian Banking industry is *risk averse*, *risk neutral* or *risk prone*, it is kept unnoticed since no research has been made in the area. Besides, whether such behavior varies with individual decisions, private based settings or government based settings is one of the central inquiries of this research. To unfold this, the analysis is made based on mail survey method with two sets of questionnaires administered and distributed to a sum of eighty respondents of Commercial Bank of Ethiopia and of Bank of Abyssinia. The measurement involved various cross checking mechanisms including the use of preference theory of Hammond (1967) and decision analysis. With this procedure, the study arrived at a conclusive result that attitude towards risk is context bounded. That is risk taking behavior improves when the decision maker progressively moves from personal to organizational decision, from individual to group decision, and from government establishment to private establishment in the cases under investigation. The attributed causes to such behavior include personal fear of decision makers, measures taken by owners and the board of directors, the nature of the organization and the imbalance between reward and penalty. Besides, the impact of such behavior on overall organizational performance was also investigated.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

The distinctive cognitive ability of Homo sapiens from all other creatures helps human being to exercise free will with super consciousness. The exercise of free will is usually manifested in the world of alternatives, which in turn is apparent in the process of decision-making. The fact that the creation architecture is designed with incomprehensible scope and multiple varieties; it has become the place for multiple sets of alternatives. Up on discovery, these gadgets of alternatives intricate the human decision making process. Particularly in business world this universal characteristics swivel right at the center.

As the business world is characterized by uncertainty, variety and cascading expansion, the business decision-making process is becoming complex from time to time. Especially, the uncertainty involved with the upshot of taking a particular position makes the task of business decision-making more difficult. Besides as human beings are the main actors of organizational decision-making, the human elements such as beliefs, prejudice and attitudes contaminate the business decision-making. Uncertainty and human element taken together, the question of attitude towards risk has become critical in organizational decision-making. This paper, thus, tired to investigate such issue in an organized setting, namely the Commercial Bank of Ethiopia (CBE).

The possible mix of ties between uncertainty and attitude towards it (personal variables) leads to incomprehensible varieties in decision making approaches as well as in the final selection of the choice. This seems to bring extended intricacy in decision making study and leaves little room for generalization. To reduce this problem one should question whether attitude towards risk is context-dependant or not. If context issue is introduced to such personal variable, it seems to leave wide room for generalization. Therefore, the study of this behavior in different contexts- at personal and organizational levels- may be of great help. In line with this, this paper tries to make comparative description about attitude towards risk from two broad contexts, namely the personal and the organizational side. The latter involve comparative analysis of private company vis-à-vis government organization. To this effect, the Bank of Abyssinia and the Commercial Bank of Ethiopia are selected.

“Commercial Bank of Ethiopia was established in 1942 under the commercial code of Ethiopia to render banking services”. (Belay, 1997: pp.1). Tracing back its history, it has operated as a single commercial bank until a decade and half years ago when the private banks start to flourish in the country. Even though the Bank is currently a leading bank in the industry, it is facing a strong challenge from the prevailing private banks. Its credit market share is showing a sharp decline in recent years. Apart from the market problem, the Bank’s credit is characterized by high non-performing ratio. To cope up with this and other problems, Commercial Bank of Ethiopia has introduced a new credit decision-making structure.

Credit decisions of the Bank are made through committees organized at the various levels of the organization. The Executive Management Credit Committee (EMCC) comprises of four high-level officials of the bank. They decide on aggregate exposure amount above 75 million Birr. The Corporate Credit Committee (CCC), on the other hand, decides on exposure amount between 3 million up to 75 million Birr. This committee consists of five members. Down the level, The Head Office Retail Credit Committees (HRCC) deliberate on exposure limits between 1 or 1.5 million Birr to 3 million Birr. The 1 million Birr floor limit of the Head Office Retail Credit Committees is the maximum of the Branch Credit Committees (BRCC) while the 1.5 Birr minimum is the ceiling of the District Credit Committees (DRCC). The Branch Credit Committees operate only in Addis Ababa whereas the District Credit Committees work in areas outside Addis Ababa. Both committees consist of three members each. Apart from deliberation with discretionary limit each committee hears appeal cases coming from the immediate lower level. The President will hear the appeal cases of the Executive Management Credit Committee (EMCC). This committee formation is the output of the recent study conducted in collaboration with consultants from Bank of Scotland. (CBE Newsletter, Vol. 1 issue 4:pp.12).

Regarding the Bank of Abyssinia (BOA), its history is traced back only to a decade years ago when it has been established as the second private bank in Ethiopia. The improvement made in the bank with in this few years of experience made the bank as one of the best out performing private banks. The credit expansion performance of the bank looks promising as the yearly statistics show increasing trend. However, the fact that the

the Commercial Bank of Ethiopia and the Bank of Abyssinia respectively.

Currently Commercial Bank of Ethiopia is facing a dilemma on strategic issue pertinent to credit granting decision. On the one hand the loan market share of the Bank is deteriorating from time to time and on the other the high non-performing loans (NPL) ratio flashes a red light. The first necessitates the expansion of credits while the later alarms on such strategy. This being unresolved, the bank seems to take a passive position. Its passivity is mirrored through the stringent credit policy and the shrinking market position. The first credit policy is initially designed in reaction to the Anti-corruption Commission measure on previous management team and later revised by the successors.

The investigation of customers' suggestions, written and oral expressions of employees and stakeholders indicate the common believe that the decline in market share is attributed to the irrationality of decision committees, which in turn is reflected through the decision makers' risk averse mentality. This attachment of irrationality to the act of rejecting cases in a rather higher risk characteristic (high NPL ratio) seems to be theoretically contradicting. If one lent no critical look to this thinking the way of approaching the problem may be misdirected to end up in dysfunctional proposals. Whether the major cause of the depletion of the loan market share is the risky characteristic of the credit products or the risk averse nature of decision-making bodies should be investigated through research. This being unanswered, however, the Bank is unable:

- ✿ To defend the continual deterioration the Bank's credit market share.
- ✿ To maintain its corporate customers.
- ✿ To set a clear-cut credit objective and strategy.
- ✿ To introduce uniform decision culture.

The other concern regarding risk attitude in bank decisions is whether it is context dependant or not. The issue is whether the decision maker exhibits similar attitude in personal decisions and organizational decisions. Besides, there is still a question whether the attitude varies with the organizational setting, namely the private and the public setting. To see such behavior the Commercial Bank of Ethiopia will be analyzed vis-à-vis the Bank of Abyssinia. In line with this, this research paper tried to address the research questions mentioned hereunder based on normative principles.

- I. How does risk taking behavior correlates with on whose money one makes a decision, namely the individual money or organizational money?*
- II. How does risk taking behavior varies with the organizational setting, namely government owned or private based?*
- III. How does risk taking behavior in organizations varies with the number of decision makers involved in a particular decision, particularly on individual decision or in group decision?*
- IV. What is the impact of Risk taking behaviors observed in credit decision making on organizational dynamics?*

committees, questions like the general attitude of the committee towards risk, causes of the stated attitude, their certainty equivalence, the impact of the measures taken by Anti-corruption commission and the board on previous successive CBE management team in today's decision making, and the impact of such attitude on overall organizational performance. The second questionnaire had been distributed to Loan Analysts, Relation Managers and Loan Assessors with a set of questions aimed at finding the attitude of decision makers towards risk. This questionnaire contains major questions related to the decision makers' attitude towards risk; the explicit and implicit causes of each attitude, the average member of requests, accepts and rejects; and the possible solution to improve the quality of decision-making.

The secondary sources include journals, literatures, magazines, newsletters, annual reports, published or unpublished research works, procedures, manuals and the Bank's statistical information. Among these, the last one was highly useful for the analysis part. The integral part of the analysis involves the use of normative models, namely the **preference theory** of Hammond (1967), and the **decision analysis** approach. The preference model was used to measure the general risk attitude as well as the rationality of the Bank's credit committees while the Decision Tree shows the decision forks and the associated probabilities along with the out comes to use it as an aid to the former.

Through the decision analysis, the decision tree of the Bank's credit granting decision was portrayed as a dichotomy of accept or reject. The accept decision involves the

1.3 THE STUDY OBJECTIVE

The objectives of this study are:

- ✱ To measure the general attitude of the Commercial Bank of Ethiopia decision making organs towards risk.
- ✱ To measure the general attitude of the Bank of Abyssinia decision making organs towards risk.
- ✱ To make comparative analysis of the two banks decision makers' attitude towards risk.
- ✱ To find out whether attitude towards risk varies in personal and organizational decisions.
- ✱ To identify the effect of this attitude to the performance of the organization.
- ✱ To explain whether the measured risk attitude explain rationality from normative perspective.
- ✱ To obtain ways of improving the credit market share from the view point of credit decision-making.

1.4 THE RESEARCH METHODOLOGY

Both the primary and secondary data sources had been used as input elements for the study.

The primary sources include questionnaires, interview and observation. Two sets of questions were administered and distributed: The first for decision making organs and the other for loan analysts. The first set of questions asks the credit decision

lottery of the pay off (7.5%)¹ for each single Birr lent and the possibility of losing the money lent. The non-performing ratio was considered as the risk probability of losing the money lent and its difference from 100 as the likelihood of obtaining the pay-off. The reject decision on the other hand involves the lottery of the possibility to invest elsewhere (it comprises similar pay-off but different probability)² and the possibility of the fund to be idle.

Once the decision tree had been sketched, the “certainty equivalence” of a rational decision maker was identified using the Preference Model of Hammond (1967). Then the averages of the certainty equivalence were plotted on the coordinate plane to sketch the graph showing the risk attitude of decision makers. This measurement was made at three phases: on personal decisions, individual organizational decision and on group organizational decisions. Such contextual boundary was drawn when questions were administered to ask decision makers’ certainty equivalence. Then, an attempt was made to make comparative analysis of private setting vis-à-vis government setting. Through this comparison, the degree of rationality and the aggregate risk attitude of credit decision making organs were measured. The use of this model, however, involves a series of assumptions.

1.5 THE STUDY SIGNIFICANCE

The success of an organization hinges on the quality of decisions passed by its members. However, the rationality of decisions is often contaminated by the emotions, prejudice

¹ This is the prevailing lending rate of 7% and the deposit rate of 3%.

² Its probability is calculated as the ratio of total loans to total deposits.

and beliefs of decision makers in organizations. Thus, it has become too difficult to harvest the full benefit of rational behavior. This calls for extensive research in the area. Especially countries like Ethiopia where most of organizational decisions are made with the rule of thumb method, the importance of researches of this type is unquestionable. The fact that very limited, if any, researches had been conducted on the subject of risk and decision-making, might gleam shiny-spray on the output of this study. Thus, its result could be a stepping-stone for further studies.

However, this research should not be regarded as an exhaustive study since it is conducted under various limiting forces.

1.6 THE STUDY LIMITATIONS AND SCOPE

The cost and time constraint as well as the inconveniency made it difficult to distribute the questionnaires to outside Addis Ababa. Besides, since the credit decisions passed by the Branch Credit Committees is very insignificant in relation to the total loans, only few selected Branch Committees are included in the study, namely the Addis Ababa and Arada Branches of CBE and the Filweha and Guenet Branches of Bank of Abyssinia. However, the Head Office and District Offices of both Banks have been included in the sample.

Since the study focus is on the description of the decision makers' risk attitude and rationality based on ideal principles, it doesn't deal with the process of decision making. Besides, the analysis will be made dominantly through normative theories.

The basic assumptions of the study may also impose sever limitations on the study.

1.7 THE STUDY ASSUMPTIONS

- 1 The basic assumptions of the models used for the analysis will also be the assumptions of this study.
- 2 Since the Ethiopian Banking industry is characterized by highly liquid characteristics, financial resource was not considered as a constraining factor during the period under study.
- 3 Non-performing loans ratio is considered to be the aggregate probability of risk associated with honoring the loan request.
- 4 The statistical information of the Banks are assumed to be fairly accurate.
- 5 To avoid complexity, the credit-decision alternatives are considered as a dichotomy of accept or reject although in reality full acceptance or rejection may not be the case.
- 6 Since Banks charge relatively similar lending interest rate to all of its credit products, the pay-offs are considered to be similar across credit products despite the fact that the effective interest rate varies from product to product. As a result, the pay-off is stated in terms of a single Birr lent.

1.8 THE STUDY ORGANIZATION

This paper consists of four chapters. The first chapter contains the introduction. And the second chapter devotes itself to literature exploration while the third chapter is meant for the analysis part. The analysis involves two parts: the first describes the actual practice of

credit decision making in the bank and the next part has gone through the analysis of the statistical information and the questionnaires using decision models and descriptive technique respectively. The first section of the fourth chapter outlined the major findings to feed the subsequent sections of the chapter, which are the conclusion and the recommendation respectively.

CHAPTER TWO

LITRETATURE REVIEW

The dilemmas of choice in the face of uncertain and complex world have long been the focus of religion, literatures and philosophy. Religions and moral philosophy set rules for evaluating the motives and consequences of choice and with the triumphs of natural science in the seventeen century a basis was laid for a systematic investigation of natural phenomena and, much later, of human behavior. (K Lendorfer, Kunreuther, Schoemaker, 1993:pp.1)

2.1. RISK CONDITIONS

Frank Knight as early as 1921 distinguished between three classes of problems: decision making under *certainty*, *uncertainty* and *risk*.

The condition of *certainty* states that each alternative could yield only one set of outcomes. There is only one states of nature. In *uncertainty* condition no likelihood assigned to the states of nature. It contains different states of nature without the assignment of any probability to the particular state of nature. Whereas, in *risk* condition there is some probability (which may be ambiguous) associated with each states of nature. Most authors believe that most if not all real-world problems involve decision making under risk. (Guzzo, 1982:pp.5)

2.2. RISK ATTITUDE AND DECISION MAKING

2.2.1 Definition of Risk attitude

Hammond expressed risk attitude as follows:

“Risk attitude is expressed by ones’ willingness to commit resources to a given business opportunity.” (Hammond, 1967:p.124)

His work shows how to blend risk-taking attitude in to decision-tree analysis, how to determine decision maker’s preference curve (risk taking attitude) and how to incorporate the results to decision tree analysis. Then he related this attitude with decision theories as he explained:

“It is possible to make a precise statement about a person’s attitude towards risk in the form of utility³ of curve, then to make direct use of the curve to incorporate this attitude in many important types of business decisions involving uncertainty.”(p.124)

He expressed the idea that when a decision maker is not a player of long run averages, which he believes is the most common characteristic, one must replace the event forks on his/her decision tree by numbers other than the mathematical expectations. This new number simultaneously takes three things in to account: probabilities, economic consequences, and an attitude towards risk taking that is different from playing the long run averages. The new number is the “worth”⁴ that the decision maker gives to take an alternative. Thus, it is the *certainty equivalent* for the event fork.

³ Hammond uses the term “Utility theory” and “Preference Theory” synonymously. (See “Better Decisions with Preference Theory”, Harvard Business Review, 1967, pp.128)

⁴ “It means the rock bottom asset position that one would accept in exchange for the risky outcome of

"This Certainty equivalent is the precise measure of the decision maker's attitude towards risk." (Ibid: p.31) Then it follows that the lower certainty equivalent, the more conservative the decision maker is, and the vice versa.

2.2.2. Decision Making

Decision-making may be defined as "intentional and reflective choice in response to perceived needs. This distinguishes man from lower forms of life." (Kliendorfer et al, 1993:p.2)

Decision making is

"...the cognitive process leading to the selection of a course of action among alternatives. Every decision making process produces a final choice. It can be an action or an opinion. It begins when we need to do something but we do not know what. Therefore, decision making is a reasoning process which can be rational or irrational, and can be based on explicit assumptions or tacit assumptions."(Wikipedia, Free encyclopedia, [Electronic source: Retrieved on February 2007])

2.2.3. Decision and Risk

Business decisions involving uncertainty are mostly subject to analysis that places the assumption that every business has (ought to have) the "same attitude toward risk". This is implied through the saying that decision maker will want to choose that course of

particular alternative."

action which has the highest expected value of profit.⁵ This simply states that people will want to “play the averages” on all deals, regardless of the negative consequences that might occur. For Hammond (1974), this is not plausible as such behavior is observed rarely in reality. In his explanation this become apparent due to the fact that decision maker’s attitude towards risk is incorporated in the decisions made under conditions of uncertainty. Such behavior is observed through the discrepancy of the person’s decision from the “long run averages”

2.2.4. Risk taking behavior and situations

“ A person’s attitude towards risk clearly depends on whose money he is taking chances with...This implies that the decision maker will have a different preference curve for each of the two types of decisions. Individual’s preference curve shows more conservatism than company decisions.” (Ibid:pp.143)

The work of Ale Smidts(1997) showed the relationship of risk attitude and the strength of preference. In his work he tried to synthesize the Bernoulli model (Bernoulli,1738) of value function $v(x)$ that is measured in riskless conditions to encode strength of preference with the expected utility model of vNM, the utility function $u(x)$ that is the probability indifference curve measured by means of lotteries without referring to intensity of satisfaction (Fishburn, 1989). In this model the curvature of $u(x)$ reflects risk attitude.

The two models have been linked through the concept of intrinsic risk attitude through

⁵ *The expected value or mathematical expectation is the weighted average of the possible results anticipated from a particular course of action, where the weights are the probabilities. (See also*

the work of Bell and Raiffa (1982), Dyer and Sarin (1982)⁶

The explanation of intrinsic risk attitude more accurate predictor of risk attitude than the conventional measure of risk aversion based on $u(x)$. The conventional approach assumes a "trait-like" risk behavior that is less dependent on decision context. Thus, expects the same attitude with such diverse attributes like money and time. (Bell and Raiffa, 1982). However, Shoemaker (1992) critically questioned the assumption of stable behavior in his work.

The concept of intrinsic attitude states that there exists exponential relationship between utility and value. However, critics argue that the relationship should be linear. In addition, von Winterfeldt and Edwards (1986:pp.211) labeled the distinction of value and utility as spurious. Empirical researches made also showed mixed results depending on the methodology. The works of Krzysztofowicz (1983), Keller (1985) supported exponential relationship while the study of Fischer (1977), Barron (1984) show linear relationship. Von Winterfeldt and Edwards (1983:pp.213) also concluded that one has to use both the riskless and risky measurement procedures having obtained the result that shows the vulnerability of their relationship to methods and errors of measurement. Professor Hossein Arsham showed the behavioral effect that uncertain conditions bring with a simple model.

Hammond, HBR, 1974)

⁶ *Intrinsic risk attitude is defined as risk relative to the strength of preference. (Dyre and Salin, 1982)*



Source: *WWW. Mirrorservice.org*. [retrieved at 11.35 a.m on February 10, 2007]

2.3. RATIONALITY

Stephen R. Watson and Dennis M. Buede (1989) have related rationality with consistency to signify that inferences should be made based on the principle of logic that satisfies transitivity. Their view on transitivity is as a simple rule that should be conformed by the rational decision maker in order to hang up the concept of rational decision making to the adoption and conformation of rules.

Although rationality and science mean different things, their mix up in the organization and management of human activity marked the birth of operational research. The essence of establishing mathematical framework in the field of operation research is associated with the promotion of rationality and consistency.

2.4. DECISION THEORY

Lewis in Bacharach and Hurley defined decision theory as "...a systematic exposition of the consequences of certain well-chosen platitudes about belief, desire, preference and

preference and *the risk preference*. The former exists with the competing objectives or attributes in no uncertainty while the latter explains the decision maker's attitude to risk taking in uncertain situations. The variants of utility concept from either theoretical or practical angle was reviewed by Stigler (1950), Ellsberg (1954) Edwards (1954), Fishburn (1976), Barron et al. (1984)

Decision theories can be broadly classified as Descriptive, Normative or Perspective (Kliendorfer et al, 1993:pp.2)

2.5.1. Descriptive Theories.

These are theories and associated experiments, evidences and field studies concerned with how actual decision makers *actually perform* these activities. Descriptive theories involve decision analysis.

Decision Tree Analysis

Such analysis takes the assumption that rational players will select the alternatives that have the maximum pay off in case of profit or the minimum figure in case of costs. Although maximization of benefit is the essence of it there are varieties of expression of this benefit that constitute the *decision criteria*. These include asset position, profit, cost, e.t.c.

Once such criteria is established the decision tree is sketched with the corresponding pay-offs and probabilities. Then the decision maker's best strategy is determined by working backward through the tree.⁷

⁷ "...that is each fork which represents a chance event (called an "event fork") compute the expected

choice. It is the very core of common-sense theory of persons, dissected out and elegantly systematized.” (Bacharach and Hurley, 1991:pp.147) Bacharach and Hurley further explained the purpose of decision theory as the ways in which decisions are related to the decision-maker’s aims and beliefs. They further expose five fundamental issues of decision theories. They include structure of attitudes, deliberation, humanity, individualism and determinacy. (pp. 1-5)

Historically the earliest decision theory is traced back to the pioneering work of Daniel Bernoulli (1738) in describing St. Petersburg paradox through the use of numerical measures representing the value of alternative choices. For him money was not an adequate measure of value rather the value function describes the utility of money to individual decision maker. He claimed a non-linear and decreasing slope utility function. The utilitarian philosophers such as Bentham and Mill (*et.al*) also talked of utility as the sum that should be maximized in decisions involving ethical questions. The major pitfall of this theory lies on the assumption that a number was available representing the worth of any bundle of goods (cardinal utility) instead of any two bundles of goods (ordinal utility) which was preferred. In spite of the fact that the later has almost entirely replaced the former, the concept of cardinal utility has regained attention with the works of Von Newman and Oskar Morgenstern (1944). To the contrary, Luce and Tukey initiated a separate theory of conjoint measurement to further strengthen the power of cardinal utility.

Decision theories marked major distinction between two types of utility: *The value*

2.4.2. Normative Theories.

They are theories like expected utility theory based on abstract models and axioms that serve as theoretical benchmarks for how decision makers should *ideally perform* these activities. According to Kleindorfer and etal (1993) the normative models may be predictive or valuation/choice. The primary model of the former is the lens model while the latter is the expected utility theory and preference model.

The Lens Model

The Lens Model is the central framework of social judgment theory, initially developed by Hammond (1955) and Hoffman (1960), and formalized by Hursch and Hammond (1964). Its intellectual roots trace back to pioneering work of Egon Brunswik (1943 and 1955), a psychologist interested in visual perception. Brunswik's "Vicarious functioning"⁸, that is the identification with partial cues in multiple functioning, indicates that "our recognition of objects is based on imperfect cues that may be overlapping." (Ibid,1993:pp.71)

The model is developed in such a way that "... a set of independent variables $x_1 \dots, x_n$ determines the value of some dependant variable y_e and the human's predictions thereof, denoted y_s ."(pp.70). y_e refers to non linear deterministic function that show the true environment. Whereas, y_s indicate the fallible human prediction which is incomplete. Hence, it includes random error term ϵ .

value, and at each fork which represents a choice of action (an "act fork") choose that act which has the highest expected value". (Ibid,pp:126)

⁸ This study was specifically related to the ability to recognized face when it is partially covered or has

The model's prediction of y_e and y_s are denoted by $\hat{y}_e$ and $\hat{y}_s$. The model involves the use of table values of each x_i and (y_e and y_s), the linear regression model, and the comparison of y_e and y_s .

Several conclusions emerge from the many empirical studies conducted with Lens model. Slovic and Lichtenstein (1971), Ebert and Mitchell (1975), Berhmer (1976), Berhmer and Joyca (1988) have conducted research using Lens model and come up with the following conclusions: (Ibid: pp.76-83)

- ⇒ In general the correlations between y_e and y_s are found to be relatively low.
- ⇒ Humans tend to think about the environment linearity, whether the environment is linear or not.
- ⇒ Subjects believe they place more weight on minor cues and less weight on major cues than they really do.
- ⇒ Subjects don't easily uncover nonlinearities and interaction effects.
- ⇒ The ability of subjects to infer multivariate relationship between the variables often deteriorates when random noise (disturbance) is introduced.
- ⇒ Subjects find it more difficult to learn new relationships after already having knowledge of an existing one than when little or no such prior knowledge exists.

⇒ Given the fallibility of human predictions, it would be better to rely on objectively validated y_e .

“The Lens model has enabled researchers to assess the accuracy of people’s intuitive prediction and inferences.”(pp.80). Recently psychologists, after a considerable research, reached to a conclusion that individuals exhibit systematic biases when estimating the probability of outcome. These findings give its impetus to the *theory of arguments* developed by Toulmin. The theory tries to frame judgments under uncertainty in to a model that will finally fit in to lens model. (Toulmin, 1958)

The Expected Utility Theory

Much research on valuation and choice has focused on decision making under risk. The impetus for most of this research has stemmed from failures of expected utility theory, a formal model of choice developed by Von Newmann and Moregenstern (1947) for dealing with problems of risk. These problems consist of a set of formal axioms characterizing rational behavior and a strategy for choosing among alternatives. The axioms founded by Von. Newmann and Morgenstern (1947) theory, have been modified by “Savage (1954), Raiffa (1968), Tversky (1971), or Fishburn (1970,1982) and Pawes (1988).” (Kliendorfer,Kunreuther and Schoemaker, 1993:pp.130)

Expected utility theory has been dominant and predicts outcome-based approach for dealing with risk. It “ . . . reflect attitude towards risk as well as the person’s value for

the outcome under risk.”(pp.135) Von Newman and Morgenstern (1947) proposed a set of formal axioms to define rational behavior (as inspired by De Bernoulli, 1738). They assumed that an individual chooses that alternative A_i from a set of possible alternatives A_i ($i=1 \dots m$), which maximizes the expected value of his or her utility function (U). “A person’s utility function is defined over a set of outcomes for the relevant attributes in the problem”. (Ibid: pp.131)

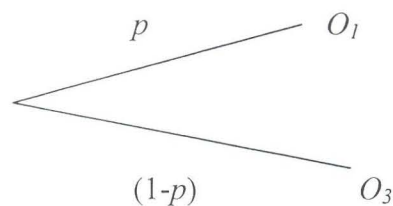
Axioms of Utility Theory

The utility theory assumes that the person’s risk preference satisfies five axioms:

Completeness. For any choice between two outcomes, either one of the two are attractive or both are equally attractive.

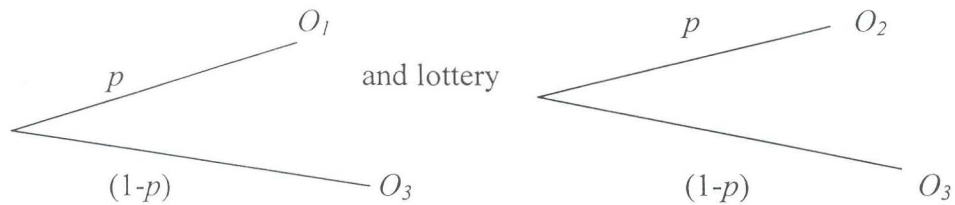
Transitivity. If the first outcome is greater than the second and if the second is greater than the third, then the first outcome is greater than the third.

Continuity. If the values of three outcomes of falls in descending order, i. e., $O_1 > O_2 > O_3$, then there exist some probability between zero and one such that the lottery is as attractive as receiving the second outcome for certain. $(p) O_1 + (1-p) O_3 = O_2$



Independence. If the first outcome is as attractive as the second under conditions of

certainty then lottery⁹



will be equally attractive (for any values of the third outcome and associated probability). In other words, the third outcome and probability are irrelevant to the final choice, given the first and the second outcome are equally attractive. Independence axiom is also known as substitution axiom.

Reduction of compound Lotteries. Compound lottery¹⁰ is equally attractive as the simple lottery that is obtained when multiplying through probabilities.

Experimental evidences on the past 50 years have shown challenges on transitivity axioms (Tversky, 1969), independence axiom (Laureate Maurice Alliance, 1953) and Ellsberg (1961), and people differing attitudes in case of gain lotteries and loss lotteries (Kahneman and Tversky, 1979) For example, Tversky, weak stochastic transitivity, indicates that use different processing rule for pair wise comparisons.(pp.145-148) Although evidences indicate intransitivity of the individual preference in some situations, Machina in Bacharach and Hurley asserts that the assumption is important since the economists should not model economically destructive behavior in the presence of greedy economic agents.(Bacharach and

⁹ "Lottery is set of alternative prospects" (Bacharach and Hurley, 1991: pp. 42)

¹⁰ "Compound Lottery is one whose initial outcomes are themselves lottery." (See Kleindorfer, Kunreuther and Schoemaker, 1993: pp.132)

Hurley, 1991:pp.40)¹¹ Besides counter argument has been raised on expected utility theory from the theoreticians of non-expected utility stating that individuals do not maximize expected utility. The two popular arguments against non-expected theory are “static choice” and “dynamic choice”¹². (Ibid: pp.41)

Preference Theory

Measurement of decision maker's attitude towards Risk

Hammond (1967) expresses person's attitude towards risk in the form of utility or preference curve, and then make direct use of the curve to incorporate this attitude in many important types of business decisions involving uncertainty. For Hammond the term “Utility theory” and “Preference theory” can be used synonymously. However, he used the latter term to signify that his research is not dominated by economics subject that used the former term more frequently.

To incorporate decision maker's attitude towards risk in decision analysis one must find for each event fork a certain(sure) amount that is equivalent in decision maker's mind to running the risk represented by the event fork. The certain amount then replaces the event fork in a decision diagram.

One mechanism through which one knows the decision maker's certainty equivalent is to ask the decision maker to supply his/her certainty equivalent fork

¹¹This is called “Money-pumping” argument. (pp.40)

¹²For M.J. Machina the “Dynamic choice” argument is more formidable one.(pp.41)

by fork as the analyst works backwards through the tree. But this is difficult to secure in realistic problems due to:

- 1 The number of event forks is so large that its process would be time-consuming.
- 2 Event forks with many branches would likely be encountered to further intricate the process.

According to Hammond (1967) such problem could be resolved through the use of preference curve. "The curve is the complete summary of the decision maker's attitude towards risk over the range required to solve a particular business problem." It is used to determine the certainty equivalents for event forks including those forks with many branches in a straight forward, mechanical way.

"A preference curve must accurately reflect the decision maker's attitude towards risk over a range of consequences encompassing at least the worst and the best results that can arise in a give problem." (Ibid:pp.134)

The horizontal axis displays the consequences of decisions, measured in units of decision maker's criterion. And the vertical axis shows the probability of occurrences of the consequences. The end points of the range of consequences are considered to be "reference consequences", signifying the lower reference consequence (R_0) and the upper reference consequent (R_1). Swalm (1964) attached 0 and 1 extreme probability values to (R_0) and (R_1) respectively. Then the certainty equivalent of the decision maker is obtained through questioning for

uncertain conditions where the probability is between 0 and 1. Hammond (1974) explained the probability scaled on the vertical axis as "... A preference $P(C)$ assigned to consequences C means that the decision maker is indifferent between having an amount C for certain or having a chance $P(C)$ of achieving R_1 and a chance of $1-P(C)$ of achieving R_0 . " This, which Hammond considers "assessment", is the way through which one finds the preference curve that latter be subject to verification. The assessment procedure is summarized as:

- 1 Select the reference consequences (R_0) and (R_1), involving the best and the worst consequences that could arise in the decision problem.
- 2 Arbitrary assign 1 to the upper reference consequent (R_1). and 0 to the lower reference consequence (R_0)
- 3 Ask the decision maker her/his certainty equivalents for a 50-50 gambles involving various consequences in the range between (R_0) and (R_1), Then, the certainty equivalent (CE_1) for 50-50 chance of two extreme points (R_0) and (R_1) is obtained first for the subsequent marking of CE_2 and CE_3 through searching out the certainty equivalence of the 50-50 chance of CE_1 and R_1 on the one hand and CE_1 and R_0 on the other.
- 4 Draw the curve through the points representing the decision maker's certainty equivalence.

Verification of preference curve

"Before using the preference check it is imperative to make consistency checks to see that it correctly reflects the decision maker's attitudes. It is to be useful it must

correctly represent his attitude towards risk for all gambles in the range between reference points.” (Hammond, 1967: pp.134)

Commonly observed curves

Hammond pointed out that there are three different commonly observed curves:

Risk averter. Risk averter is characterized by concave in that the decision maker has a positive risk premium for all gambles in the range covered by the curve.¹³

Average Player. This decision maker has a straight line curve with zero risk premium for all gambles in the range of play. This is to say that she/he wishes to play long run averages. According to Hammond this is common at times when the decision maker faces a decision whose consequences are small compared to her/his total asset position. The average player curve exactly shows the preferences with mathematical expectations.

Gambler. The gambler is characterized by convex curve when viewed from below to signify that the person requires negative risk premiums for all gambles in the range of play. That means he/she is willing to pay a premium above the mathematical expectation for the “thrill” of gambling or for other reasons.

Composite. There are curves that combine the above curves with in the range of

¹³ “Risk premium is defined as the mathematical expectation of the gamble less certainty equivalent of the gamble.” (Ibid, pp: 137)

play. The most common type is the "S" shape curve that shows risk aversion in its upper region and risk taking in its lower region.

Zero-Illusion. Zero-illusion curve consists of a rather sharp break in the slope of the preference curve over zero on the horizontal scale to leave the message that extremes aversive behavior for the negatives such as losses.

Decision Analysis with Preferences

Decision analysis with preference is similar to maximization principle of a mathematical expectation except that it requires little modification. The modification is made as follows:

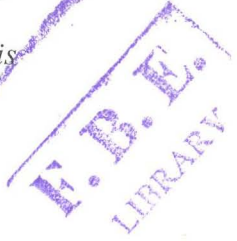
1. *Convert the end positions of the decision diagram in to preferences.*
2. *Take the mathematical expectations of the preference values at the end positions of the fork. This tells the decision maker's preference for event fork.*
3. *Choose that act with the highest preference at each act fork.*
4. *Continue backwards through the tree, repeating step 2 and 3 until the base of the tree is reached.*

According to Hammond such procedure accounts for the decision makers' attitude towards risk and provides every one what he/she wants.

2.4.3. Perspective Theories

These are theories and associated experimental evidence and field studies concerned with helping decision makers *improve their performance* in problem finding and

problem solving, given the complexities and constraints of real life. Common Perspective approaches include *Intuitive approach*, *Linear rules and boot strapping*, *Decision support system*, *Mathematical programming* and *Decision analysis approach*.



The *Intuitive approach* is a decision making based on "... intuitions rather than systematic analysis" (Kliendorfer et al, 1993:pp.182) when one knows that taking a decision is the right step but fail to prove it, an intuitive approach is used. Frequently this approach is commented for unprogrammed or non-routine decisions where there is not a large amount of experience on which to base one's judgment. Whereas, *Linear rules and boot strapping* involves the use of both quantitative and qualitative information. The quantitative information is used as a reference point for further consideration (linear rule). Then subjective judgment (boot strapping) is attached to the linear rule to make the final decision. *Decision support system*, in contrast, involves the use of the system that organizes and provides relevant information useful for decision-making while *Mathematical programming* is usually essential for decision involving cost, capacity or transport issues. It is usually known as "transportation problem". Using this approach one finds that the optimal production and shipping patterns for available options. *Decision analysis approach*, on the other hand, is the determination of the possible alternatives of a particular decision case together with their outcome and the likelihood of the occurrence of the outcomes. It involves the use of decision tree. (pp.181-195)

2.5. GROUP DECISION MAKING

Researches on group stems from two streams: The first one, which is based on theoretical and experimental work in social and industrial psychology, has been concerned with the decision process used in groups while the other is normative, formal and abstract in character. The latter is based on economics and modern game theory. (Ibid: pp.211)

Theories of group process have deep roots in philosophy, sociology and psychology. Guzzo(1982) compiled past works in this areas. Philosophy considers social interaction as the central means of knowledge (since Hegel and Kierkegaard), and sociology and psychology as the foundation for understanding conflict and social interaction (as in Georg Simmel's work), the individual's relation to society (as in Emil Durkheim pathbreaking work), and for understanding and developing emotional well being (as in Kurt Lewin's research on group dynamics and therapy, pp.213) Guzzo explained this multi disciplinary nature as follows:

"It is the product of the cognitive process of information, norms influencing the nature of social interaction, the skills, traits, and disposition of individual members, and more."(Guzzo, 1982:preface)

The commonalities of group and individual decision-making are both follow similar phases. That is problem finding, problem analysis, evaluation and choice, implementation, legitimating and learning. Kleindorfer et al, contend that groups can be studied from the perspective of the values, beliefs and limitation of their individual

members. However, they remarked those groups also have integrative existential characteristics, such as trust and cohesion that go beyond simple extrapolations of the values and beliefs of individual members in the group (Kliendorfer et al, 1993:pp.214) Bacharach and Hurley, in contrast, critically questioned the relationship of individual rationality and group rationality. They propound that the “ the attempt to decide what to do in games by applying principles of rational choice only lead to an endless regress of mutual prediction.” Thus, they criticized Von Neumann and Moregestern’s game theory as indeterminate and individualistic¹⁴. (Bacharach and Hurley, 1991:pp.3)

2.5.1 Factors That Affect the Performance of Groups

Kliendorfer et al (1993:pp.215) explained that the following factors affect the performance of group:

- ↗ The nature of the task.
- ↗ The composition of group in terms of homogeneity/ similarity of personal characteristics and background.
- ↗ The agenda the group follows.
- ↗ The Interrelationship among group members.
- ↗ The degree of power held by each individual.
- ↗ The behavior of the group leader.
- ↗ The time pressure and incentive structure under which the group operates.

¹⁴Bacharach and Hurley call this “Individualism in games” and some others believe that it is responsible for such indeterminacy. (pp.4.)

- The resources available to the group (i.e. group members knowledge, availability of data, computers etc) for its task.

2.5.2. Group Influences

Influences in groups may be explained as *Groupthink*, *Conformity* and *Polarization*.

Groupthink is the characteristic of group decision making that causes otherwise capable individuals to make manifestly poor decisions in a group setting. Groupthink has distinct symptoms such as an illusion of invulnerability, stereotyping of people outside the group, and putting pressures on people inside the group who disagree with majority opinion to remain silent and Self-censorship¹⁵. The result of groupthink is that too few alternatives are examined and too few objectives are taken in to account. Information search is usually poor, with few counter arguments being discussed. The useful remedies for groupthink include trying to delay consensus, spreading power, seeking additional inputs, and encouraging conflict among ideas (as opposed to among people). The classic experiment by Asch's (1956) line test showed that people's error rate would be higher than individual responses if the member of the group makes an error. Hence, one of the dilemmas on group decision-making is that even though two people know more than one, they start to influence each other so that the full benefit of their independent opinions is not always realized. (Ibid:pp.218-220)

¹⁵ *Self-Censorship is not speaking up against the majority opinion for fear of ridicule or desire to keep harmony.*

The other problem of group influence is "*Polarization effect*." Stoener (1968), under the label of "The Risky Shift" found out that after a group had debated whether to invest in a particular project, the group often ended up being more likely to take risk than the individual opinions prior to the group meeting would have predicated. This result is contrary to the common believe that groups moderate extreme views before the meeting while in the latter case members of the group have similar pre-hand positions. The latter case happens when members have opposite views prior the meeting as opposed to the former one. In an alternative explanation many scholars contends that the polarization effect may be the effect of framing factors¹⁶.(Ibid:pp.220-221)

The other most interpersonal characteristics of groups are *trust*, *Communication*, and *cooperation*, as well as *related performance and learning*. "*Trust, Communication, and cooperation* are mutually reinforcing according to social psychology literatures (Golembieski and Mc Donkie, 1975). *Communication* tends to reinforce both *cooperation* and the ability to design creative compromise solutions (Dawes, 1980), whereas lack of *trust* undermines both *communication* and *cooperation*. According to Argyris and Schon (1974) lack of trust leads to defensive behavior that blocks openness and learning."(Ibid:pp.222)

2.5.3. Formal Models of Group Decision Making

The formal models for group decision-making are viewed from “individualistic methodology” since individuals are the elements of the group.

Game Theory

“The theory of games is concerned with formal models of group of self-interest individuals engaged in a common endeavor, but whose members may have different preferences and beliefs about what the group should do.” (pp.241)

The theory is important to disciplines such as economics, political science, decision science, management science, sociology, psychology and biology. Von Neumann and Morgenstern develop this formal theory in 1944.(pp.)Rapport in Guzzo has differentiated between games and other conflicting situations such as fight or debates. The latter two cases involve hurting or persuading the opponent respectively while in games the attempt is to outwit the opponent. (Guzzo, 1982:pp.75)

Collective Choice and Committee Decision-Making

“Collective choice theory is concerned with group choice problems for which the group must collectively decide on a single alternative from some set of feasible alternatives. There are no ideal procedures for collective choice.”(Kliendorfer etal, 1993:pp.261)

¹⁶“It states that individuals tend to be risk averse in positively framed choice situations and risk prone

CHAPTER THREE

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

3.1 THE CREDIT DECISION PRACTICE OF CBE AND BOA

3.1.1 Credit Decision Practice of CBE

The organizational structure of CBE shows that the president assumes the highest authority next to the board. The president receives reports directly from eight different units and four vice presidents. The units that directly report to the president include:

- | | |
|------------------------------|-------------------------------------|
| ✓ Legal Division | ✓ The Internal Communication |
| ✓ Credit Committee | ✓ Ethics and Anti Corruption Office |
| ✓ ALCO | ✓ Recovery Unit |
| ✓ Bank Transformation Office | ✓ Internal Audit Division |

The Credit Products of CBE

The credit products of commercial bank of Ethiopia include:

Overdraft: - It is a form of credit facility by which a customer may be allowed to draw deposits of his/her/its current account for the sole purpose of the day-to-day operational needs of a viable ongoing business.

Overdrawal:-is a temporary facility that grants a customer the license to draw a specified amount of fund over and above the overdraft limit in order to meet unexpected cash shortage.

Term Loans:-is a loan granted to customers to be repaid with in a specific period of time interest. The loan is repaid in a lump sum on maturity, in monthly, quarterly, semi-annual

in negatively framed situations."

and annual installments depending on the nature of the business and its cash flows.

Special Term Loans

The Variants Of Special Term Loans Include:

- | | |
|----------------------------|-----------------------------------|
| ✓ Agricultural Term Loan | ✓ Loan for Privatization |
| ✓ Syndicate Loan | ✓ Loan for Small Scale Enterprise |
| ✓ Loan for Micro-Financing | Institutions |
| ✓ Mortgage Loan | ✓ Motor Vehicle Loan |
| ✓ Emergency Staff Loan | |

Merchandise Loans:-is short-term credit facility provided by the bank against which the merchandise or documentary evidence is held as a pledge for the loan. The variants of merchandise loan could be regular, revolving, loans against railway receipts and airway bills, and loans against warehouse receipts.

Letter of Credit :

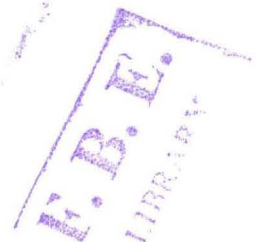
“ letter of credit is the credit instrument issued by the bank at the request of an importer thorough which the bank commits itself to a payment undertaking to an applicant (importer)to pay a seller (exporter) a given amount of money upon presentation of specified documents representing the supply of goods within specific time limits.” (CBE, Credit Processing Procedure:p.40)

Revolving Export Credit:-is an advance extended to exporters upon presentation of acceptable export documents, except a bill of lading. The documents must confirm that the goods are on transit.

Pre-Shipment Export Credit:-is a loan extended to non-coffee exporters against 80% guarantee of National Bank of Ethiopia (NBE) for purchase of raw materials, processing them and converting them in to finished goods, transporting them, warehousing the goods and packing them until such time as the goods are shipped.

Advance on Export Bills:-is a post-shipment export credit extended to exporters, up on presentation of all relevant export documents, to bridge the gap between the shipment of goods and the realization of proceeds.

Bank Letter of Guarantee:-is a written promise by the bank to pay a sum of money to



the beneficiary (local or foreign) in the event that the obligor fails to honor his/her/its obligations in accordance with the terms and conditions of the guarantee/agreement/contract.

Credit Decision Organs and Their Discretionary Limit of CBE

The credit decision making bodies of the bank include:

- The President
- The Executive Management Credit Committee (EMCC)
- The Corporate Credit Committee (CCC)
- The Head of Office Retail Credit Committee (HRCC)
- The District Retail Credit Committee (DRCC)
- The Branch Retail Credit Committee (BRCC)

The president passes a decision on appeal cases for which the EMCC has previously made a decision.

The EMCC consists of the chairperson, three members, and one secretary. Except the secretary, who is the corporate credit manager, all the other members are vice presidents of the bank. This committee hears appeal cases coming from CCC and passes a decision on loan applications exceeding the value of Birr 75 million.

The CCC contains the chairperson and the four members. They have the capacity of team leader, manager and head. The committee listens to appeal cases coming from HRCC and pass a decision on loan requests ranging from loan value of Birr 3 million up to Birr 75 million.

The HRCC involves a chairperson and four members who have the capacity of head and team leader respectively. The committee listens to appeal cases coming from DRCC and pass a decision on loan requests ranging from loan value of 1 or 1.5 million to 3 million.

The DRCC contains a chairperson and two members. They have the capacity of manager and officer. The committee handles appeal cases coming from BRCC and passes a decision on loan requests up to Birr 1.5 million.

The BRCC consists of a chairperson and two members. They have the capacity of manager and supervisor. The committee passes a decision on loan requests up to Birr 1 million.

Each member of the committee can delegate given that they regularly attend the meeting.

The Credit Guideline of CBE

The credit guideline outlines the conditions of delegation. It also states that decision makers are held accountable individually and in group for the decisions they made. In line with this, decision makers should refrain from passing decision on loan cases that may result in conflict of interest.

The credit-Processing procedure of CBE states that attempt should be made to pass decision on the basis of consensus before voting system is employed. And when the chairperson disagrees with the approval decision of the other members, he/she can override it to pass to the next higher credit committee.

The Credit Process of CBE

Although the credit process varies with the type of credit and decision making organs involved, the credit process generally takes up the general pattern mentioned hereunder:

1. The branch receives the customers' credit application with a complete set of required documents.
2. The branch conducts business visits, discusses with the customer, analyses and presents the credit proposal to the appropriate credit committee.
3. The credit committee passes a decision based on the credit proposal.
4. The branch manager communicates the decision to customers.
5. The branch completes the contractual and registration formalities and ensures that the property held as collateral has been insured and then disburses the loan to the customer as per the approved terms and conditions; and

6. The branch follows up on the repayment of the loan until it is settled and monitors the performance of the credit facilities.

The Credit Decision-Making Process of CBE

Before passing the loan approval decision, the units that accepted the loan application make credit analysis to support decision makers. The analysis involves the use of the business plan, financial statements, interviews and related information sources to ascertain the commitment and repayment capacity of the applicant together with viability of the business.

Having made the analysis, the unit that accepts the loan application will present the credit proposal to the credit-approving committees.

- The credit committee will conduct meetings to deliberate and decide on the loan requests of customers;
- The credit committee members will examine to ensure:
 - ✓ Weather documents are complete;
 - ✓ Weather consistency exists between facts presented and recommendations made by the loan analyst;
 - ✓ Weather the analysis made by the loan analyst is clear and sound;
 - ✓ Weather the information supplied with the LAF(Loan Approval Form) are complete and attested by full signatures;
 - ✓ Weather the amount requested is with in the discretionary limit of the committee;
 - ✓ Weather there is a quorum.
- When irregularities are observed in the LAF, original documents are verified;
- Based on the information presented in the LAF and its annexes, credit-approving committed will deliberate on the credit application and make credit decisions.
- Members of the credit-approving bodies put their signature on the LAF as a sign of approval.

Negotiation

The credit procedure of CBE states that the credit negotiation should be made with the borrower with the aim of reaching an understanding with the borrower as to the structure, terms and conditions of the loan. The negotiation includes repayment period, repayment amount and the lending interest rate.

Collateral

The requirement of collateral in terms of the loan depends on the type of loan, its risk grade and the type of collateral. The loan-to-security ratio ranges from 1:1 to 1:2. In fact, the bank gives clean loans, which are not backed by collateral, to customers that fulfill certain criterion.

3.1.2 Credit Decision Practice of BOA

The organizational structure of BOA indicates that the board assumes the highest authority above the President. Pertinent to credit structure, the Board of Director Loan Review Committee (BODLRC) exists between the board and the president. Similarly, the Senior Management Arrears Committee (SMAC) exists between the president and the vice president. The Vice president-Operation and Strategic Planning directly orders the Credit Department which in turn controls the Branches in credit related matters. Besides, the Senior Management Credit Committee (SMCC), the Head office Credit Committee (HOCC), the Credit department credit Committee (CDCC) and the Branch Credit Committee (BCC) appear between the president and the vice president, the vice president and the credit department, and between the credit department and the branch in that order. The sample of the credit structure of BOA is attached under appendix IV

Types Products of BOA

The credit products of BOA are almost similar to CBE with a slight variation. They include:

Overdraft: - It is a form of credit facility by which a customer may be allowed to draw deposits of his/her/its current account for the sole purpose of the day-to-day operational

needs of a viable ongoing business.

Term Loans:-is a loan granted to customers to be repaid with in a specific period of time interest. The loan is repaid in a lump sum on maturity, in monthly, quarterly, semi-annual and annual installments depending on the nature of the business and its cash flows.

Special Term Loans

The Variants Of Special Term Loans Include:

- ✓ Agricultural Loan
- ✓ Syndicate Loan
- ✓ Micro-Finance Loan
- ✓ Real estate Loan
- ✓ Loan for Vehicles
- ✓ Personal Loan
- ✓ Loan to Developmental sectors
- ✓ Loan for Small Scale Enterprise
- ✓ Project Finance

Merchandise Loans:-is short-term credit facility provided by the bank against which the merchandise or documentary evidence is held as a pledge for the loan. The variants of merchandise loan could be regular, revolving, loans against railway receipts and airway bills, and loans against warehouse receipts.

Letter of Credit:

“ letter of credit is the credit instrument issued by the bank at the request of an importer thorough which the bank commits itself to a payment undertaking to an applicant (importer)to pay a seller (exporter) a given amount of money upon presentation of specified documents representing the supply of goods within specific time limits.” (CBE, Credit Processing Procedure;p.40)

Revolving Export Credit:-is an advance extended to exporters upon presentation of acceptable export documents, except a bill of lading. The documents must confirm that the goods are on transit.

Bank Letter of Guarantee:-is a written promise by the bank to pay a sum of money to the beneficiary (local or foreign) in the event that the obligor fails to honor his/her/its obligations in accordance with the terms and conditions of the guarantee/agreement/contract.

Credit Decision Organs and Their Discretionary Limit of BOA

The credit decision making bodies of BOA include:

- The Board of Directors
- The Senior Management Credit Committee (SMCC)
- The Head office Credit Committee (HOCC)
- The Credit Department Credit Committee (CDCC)
- The Branch Credit Committee (BCC)

BOA determines the discretionary limit of the decision making organs based on the type of credit products and portfolio concentration. Each decision making organ assumes the maximum discretionary power for decisions related to term loan. Besides, the Credit Department Credit Committee (CDCC) and the Branch Credit Committee (BCC) do not participate in credit approval decision for selected credit products.

The Board of Directors passes a decision for loan values in excess of 10 million and 5 million for term loan/merchandise loan and overdraft respectively.

The Senior Management Credit Committee consists of one chairperson, four members and a secretary. The president chairs the committee, and the vice presidents and the managers serve as a member. The range of discretionary limit with in which the SMCC operates is between 2 million and 10 million.

The Head Office Credit Committee consists of a chairperson, four members, and a secretary. The chairperson is the vice president of operations while the other members are all in the capacity of manager. The committee's discretionary power is up to 2 million.

The Credit Department Credit Committee contains a chairperson and two members and a

secretary. The manager of credit department chairs the meeting while the two other managers serve as member. Their discretionary limit is up to 750 thousand.

The Branch Credit Committee consists of a chairperson and two members and a secretary. The branch manager chairs the committee while his/her deputy and the accountant serve as member. The maximum discretionary power of BCC is up to Birr 300 thousand.

Each member of the committee can delegate given that the delegated attends the meeting regularly. Besides, all the committee secretaries are loan officers.

The Credit Guideline of BOA

The credit guideline outlines the conditions of delegation. It also categorizes the manner of autonomy and accountability in terms of individual and group. Individual autonomy and accountability is assumed by the president, the vice presidents, the Head office credit department manager and the branch manager. Whereas, the credit committees are held accountable in group and assumes group autonomy.

The BOA credit guideline states that the credit practice of the bank takes in to consideration the various social, ethical and regulatory requirements.

The Credit Process of BOA

The credit Process of BOA is sequential and involves:

1. **Credit Origination:** - This is made either at the branch or the head office level.
2. **Credit Analysis:** - The analysis is a rating technique made against factors that are considered as 5 p's (i.e., character, capital, collateral, capacity to pay, condition)
3. **Negotiation:** - It is a means of creating understanding between the borrower and the lending office before the request is directed to approving organ.
4. **Approval:** - The credit approval is made by credit committees based on the credit analysis.

5. **Appeal:** - The applicant takes appeal cases to the next higher credit decision making organ.
6. **Loan Contract:** - The applicant signs contracts after his/her request is approved.
7. **Loan Documentation:** - The lending office collects and keeps important documents such as the loan contract, title deeds, and guarantee agreements.
8. **Disbursement:** - The loan disbursement is made after all prior conditions are met.

Negotiation in BOA

The credit policy of BOA states that the credit negotiation should be made with the borrower with the aim of reaching understanding with the borrower. It further states competitive price should be set by the bank. However, any change in the level of interest should be approved by the board. This does not give sufficient room for price negotiation on a case-by-case basis.

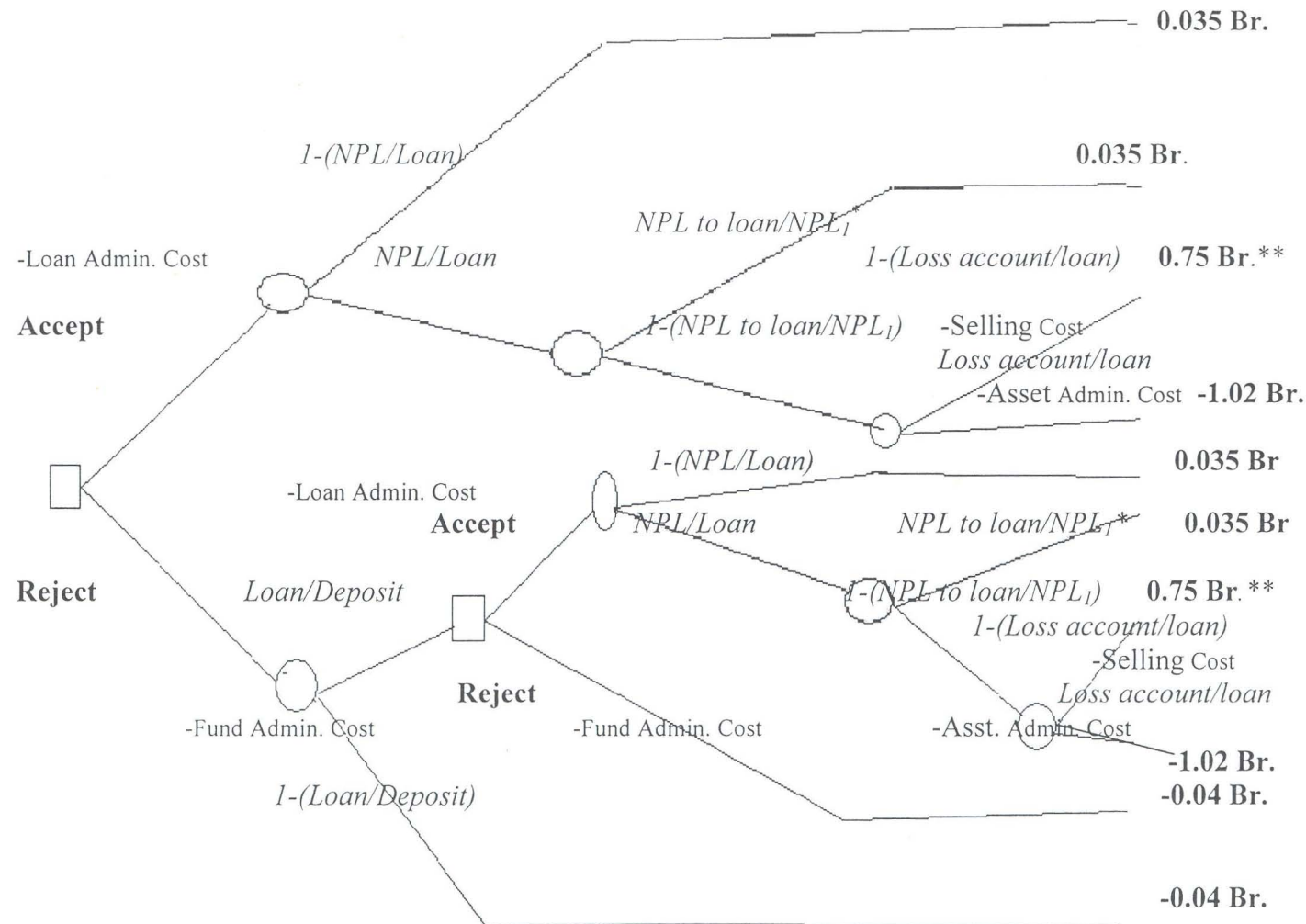
Collateral in BOA

The requirement of collateral in terms of the loan depends on the type of loan, its risk grade, the type and the service year of collateral. The loan-to-security ratio ranges from 1:1 to 1:2. In fact, the bank gives clean loans, which are not backed by collateral, to customers that fulfill certain criterion.

3.1.3 Credit Decision Analysis of Commercial Banks

Figure 3.1 depicted the analysis of the credit approval decisions being made in the Ethiopian commercial banks under the period of this study.

Figure 3.1: Decision Analysis on Credit Approval Decision



** The bank's annual pay-off for Birr one credit with the prevailing 7.5% lending rate

Figure 3.1 shows a simplistic model of decision analysis pertinent to credit approval decisions that are being made in the Ethiopian commercial Banks during the period of this research project. The analysis is made based on the observation of the researcher of this study during his eight years stay in the Commercial Bank of Ethiopia. And as the practice is fairly similar across Ethiopian banks, this analysis represent the Ethiopian Banking industry.

The analysis takes in to consideration the basic alternatives available, costs associated with them, the probability of occurrence of events, and the consequences of each event.

To reduce the decision tree to its basic alternatives, which are the “accept” or the “reject”, data are required pertinent to:

- Lending interest rate (Currently, it is about 7.5%)
- Deposit interest rate (currently, it is 3 %)
- NPL to outstanding loan¹⁷ ratio (NPL/loan). This indicates the likelihood of each birr of outstanding loan to be non performing loan, and its deduction from 100% shows the chance of
- The ratio that shows the movement of NPL loans to outstanding loan status during a particular period (NPL to loan/NPL₁). The denominator, NPL₁, represent the NPL level at the beginning of a particular period.
- The ratio of loss accounts¹⁸ to outstanding loan (Loss accounts/loan)

¹⁷ Outstanding loan is the category of loans that are regularly repaid.

¹⁸ Loss accounts are loan cases that are considered to be non recoverable.

- The ratio of outstanding loan to total deposit (Loan/deposit). This indicates the chance of converting each Birr deposit to credit status.

The costs associated with events include:

- ***Loan Administration cost.*** This involves the cost associated with the approval of a loan request. Thus, the loan administration cost arises with the accept decision. This cost could be computed as the total cost of the head office credit unit and the sum of the portion of the branches cost that can be traced to credit operation. The cost per each Birr lent is then obtained by dividing the total credit administration cost with the total outstanding loan per a given period of time.

Currently, cost drivers that are directly traced to loan activities are not identified by the banks under investigation. Thus, further studies are needed to work on it for better result.

- ***Fund Administration cost.*** This cost is incurred with reject decision. This involves the central issue departmental cost, the cash operations cost of each bank branch, the security and fund transportation costs.

Currently, cost drivers related to fund administration are not identified by the banks under investigation. Thus, further studies are needed to work on it for better result.

- **Selling cost.** It relates to costs associated with foreclosing the collaterals that backs the credits. The total periodic cost of foreclosure division divided by the total value of credits assigned to the division with the same period.
- **Asset administration Cost.** Whenever commercial banks fail to foreclose collaterals, the administration burden of them will rest on banks.

The analysis is made based on the following simple procedure of credit approval decision mentioned hereunder:

1. The deposit customer makes monetary deposit in the Bank,
2. The credit customer makes a request for loan,
3. The bank makes the analysis on the viability of the request for loan,
4. The bank makes the 'accept' or the 'reject' decision in committee basis,
5. After loan is approved it may either be regular loans¹⁹ or be non-performing loan.
6. Non-performing loans

Whenever loan request is accepted, there are associated costs, benefits and events. The costs include deposit interest, loan administration cost, selling cost and asset administration cost and they are estimated to be 1% of each Birr lent 3% of every single Birr of collateral sold, and 1% of every single Birr value of collaterals acquired by bank. These costs are netted against the benefits to determine the pay-offs attached to the terminal forks of the accept decision. These include:

- 7.5 % lending interest rate,

- The proceed from sale of collaterals which is estimated to be 72% of the loan value,
- The loss of the entire loan value.

The value of 0.035 Br., 0.035 Br., 0.75 Br., and -1.02 Br. in the accept decision terminal forks of figure 3.1 shows the result of the above mentioned procedure per a single Br. lent by Commercial banks.

With regard to the chance of occurrence of events associated with the accept decision, it includes the possibility of being either NPL (NPL/Loan) or regular loan (1-(NPL/Loan)). Once a loan becomes NPL, it has the possibility of either being reclassified back to performing loans or being part of NPL categories that waits for either foreclosure or write-off. The chance of write-off is computed as the ratio of the value of loss accounts to total outstanding loans, and its difference from 100% shows the chance of selling collaterals.

The reject decision, on the other hand, involves the possibility of the lending the money to another borrower with in short period of time and the possibility of the fund being idle. The chance of lending each Birr of deposit is computed as the ratio of outstanding loans to total deposits (Loan/deposit). And, the ratio's difference from 100% indicates the possibility of the fund to be idle. Idle funds entail fund administration cost that is estimated to be one percent of each birr deposit. Besides, interest on deposit is the integral cost element associated with the reject decision. The computation of the

¹⁹ Regular loans are loans that are regularly paid with out missing three consequent periodic payments.

mentioned cost elements lead to the negative pay-off values of 0.04 Birr at the terminal fork of the reject decision.

Practical use of the decision analysis model

Currently, neither Commercial Bank of Ethiopia nor Bank of Abyssinia use decision analysis as an alternative way of analyzing credit decisions. Rather credit analysis is made based on credit ratings given to factors related to borrower's history and relationship with the bank, management, financial performance, cash position and the like. The analysis results in categorizing borrowers on various risk grade classifications that shows whether the loan request is bankable or not. This practice has got common place in commercial banks.

There is a challenge associated with employing decision analysis method in the context of the current Ethiopian banking industry. The first reason emanates from the very limitations of the analysis model from embracing all the complexities existed in the real world. The other reason relates to the relative stability of values placed on decision trees undermines the practical value of decision analysis. For instance, the deposit interest rates and the lending interest rates are intact to 3% and 7.5% for about a decade. In such scenario, the outputs of various decision analyses also become similar that it reduce the practical significance of the analysis.

However, decision analysis becomes highly useful when interest rates become market driven and when banks set lending interest rates based on negotiation. When such values

change, the decision maker needs to continually check their impact. Researches are being made in banks to employ the approach of setting differential loan price based on negotiation. (Dilnesahu, Yonatan & Mesfin, 2004). When banks adopt this method, the decision analysis model becomes highly useful. However, it should be supplementary to rather than a substitute to the prevailing credit rating system.

3.2 ANALYSIS OF THE RESPONSE OF THE QUESTIONNAIRE

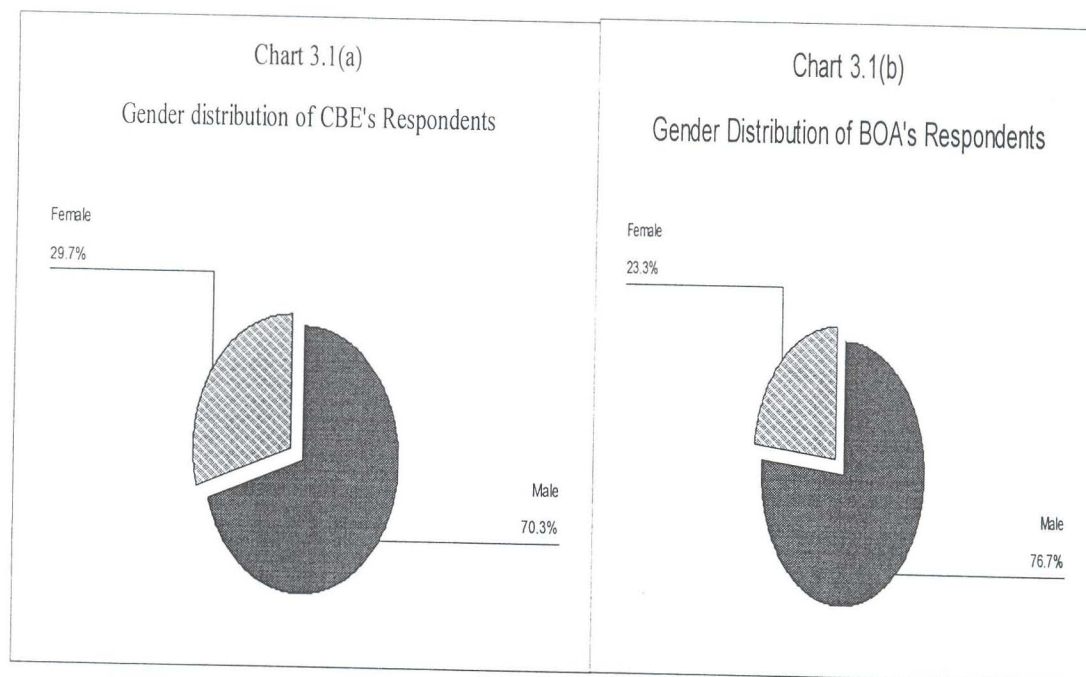
3.2.1 Bio-data of Respondents

Two sets of questionnaires are administered and distributed to 80 respondents. The first set was distributed to 20 and 15 credit decision makers of CBE and BOA respectively. And the response rate was 17 (85%) in case of CBE and 13 (86.7%) in the case of BOA. The second set was distributed to 45 staff members working in credit area pertinent to credit analysis, credit assessment or credit relationship. Of the total 45 members, 25 and 20 questionnaires are distributed to the staff members of CBE and BOA respectively. The response rate was 20 (80%) for CBE and 17 (86.7 %) for BOA. The average response rate of decision makers and credit staff members of both banks was 30 (85.7%) and 37(82.2%) respectively. Table 3.1 indicates that 83.75% (i.e., 67 of the 80) of respondents had responded and returned the questionnaires.

Table 3.1: Response Rate

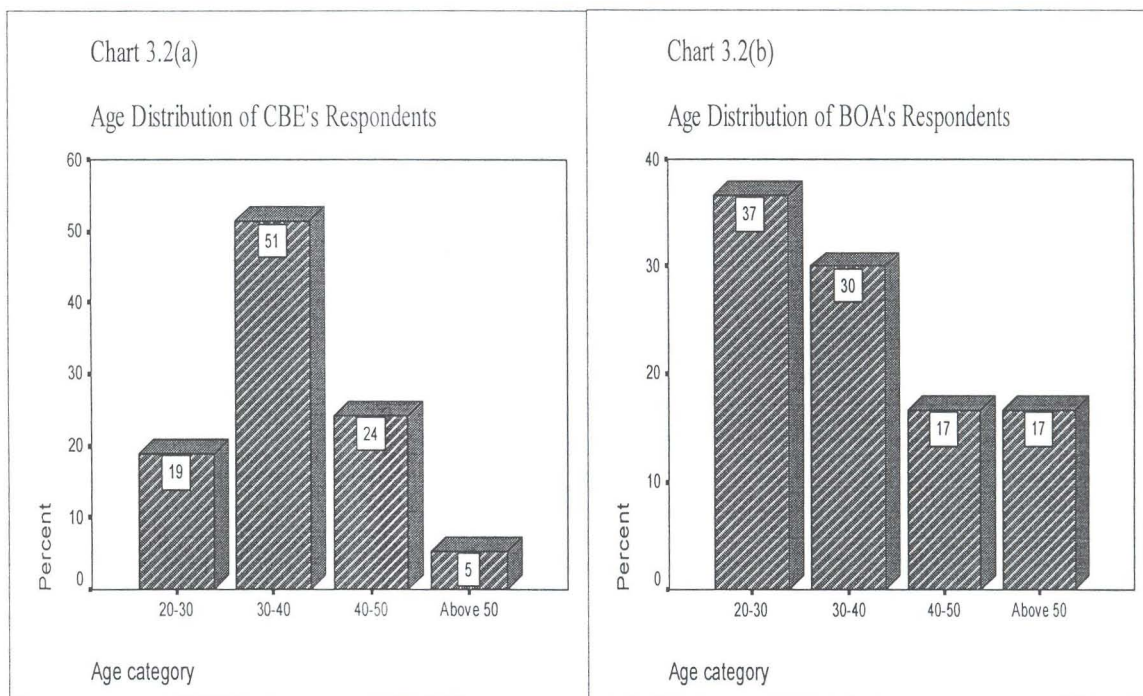
	CBE			BOA		
	No.		%	No.		%
	<i>Distributed</i>	<i>Responded</i>		<i>Distributed</i>	<i>Responded</i>	
<i>Decision makers</i>	20	17	85.0	15.0	13.0	86.7
<i>Credit staff</i>	25	20	80.0	20.0	17.0	85.0
Total	45	37	82.2	35.0	30.0	85.7

The gender distribution of the 37 respondents of CBE is 26 (70.36%) male and 11 (29.7%) female. However, the distribution of the 30 respondents of BOA is 23 (76.7%) male and seven (23.3%) female. The overall respondents' profile indicates that 73.1% are male and 26.9% are females. Chart 3.1(a) and 3.1(b) shows the gender distribution of CBE's and BOA's respondents.



Regarding the age distribution, the dominant age category of CBE's respondents is within the range of 30 to 40 which accounts for 50% of CBE's respondents. In contrast, the major concentration of BOA's respondents is within the age range of 20 to 30, with a relative frequency of 37%. However, there is a huge difference on the relative

concentration of respondents above age 50. It accounts for 5% in case of CBE and 17% in case of BOA. The overall statistical result shows that the overall dominant age group of respondents is between 30 and 40 with 40.5% while the least concentrated group is above age 50 with 11% distribution. Chart 3.2(a) and (b) depicts the age distribution of respondents.



There is comparable educational background between the two banks in that 30(81%) of CBE's respondents and 25(83%) of BOA's respondents earned Bachelor of Arts Degree. This summed up to 55 (82%) of the total 80 respondents. The remaining respondents are either diploma holders (i.e., Thirteen (14%) from CBE and three (7%) from BOA), Masters Degree holders (i.e., One from CBE and two from BOA) or a PhD holder (One from CBE). Chart 3.3(a) and 3.3(b) depicts the relative frequency of the respondents' educational qualification.

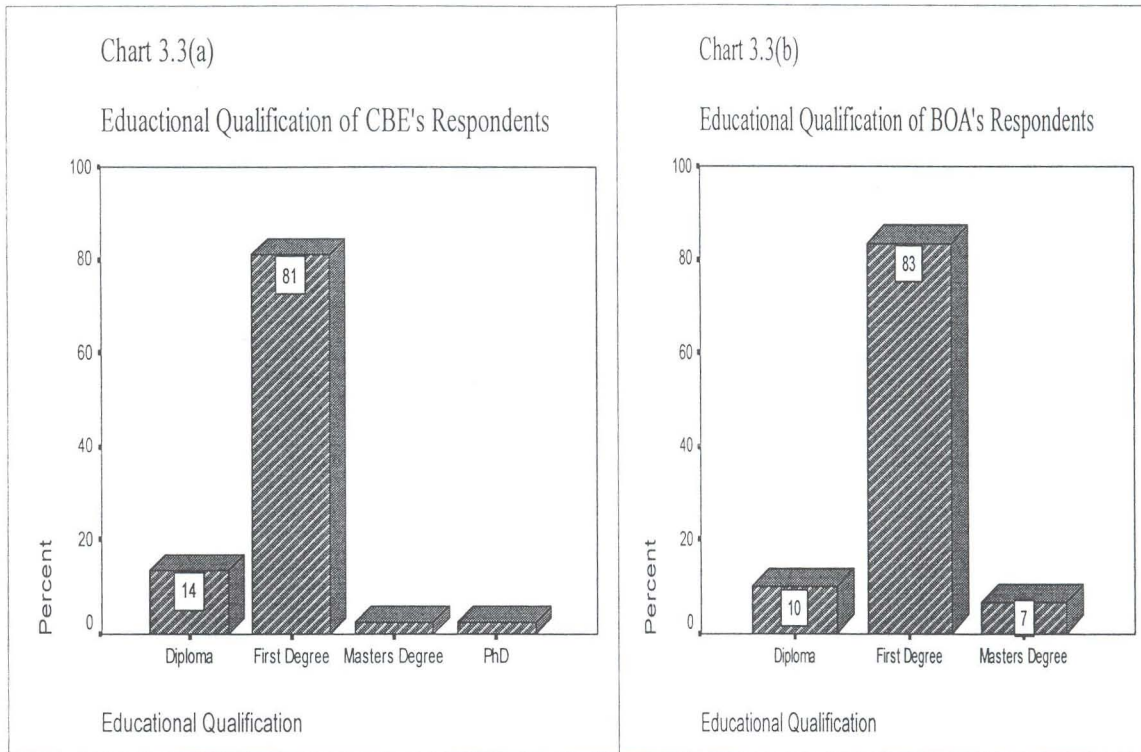


Chart 3.4(a) and 3.4(b) portray the current position of respondents and their service year in that position. The frequency distribution of the current position is measured against the vertical count axis and therefore it is represented by the vertical distance of the ribbon corresponding to the position. In contrast, the frequencies of respondents who have similar service year in a given position are measure through the horizontal distance of the ribbons against the service year axis.

On Page 58, Chart 3.4(a) shows that relationship managers with service duration either not exceeding one year or between one to three years are dominant followed by three team leaders between one to three years of service and three officers between three to

five years of service. The respondents that have more than five years of service in their current position are only two managers and two supervisors.

On Page 59, Chart 3.4(b) shows that Officers with service duration between one to three years are dominant (i.e., nine in numbers) followed by three Officers and three team leaders up to one year of service and between one to three years of service respectively. The respondents that have more than five years of service are also considerable in that they accounts up to four per position. However, only managers and loan analysts fall in this category.

Chart 3.4(a)

CBE's Respondents service year in current position

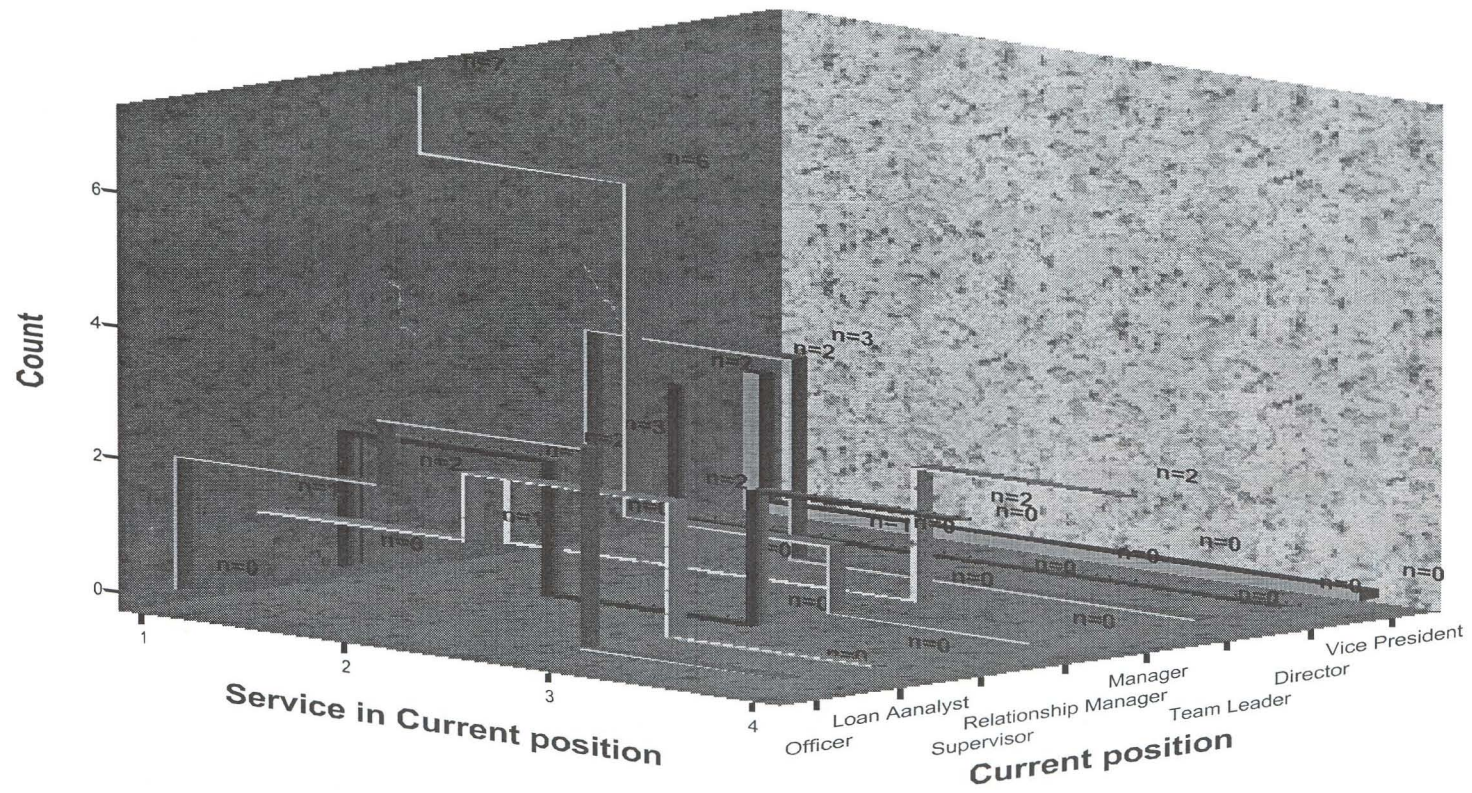
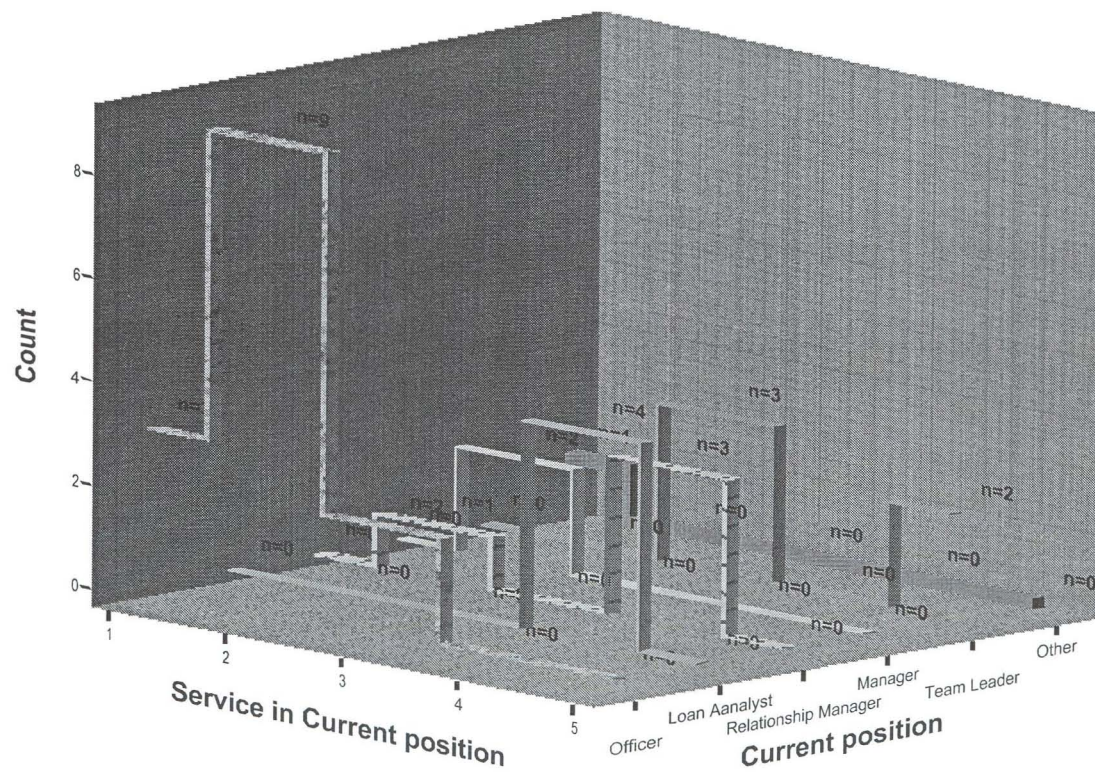


Chart 3.4(b)

BOA's Respondents Service Year in Current Position



3.2.2 The Cause of The Risk Taking Attitude of Credit Decision Makers in CBE and BOA

Table 3.2(a) and 3.2(b) have presented the respondents' ratings on the presumed causes of attitude towards risk against Likert's five scales. The computation is made based on the assignment of numeric values from one to five to scale values ranging from extremely low to extremely high in ascending order.

The ratings on the impact of personal fear shows that 15(40.5%) of CBE respondents and 15(50%) of BOA respondents have answered 'high impact' and 'moderate impact' with mean of 3.4 and 3.17 and with a standard deviation of 1.17 and 0.7 respectively. This shows that the impact of fear ranges between extremely high and high in case of CBE and between Moderate and High in case of BOA. Table 3.5(a) and 3.5(b) of appendix 1 shows some degree of skewness towards extremely high signifying that there is high level of impact that personal fear brings to risk attitude of decision makers.

The Pearson's correlation coefficient measure, tabulated in table 3.2(a)-1 and 3.2(a)-2, shows that there is strong linear relationship between personal fear and attitude towards risk in CBE and in BOA with correlation coefficient of -0.36 and 0.68 at 0.05 and 0.01 levels of significance respectively.

Regarding Personal confidence, responses comparable to personal fear has been secured. Fifteen (40.5%) of CBE's respondents and twelve (15%) of BOA's respondents believes that the impact of personal confidence on the attitude of decision makers towards risk is

high. Chart 3.6(a) and 3.6(b) of appendix 1 shows mean values of 3.4 and 3.5 with standard deviation of 0.98 and 1.14 with a relatively symmetrical skewness in both the cases of CBE and BOA respectively. The correlation coefficient, however, shows that there is no strong linear relationship as it has shown more than 10% level of significance.

The impact of measures taken by anti-corruption commission on CBE's previous management team and partly on the management members of private banks has extremely high impact as per the 19(50%) respondents of CBE with the mean value of 4.2 and the correlation coefficient of 0.53 signifying 99% of confidence level on its relationship with the attitude of decision makers towards risk. In contrast, only 18 respondents of BOA give response to the question and from them 8(44%) has said that it has low impact with a mean value of 2.8. The correlation test supports this result in that there is little (0.36) degree of correlation with level of significance in excess of 10%.

The impact of the board's decision in replacing the previous top management team is high to the extent of 12(32.4%) in case of CBE and low to the extent of 8(53.3%) respondents in case of BOA. However, the correlation coefficient shows less degree of confidence on its relationship with risk attitude.

Pertinent to the impact of the nature of organization, that is its ownership interest, on risk taking behavior, 19(54%) of CBE's respondents answer that it has high impact while 15(50%) of BOA's respondents said that it has low impact. The curve drawn from CBE's responses show skewness to the highest extreme with mean value of 3.5 and

standard deviation of 1.05 (see Table 3.10 in Appendix I). The correlation coefficient of this response in relation to attitude towards risk is -0.533 with 98% of confidence. This substantiates the existence of strong negative relationship between government ownership and risk attitude.

Table 3.2(a) Factors affecting decision makers' attitude towards risk(CBE)

		Extremely High	High	Moderate	Low	Extremely Low	Total
Personal fear of decision makers	No.	6	15	4	12	0	37
	%	16.2	40.5	10.8	32.4	0.0	100.0
Personal Confidence of decision makers	No.	4	15	9	9	0	37
	%	10.8	40.5	24.3	24.3	0.0	100.0
Anti-Corruption Commission measures taken on the previous management team.	No.	19	13	1	2	2	37
	%	51.4	35.1	2.7	5.4	5.4	100.0
The boards' decision of replacing the preceding top management team.	No.	6	12	7	8	4	37
	%	16.2	32.4	18.9	21.6	10.8	100.0
The ownership interest of the organization (The fact that it is government or privately owned)	No.	3	19	4	4	2	32
	%	9.4	59.4	12.5	12.5	6.3	100.0

Table 3.2(b) Factors affecting decision makers' attitude towards risk(BOA)

		Extremely High	High	Moderate	Low	Extremely Low	Total
Personal fear of decision makers	No.	0	10	15	5	0	30
	%	0.0	33.3	50.0	16.7	0.0	100.0
Personal Confidence of decision makers	No.	9	3	12	6	0	30
	%	30.0	10.0	40.0	20.0	0.0	100.0
Anti-Corruption Commission measures taken on the previous management team.	No.	3	0	6	8	1	18
	%	16.7	0.0	33.3	44.4	5.5	100.0
The boards' decision of replacing the preceding top management team.	No.	0	2	5	8	0	15
	%	0.0	13.3	33.3	53.3	0.0	100.0
The ownership interest of the organization (The fact that it is government or privately owned)	No.	7	3	5	15	0	30
	%	23.3	10.0	16.7	50.0	0.0	100.0

Table 3.2(a)-1: Correlations between risk attitude and selected factors (CBE)

		Risk attitude of decision makers
Impact of personal fear	Pearson Correlation	-.366*
	Sig. (2-tailed)	.026
	N	37
Impact of personal confidence	Pearson Correlation	-.189
	Sig. (2-tailed)	.263
	N	37
Impact of ACC measures	Pearson Correlation	-.537**
	Sig. (2-tailed)	.001
	N	37
Impact of Board's measure	Pearson Correlation	-.248
	Sig. (2-tailed)	.139
	N	37
Impact of the nature of organization	Pearson Correlation	-.566**
	Sig. (2-tailed)	.001
	N	32

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

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

Table 3.2(b)-1: Correlations between risk attitude and selected factors (BOA)

		Risk attitude of decision makers
Impact of personal fear	Pearson Correlation	.683**
	Sig. (2-tailed)	.000
	N	28
Impact of personal confidence	Pearson Correlation	.302
	Sig. (2-tailed)	.119
	N	28
Impact of ACC measures	Pearson Correlation	.361
	Sig. (2-tailed)	.170
	N	16
Impact of Board's measure	Pearson Correlation	-.487
	Sig. (2-tailed)	.092
	N	13
Impact of the nature of organization	Pearson Correlation	.200
	Sig. (2-tailed)	.308
	N	28

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

The other element that could be a cause for risk attitude is the perception of decision makers on the equitable employment of reward and penalty related to outcome of risk taking behavior. The major portion 19 (54.3%) of CBE's respondents agreed that the penalty outweighs the reward while opposite responses were secured from 14(63.6%) of BOA's respondents.

Table 3.3: The extent of balance between reward and penalty of risk takers

	CBE		BOA	
	No.	%	No	%
The penalty of failure outweighs the reward of success.				
Agree	19	54.3	8	36.3
Disagree	16	45.7	14	63.6
Total	35	100	22	100.0

3.2.3 Measurement of the Risk Attitude of Credit Decision makers

Respondents were asked to rate the attitude of decision makers as risk takers, neutral and risk averse. Besides, three additional questions related to the degree of reliance of information, the strictness of credit procedures and the belief regarding the collateral to loan ration were forwarded for cross checking purpose.

Besides, the decision makers' attitude is measured through the preference model of Hammond (1964) to find out whether the results of the model and of the respondents' exhibit consistency.

Respondents' Response With Regard To the Risk Taking Behavior of Credit Decision Makers

Table 3.4(a) and 3.4(b) presented the responses with regard to the attitude of decision makers towards risk. The responses from CBE are that decision makers are risk averse to the extent of 30(81.1%) and average players (Neutral) to the extent of 7(18.9%). Chart 3.10(a) shows skewness to the lowest extreme with a mean value of 1.19 and with a standard deviation of 0.4 signifying strong risk aversive behavior. The correlation coefficient, however, does not show significant linear relationship with in the presumed indicators.

On the contrary, 25(89.3%) of the 28 respondents of BOA answered that the risk taking behavior tends to neutrality with mean value of 1.20 and standard deviation of 0.31, the value being between risk aversion and neutral it is highly skewed to the later. _However,

consistency check shows strong negative relationship between reliance on information and risk taking behavior with in significant level of 5 percent.

The testing is made with the assumption that degree of reliance on information, belief regarding the collateral to loan ratio and the extent of stringency of the credit procedure shows risk taking behavior. The factors are assumed to have inverse relationship with risk taking behavior.. As a result, the coding was given in a manner that corresponds to risk aversion for higher values and to risk taking for lower values. Thus, interpretation about these factors could be made only in terms of the risk taking behavior that one shows. The set of charts presented under chart 3.10 in appendix-I follow this procedure. In light of this, the skewness of the normal curve of chart 3.10-1, 3.10-2, and 3.10-3 in similar direction with charts 3.10 shows the existence of the assumed relationship.

Table 3.4(a):Attitude of decision makers towards risk(CBE)

		Low	Moderate	High	Total
Risk taking behavior of decision makers	No.	30	7	0	37
	%	81.1	18.9	0.0	100.0
Degree of reliance on decision support	No.	11	25	0	36
	%	30.6	69.4	0.0	100.0
Degree of stringency of the credit procedure	No.	11	24	2	37
	%	29.7	64.9	5.4	100.0
Respondents' belief on collateral coverage.	No.	29	3	3	35
	%	82.9	8.6	8.6	100.0

F.B.F.

Table 3.4(b) Attitude of decision makers towards risk(BOA)

		Low	Moderate	High	Total
Risk taking behavior of decision makers	No.	3	25	0	28
	%	10.7	89.3	0.0	100.0
Degree of reliance on decision support	No.	21	6	3	30
	%	70.0	20.0	10.0	100.0
Degree of stringency of the credit procedure.	No.	0	16	14	30
	%	0.0	53.3	46.7	100.0
Respondents' belief on collateral coverage.	No.	30	0	0	30
	%	100.0	0.0	0.0	100.0

Table 3.4 (a)-1 Correlations of risk attitude with presumed indicators (CBE)

		Risk attitude of decision makers
Degree of reliance on information	Pearson Correlation	.a
	Sig. (2-tailed)	.
	N	25
Degree of strictness of credit procedure	Pearson Correlation	.090
	Sig. (2-tailed)	.597
	N	37
Belief on collateral coverage	Pearson Correlation	-.122
	Sig. (2-tailed)	.507
	N	32

a Cannot be computed because at least one of the variables is constant.

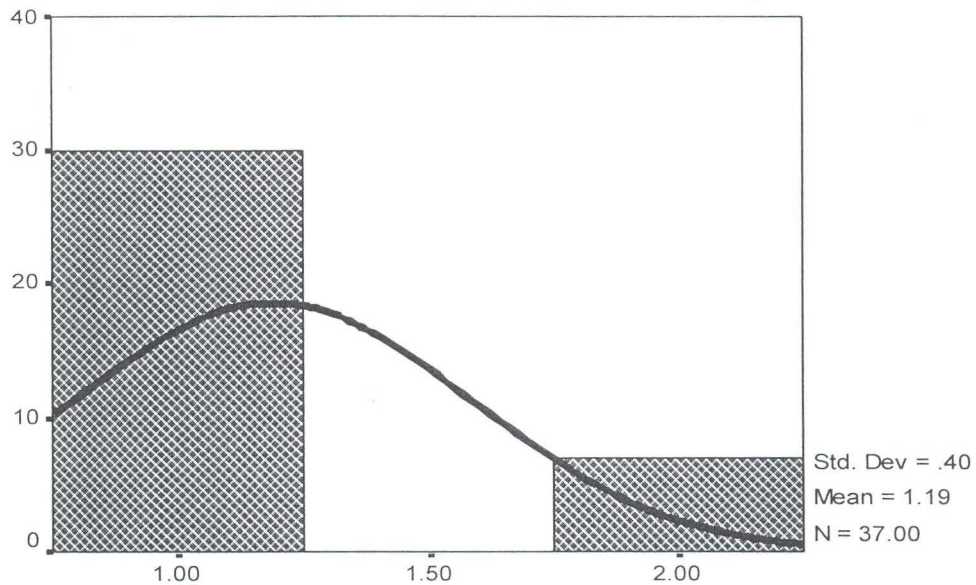
Table 3.4(b)-1: Correlations of risk attitude with presumed indicators (BOA)

		Risk attitude of decision makers
Degree of reliance on information	Pearson Correlation	-.463*
	Sig. (2-tailed)	.013
	N	28
Degree of strictness of credit procedure	Pearson Correlation	.346
	Sig. (2-tailed)	.071
	N	28
Belief on collateral coverage	Pearson Correlation	.
	Sig. (2-tailed)	.
	N	28

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

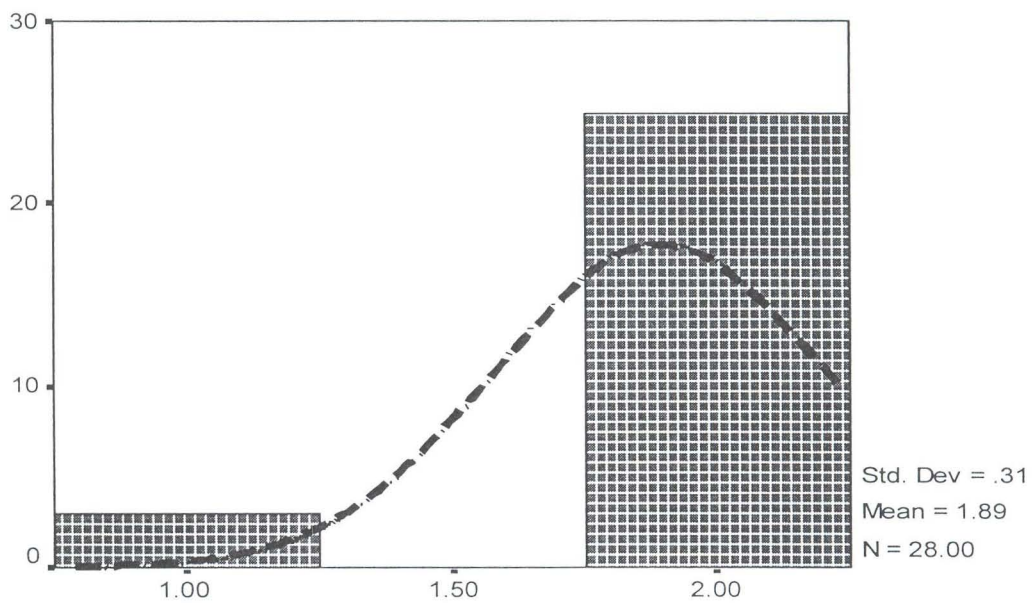
a Cannot be computed because at least one of the variables is constant.

Chart 3.5(a):Attitude of Decision makers towards risk(CBE)



Risk attitude of decision makers

Chart 3.5(b):Attitude of Decision makers towards risk (BOA)



Risk attitude of decision makers

The distribution of responses on the risk attitude of decision makers provides clue as to the level of unification of risk taking culture in the organization. To the contrary, 25(89.3%) of the 28 respondents of BOA answered that the risk taking behavior tends to neutrality with mean value of .1.20 and standard deviation of 0.31, the value being between risk aversion and neutral it is highly skewed to the later. Although this factor depends on various factors and calls for further research, the result shows a clue as to the performance of risk management department in ensuring consistent corporate culture.

Unified corporate culture on risk taking helps the organization to create synergy that strengthens its capacity in the implementation of corporate strategy. However, this is not to say that the diversity should be eliminated. To the contrary, diversity of risk taking behavior helps the organization to ensure diversified portfolio concentration. This leads to risk reduction through balanced portfolio while the former leads to better risk control through unified culture.

The current practice of portfolio management based on credit product and exposure limit gives little room to achieve the balanced risk-return characteristics that the banks crave for. However, if decision makers having variety of risk behaviors inhibit the organization, the target can be met naturally and randomly. This, however, requires assignments of managers based on the measurement of their attitude towards risk.

Measurement of Risk Taking Behavior with the use of Preference Theory

The measurement is made based on the procedure set by Hammond (1964) (see also pp.25). It relies on the respondents' response as to their certainty equivalence for a set of lotteries (opportunities) in different contexts. The context involves:

- Decision making on personal money;
- Individual decision making in organization; and
- Group decision making in organization

The extreme values are assigned to have the probability of zero and one and the reference consequence of zero and seven thousand five hundred (i.e., 7.5% of 100,000 Birr loan per annum) are attached to the extreme probability values respectively. Then, the respondents are asked about their certainty equivalence for probability values of 25%, 50% and 75% of success. The responses against each probability value were averaged to sketch the preference curve of decision makers. This shows the attitude of decision makers.

The data obtained in this regard, however, might be vulnerable to inconsistent frame of reference since there is high rate of non-response and elimination during consistency check were exhibited.

Chart 3.6, 3.7 and 3.8 show on page 73 the preference curve of CBE's and BOA's decision makers pertinent to three decision contexts, namely personal, individual-organizational and group-organizational decisions.

The preference curves shows variation with the three decision contexts in both CBE and BOA case. The decision on personal money shows convex to the origin showing high level of risk aversion. The individual-organizational decisions show a tendency to the long run average player or linearity. The group-organizational decision, on the other hand, exhibits curves that are concave to the origin to signify risk taking behavior. This tells that risk taking behavior improves as the decision maker moves from personal to individual-organizational and then to group-organizational decision contexts.

Chart 3.8(a) and 3.8(b) show that CBE's preference curve is more convex than BOA's in group decision making. This indicates that the tendency of decision committees to avert risk is high in the case of CBE and tends to neutrality in the case of BOA. This result shows consistency with the answer obtained through a multiple choice question about the attitude of decision makers.

Chart 3.6(a): Preference curve of decisions on personal money(CBE)

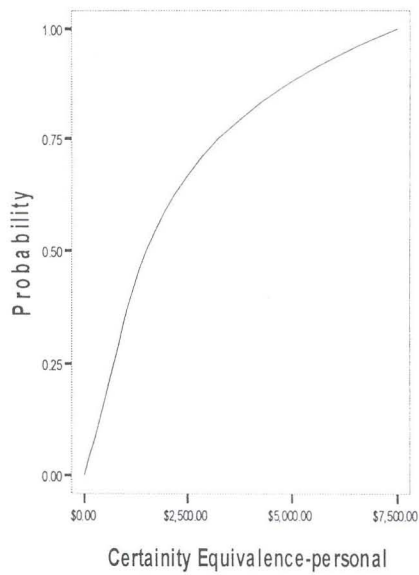


Chart 3.6(a): Preference curve of decisions on personal money(BO)

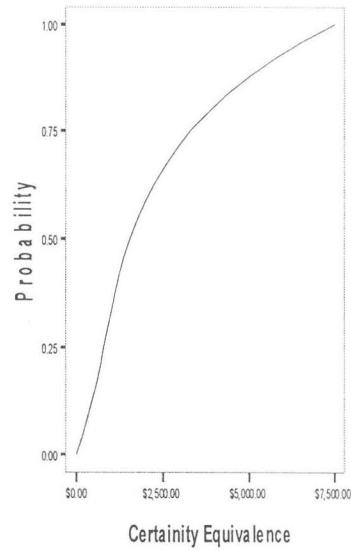


Chart 3.7(a): Preference curve of decisions in individual organizational(CBE)

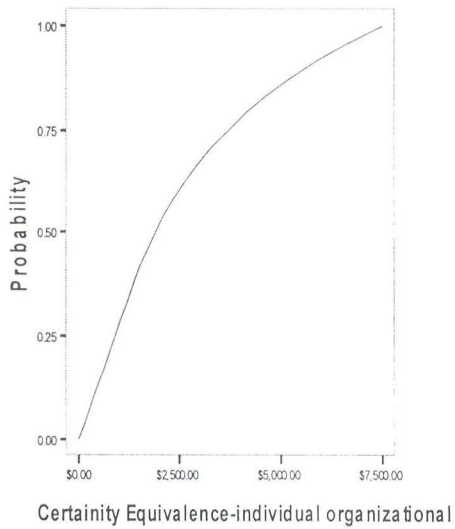


Chart 3.7(a): Preference curve of decisions in individual organizational(I)

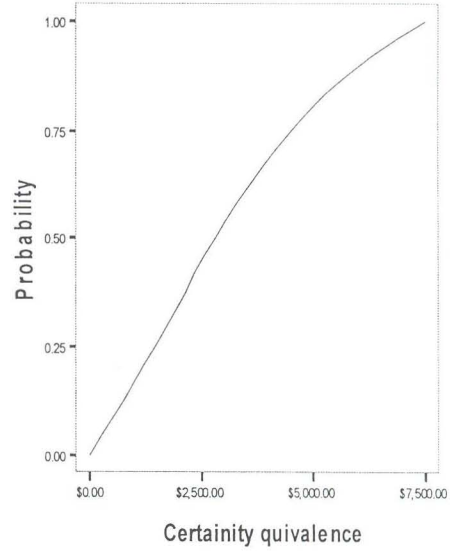


Chart 3.8(a): Preference curve of decisions in group organizational(CBE)

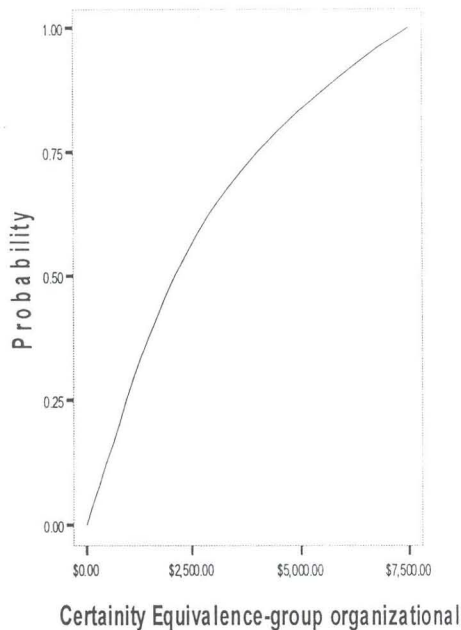
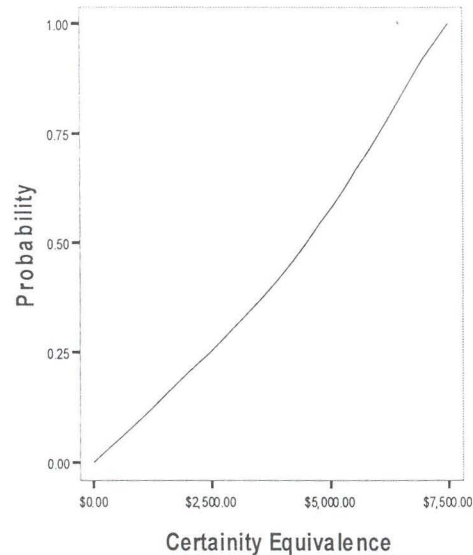


Chart 3.8(a): Preference curve of decisions in group organizational (BOA)



3.2.4 The Impact of Risk Taking Attitude of Credit Decision Makers on Organizational Performance.

The impact of risk attitude on the implementation of incremental change, radical change, credit expansion, credit quality had been answered to be positive in both CBE and BOA with a relative composition of 51.5 % to 69.2%, 51.5% to 69.2%, 42.4% to 92.3%, 34.3% to 53.8%, and 40% to 61.5% respectively. The impact on innovation has been responded as negative and no impact in case of CBE with 34.3% each and as positive in case of BOA 42.3%. Table 3.5(a), 3.5(b), 3.5(a)-1, 3.5(a)-2 on page 75 and 76 and charts in appendix I shows the following facts.

- Risk attitude shows positive impact on incremental change with a relatively

symmetrical distribution with strong level of positive (0.479) and negative (-0.436) correlation in CBE and BOA respectively. The analysis shows the under mentioned facts:

- Risk attitude shows positive impact on radical change with curves relatively skewed to the right and with strong level of positive (0.467) and less significant level of negative (-0.251) correlation in CBE and BOA respectively.
- Risk attitude shows positive impact on credit expansion with a relatively symmetrical distribution and with strong level of positive (0.430) and less significant level of negative (-0.039) correlation in CBE and BOA respectively.
- Risk attitude shows positive impact on credit quality with a with curves relatively skewed to the right and with less significant level of positive (0.25) and (0.2) in CBE and BOA respectively.
- Risk attitude shows positive impact on profitability with curves relatively skewed to the left and with less significant level of positive (0.32) and (0.24) in CBE and BOA respectively.
- The impact of risk attitude on innovation shows mixed results impact on profitability with curves relatively skewed to the left and with less significant level of positive (0.32) and (0.064) in CBE and BOA respectively.

Table 3.5(a) Impact of risk attitude on overall organizational performance(CBE)

		Extremely Negative	Negative	No Impact	Positive	Extremely Positive	Total
Impact on Incremental change	No.	0	11	5	17	0	33
	%	0.0	33.3	15.2	51.5	0.0	100.0
Impact on radical change	No.	0	14	2	17	0	33
	%	0.0	42.4	6.1	51.5	0.0	100.0
Impact on credit expansion	No.	2	10	5	14	2	33
	%	6.1	30.3	15.2	42.4	6.1	100.0
Impact on credit quality	No.	0	7	3	12	13	35
	%	0.0	20.0	8.6	34.3	37.1	100.0
Impact on Profitability	No.	0	13	2	14	6	35
	%	0.0	37.1	5.7	40.0	17.1	100.0
Impact on Innovation	No.	5	12	12	6	0	35
	%	14.3	34.3	34.3	17.1	0.0	100.0

Table 3.5(b) Impact of risk attitude on overall organizational performance(BOA)

		Extremely Negative	Negative	No Impact	Positive	Extremely Positive	Total
Impact on Incremental change	No.	0	0	4	18	4	26.0
	%	0.0	0.0	15.4	69.2	15.4	100.0
Impact on radical change	No.	0	1	7	18	0	26.0
	%	0.0	3.8	26.9	69.2	0.0	100.0
Impact on credit expansion	No.	0	1	0	24	1	26.0
	%	0.0	3.8	0.0	92.3	3.8	100.0
Impact on credit quality	No.	0	1	4	14	7	26.0
	%	0.0	3.8	15.4	53.8	26.9	100.0
Impact on Profitability	No.	0	0	0	16	10	26.0
	%	0.0	0.0	0.0	61.5	38.5	100.0
Impact on Innovation	No.	1	0	9	11	5	26.0
	%	3.8	0.0	34.6	42.3	19.2	100.0

Table 3.5(a)-1: Correlations Between risk attitude and presumed effects(CBE)

		Risk attitude of decision makers
Impact on incremental change	Pearson Correlation	.479**
	Sig. (2-tailed)	.005
	N	33
Impact on radical change	Pearson Correlation	.436*
	Sig. (2-tailed)	.011
	N	33
Impact on credit expansion	Pearson Correlation	.430*
	Sig. (2-tailed)	.013
	N	33
Impact on credit quality	Pearson Correlation	.325
	Sig. (2-tailed)	.139
	N	22
Impact on profitability	Pearson Correlation	.322
	Sig. (2-tailed)	.089
	N	29

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

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

Table 3.5(b)-1: Correlations between risk attitudes with presumed effects(BOA)

		Risk attitude of decision makers
Impact on incremental change	Pearson Correlation	-.436*
	Sig. (2-tailed)	.033
	N	24
Impact on radical change	Pearson Correlation	-.251
	Sig. (2-tailed)	.236
	N	24
Impact on credit expansion	Pearson Correlation	-.035
	Sig. (2-tailed)	.872
	N	24
Impact on credit quality	Pearson Correlation	.020
	Sig. (2-tailed)	.926
	N	24
Impact on profitability	Pearson Correlation	.247
	Sig. (2-tailed)	.255
	N	23
Impact on innovation	Pearson Correlation	.067
	Sig. (2-tailed)	.762
	N	23

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

CHAPTER FOUR

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

3.1 SUMMARY OF FINDINGS

- Decision analysis technique could be used as a decision support tool in the Ethiopian banking industry.
- Decision analysis becomes highly useful when interest rates become market driven and when banks set lending interest rates based on negotiation.
- The impact of fear on risk attitude of decision makers ranges between extremely high and high in case of CBE and between Moderate and High in case of BOA with strong linear relationship characterized by correlation coefficient of -0.36 and 0.68 at 0.05 and 0.01 level of significance respectively.
- Fifteen (40.5%) of CBE's respondents and twelve (15%) of BOA's respondents believes that the impact of personal confidence on the attitude of decision makers towards risk is high
- The measures taken by anti-Corruption commission on previous management team has extremely high impact on risk attitude as per the 19(50%) respondents of CBE with the mean value of 4.2 and the correlation coefficient of 0.53 while it has low impact on risk attitude of BOA with mean value of 2.8 to the extent of 44%.
- The impact of the nature of organization on risk taking behavior is high in case of government ownership (CBE) and low in case of private ownership (BOA) 50%

and 54% of the time respectively.

- The major portion 19 (54.3%) of CBE's respondents agreed that the penalty outweighs the reward while opposite responses were secured from 14(63.6%) from BOA's respondents.
- Decision makers are risk averse to the extent of 30(81.1%) in CBE and tend to neutrality with mean value of .1.20 and standard deviation of 0.31 in BOA.
- The current practice of portfolio management based on credit product and exposure limit gives little room to achieve the balanced risk-return characteristics that the banks crave for.
- The current practice of portfolio management based on credit product and exposure limit gives little room to achieve the balanced risk-return characteristics that the banks crave for.
- The preference curves shows variation with the three decision contexts in both CBE and BOA case. The decision on personal money shows convex to the origin showing high level of risk aversion. The individual-organizational decisions show a tendency to the long run average player or linearity. The group-organizational decision, on the other hand, exhibits curves that are concave to the origin to signify risk taking behavior
- CBE's preference curve is more convex than BOA's in group decision making signifying high level of risk aversion.
- Risk attitude shows positive impact on incremental change with a relatively symmetrical distribution with strong level of positive (0.479) and negative (-0.436) correlation in CBE and BOA respectively.

- Risk attitude shows positive impact on radical change with curves relatively skewed to the right and with strong level of positive (0.467) and less significant level of negative (-0.251) correlation in CBE and BOA respectively.
- Risk attitude shows positive impact on credit expansion with a relatively symmetrical distribution and with strong level of positive (0.430) and less significant level of negative (-0.039) correlation in CBE and BOA respectively.
- Risk attitude shows positive impact on credit quality with curves relatively skewed to the right and with less significant level of positive (0.25) and (0.2) in CBE and BOA respectively.
- Risk attitude shows positive impact on profitability with curves relatively skewed to the left and with less significant level of positive (0.32) and (0.24) in CBE and BOA respectively.
- The impact of risk attitude on innovation shows mixed results with curves relatively skewed to the left and with less significant level of positive (0.32) and (0.064) in CBE and BOA respectively.

3.2 CONCLUSION

This study shows that attitude towards risk is context bounded. Risk taking behavior improves when the decision maker progressively moves from personal to organizational decision in the cases under investigation. Within the organization, decision makers tend to be risk takers when they make decision in group than individually. Besides, decision makers of CBE are more risk averters than the decision makers of BOA with a relatively higher level of diversity in risk taking behavior.

Among the major causes that contribute to such behavior include personal fear of decision makers, measures taken by owners and the board of directors, and the nature of the organization. Besides, the imbalance between reward and penalty also has a bearing on it. The force that these factors direct on risk attitude is more intense in CBE than BOA.

Measurement of risk attitude provides information as to the management capacity in ensuring performance improvement in organizations. Especially, the capacity to create incremental change, radical change or innovative enterprise has something to do with risk attitude. In addition, the ability to maintain strong portfolio management and uniform corporate culture, to maintain the asset quality and to ensure credit expansion are associated with risk attitude. Thus, the latter should be manipulated in such a way that ensures the achievement of the central objective of the organization.

3.3 RECOMMENDATION

- Commercial Bank of Ethiopia and Bank of Abyssinia should improve their risk management practice and policy.
- The policy statement should define the various risk situations and the desirable risk behaviors in light of the situation.
- NPL level and Liquidity ratio could be used as the defining elements of the risk situation and as the determinants of risk related objectives pertinent to asset quality or credit expansion.

- The banks should promote objective-directed and situation-dependent risk taking behavior. Table 3.6 indicates that credit objectives (i.e., credit expansion, credit quality, mixed & Selective Credit expansion) should be derived from credit situation (i.e.,liquidity ratio and NPL ratio). The achievement of credit objectives hinges on the overall risk taking culture that banks' promote. Risk prone culture promotes credit expansion while risk aversion leads to better credit quality. Risk neutral culture, on the other hand, is sought when a mix of credit expansion and credit quality objective is adopted. Restricted risk prone culture is appropriate when there is sever limitation in financial resource. This calls focus on credits for which premium price can be charged.

Table 3.6: Situation–Objective matrix of risk strategy

		Liquidity Ratio	
		High	Low
NPL Ratio	High	Balanced Objective <i>Risk Neutral Culture</i>	Credit Quality Objective <i>Risk Aversive Culture</i>
	Low	Credit Expansion Objective <i>Risk Prone culture</i>	Selected Credit Expansion Objective <i>Restricted Risk prone Culture</i>

- The banks should adopt dynamic risk management objective and practice in order to accommodate the changing situations.

- The banks should conduct regular training on risk management and decision making to develop situation dependant attitude towards risk.
- The banks should continuously communicate decision makers about the desired risk behavior to create desirable risk taking culture. Specially, CBE should work a lot on this as there is diversity in risk taking behavior.
- The banks should adopt the mechanism of ensuring a fair balance between uniform/corporate risk taking culture and diversified risk taking culture. The former ensures control of risk behavior while the latter ensures effective portfolio management.
- Banks can promote risk prone behavior, depending on the situation, through the use of group (Committee) decision.
- The Ethiopian Government should give much freedom and create conducive environment for decision makers in order to enhance CBE's risk taking behavior.
- Banks can promote risk aversive behavior, depending on the situation, by employing individual decision making.
- Banks can promote risk aversive behavior, depending on the situation, by winning employees belongingness.
- The banks should use decision analysis as an alternative tool in credit decision making and evaluation. This works well when credit prices are set by negotiation.
- Government, board and authoritative bodies, should consider the impact of the measure on decision makers risk attitude. To this effect, lobbying should be made.
- As the organization's risk taking behavior is the totality of individuals' risk behavior, the bank should adopt mechanism of controlling risk related behavior of

individual decision makers.

- To this effect the banks should develop measuring instrument of risk attitude for regular rating.
- The measurement result should be used as a base for placement, recruitment and reward.
- To succeed in the implementation of either incremental (Total Quality Management) or radical (Business Process Reengineering) change, risk takers should assume the highest level of authority; risk averters should take intensive training.

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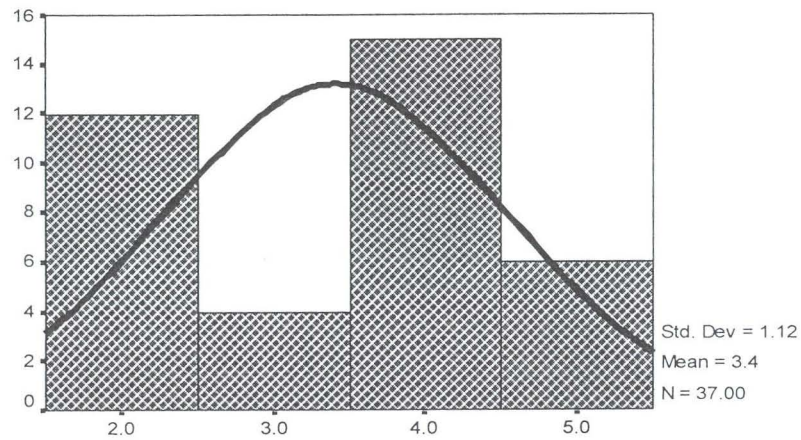
Appendices

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Appendix I: Charts

Chart 3.5(a)

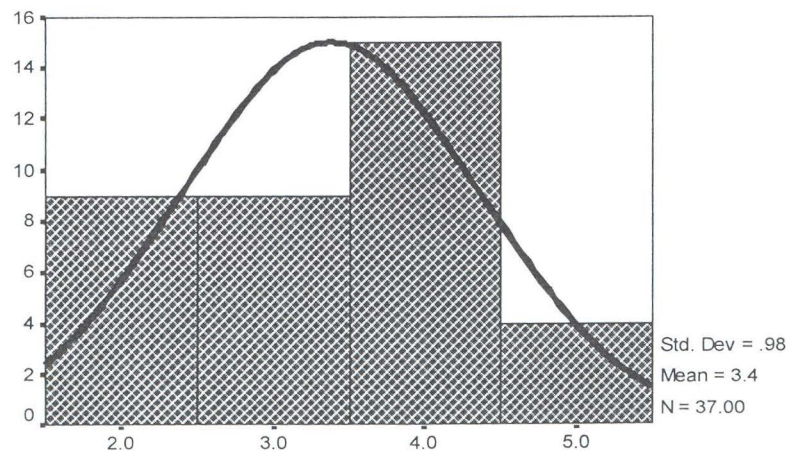
Impact of Personal fear on risk attitude(CBE)



Impact of personal fear

Chart 3.6(a)

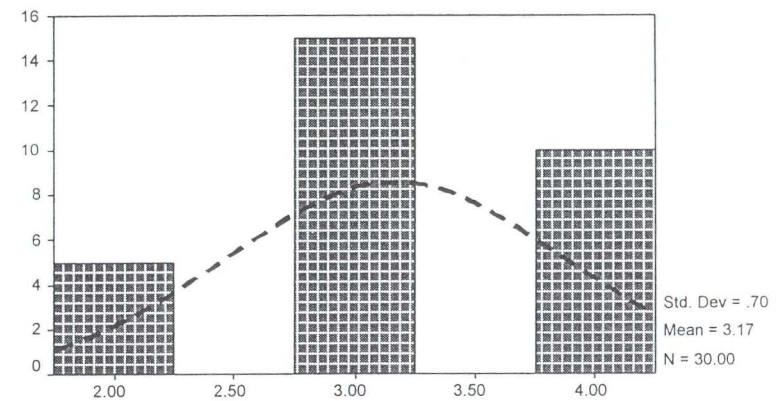
Impact of Personal confidence on risk attitude(CBE)



Impact of personal confidence

Chart 3.5(b)

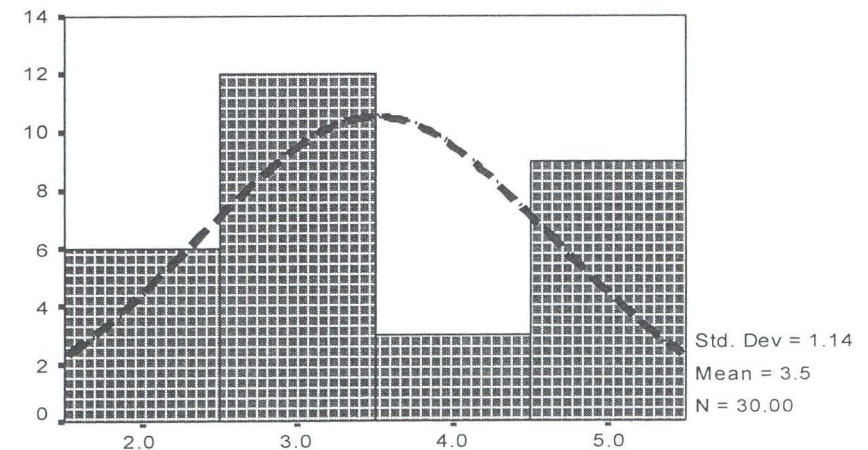
Impact of Personal fear on Risk attitude (BOA)



Impact of personal fear

Chart 3.6(b)

Impact of Personal confidence on Risk attitude (BOA)

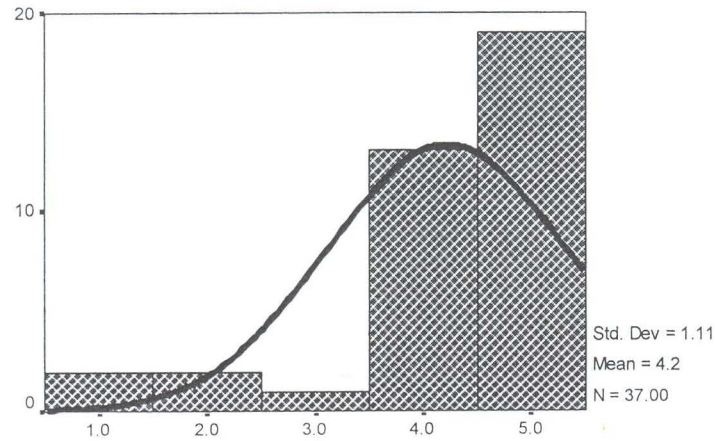


Impact of personal confidence

Appendix I: Charts

Chart 3.7(a)

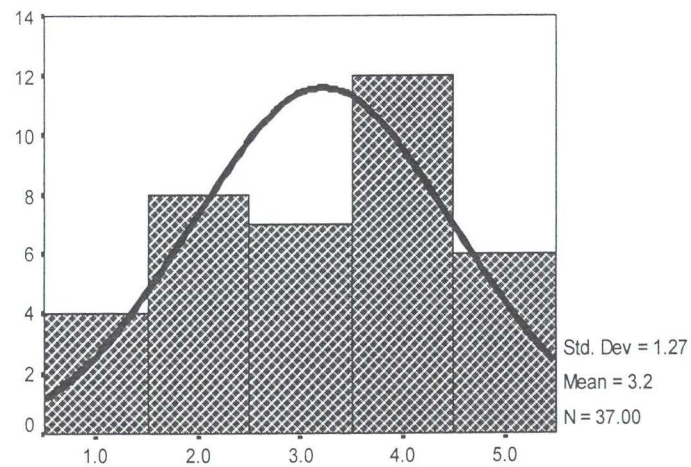
Impact of Anticorruption commission's measure on on risk at



Impact of ACC measures

Chart 3.8(a)

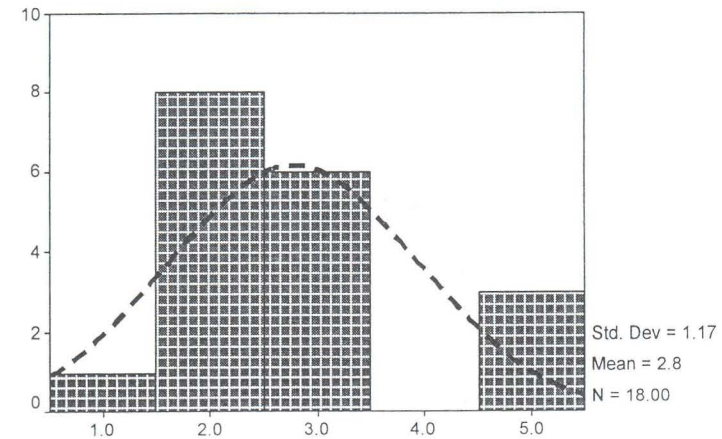
Impact of board's decision to replace management team on ris



Impact of Board's measure

Chart 3.7(b)

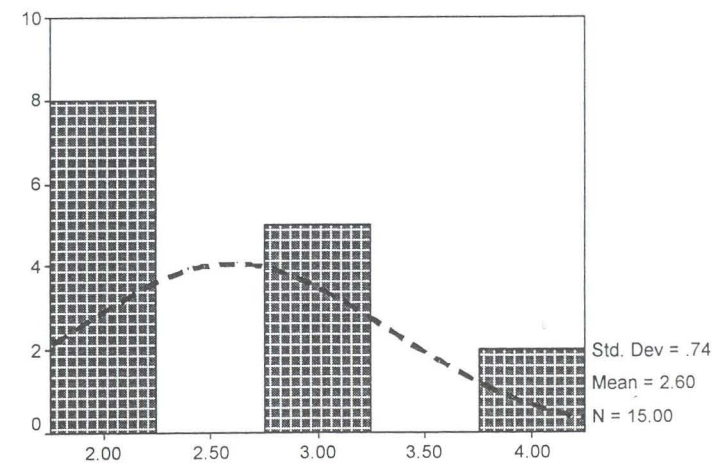
Impact of Anti Corruption Commission's measure (BOA)



Impact of ACC measures

Chart 3.8(b)

Impact of the Board's decision in replacing the pre

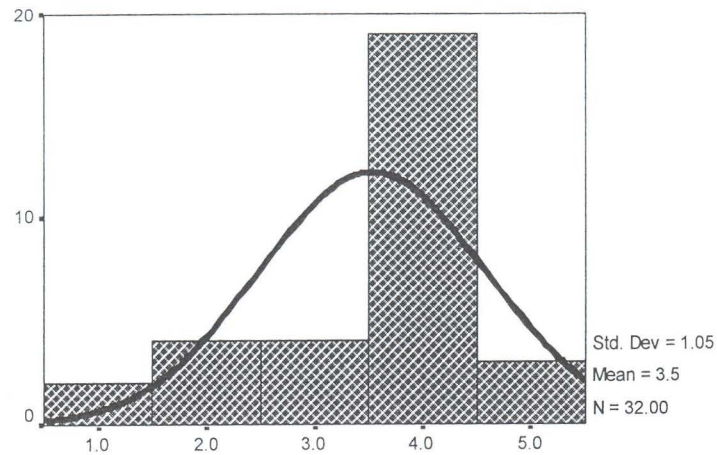


Impact of Board's measure

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Chart 3.9(a)

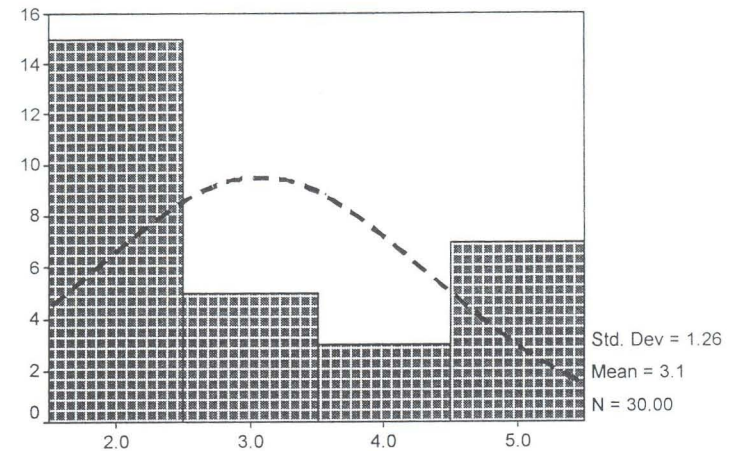
Impact of the nature of organization on risk attitude(CBE)



Impact of the nature of organization

Chart 3.9(b)

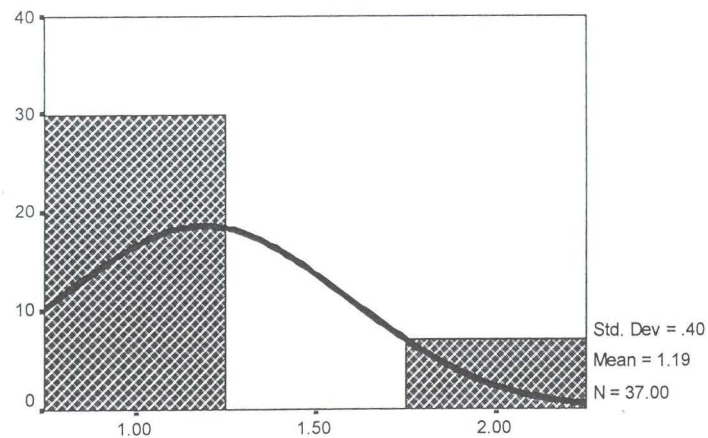
Impact of the nature of the organization(BOA)



Impact of the nature of organization

Chart 3.10(a)

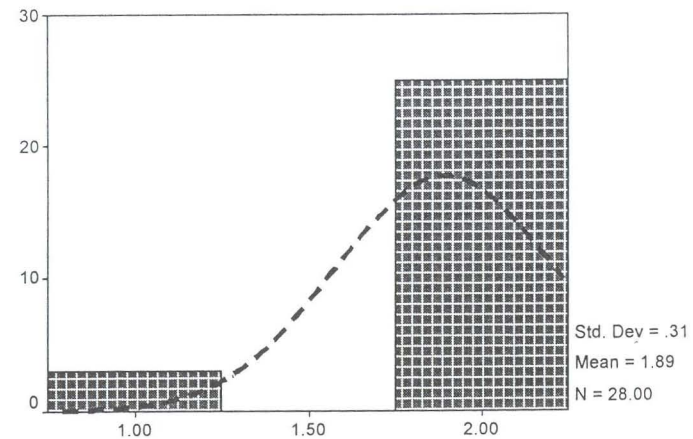
Attitude of Decision makers towards risk(CBE)



Risk attitude of decision makers

Chart 3.10(b)

Attitude of Decision makers towards risk (BOA))

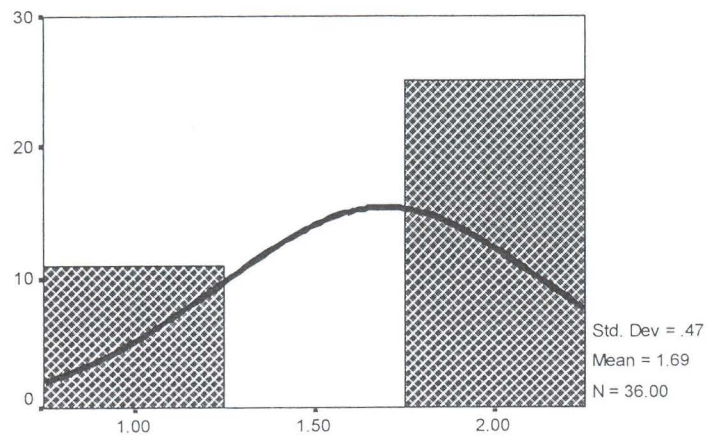


Risk attitude of decision makers

Appendix I: Charts

Chart 3.10(a)-1

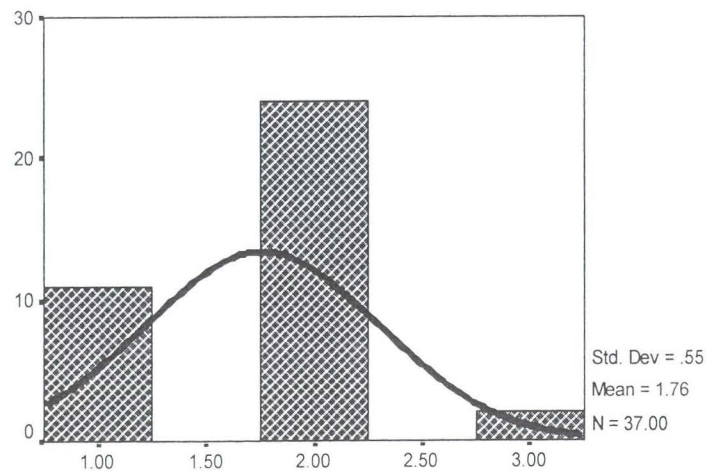
Degree of reliance on decision supports before passin



Degree of reliance on information

Chart 3.10(a)-2

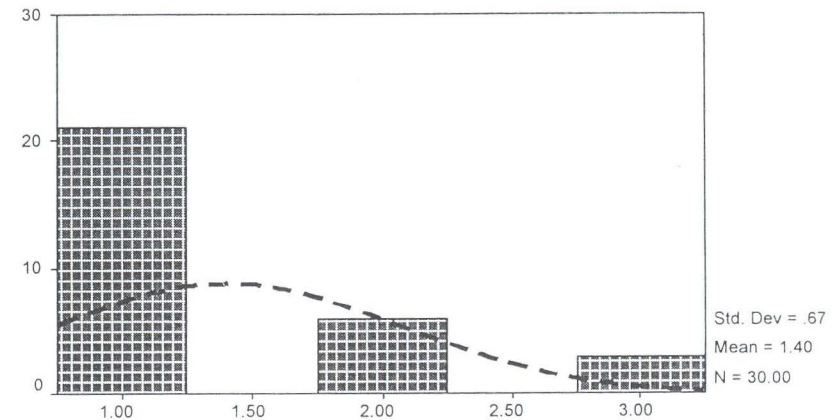
Degree of strengency that credit procedure posses(CB



Degree of strictness of credit procedure

Chart 3.10(b)-1

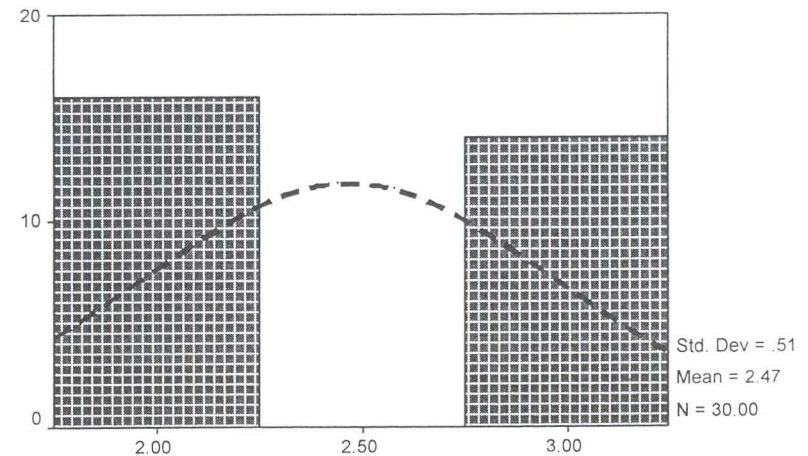
Degree of Reliance on decision support(BOA))



Degree of reliance on information

Chart 3.10(b)-2

Degree of Strengency that credit procedure posses(BOA))

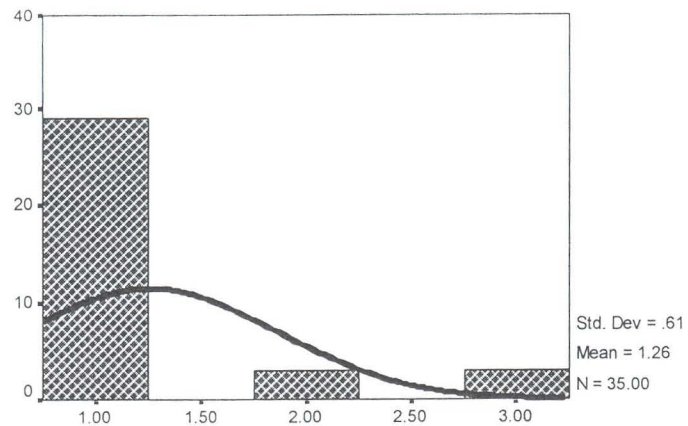


Degree of strictness of credit procedure

Appendix I: Charts

Chart 3.10(a)-3

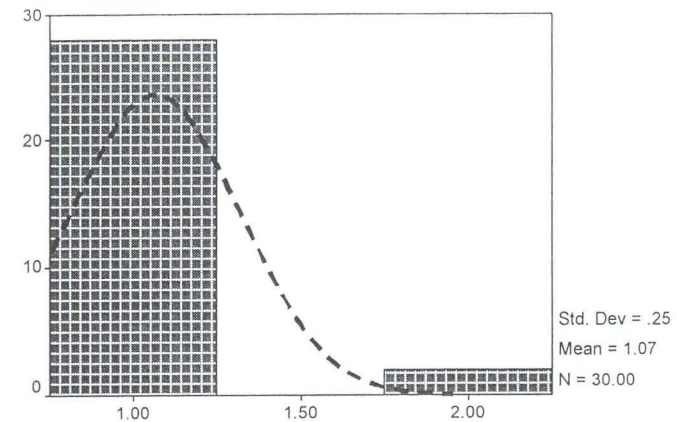
Respondents stand as to the level of collateral coverage(CBE)



Belief on collateral coverage

Chart 3.10(b)-3

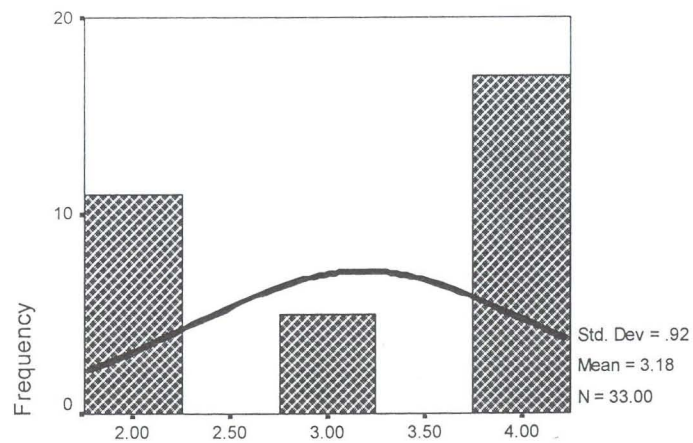
Respondents stand as to the level of collateral coverage



Belief on collateral coverage

Chart 3.11(a)

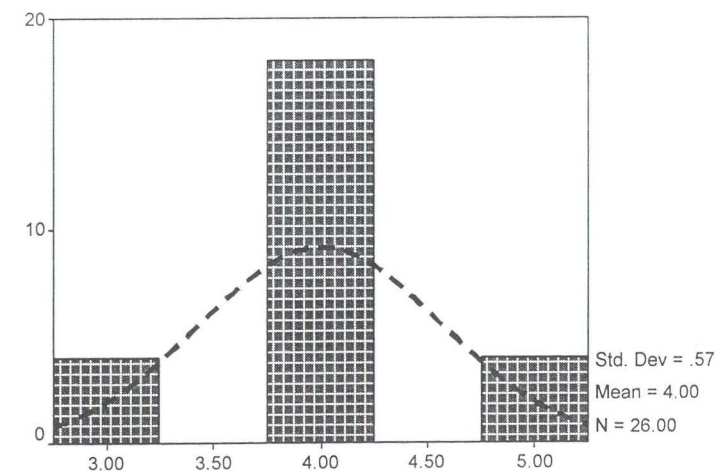
Impact on increamental change(CBE)



Impact on increamental change

Chart 3.11(b)

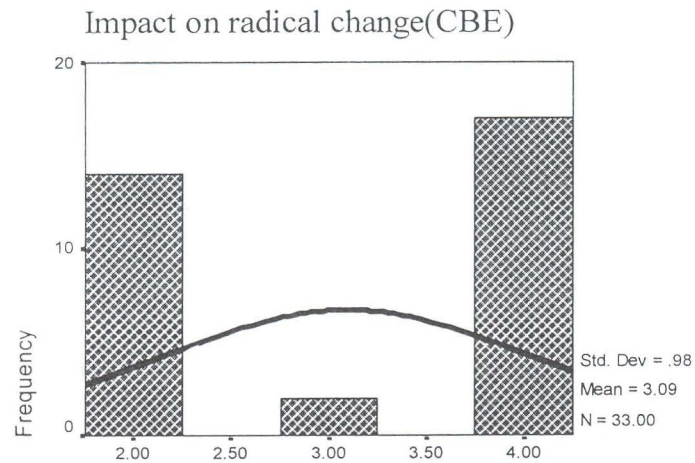
Impact on increamental change (BOA)



Impact on increamental change

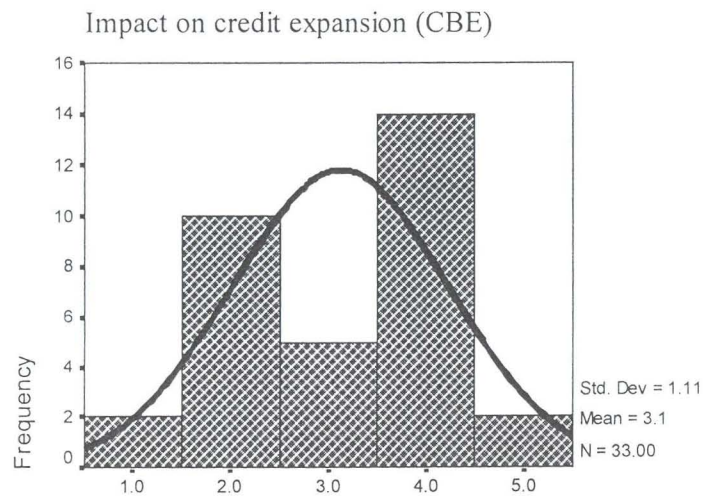
Appendix I: Charts

Chart 3.12(a)



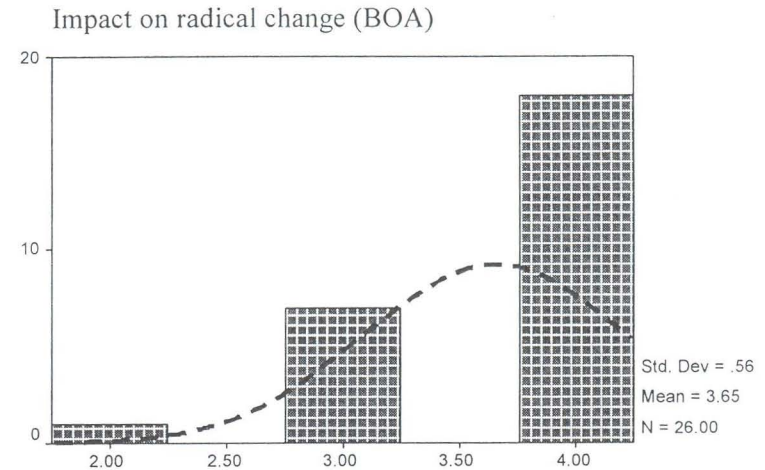
Impact on radical change

Chart 3.13(a)



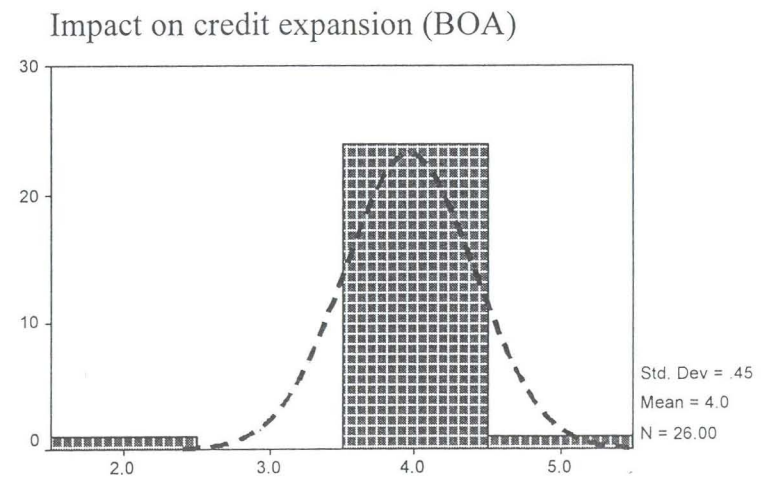
Impact on credit expansion

Chart 3.12(b)



Impact on radical change

Chart 3.13(b)

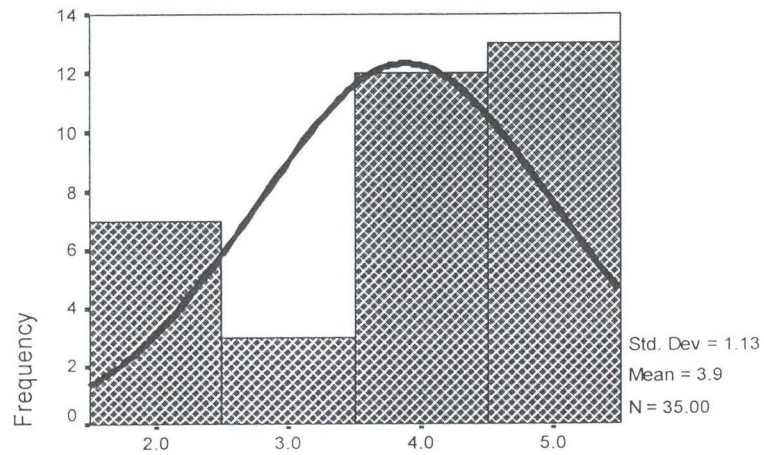


Impact on credit expansion

Appendix I: Charts

Chart 3.14(a)

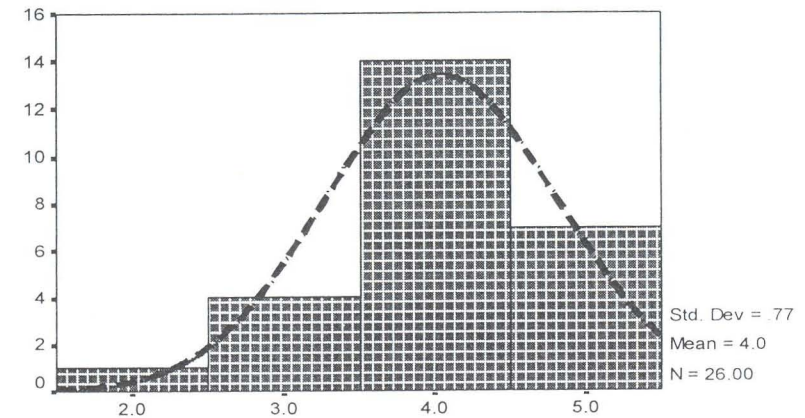
Impact on credit quality(CBE)



Impact on credit quality

Chart 3.14(b)

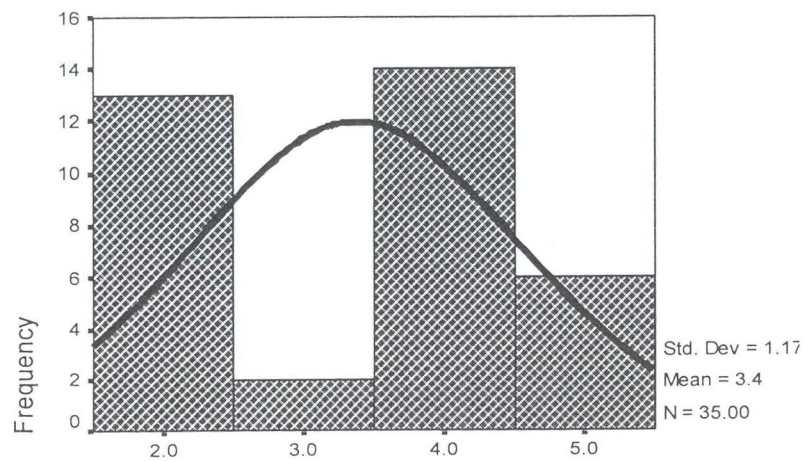
Impact on credit quality (BOA)



Impact on credit quality

Chart 3.15(a)

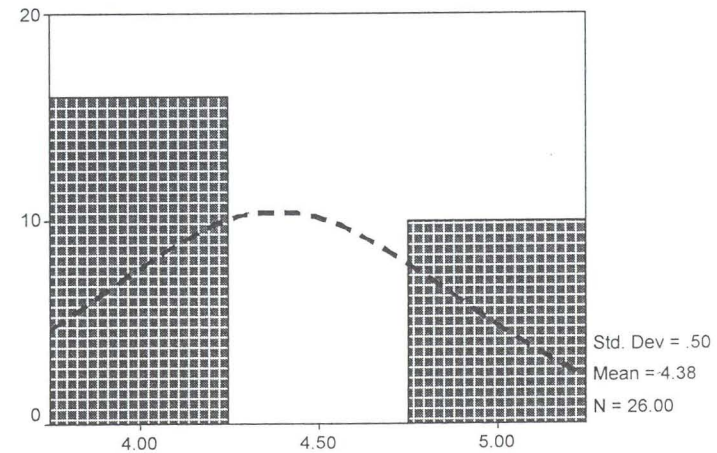
Impact on profitability(CBE)



Impact on profitability

Chart 3.15(b)

Impact on profitability (BOA)



Impact on profitability

Appendix I: Charts

Chart 3.16(a)

Impact on innovativeness(CBE)

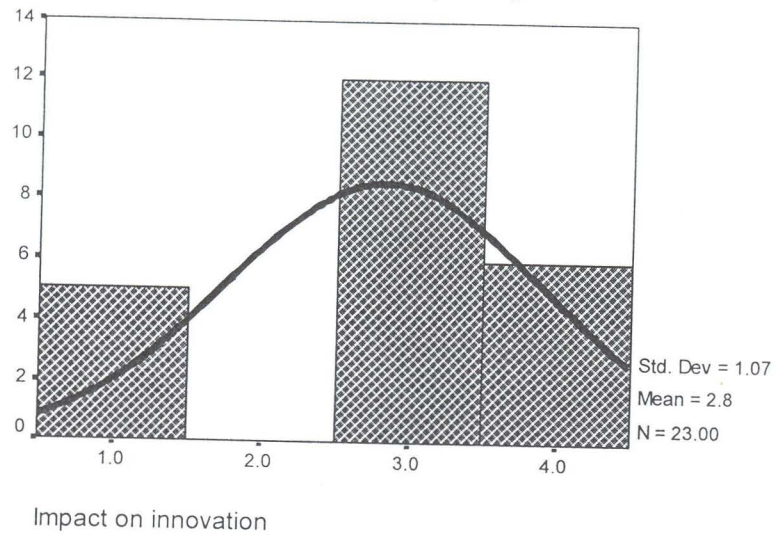
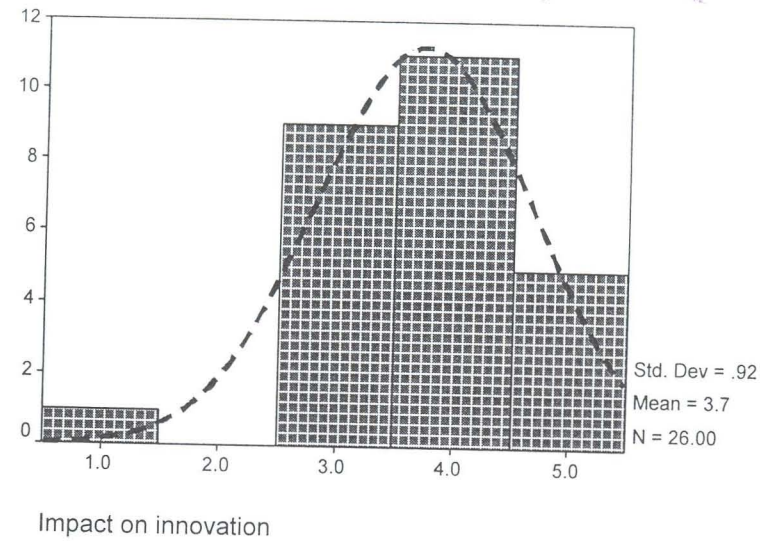


Chart 3.16(b)

Impact on innovativeness (BOA)



MBA Program

Faculty of Business and Economics

Addis Ababa University

QUESTIONNAIRE TO BE FILLED BY DECISION MAKERS IN BANK LOANS

OBJECTIVE: This questionnaire is designed by Dilnesahu Samuel to conduct research on *“Risk Attitude and Rational Decision making: The comparative analysis of Commercial Bank of Ethiopia with Bank of Abyssinia”* as the partial fulfillment of the requirement for the completion of Masters Degree in Business Administration (MBA).

The fact that the banking industry is characterized by risk flexed this study to focus on unearthing the tie existing between attitude towards risk and rational decision making. This adds vivacity to this inquiry as it has raised one of the pivotal issues existing in the banking industry. Thus, your expressed ideas in this regard are so crucial to the progression of knowledge in exploring decision making in general and the Ethiopian banking industry in particular.

Thank you in advance for transmission of your valuable thoughts through this questionnaire.

Additional Information

- You need not write confidential information such as the name the customer.
- You need not disclose your name.
- Put a thick mark in the boxes ☐ or in the blank spaces _____ that corresponds to your answers.
- Circle the letter of the choice that is most appealing to you. ©
- Write your answer in the space provided if so required. *Your answer*
- For open-ended questions you may use the blank space provided _____ or you may use additional paper, if the space is not adequate. *Your answer for open-ended questions is to be provided in the space given.*
- Questions on which ☼ has been placed are the most important questions for which your cooperation is greatly called for.

Appendix II: Sample of Questionnaire addressed to Decision makers in bank loans.

1. Gender

Male ☐

Female ☐

2. Age category

20 – 30 ☐

40 – 50 ☐

30 – 40 ☐

Above 50 ☐

1. Educational Qualification

12 Complete ☐

Masters Degree ☐

Diploma ☐

PhD and above ☐

First Degree ☐

4 Years of Service in the Bank

Up to 5 years ☐

11 to 20 years ☐

6 to 10 years ☐

Above 20 years ☐

5 How many years have you served with your current position? Indicate with a tick mark.

Current Position	Years of service in the current capacity			
	up to 1	1 to 3	3 to 5	above 5
President				
Vice President				
Director				
Team Leader				
Manager				
Relationship Manager				
Supervisor				
Loan Analyst or Assessor				
Officer				
Other, Specify _____				

Appendix II: Sample of Questionnaire addressed to Decision makers in bank loans.

6 Which of the following best describes your role in the mentioned credit committees?

Please place a tick mark in the appropriate cell.

Committees	Chairperson	Member	Secretary	Present Loan cases to:
Executive Management Credit Committee				
Corporate Credit Committee				
Head Office Credit Committee				
District Credit Committee				
Branch Credit Committee				

7 If you have any recoded information regarding the number of cases accepted or rejected in the last fiscal period (July 1,2005 to June 30,2006) , please specify them in the following table.

	Number of Loan Cases				
Risk Grade	Cases presented to committee	Fully Accepted	Fully Rejected	Accepted but amount declined by less than 50% of loan value	Accepted but amount declined by more than 50% Of loan value
A					
B					
C					
D					
E					

8 ☀ What do you think are the major reasons behind accepting or rejecting loan requests?

Major reasons for acceptance

Major reasons for rejection

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Appendix II: Sample of Questionnaire addressed to Decision makers in bank loans.

- 9 ☀ What do you think is the extent of influence of the following factors on the attitude of current credit decision making committees on risk? Place a tick mark on the appropriate cell.

Factors affecting decision makers' attitude towards risk	Impact				
	Extremely High	High	Moderate	Low	Extremely low
Personal fear of decision makers					
Personal Confidence of decision makers					
Anti-Corruption Commission measures taken on the previous management team.					
The boards' decision of replacing the preceding top management team.					
The ownership interest of the organization (The fact that it is government or privately owned)					
Others, Please specify, _____					

- 10 ☀ What is the maximum amount of resource (cost) that you are willing to commit in order to take an opportunity that has a 50-50 percent chance of gaining or losing certain sum of money in the following three decision situations?

- I. Decision on personal money
- II. Credit decision for the Bank individually
- III. Credit decision for the Bank in group (Committee)

Place a tick mark in one of the appropriate cell from the white colored cells given under the column of maximum investment for each set of opportunity.

Appendix II: Sample of Questionnaire addressed to Decision makers in bank loans.

DECISION MADE:	No.	OPPORTUNITY		MAXIMUM INVESTMENT THAT I MAKE TO GET THE OPPORTUNITY				
		50% chance of gaining:	50% chance of losing:	<i>I will take the opportunity by investing up to Birr:</i>				
1. On Personal money	1(a)	7500	0	nil	1875	3750	5625	7500
	1(b)	7500	Your answer for number 1(a)	nil	2812	5625	6562	7500
	1(c)	Your answer for number 1(a)	0	nil	937	1875	4687	7500
2. On Credit decision individually	2(a)	7500	0	nil	1875	3750	5625	7500
	2(b)	7500	Your answer for number 2(a)	nil	2812	5625	6562	7500
	2(c)	Your answer for number 2(a)	0	nil	937	1875	4687	7500
3. On credit decision in group	3(a)	7500	0	nil	1875	3750	5625	7500
	3(b)	7500	Your answer for number 3(a)	nil	2812	5625	6562	7500
	3(c)	Your answer for number 3(a)	0	nil	937	1875	4687	7500

11 ☼ How do you evaluate the attitude of credit decision makers towards risk?

- a) Tend to avoid risks
- b) Tend to take risks
- c) Tend to average risks
- d) Do not know

12 How do you rate the tendency of credit committees to rely on decision support system such as loan appraisals before they make decisions?

- a) High
- b) Moderate
- c) Low

13 If your answer for question number 12 is low, which of the following mostly explain the reason behind?

- a) Decision makers are suspicious about the reliability of it.
- b) Decision committees are risk takers
- c) Other, Please specify _____

Appendix II: Sample of Questionnaire addressed to Decision makers in bank loans.

14 ☀ What do you think is the impact the current decision makers' attitude towards risk on overall performance of the organization?

Impact of decision makers' attitude towards risk on overall performance	Impact				
	Extremely Negative	Negative	No Impact	Positive	Extremely Positive
Effectiveness in ensuring incremental change					
Effectiveness in ensuring radical change					
Credit expansion					
Credit quality					
Profitability					
Innovation					
Others, Please specify					

Appendix III Sample of Questionnaire for Analysts

MBA Program

Faculty of Business and Economics

Addis Ababa University

Questionnaire to be filled by Loan Analysts, Assessors or Relationship managers

OBJECTIVE: This questionnaire is designed by Dilnesahu Samuel to conduct research on *"Risk Attitude and Rational Decision making: The comparative analysis of Commercial Bank of Ethiopia with Bank of Abyssinia"* as the partial fulfillment of the requirement for the completion of Masters Degree in Business Administration (MBA). The fact that the banking industry is characterized by risk flexed this study to focus on unearthing the tie existing between attitude towards risk and rational decision making. This adds vivacity to this inquiry as it has raised one of the pivotal issues existing in the banking industry. Thus, your expressed ideas in this regard are so vital to the progression of knowledge in exploring decision making in general and the Ethiopian banking industry in particular.

Thank you in advance for transmission of your valuable thoughts through this questionnaire.

Additional Information

- You need not write confidential information such as the name the customer
- You need not disclose your name
- Put a thick mark in the boxes ☐ or in the blank spaces _____ that corresponds to your answers.
- Circle the letter of the choice © that is most appealing to you.
- Write your answer in the space provided _____ if so required.
- For open-ended questions you may use the blank space provided _____ or you may use additional paper, if the space is not adequate.
- Questions on which * has been placed are the most important questions for which your cooperation is greatly called for.

1. Gender Male ☐ Female ☐

2. Age category
20 – 30 ☐ 40 – 50 ☐
30 – 40 ☐ Above 50 ☐

3. Educational Qualification

12 Complete ☐ Second Degree ☐
Diploma ☐ Ph.D and above ☐
First Degree ☐

4 Years of Service in the Bank

Up to 5 years ☐ 11 to 20 years ☐
6 to 10 years ☐ Above 20 years ☐

5 How many years have you served with your current position? Indicate with a tick mark.

Current Position	Years of service in the current capacity			
	up to 1	1 to 3	3 to 5	above 5
President				
Vice President				
Director				
Team Leader				
Manager				
Relationship Manager				
Supervisor				
Loan Analyst or Assessor				
Officer				
Other, Specify _____				

- 6 If you are loan analyst, Assessor or Relationship manager, please specify the following information from your records of the last physical period (July 1, 2005 to June 30, 2006).

Risk Grade	Number of Loan Cases				
	Cases presented to committee	Fully Accepted	Fully Rejected	Accepted but amount declined by less than 50% of loan value	Accepted but amount declined by more than 50% Of loan value
A					
B					
C					
D					
E					

- 7 What do you think are the major reasons behind accepting and rejecting loan requests?

Major reasons for acceptance

Major reasons for rejection

- 8 What do you think is the extent of influence of the following factors on the attitude of current credit decision making committees on risk?

Factors affecting decision makers' attitude towards risk	Impact				
	Extremely High	High	Moderate	Low	Extremely low
Personal fear of decision makers					
Personal Confidence of decision makers					
Anti-Corruption Commission measures taken on the previous management team.					
The boards' decision of replacing the preceding top management team.					
The ownership interest of the organization (The fact that it is government or privately owned)					
Others, Please specify, _____					

- 9 How do you evaluate the attitude of credit decision makers towards risk?

- a) Tend to avoid risks
- b) Tend to take risks
- c) Tend to average risks
- d) Do not know

- 10 How do you rate the tendency of credit committees to rely on decision support system such as loan appraisals before they make decisions?

- a) High
- b) Moderate
- c) Low

- 11 If your answer for question number 10 is low, which of the following mostly explain the reason behind?

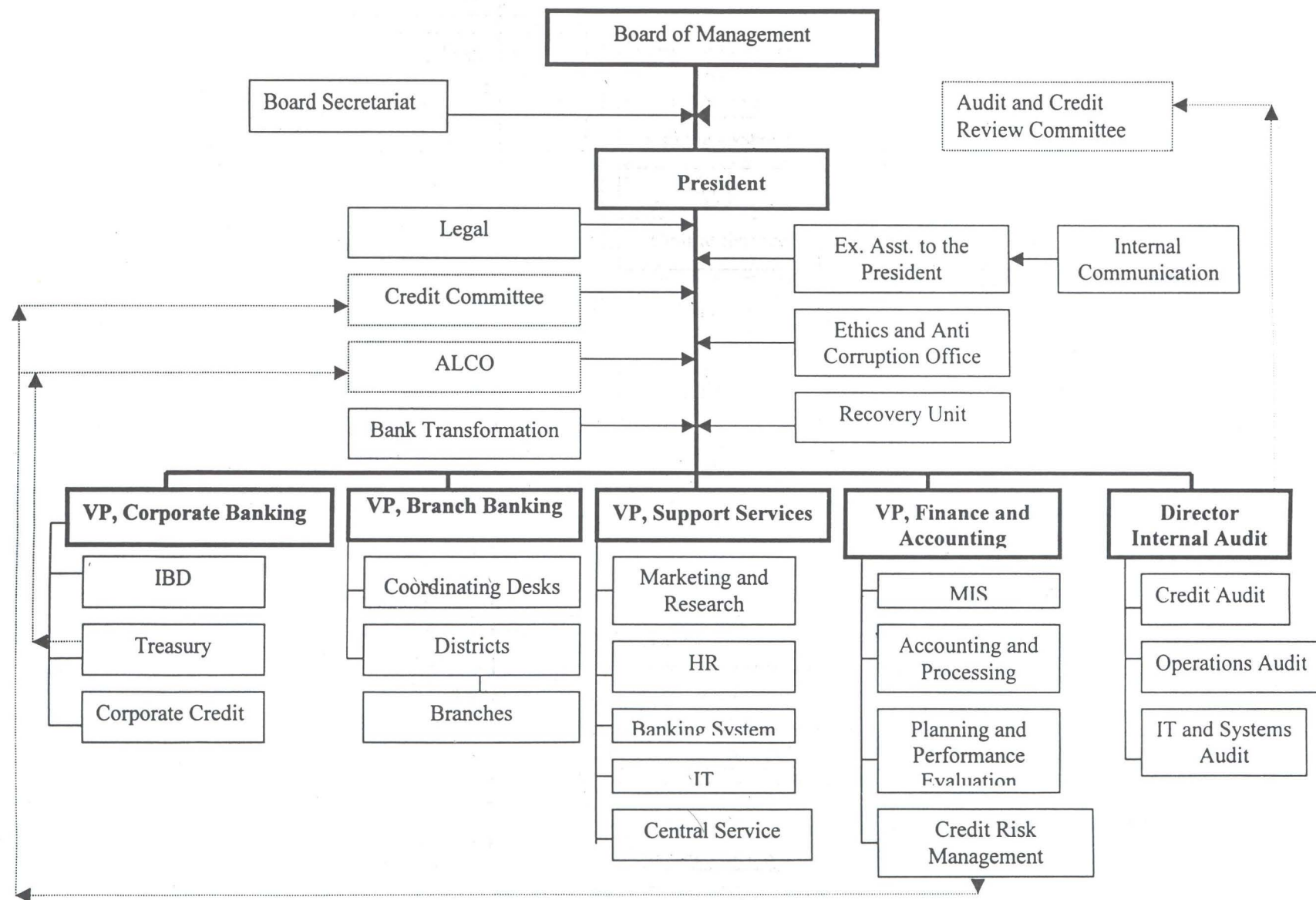
- a) Decision makers are suspicious about the reliability of it.
- b) Decision committees are risk takers
- c) Other, Please specify _____

12 What do you think is the impact the current decision makers' attitude towards risk on overall performance of the organization?

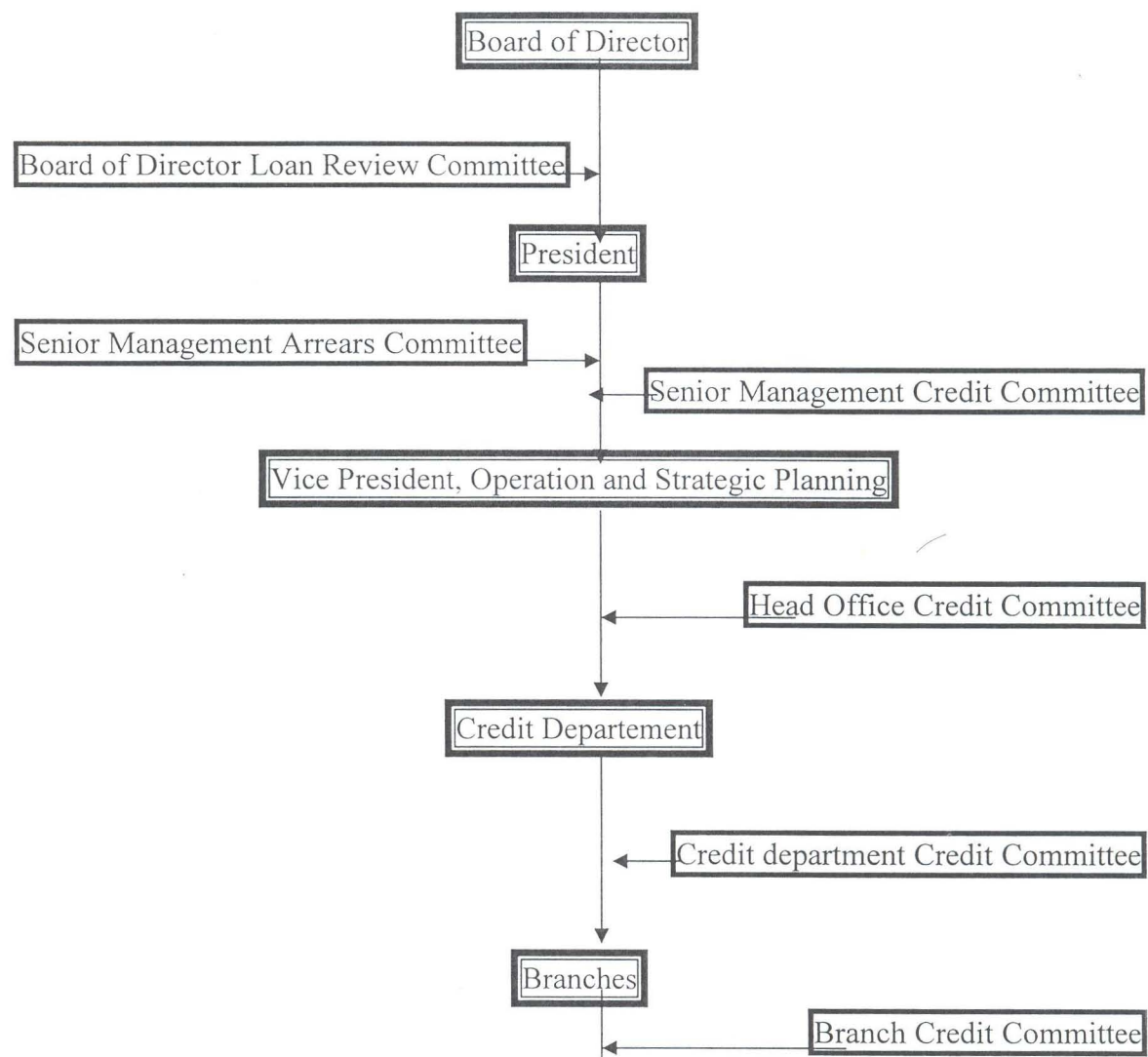
Impact of decision makers' attitude towards risk on overall performance	Impact				
	Extremely Negative	Negative	No Impact	Positive	Extremely Positive
Effectiveness in ensuring incremental change					
Effectiveness in ensuring radical change					
Credit expansion					
Credit quality					
Profitability					
Innovation					
Others, Please specify _____					

1. ORGANIZATIONAL STRUCTURE

The organizational structure of the Commercial Bank of Ethiopia (CBE) is presented here below:



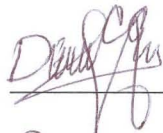
Appendix V: Credit Structure of the Bank of Abyssinia



Declaration

I Dilnesahu Samuel declare that this project paper entitled "**Risk Attitude and Rational Decision making: A comparative Analysis of Commercial Bank of Ethiopia with Bank of Abyssinia**" is my own effort and study. I have conducted it independently except for the guidance and suggestions of the research supervisor. This study has not been submitted for any degree or diploma in this or any other university. It is offered here in partial fulfillment of the requirements for the degree of Masters in Business Administration.

Dilnesahu Samuel



Dilnesahu Samuel