CHAPTER I
INTRODUCTION

1.1 Background of the Study

Today's world is full of competitive environment where each and every thing is of dynamic in nature. Integrated and speedy development of a country is possible only when competitive banking service reaches nooks and corners of the country. The extent of development of any country is demonstrated by development of the financial sector of the country. The financial sector of any country comprises of Banks, Cooperative Societies, Insurance companies, Finance Companies, Stock markets, Foreign Exchange Market, Mutual Funds, and Provident Fund etc. Among them, Finance Companies occupy a prominent place in the framework of every company because it provides capital for the development of industry, trade and business investing the saving collected as deposits. Besides that, these companies render a numerous services to their customer's nooks with a view of facilitating them with their economic and social life. In general, Finance Companies are defined as firms that provide money as loan to people who promise to repay it with interest over a specified period of time.

Finance companies, licensed under the "Finance Companies Act 1985" are the third largest group of deposit taking financial institutions in Nepal. They are the creation of early 1990's. They were for providing loans to procure motor vehicles and other consumer durables on hire purchase loans, terms loans, land acquisition and building constructions and leasing plants and machinery. Finance companies lending operations have tended to complement the operations of the commercial banks mainly in urban areas. But these companies are not allowed to accept demand and saving and deposit from public and have thus concentrated in mobilizing funds through fixed deposits (Bank, 1996)

The groundwork for establishing finance companies was initiated in 2042 B.S. with the enactment of finance company act 2042 B.S. Despite the provision of Act, private sectors are completely silent till 2049 B.S. After the 2049 B.S. some of the financial institutions were established under the financial company act 2042. Nepal Housing

and Development Finance Company was the first finance company, which was established in 2049, B. Nepal finance and saving company was the second finance company of the country. Today there are 79 finance companies till 2069 B.S., which are operated by private entrepreneurs' individuals and organized sector. They collected deposits; extended loans and advanced to various sectors. The principal sources of these companies besides equity were deposit collections and issuance of debentures. The resources thus collected are invested in hire purchasing, housing finance, leasing finance, investment in government securities and bonds, issuance guarantee which are approved by NRB capital for the finance companies. Therefore, finance companies can be considered as complementary to commercial banks to some extent (Pathak, 2011).

Api Finance Company Limited (AFCL) established under the law 2063 related to the bank and commercial institution, is a finance company licensed by Nepal Rastra Bank for banking transactions. As Nepal government's open economic policy to incorporate and escalate the participation of private sectors in the nation's energy, Api Finance Company Limited is the first finance Company established in Lekhnath with the attempt of entrepreneurs, industrialists, ex-Gorkha Army, lecturers, social workers and intelligent ones having experience in banking as well as the financial sectors for long time. It also has come up with a vision to collect the nationwide capitals through various economic planning and invest them on organized institutions, collective form or individual level for the promotion of nation's economic development. It has been providing reliable, fast and easy services to its customers through computerized system.

Kaski Finance Company Limited (KFCL) is established to provide financial support to different productive and needy sector by collecting the small and large savings all around the country for the overall development of the nation under the free economy policy of Nepal Government.Kaski Finance Limited is 'GA' class institution licensed by Nepal Rastra Bank (NRB). The Head office of Kaski Finance Limited is located in Newroad, Pokhara. Agriculture, Tourism, Business, Services and Industries are the major target areas for Lending. Besides these Kaski Finance Limited helps to find, establish, develop and finance productive sector, which is base for nation building. Professionals of Bank, financial institution and educational sector promote Kaski

Finance Limited, Kaski Finance Limited provides easy, fast and convenient services to our valued customers using modern technology and experienced staff family.

Investment is the commitment of money or capital to purchase financial instruments or other assets in order to gain profitable returns in the form of interest, income or appreciation of the value of the instrument. Investment is related to saving or deferring consumption. Investment, in its broadest sense means the sacrifice of current dollars for future dollars. Two different attributes are generally involved: time and risk. The sacrifice takes place in the present and is certain. The reward comes late, if at all and the magnitude is generally uncertain (Sharpe, Alexander &Bailey, 2002).

As portfolio is a collection of investment assets. Portfolio management is the process of managing portfolio investment in financial assets. The process of portfolio management is closely and directly links with the process of decision-making the correctness of which cannot be ensured in all cases. The basic problems of portfolio management are to establish an investment objective of goal and then decide the best to reach the securities available. In order to do a proper job of portfolio management the investor must be aware of the investment process. The process of portfolio managements involves a logical set of steps common to say any decision, plan, implement and monitor.

1.2 Statements of the Problems

Nepalese economy is facing serious problem due to imbalance between resource mobilization and expenditure, saving and investment, and import and export and lack of control of over population growth. The composition of assets portfolio of the finance companies is influence by the policy of the Central Bank. This is the main problem of portfolio management of finance companies of Nepal. Various financial institutions have been established to assist the process of economy development of our country. Finance companies have been playing role by accepting deposits providing various types of loans and investing in different sectors. There are many commercial banks, development banks, finance companies and many more co-operatives societies in existence within Kaski district as well. Thus different competitive sectors caused high risk in financial sectors. It has challenged the finance companies to improve and managed their productivity. The credit policy, the discount

policy, the interest rate seeking and certain percent of deposits to be lend to productive sector. All this policy effects investment decision of the finance companies. Now the problem may arise how AFCL and KFCL is diversifying its investment in different sector to make the optimum portfolio. An organization cannot accomplished its goal and objectives without efficient and prober planning in investment in the tough competitive environment. Therefore, this study is mainly focused on the following research problems.

a. What are the investment pattern of AFCL and KFCL in five years?
b. What is the assets management ratio of both companies?
c. What is the profitability situation of each company?
d. What is the risk and return of investment portfolio of the both company?
e. What are the relationship between the deposit mobilization and the loan investment of AFCL and KFCL?

1.3 Objectives of the Study

The main objective of the study is to analyze the portfolio management of AFCL and KFCL. The specific objectives are as follows:

a. To identify investment pattern of AFCL and KFCL.
b. To identify the assets management ratio of both company.
c. To measure the profitability situation of each company.
d. To determine the risk and return of investment portfolio of AFCL and KFCL.
e. To analyze relationship between the deposit mobilization and the loan investment of AFCL and KFCL?

1.4 Significance of the Study

Research itself has its own importance because it aims to gain knowledge and to add the new literature in existing field. Basically, the proposed study will be important for the researcher to fulfill the academic requirements of Master's degree. Besides this, the study facilitates the different people in the following ways. It provides useful feedback to shareholders and general public to invest. It helps the entrepreneurs and business man by providing the information related with credit facilities. It helps the researchers; students and others interested people for further study and research.

1.5 Limitation of the Study

As we know every study has its own limitation, this study of portfolio management also has some limitation we can't overlook. The limitations are as follows:

a. The study is a partial fulfillment of MBS degree which will be prepared with in time constraints.
b. This study will be mainly based on secondary data hence accuracy depends up on the data collected and provided by the organization.
c. This study will be concerned with Kaski Finance Limited (KFL) and Api Finance Limited (AFL) only.
d. This study will course the relevant data and information only for five years period (i.e. 064/065 to 068/069).

1.6 Organization of the Study

The whole study will be divided into five chapters. The first chapter deals with the subject matter of the study consisting introduction, statements of the problems, objectives of the study, significance of the study, limitation of the study and organization of the study. The second chapter deals with the review of literature. It consist the discussion on the conceptual framework of portfolio management of finance companies. The third chapter describes the portfolio management between two finance companies AFCL and KFCL in Kaski. It includes the research design, source of data, population and sample, statistical and financial tools. The fourth chapter reveals the presentation and interpretation of secondary and primary data. These, data will be interpreted and analyzed with the help of various tools and techniques. Finally, fifth and last chapter deals with the summary conclusions and recommendations.

CHAPTER II
REVIEW OF LITERATURE

This chapter deals with the theoretical aspect of the topics on investment portfolio and comprehensive review of recent and relevant literature. For this study, basic academic course books, journals, articles, annual reports and some research paper related with this topic have been reviewed. Therefore this chapter is arranged into the following order:

2.1 Theoretical Review

It provides the fundamental theoretical framework and foundation on the present study.

2.1.1 Investment

The common definition of Investment is the sacrifice of certain present value for the uncertain future rewards. The sacrifice takes place in the present and certain while the reward comes later and uncertain. Investment involves long-term commitment and waiting for a reward. It involves the commitment of resources that have been saved or put away from current consumption in the hope that some benefit will occur in future.

From Wikipedia, the free encyclopedia, *Investment* has different meanings in finance and economics. In economics, investment is related to saving and deferring consumption. Investment is involved in many areas of the economy, such as business management and finance whether for households, firms, or governments. In finance, investment is putting money into something with the expectation of gain, usually over a longer term. This may or may not be backed by research and analysis. Most or all forms of investment involve some form of risk, such as investment in equities, property, and even fixed interest securities which are subject, inter alia, to inflation risk. In contrast putting money into something with a hope of short-term gain, with or without thorough analysis, is gambling or speculation. This category would include most forms of derivatives, which incorporate a risk element without being long-term homes for money, and betting on horses. It would also include purchase of e.g. a company share in the hope of a short-term gain without any intention of holding it for

the long term. Under the efficient market hypothesis, all investments with equal risk should have the same expected rate of return: that is to say there is a trade-off between risk and expected return. But that does not prevent one from *investing* in risky assets over the long term in the hope of benefiting from this trade-off. The common usage of *investment* to describe *speculation* has had a effect in real life as well: it reduced investor capacity to discern investment from speculation, reduced investor awareness of risk associated with speculation, increased capital available to speculation, and decreased capital available to investment.

2.1.2 Investment process

The investment process describes how an investor makes decision about what securities to invest in, how extensive this investment should be and when they should be made. The investment process involves these steps:

i. Set Investment Policy

The first step of the investment process is to set the investment policy. It determines the objectives and the amount of his/her investment fund. Investor objective should be stated in terms of both risk and return. This step involves the identification of the potential categories of financial assets for consideration in the ultimate portfolio. This identification will be based on the investment objectives, amount of investable wealth and tax status of the investor.

ii. Perform Securities Analysis

In this step, securities analysis involves examining a number of individual securities/group of securities within the broad categories of financial assets. The investor will evaluate them in term of their price whether they are under priced or overpriced, risk associated with that specific security; his/her expected return and real return and so on.

iii. Construct a portfolio

Construction of portfolio involves identification of specific securities in which to invest, along with the proportion of invest able wealth to be put into each security. The investor may construct portfolio according to his/her interest either he/she wants

active or passive strategy to manage his/her investment. There should be clear vision of strategy, risk bearing capacity and required rate of return before deciding the alternatives of investment.

iv. Revise the Portfolio

This step involves both realizing that the currently held portfolio is not optimal and specifying another portfolio to hold with superior risk-return characteristic. The investor must balance the cost of moving to the new portfolio against the benefit of the revision.

v) Evaluation Portfolio Performance

Evaluation of portfolio performance involves determination of the actual performance of a portfolio in terms of risk and return and compares the performance with that of an appropriate “benchmark” portfolio.

2.1.3 Investment Alternatives

Investopedia explains 'Alternative Investment' as many alternative investments also have high minimum investments and fee structures compared to mutual funds and exchange-traded fund (ETFs). While they are subject to less regulation, they also have less opportunity to publish verifiable performance data and advertise to potential investors. Alternative investments are favored mainly because their returns have a low correlation with those of standard asset classes. Because of this, many large institutional funds such as pensions and private endowments have begun to allocate a small portion (typically less than 10%) of their portfolios. While the small investor may be shut out of some alternative investment opportunities, real estate and commodities such as precious metals are widely available. The financial manager decides on a suitable maturity pattern for the holdings on the basic of how long the funds are to be held. If the funds are wrongly invested without any financial risk, business risk and other various types of risk and facts, the bank cannot obtain profitable return as well as it should sometimes lose its principle. Therefore the suitable alternative can be selected and balanced in such a way those maturities and risk appropriate to the financial situation of the firm is obtained. There are various alternatives, which are as follows:

i. Equity Securities

Equity securities represent ownership shares in a corporation. Equity securities are traded in organized exchanges OTC market.

a. Common Stock

Common stock is an ownership share in a corporation.

b. Preferred Stock

Preferred stock is a fixed income security. Preference shareholder does not have voting rights. It is suitable for that investor who does not want to bear high risk but wants fixed return.

ii. Debt Securities

Debt securities are those on which interest has to pay and they have certain maturity period. Debt securities can be divided into two parts. They are as follows:

a. Short Term Debt Securities

It is the obligation that matures in one year or less. Short term debt securities are traded in to money market. They are Negotiable certificates of deposit, Commercial paper, Bankers acceptance, Treasury bills.

b. Intermediate and long-term debt securities

It is the obligation that matures in more than one year. Intermediate and long-term debt securities are traded in OTC market. They are as follows:

Government Securities

Government securities are fixed income securities issued by the government. These securities are among the safest of all investment as the government is unlikely to default on interest or on principle repayments. They are Treasury Notes, Treasury Bonds and Saving Bonds.

Agency Securities

Agency securities are traded in the OTC market. Government national mortgage association, Federal home loan Mortgage Corporation and Federal National mortgage association.

Municipal Securities

Municipal bonds are debt obligation issued by state or local government and agency. They are Revenue Bonds and General obligation Bonds.

Corporate Bonds

It is traded in organized exchanges and the OTC market.

iii. Hybrid Securities

Securities that have characteristics of both equity and debt are called hybrid securities. They are Convertible preferred stock and Convertible bonds.

iv. Derivative securities

Securities that derive their value from the value of an underlying assets. They are Option, Commodity futures, financial futures, Option on futures, Rights and Warrant.

v. Real assets

Real assets are the non-financial assets. They are Precious Metal, Real Estate and Collectibles.

vi. International Investment

International investments are the investment by individual in debt or equity securities issued by organizations outside country of residence of the investor. Multinational corporations and foreign stocks traded on a local exchange and American depository receipts.

vii. Other Investment Alternatives

They are Pension funds, Mutual funds and Closed-end companies.

2.1.4 Concept of Return

Return is reward for investment. A major purpose of investment is to get a return or income on the invested. On a bond an investor expect to receive interest and on a stock dividends may be anticipated. So return from investment has different meaning to different investors. Some companies seek near term cash inflow and give less value to more distant returns. Other investors are concerned primarily with growth. Still others measure return using financial ratios. They might seek to invest in a company that has a high return on investment.

All the investor wants to maximize expected returns subject to their tolerance for risk. Return is the motivating force and it is the key method available to investors in comparing alternative investments. Realized return and expected returns are two terms which is often used in the language of investment. Realized return is after the fact return, return that was earned or it is history. Expected return is the return from an asset that investor will earn over some future period. It is a predicted return, which may not occur.

2.1.5 Concept of Risk

Risk and uncertainty are real in life. Everyone encounters uncertainty in every day's life. Risk and uncertainty are an integral part of an investment decision. Risk can be defined as a situation where the possible consequence of the decision that is to be taken is known 'Uncertainty' is generally defined to apply to situations where the probabilities cannot be estimated. (Cheney & Moses, 1992).

Risk is uncertainty of whether the money investors lend will be returned. They have regarded such risk as bankruptcy risk. They said that stockholders of the firm should not only consider bankruptcy risk but also the risk that the firm will yield a rate of return below some targeted rate. They have given range, variance, standard deviation, coefficient of variation and beta as parameters for the measurement of risk. They describes beta as a parameter for the measurement of the systematic risk. Systematic risk has been defined as undiversifiable risk, which is beyond the control of the organization. Apart from this they describe unsystematic risk as diversifiable risk, which can be reduced through the portfolio effect. Further beta values for assets generally range between +0.5 and 2.0. (Pathak, 2011)

a) Segregation of Risks

i) Systematic Risk

Systematic risk is that part of total risk, which cannot be eliminated. Systematic risk or undiversifiable risk is a function of its covariance with market portfolio of all assets divided by the variance of the market portfolio.

The portions of the total risk of an individual security caused by market factors that simultaneously affect the prices of all securities. It can't be diversified away. Systematic risk is the market risk, which could not be avoidable. It is also called market risk or unavoidable or non-diversifiable risk or beta risk. The beta of the stocks is the slope of the characteristics line between return for the stock and those for the market. Beta depicts the sensitivity of the security's excess return to that of the market portfolio. This type of stock often called aggressive stock and slope less than 1 called defensive stock. Thus un-diversifiable risk is caused by such factors, which systematically affect all firms such as War, Inflation, Recession, Interest rates policy, and corporate tax rate policy. Since all securities will tend to be negatively affected by these factors systematic risk cannot be eliminated by diversification therefore, and investor will expect a compensation for bearing this risk.

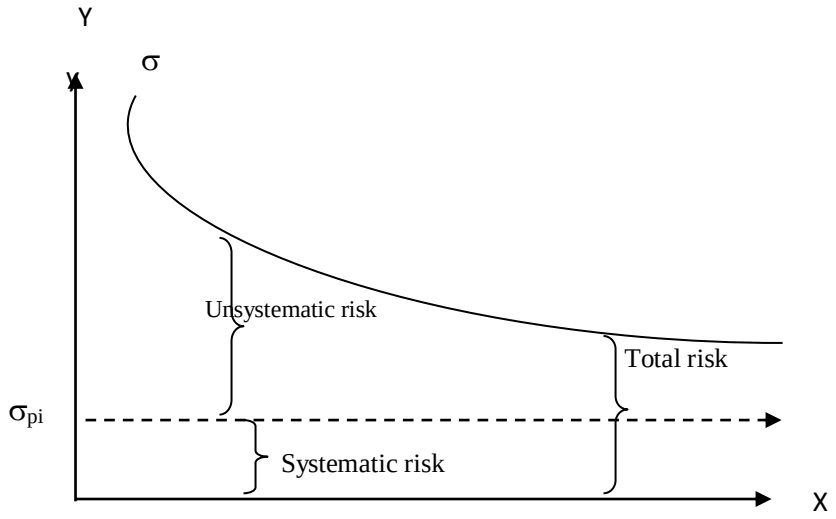
ii) Unsystematic risk

The portion of the total risk that can be diversified away. It is also called non-market risk or avoidable or company-specific risk or diversifiable risk. Such unsystematic risk can be totally reduced through costless diversification. This risk is related at a decreasing rate toward zero as more randomly selected securities are added to the portfolio. Various studies suggest that 15-20 stocks selected randomly are sufficient to eliminate most of the unsystematic risk of portfolio. (Van Horne, 2002). It is caused by events particular to the firm. Event such as labor strikes, management errors, inventories, advertising campaigns, shift in consumer taste and lawsuits cause unsystematic variability in the value of market assets. Since unsystematic changes affect one form, or at most few firm, they must be forecasted separately for each firm and for each individual incident. Unsystematic security prices movement are statistically dependent from each other. Some sources of unsystematic risk are Labor strike, Management errors, Inventions, Advertising campaigns, Shift in consumer

taste, Successful and unsuccessful marketing programs, the winning and losing of major contracts and other events those are unique to a particular firm.

Figure 2.1

Risk and Diversification



No of Assets

Source: James c. Van Horne, financial management policy; 11th edition.
(New Delhi, Prentice hall of India Pvt. Ltd. 2000)

b) Measurement of Risk

Standard Deviation

Standard deviation is a statistically concept and is widely used to measure risk from holding a single assets. A high standard deviation represents a large dispersion of return and is a high risk; a low deviation is a small dispersion and represents low risk. It provides more information about the risk of the assets.

Coefficient of variation

Risk is measured by the standard deviation, and then risk per unit of expected return can be measured by the Coefficient of Variation (c.v.). High C.V. represents the higher risk of the investment. The C.V. shows the risk per unit of return and it

provides a more meaningful basis for comparison when the expected return and risk on two alternatives is not the same (Weston & Brigham, 1993).

Beta

"The beta is simply the slope of the characteristic line. It depicts the sensitivity of the security's excess return to that of the marker portfolio if the slope is one, it means that excess return for the stock vary proportionally with excess return for the market portfolio. In other words, the stock has the same unavoidable or systematic risk as the market as a whole. A slope steeper than one means that the stock's excess return varies more than proportionally with the excess return of the marker portfolio." (Van Horne & Wachowicz, 1997). "Beta measures non diversifiable risk. Beta shows how the price of a security responds to market forces. In effect, the more responsive the price of a security is to changes in the market, the higher will be its beta is calculated by relating the returns on a security with the returns for the market. Beta can be positive or negative. But nearby all betas are positive". (Fisher & Jordan, 6th edition)

Capital Assets Pricing Model

The CAPM is sometimes used to estimate the required rate of return for any firm with publicly traded stocks. The CAPM is based in the premise that the only important risk of a firm is systematic risk, or the risk that results from exposure to general stock market movements, The CAPM is not concerned with so called unsystematic risk, which is specific to an individual firm, because investors can avoids that type of risk by holding diversified portfolios.

The CAPM states that the expected risk premium on each investment is proportional to its beta, this mean that each investment should lie on the slopping security market line connecting treasury bills and market portfolio. (Brealey & Myers, 2002).

2.1.6 Investment Portfolio

In Nepalese context many Nepalese private investors placed their entire wealth in a single investment. It is because of proper awareness about portfolio. A portfolio is a bundle of or combination of individual assets or securities (Pandey, 1997). If investor holds a well-diversified portfolio, then his concern should be the expected return and risk of portfolio rather than individual assets or securities. The portfolio theory

provides a normative approach to the investor decision to investment in assets or securities under risk. The main objective of the portfolio analysis is to develop a portfolio that has the maximum return at specified degree of risk. Therefore analyzing risk and return on portfolio context is necessary.

"While the portfolio expected return is a straight forward weighted average of return on the individual securities, the portfolio standard deviation is not the simple weighted average of individual security standard deviation. To take a weighted average of individual security, standard deviation would be to ignore the relationship or covariance between the return on securities. This covariance however doesn't affect the portfolio expected return". (Van Horne et. al, 2000)

2.1.7 Portfolio Management and its Objectives

Portfolio management is concerned with efficient management of investment in financial asset including equity shares, preference share, and debentures of companies. The process of portfolio management involves a logical set of steps common to any decision, plan, implement and monitor. Portfolio management assumes periodic supervision of the security in the portfolio. But and sold philosophy, in present competitive society and in view of the fluctuations of the stock market is not prudent, conservative, or rational plan of action for sound portfolio, management may do the management or by individuals themselves.

The basic problem of portfolio management is to establish an investment goal or objective and then decide how best to reach the goal with the securities available. This has been stated as an attempt by the investors to obtain the maximum risk. In order to do proper job of portfolio management, the investor must be aware of the investment process. Before taking decision investor must have some knowledge about the objectives of portfolio management which can be categorized as: primary objectives is maximization of return and minimization of risk and secondary objectives Regular Return, Safety of an Investment, Liquidity, Marketability and Tax planning-capital gain tax, income tax and wealth tax.

2.1.8 Portfolio Risk

In an investment setting, an investor sets his required rate of return as the base return he requires from an investment. However, given the usual uncertainty in the market, it is difficult to meet that required rate of return exactly. As such, an investor would set his return above his required rate of return to diminish the risk that his required rate of return will not be met. The excess return above the investor's required rate of return is risk premium. The fundamental sources of risk that contribute to the need of the risk premium, such as: Business risk, financial risk, Liquidity risk, Exchange rate risk, Political risk. These risks comprise systematic risk, and cannot be avoided through diversification since they affect the entire market.

Business Risk

Business risk is the risk that a business' cash flow will not meet its needs due to uncertainty in the company's business lines.

Financial Risk

Financial risk is the risk to equity holders as a company increases its debt load. As debt load increases, interest expense also increases, leading to less income to be paid out to investors.

Liquidity Risk

Liquidity risk is the uncertainty around the ability to sell an investment. The more liquid an investment is the easier it is to sell.

Exchange-Rate Risk

Exchange-rate risk is the risk a company faces when it has businesses in other countries. When a company is in the business of producing or buying products in a country other than its own, a company can face exchange-rate risk when in the process when it needs to exchange currency to transact business as a part of its normal business routine.

Political Risk

Political risk is the risk of changes in the political environment of a country in which company transacts its businesses. This risk could be caused by changes in laws relating to a specific business or even more serious as a country revolution that would cause disruption in a company's operations.

Investment risk can be reduced by including more than one alternative of assets in the portfolios and by including more than one asset from each category. Hence diversification is essential to creation of an efficient investment because it can reduce the Variability of returns around the expected return. This diversification may significantly reduce risk without a corresponding reduction in the expected rate of return on the portfolio" (Francis, 2000).

Diversification is the one important means that control portfolio risk. Investments are made in a wide variety of assets so that exposure to the risk of any particular security is limited. By placing one's eggs in many baskets, overall portfolio risk actually may be less than the risk of any component security considered in isolation (Bodie, Kan & Markus, 2002)

If the investors diversify funds into many more securities that continue to spread out firm specific factor and portfolio volatility should continue to fall. Ultimately, however even with a large number of stocks investors cannot avoid risk altogether. Since all securities are factors when all risk is firm specific diversification can reduce risk to a negligible level. When common sources of risk affect all firms however even extensive diversification cannot eliminate risk that is due to market risk or systematic risk on average portfolio risk does fall with diversification to reduce risk is limited by systematic or common sources of risk. Here are some different diversification techniques for reducing a portfolio's risk:

i. Superfluous Diversification:

Such portfolio diversification that has excess no. of assets (more than 15) known as superfluous diversification. It refers to the investors spreading himself in so many investments on his portfolio. It may lower the net return to the portfolios owners after the portfolio's management expenses are deducted even through their will most likely

be no concurrent improvement in the portfolio's performance. In this context, Clarke's adds that superfluous diversification usually result in the following portfolio management problems are Impossibility of good portfolio management , Purchase of lackluster performers , High transactions costs and High search costs.He describes that although more money is spent to manage a superfluous diversified portfolio; there will most likely to be no concurrent improvement in the portfolios performance. Thus superfluous diversification may lower the net return to the portfolios owners after the portfolios management expenses are deducted.

ii. Markowitz Diversification:

Markowitz diversification may be defined as combining assets that are less than perfectly positive risk correlated in order to reduce portfolio risk without sacrificing portfolios returns. It can sometimes reduce risk below the non-diversification level.

Markowitz diversification is more analytical than simple diversification and considers assets correlation. The lower correlation between assets the more that Markowitz diversification will be able to reduce the portfolio's risk. Markowitz diversification can lower risk below undiversification level if the securities analyst find securities, whose rates of return have low enough correlations. Unfortunately there are only a few securities that have low correlation. Therefore, using Markowitz diversification requires a data bank of financial statistics for many securities a computer and some economic analysis.

Markowitz paper is the first mathematical formalization of the idea of diversification of investment; the financial version of "the whole is greater than the sum of its parts" through diversification, risk can be reduced without changing expected portfolio return. The decision to hold a security should not be made simply comparing its expected return and variance to others, but rather the decision to hold any security would defend on what other securities the investors wants to hold. Securities could be properly evaluated in isolation, but only as a group. Risk investors can reduce portfolio risk by investing sort of securities in the portfolio risk by investing sort of securities in the portfolio. Risk is divided into two parts according to their natures. They are Systematic Risk and Systematic Risk. It is combination of the risks mentioned above the denoted by standard deviation.

Total Risk = Systematic Risk + Unsystematic Risk

2.1.9 Portfolio Return

Return is the main motivation force of the investment or return is the reward of investment. In return, there are two factors on is capital gain and another is regular gain or ordinary gain. Capital gain means difference between the ending and beginning price. Regular gain mains annually cash receipt.

Total return = Capital gain + Regular (Ordinary gain)
Capital gain = Ending price -Beginning price
Regular gain = Dividend or Interest

a. Single Period Rate of Return

The rate of return is the speed at which the investor's wealth increases or decreases. This rate of return depends upon the future cash flows that include cash receipt (dividend) and capital gains and the investors make investment for high rate of return at minimum risk. Thus, the investor's single period rate of return can be defended as the total return that the investor receives during the holding period and the single period return generally denoted in percentage. It can be called holding period return (HPR).

b. Required Rate of Return

While setting the required rate of return on an investment an investment an investor have to consider the real rate of return, expected inflation and risk. Because consumption is foregone today; investor is entitled to a rate of return that compensate for different consumption in future. Required rate of return is the rate of return demanded by an investor forgoing the present utility and satisfaction. If investors postpone his satisfaction for uncertain future, investment must compensate his satisfaction. The compensation that is demanded on behalf of future uncertainty over the risk is the required rate of return. The capital market determine required rate. The required rate of return is the minimum rate of return of return that an investor expects from his investment. It is function of real rate of return and risk.

c. Expected Rate of Return

Expected rate of return is the return one expects by his/her investment. The expected rate of return should be higher than required rate of return. Expected return is the hypothetical rate of return. The expected rate of return is based upon the expected cash receipt over thee holding period and expected year-end selling price of the securities. It is obvious that, an investor's expectation on return must be reasonable as most expectation based on history.

d. Portfolio Return

Since each investments future may be considered as a variable, the return of a portfolio as a variable, the return of a portfolio also can be thought the same way as variable depended on expected returns of the individuals investment that make up the portfolios. The expected return of portfolio is a weighted average return of the stocks or investment sectors in a portfolio where weights being the proportion of funds invested in individual investment of the portfolio. The expected returns of a portfolio should depend on the expected return of each security contained portfolio. It also seems logical that the amount invested in each security should be important. The multiplication between proportion of individual sector's investment weight and the returns is the process of calculate portfolio return.

In case of two assets cash:

$\overline{Rp}$ = $W_A R_A + W_B R_B$

In case of more than two assets case:

$\overline{Rp}$ = $W_A R_A + W_B R_B + \ldots\ldots\ldots + W_N R_N$

Where

W= Weight

$\overline{Rp}$ = Portfolio Return

A and B denote investment sector or assets

2.1.10 Portfolio Performance Measurement

Risk and Return should be considered by giving important priority when considering a portfolio performance. Due to absence of either risk or return, we cannot measure

their performance of portfolio effectively. There are various methods applied to measure the portfolio performance like Sharpe's, Treynor's and Jensen's measurement.

a. Sharpe's Performance Measure

William Sharpe is the founder of Sharpe's portfolio performance measurement. It helps to know the return that is generated with per unit of total risk. This measurement can be attained after deducting risk free rate of return from portfolio return and dividend by total risk of portfolio:

$S_p = \frac{\overline{R}j - \overline{R}f}{\sigma j}$

S_p = Sharpe's portfolio performance measure for portfolio 'J'

R_J = Average /Expected return from portfolio 'J'

σ_j = Standard deviation of returns for portfolio 'J'

R_f = Risk free rate of return

b. Treynor's Performance Measure

Another index of portfolio performance i.e. similar to the Sharpe index is the Treyno'r performance index. The Treynor's index however is concerned with systematic risk, while the Sharpe index is concerned with total risk as measured by portfolio standard deviation of return. The Treynor's idenx is definded as follow.

$T_p = \frac{R_j - R_f}{B_j}$

Where,

T_p= Treynor's portfolio performance measure for portfolio 'j'

R_j= Average/Expected return from portfolio 'j'

B_j= Systematic risk for portfolio 'j'

R_f = Risk free rate of return

c. Jensen Performance Measures

Michael Jensen has developed a method for evaluating a portfolio assets performance. Jensen's measures are the average return of the portfolio over and above that

predicated CAPM, given the portflio's beta and average market return. Jensen's measure is the portfolio alpha value. The Jensen's measures are computed with regression equation.

$A_p = R_p - R_f + [E(R_m) - R_f]R_p$

Where,

Ap = Jensen's alpha of portfolio or Jensen's performance measures.

R_p= Average realized return from portfolio

R_f = Risk free rate of return.

$E(R_m)$ = Expected market return.

B_p = Beta portfolio.

2.1.11 Popular Model of Portfolio

a. Harry M. Markowitz and Portfolio Selection Model

Harry M. Markowitz originally proposed portfolio theory "portfolio selection" in 1952. Markowitz diversification is the combining of assets, which are less then perfectly correlated in order to reduce portfolio's risk. It can sometimes reduce risk below the un-diversifiable level. Markowitz diversification is more analytical than simple diversification and considers assets correlation. Risk averse investors selects efficient portfolio that maximizes return at a given level of risk or minimizes risk at a given level of return. With the collection of those efficient portfolios the optimal portfolios can be obtained for given investors. A theory, which evolved into a foundation for further research in financial economics Markowitz, showed that under certain given conditions, an investor's portfolio choice reduced to balancing two dimensions, i.e. the expected return of the portfolio and its variance. Portfolio is the combination of the various securities. To choose the combination of the securities, it is really a challenge to the investor to choose the combination. By combining securities of low risk with securities of high risk, success can be achieved by an investor in making a choice of investment outlets.

Markowitz diversification may be defined as combining assets, which are less than perfectly correlated in order to reduce portfolio risk without sacrificing portfolio return. It is more analytical than simple diversification and considers assets correlation or covariance in portfolio formation it shows that lower the correlation

between assets. More no. of security will be able to reduce the portfolio risk. Markowitz used the variance of return as the measure of risk. The portfolio model developed by Markowitz is based on the following assumption:

- This theory assumes for the same holding period return for all securities.
- The risk of an individual assets or portfolio is based in the variability of returns.
- Investor prefers high return to lower return for a given level of risk. Similarly, for a given level of expected return, investor prefers less risk.(Cheney & Moses, 1992)
- Investor makes investment rationally.

b. Capital Assets Pricing Model

The relevant risk for an individual asset is systematic risk because undiversifiable risk can be eliminated by diversification. The relationship between an assets return and its systematic risk can be expressed by the CAPM, which is also called the security market lime (SML). "It is the model that describes the relationship between risk and expected return. The CAPM provides a framework for basis risk and return offs in portfolio management. It explains the behavior of security prices and provides a mechanism to assess the impact a proposed security investment on investor's overall portfolio risk and return. It enables drawing certain implications about risk and the size of risk premium necessary to compensate for bearing risk. (Khan & Jain, 1992)

The equation for the CAPM is

$E(R_j) = R_f + [\, E(R_m) - R_f \,]\ \beta_j$

Where,

$E(R^j)$ = the expected return on the J^{th} risky assets.

R_f = the rate of return on a risk less assets.

$E(R_m)$ = the expected return on the market portfolio.

β_j = $\text{cov}(R_j, R_m) / \text{var}\ R_m$

The CAPM based on the following assumption:

- Individuals are risk reverse.
- Individuals have homogeneous expectations; they have identical subjective estimates of the means, variance, and covariance among the returns.
- Individual can borrow and lend freely at a risk less rate of interest.
- The market is perfect there are no taxes; there are no transaction costs; securities are completely divisible; the market is competitive.
- The quantity of risky securities in the market is given.

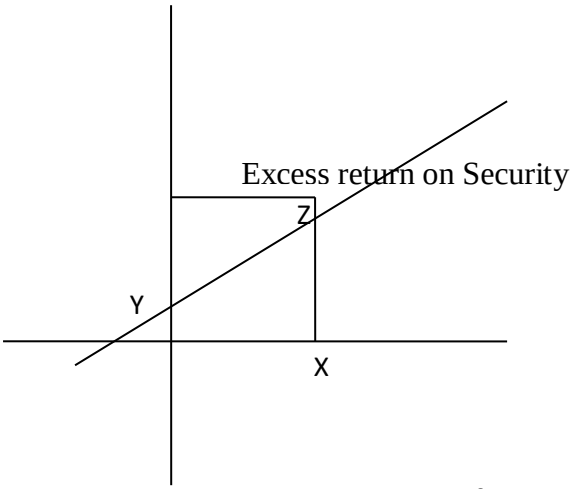
c. The single index model

The simplification of Markowitz model has come to be known as the market model of single index model (Valla, 1994). The single index model provides that the desirability of any stock is directly related to its excess return to beta ratio. Single index model for optimal portfolio enable to find out the no. of security to be in optimal portfolio. In this case the desirability of including a stock directly related to its excess return to beta ratio. If stocks ranked by excess return to beta for highest to lowest, the ranking represents the desirability of any stocks inclusion

in a portfolio. The number of stocks with selected depends on a unique cut of rate such that all stocks with higher ratios will be included and all stocks with lower ratios excluded.

Figure 2.2

Excess Return on Security



The beta of security represents the market linearity of the stock. The market influences each stock. Negative beta defines that security is not linear to market. The security having negative beta coefficient is rejected as investment alternatives. In the same way security that provides lower rate of return than risk free rate of return rejected as investment alternatives.

2.2 Review of Related Studies

2. 2.1 Review of Journal Articles

The Edward J. Kane and Stephen A Buser in the title "Portfolio diversification at commercial banks" (Kane & Buser, 1979) deals with how a firm performs a useful function by holding a portfolio of efficiently priced securities.

According to them, it is rational for a form to engage in prior found of assets diversification of behalf of its shareholder even when all assets are priced efficiently and available for direct purchase by shareholders. As a way of testing their perceptive empirically, they estimated regression model designed to explain the no. of distinct of U.S. treasury and federal agency debt held in a time series of cross section of large US commercial banks. They interpret the systematic pattern of diversification observed

for large US commercial banks as evidence that bank stockholder for a relatively uniform diversification clientele. For firm, marginal benefits from diversification take reductions in the cost equity funds offered by its specific clientele of stockholders. To maximize the value of the firm, these benefits must be weighed against the explicit and implicit marginal cost of diversification.

The Edward J. Kane and Stephen A Buser drown following concluding remarks:

- Even wealthy investors should be sensitive to administrative costs associated with selection, evaluation, managing, and continually keeping track of a large number of securities.
- Either homemade of firm produced diversification, reduces the variance of shareholders portfolio return. If homemade diversification bears in ordinary high levels of information risk, some benefit of form-produced diversification might not be reproduce able by individual investors acting on their own.
- Investors with even modest resources, the stock of financial institutions should be relatively less attractive than the stock of that avoided extensive diversification costs by engaging in specialized activities.

Bajracharya (1990), in his article "Monetory policy and deposit mobilization in Nepal" has concluded that mobilization of domestic savings is one of the prime objectives o the monetary policy in Nepal and commercial banksa and the more active financial intermediary for generating resources in the form of deposit of private sector and providing credit to the investor in different sectors of the economy.

Edwin J. Elton in their study named "Expected return, realized return and asset pricing tests", one of the fundamental issues in finance is what the factors are that affect expected return on assets, the sensitivity of expected return to those factors, and the reward for bearing this sensitivity. The data set covers the period from July 1, 1991 through December 31, 1997. The history shows almost all the testing are done taking realized return as a proxy for expected return. Using realized return, as a proxy for expected return is that the unexpected returns are independent, so that as the observation interval increases they tend to a mean of zero.

The purpose of this article is to convince the reader there is a distinction and worth to find out alternative ways to estimate expected returns.

Following preliminary tests are done in the study:

- A constant risk premium
- forward rates and risk premium
- Factors analysis
- Changing risk premiums

According to the researcher "realized returns are a very poor measure of expected return and that information surprises highly influence a number of factors in asset pricing model". The empirical use of judgment and factor dependability can be used to draw implication which will govern to the great extent the pricing decision fix and accurate.

"Regulations of Bank Capital and Portfolio Risk" by Michael Koehn and Anthony M. Santomero in their study examined the portfolio allocation that flows from the portfolio decision of the firm and the effects on bank portfolio risk of a regulatory increase in the minimum capital assets ratio that is acceptable to the supervisory agency. The allocation across assets becomes the choice variable deriving the optimal mean rate of return per unit of the capital and the variance of that return. Therefore, the analysis will be developed in terms of risk and return per unit of capital with no loss in generality. According to them, an explicit relationship between the risk of the bank portfolio, the amount of bank capital held and the chance of bankruptcy must, therefore, be obtained to evaluate the result of bank capital regulation.

Shrestha (1998), in his study "Portfolio management in commercial bank, theory and practice". According to him, the portfolio management becomes very important for both individuals as well as institutional investors. Investors would like to select a best mix of investment assets subject to select mix of investment assets subject to following aspects:

- Higher return which is comparable with alternative opportunities available according to the risk class of investors.
- Certain capital gain.
- Flexible investment.
- Good liquidity with adequate safety of investment.
- Maximum tax concession.
- Economic, efficient & effective investment mix.

Following findings have been point out from the research:

- To find out the investible assets having some for better returns depending upon individual characteristics like age, health, need, disposition etc.
- To find out the risk of the securities depending upon the attitude of investors towards risk.
- To develop alternative investment strategies for selecting a better portfolio.
- To identify securities for investment to refuse volatility of return and risk.

Shrestha has expressed his view that the portfolio management activities of Nepalese commercial bank at present are in growing stage. However most of the banks are not doing such activities so far because of following reason:

- Unawareness of the clients about the service available.
- Hesitation of taking risk
- Lack of proper technique to run such activities in the best and successful manner
- Less developed capital market and availability of few financial instruments the financial market.

The survival of the banks depends upon its own financial health and various activities.

- The portfolio manager could enhance the opportunity for each investor to each superior return over times.
- Do not hold any single security.
- Try to have a diversified investment.
- Choose such type of portfolio securities, which ensure maximum return with minimum risk.

The article in web page www.'Investopedia.com "Are you over diversified" mentioned that many individual investors could not tolerate the short-term fluctuations in the stock market. Diversifying your portfolio is the best way to smooth out the ride. Diversification is a risk management technique that mixes a wide variety of investments within a portfolio in order to minimize the impact that any one security will have on the overall performance of the portfolio. Diversification lowers the risk of your portfolio. Academics have complex formulas to demonstrate how this works.

2.2.3 Review of Related Thesis

Gurung (2005) has conducted a study on "Portfolio Management of Financial Companies in Nepal". The objective of that study was to identify the situation of portfolio management of finance companies in Nepal. The study covered five years beginning from 1996/97 to 2001/002, specially based on secondary data. She has used different analytical tools like ratio analysis, index and comparative study. She has conducted comparative study among seven finance companies namely Universal Finance, Ace Finance, National Finance, Narayani Finance, Kathmandu Finance, Nepal Finance and Yeti Finance. Among them she has concluded that the mean ratio of investment to total deposits of Ace was highest. The profitability position of National finance was better than others and every finance company was providing very high amount of their funds on term loan i.e. more than 45% on average.

Gautam (2001) has conducted a study on "Investment Analysis of the Finance Companies in the contest of Nepal". The objective of that study was to identify the investment analysis of finance companies. In her thesis she has found that investment on government securities was increasing rapidly from the period 1995 to 1998. Out of 40 companies there were 9 financial companies with zero investment on government securities. Her study shows that 38 companies invested on hire purchase and the investment was decreased rapidly. All the companies have invested on housing loan. The investment towards housing loans has almost linear.

Karki (2005) has conducted "A study on investment policy and practices of Nepal SBI Bank Limited" with objective to review the investment policy adopted by Nepal SBI Bank. Data and information were collected basically secondary sources. The researcher has used different financial and statistical tools. His major findings were the cash in vault to total deposit ratio of the bank was fluctuating trend. The balance held with NRB was found to be adequacy ratio of the bank is above than the NRB standard in each year over the study period. Loans and advances to total deposit ratio are satisfactory consistent over the study period. Investment of deposit fund was highly increasing trend. Investment on share and securities of organized institutions by bank was decreasing trend and growth ratio was increasing trend. The researcher finally concluded that the bank is running with financial soundness and strong.

Shrestha (2006) has conducted a study on "Investment portfolio of Pokhara Finance Limited". The objectives were to analyze various investment sector, deposit mobilization and investment trend, liquidity position profitability position and risk and return of the company. She has used mainly secondary data covered from 2055/056 to 2060/61. She has used different financial and statistical tools to analyze the investment portfolio. The researcher has revealed that nearly 100% of investment was made on loan and advances than other sector. She has also found that return on total assets and on investment was fluctuating trend. Returns on equity ratio were less consistent and more variable, growth ratio was increasing trend.

Sainju (2006) carried out the research study entitled "A study of investment policy of Pashimanchal Gramin Bikash Bank" with the objectives of to analyze the investment policy of PGBB. The study was based on secondary data from 1996/97 to 2003/04. He has employed various financial and statistical tools. The study concluded that the loan and recovery of financial assistance was increasing, satisfactory and enumerating trend i.e. 99% of loan. But profitability and investment function of PGBB is not satisfactory. The bank has not followed the risk and return factor at the time of investment.

Shrestha (2004) carried out the research study entitled "Portfolio Management of Commercial Bank listed in NEPSE". The objective of the study was to explore and describe the portfolio management in Nepal from the investors' point of view. His study was focus on commercial bank which is listed in NEPSE, taking EBL, BOK, HBL, NABIL, NIC, SBI and SCB. The study was concentrated for seven years period beginning from 1997 to 2003. He has used different financial and statistical tools. He found that NIC stock has nominal level of risk but the return was negative. So, suggested was to invest in the security other than NIC bank. If risk averter investor, they can invest their fund in the stocks of NIB than other bank because it has lowest standard deviation. The prices of stock in the case of most of the banks have decreased to some extent in 2001. Therefore investors continued to take necessary measures to overcome such unforeseen contingencies.

K.C. (2005) carried out a study on "Investment policy of NABIL bank in comparison to Nepal Bangladesh Bank". The major objective of this study was comparative analysis of the investment policy between NABIL and NBB. He has covered five

years data from 1999 to 2003/04. He found that the liquidity position of the NABIL Bank was comparatively not better NBB. It has the lower current ratio. Assets management ratio of NABIL Bank was found higher than NBB. NABIL Bank was better in utilizing its loan and advance to generate profit and earnings. Finally, he has summarized in his study the management of NBB was found risk averter. But in the other hand, the management was found risk taker as it has diversified its investment into the different risky as well as non-risky sector as per the weight of return.

Baral (2007) has conducted a study on "Deposit collection and investment pattern of Machhapuchhere Bank Ltd with the main objectives to analyze the deposit collection and investment pattern of MBL along with the other specific objectives to analyze the general deposit and investment. Policy of MBL, to determine the trend of the deposit position of MBL, to measure the trend of investment composition MBL, to analyze the different sector wise loan investment to evaluate the liquidity assets management efficiency, profitability of MBL and to analyze the growth ratio of total deposit, loan and advances, total investment and net profit. Both financial and statistical tools were used to analyze the collection of data. He has concluded that total deposit collection of MBL is satisfactory, measure parts of investment on loan and advances with liquidity position, well mobilization of working fund in loan and advances, high credit risk and growth ratio. He has recommended increasing the weight of fixed deposits, to apply the attractive policy to increase funds, to maintain reasonable amount of liquidity, to minimize credit risk and to keep stable consistency growth ratio.

Karki (2009) has conducted a study on investment portfolio of Om Finance Ltd with the main objectives to analyze the investment portfolio of OFL. Furthermore, the specific objective is to determine the sources and level of fund of OFL for investment. Analyze the trend of investment portfolio in OFL. Classification of loan and advances of OML evaluate the position of profitability, activity assets management and liquidity of OFL and the problems faced by OFL in the investment process. Thus study was based on secondary data provided by the company. Both financial and statistical tools were used in this study. She has concluded that OFL don't have enough capital funds for investment. Deposit is the main source of fund but recurring fund, provident fund and other scheme are not in practice. The investment portfolio

of the finance company seems risky because most of the investment on loans and advances, that is also more in term loan.

Thapa (2009) has conducted a study on "Investment portfolio of Annapurna Finance Co Ltd". The objectives of this study is to analyze the investment portfolio of AFCL for the past six years; deposit mobilization investment trend of the company, measuring profitability position of AFCL and analyze risk and return of the company. Only secondary data were used to analyze the objectives of the fiscal year 2057/58 to 2062/63. This study was descriptive and analytical in nature. He concluded that the investment portfolio of AFCL has made maximum investment on loan and advance than in government securities and shares and debentures during study period. It is found that the term loan has got the maximum share percent. The profitability ratio of AFCL shows that it has tried to maintain a (positive) return even through there is a fluctuation. There is a strong positive correlation between deposit, loan and advances and investment.

Parajuli (2010) has conducted a study on "Investment portfolio of Om finance Ltd and Fewa finance Ltd". The objectives of this study are to analyze and compare different sectors of investment and their trends, to find out the merits and demerits of setting criteria for the investment on real state to measure and compare the profitability position, to find out and analyze the investment portfolio risk and return and to measure and analyze portfolio performance. This research is based on secondary data as well as primary data. Both financial and statistical tools were used. He concluded that large investment has been made on loan and advance. They have managed their investment to earn moderate profit. The main investment sector of loan and advances housing loan for both companies companies. Both companies have low return on assets. Risk is higher OFL than FFL.

Pathak (2011) has conducted a study on "Investment Portfolio of finance companies, A comparative analysis of Annapurna Finance Co. Ltd and Pokhara Finance Co. Ltd". The main objectives of this study are to analyze and compare different sector of investment and their trend, to analyze the deposit mobilization and investment trend of the each company, to measure and compare the profitability position and analyze risk and return of each company. This research is based on secondary data as well as primary data. Both financial and statistical tools were used. The major findings of this

study are the investment portfolio between two finance companies is diversified but not as much to absorb market alternatives. Loan loss provision of AFCL has decreasing trend and POFIL has increasing as well as fluctuating trend. Further, AFCL is better in all sectors than POFIL.

Adhikari (2012) has conducted a study on" Performance and Investment Portfolio of Insurance Industries in Nepal". The objectives of this study are to analyze the source and uses of fund Nepalese insurance industries, to evaluate the growth trend policies issued tax revenue generated by insurance industries, to analyze the growth of investment of the Nepalese insurance industry, to identify the structure of investment portfolio of Nepalese insurance industry, This research is based on secondary data as well as primary data. Both financial and statistical tools were used. He concluded that the investible fund of Nepalese insurance industry mainly depends on the growth of life insurance business as more than 80 percent investible fund of the industry has been generating from life insurance companies. Further, investment flow from the insurance sector contribution to the national economy, and direct and indirect employment opportunities has also increased.

Rayamajhi (2013) has conducted a study on "Portfolio management of selected commercial banks in Nepal". The main objectives of this study are to evaluate management of common stock investment in terms of risks and return, to analyze efficiency of investment management in terms of risk and return, to analyze portfolio risk and return using portfolio diversification and to evaluate the trend of investment of different asset and provide suggestive package based on the analysis of the data. This research is based on secondary data as well as primary data. Both financial and statistical tools were used. She concluded that large investment has been made on loan and advance.

2.4 Research Gap

Research is the process of searching again and again to get the fact over the problem or issue. The researchers done in the past were not sufficient to cover the basic and con-current issues, any research is not final and one research always welcomes another one.

From the above study the researcher found that, the research on portfolio management of finance companies in Nepal were based on only finance companies of Kathmandu valley. Some of other research has been found that they are mainly focused on individual institutions like bank, finance etc. Few researches have been done on comparative study on investment portfolio of financial institutions in Pokhara. But no research has been done about the portfolio management of AFCL and KFCL. This research focused on newly established finance companies among which one lies on Pokhara sub-metropolitan city (KFCL) and another in Lekhanath Municipality (AFCL) in Kaski district. The other researcher has lacking behind to discuss about the correlation of deposit and investment. So, it will fulfill the gap in this dissertation.

CHAPTER III
RESEARCH METHODOLOGY

Research methodology is the process of arriving to the solution of the problem through planned and systematic dealing with the collection analysis and interpretation of fact and figure. Research is a systematic method of finding out solution to a problem where as research methodology refers to the various sequential steps to adopt by a researcher in studying problems with certain objectives in view. To find out such solution of problems various statistical and financial tools and techniques are applied according to the nature of phenomena.

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done systematically. In it we study the various steps that are generally adopted by a researcher in studying his research problem along with the logic behind them (Kothari, 1990).

3.1 Research Design

This research is based on recent historical data of last five years. The study range is from 2064/65 to 2068/2069. Descriptive and analytical research design is followed in this study. General pattern of investment, business structure, management of portfolio etc. are covered by descriptive research design, growth trend and future predictions are shown through trend lines. Analytical research design has been used to analyze and interpret the collected data**.**

3.2 Population and Sample

The study is concerned with two finance companies investment portfolio among 79 finance companies of Nepal till 2069. Thus the total population of the study is 79 finance companies of Nepal. Being a study of comparison, the study is a comparative study; AFCL and KFCL were selected as a sample for this study. Convenience sampling method was used to select the sample units.

3.3 Nature and Source of Data

The required data for the study are collected from the secondary sources. The raw secondary data are modified to some extent for the study purpose. The annual reports of AFCL and KFCL are used as the major sources of data. Financial statements of AFCL and KFCL are the major part of the annual report. Other required data and information were collected from various articles published in the newspapers, NRB report, bulletins, website and related journals.

3.4 Data Collection Procedure

This study is mainly focused on secondary data. For the purpose of the study financial statements and other relevant data of the respective finance companies are used as major source of data. Other supplementary information has been collected from the website of NRB and Central library, PNC library, different journals, magazines as well as published and unpublished reports documented by the concern authorities.

3.5 Data Processing and Analysis

After collecting data from different sources, data are analyzed and critically examine them in order to achieve objective of the study. The analysis of data is done according to the pattern of data available. The collected data are presented in systematic manner with the help of computer. Therefore available data and information are analyzed with the help of different tools and techniques especially the following tools are used.

- Financial Tools
- Statistical Tools

3.5.1 Financial Tools

Several financial tools can be applied in order to analyze the portfolio of finance companies. Among them ratio analysis is one of the widely used tool which help to interpret the financial statement. The strength and weakness of a firm as well assist historical performance and current financial condition can be determined with the help of ratio analysis. Thus following ratios are considered for the analysis.

A. Loan Loss Provision to Loans and Advance Ratio

Loan loss ratio is calculated by dividing the loan loss provision by total loans and advances.

$$\text{LLPR} = \frac{\text{Loan Loss Provision}}{\text{Total Loans and Advances}} \times 100$$

Where,

LLPR = Loan Loss provision to loans and advance ratio

Loan Loss Provision = Loan loss provision for performing and non-performing loans.

Total loan and Advances = All the loans items provides by AFCL and KFCL on different sectors.

B. Activity Ratio

I. Investment to Total Deposit Ratio

Investment to total deposit ratios is calculated by dividing the investment by total deposits.

$$\text{ITDR} = \frac{\text{Investment}}{\text{Total Deposits}} \times 100$$

Where,

ITDR = Investment to total deposit Ratio

Investment = Loan and Advances + Corporate Security Investment (govt.) bond, individual sector, other company shares and debenture and other investment.

Total Deposits = Short term and Long term Deposit.

II) Loan and Advances to Total Deposit Ratio

Loan and advances to total deposit is calculated by dividing loans and advances by total deposits.

$$\text{LTDR} = \frac{\text{Loan and Advances}}{\text{Total Deposits}} \times 100$$

Where,

LTDR = Loans and Advances to total deposit ratio

Loan and Advances = All the short term and long term loans.

Total Deposit = Short term and Long term deposit.

III) Loans and Advances to Total Assets Ratio

This ratio is calculated by dividing loans and advances by total assets.

$$\text{LTAR} = \frac{\text{Loans and Advances}}{\text{Total Assets}} \times 100$$

Where,

LTAR= Loans and Advances to total assets ratio.

Loan and Advances = All the short term and long term loans.

IV) Non- Performing Loans Ratio

This ratio is calculated by dividing non-performing loan by total loan and advances.

$$\text{NPLR} = \frac{\text{Non-performing loan}}{\text{Total loan and Advances}} \times 100$$

Where,

NPLR = Non-performing loan ratio

Non-Performing Loan = Substandard, doubtful and loss loan

Total Loan and Advances = All the short-term and long term Loan.

C. Profitability Ratio

i. Return and Total Assets

Return on total assets is calculated by dividing net profit after tax profit by total assets.

$$\text{ROA} = \frac{\text{NPAT}}{\text{Total Asset}} \times 100$$

Where,

ROA = Return on assets

NPAT = Net profit after tax

ii. Return on Equity

Return on equity is calculated by dividing net profit after tax by equity.

$$\text{ROE} = \frac{\text{NPAT}}{\text{Equity}} \times 100$$

Where,

ROE = Return on equity

NPAT = Net profit after tax

Equity = Reserve + Paid-up capital

iii. Return on Investment

Return on Investment is calculated by dividing net profit after tax by total investment

$$\text{ROI} = \frac{\text{NPAT}}{\text{Total Investment}} \times 100$$

Where,

ROI = Return on Investment

NPAT = Net profit after tax

Total Investment = Loans and advances corporate security investment (govt. bond, individual sector, other company share and debentures and other investments)

D. Risk Ratios

Risk means uncertainty, variability of return, which is inherent in any investment portfolio of a business enterprise. Risk is an important element since investment with greater risk requires higher return than investments with lower risk. Risk ratios

measures the degree of risk involved in various financial operations. This possibility of risk involved in bank's financial operations makes the bank investment a challenging task. As the notion goes "no risk no gain", therefore, if a bank expects high return on its investment it must be prepared to accept the risk and manage it efficiently.

The following risk ratios are used to analyze and interpret the financial data and investment policy.

i. Liquidity Risk Ratio

Liquidity risk of the bank defines its liquidity needs for deposit. Cash and bank balance are the most liquid of all assets and are considered bank's liquidity sources. Deposit on the other hand refers to the liquidity needs for banks.

This ratio measures the risk associated with the liquid assets i.e. cash and bank balance that are kept to satisfy the cash demand of customers. A higher ratio shows that the bank has sufficient cash to meet its current obligations i.e. lower liquidity risk, but that may have an adverse impact on the profitability position of the bank. A tradeoff between liquidity and profitability must be maintained. The ratio is calculated by dividing cash and bank balance by total deposit.

Mathematically,

$$\text{Liquidity Risk Ratio} = \frac{\text{Total Cash and Bank Balance}}{\text{Total Deposit}}$$

ii. Default Risk Ratio

Normally, every credit is good at the time it is sanctioned. Most of the bank failures are due to shrinkage in the failure of loan and advances. Loan is a risk asset and risk of non-repayment of loan in known as default risk. Default risk ratio measures the possibility of loan going into default. While sanctioning loans banks measure default risk involved in the project. Default risk is calculated by dividing non-performing loan by total loan and advances as for international norm the default risk ratio should not exceed 5%.

Mathematically,

$$\text{Default Risk Risk} = \frac{\text{Non-performing Loan}}{\text{Total Loan and Advances}}$$

E. Growth Ratio

Regarding the investment function, growth ratio of total deposit, growth ratio of loans and advances and growth ratio of total investment are calculated by following formula.

$D_n = D_o (1+g)^n$

Where,

D_n = Total growth ratio of total deposit, total loans and advances and total investment in nth year.

D_o = Total growth ratio of total deposit, total loans and advances and total investment in the initial year.

g = growth rate

n = Total number of Years

3.5.2 Statistical Tools

Lots of statistical tools can be used to conduct study on portfolio management. According to need of our objective of study, we here, are using the tools explained below;

i. Mean

A means is simply the average value or the sum of all the observation divided by the number of observation and it is given by formula below.

Mean $(\overline{X}) = \frac{\sum \boldsymbol{x}}{\boldsymbol{n}}$

Where,

$\sum X$ = Sum of the values

n = Number of observation

ii. Standard Deviation (S.D.)

The standard deviation measure the absolute dispersion. Dispersion means the measure of the scattered of the mass of figures in a series about an average. The greater amount of dispersion, greater the standard deviation. A small standard deviation means a high degree of uniformity of the observations as well as homogeneity of a series; a large standard deviation means low degree of uniformity. This is calculated as follows.

Standard Deviation (S.D.) = $\sqrt{\frac{\sum(X-\overline{X})^2}{n}}$

$$= \sqrt{\frac{\sum X^2}{n} - \left(\frac{\sum X}{n}\right)^2}$$

Where,

N = No. of observation

X = Individual value

$\overline{X}$ = Simple arithmetic mean / average

iii. Coefficient of Variation (C.V.)

The corresponding relative measure is known as the coefficient of variation. It is used to compare the variability of variation. It is used to compare the variability of two variables independently. Greater the coefficient of variation less will be consistency and uniformity and less the coefficient of variation more will be consistency and uniformity. Hence, the coefficient of variation is under taken regarding to this study in order to compare the variability of various data C.V. is obtained as follows.

C.V. = $\frac{\sigma}{\overline{X}} \times 100$

Where,

σ = Standard Deviation

$\overline{X}$ = Simple arithmetic mean / average

When the relative dispersion is stated in terms of means and standard deviation, the resulting percentage is known as the coefficient variation or coefficient of variability.

iv. Karl Pearson's Coefficient of Correlation

Among several mathematical method of measuring correlation, the Karl Pearson's method popularly known as Pearson's coefficient of correlation is the most widely used in practice. It measures the degree of relationship between the two sets of variables i.e. depended and independent variables. In this study the coefficient of correlation is calculated to find out the relationship between the deposits and investment and also between the investment and loans and advances which is obtained by following formula.

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

The value of the coefficient of correlation always lies between -1 to +1. When +1 it means there is perfect positive correlation between two variables. When -1, it means there is perfect negative correlation between them. When the value is zero it means there is no relation between two variables.

V. Probable Error (P.E.)

P.E. of the correlation coefficient is applicable for the measurement of reliability of the computed value of the correlation coefficient (r). The probable error (P.E.) is defined by

$$P.E. = 0.6745 \times \frac{1-r^2}{\sqrt{N}}$$

Where,

r= Correlation of coefficient

n= Number of pairs of observation

If r is greater than P.E., there is evidence of correlation between the variable. If the r is less than P.E., there is no evidence of correlation between the variable.

CHAPTER- IV

ANALYSIS AND PRESENTATION OF DATA

This chapter includes analysis of data and their presentation. Detail data of each bank AFCL and KFCL is presented and analyzed according to methodology mentioned in chapter three. Most of the data are presented in a tabular form with appropriate figures where necessary.

4.1 Analysis of Investment Portfolio

Finance companies collect the funds through deposit and borrowing process and they can invest it in various sectors like loan and advance, government securities, share and debenture and other. Those finance companies mainly provide loan and advances, against securities of movable and immovable property; as loan and advances provided is the short term investment. The investment portfolio of both AFCL and KFCL is presented below for analysis.

Table 4.1

Investment Portfolio of AFCL and KFCL in (%)

	AFCL (in %)					**KFCL (in %)**				
F. Y.	**Loan & Adv.**	**Gov. Sect.**	**Share and Deb.**	**Other Inves.**	**Total**	**Loan & Advance**	**Gov.t Sect.**	**Share and Deb**	**Other Invest.**	**Total**
064/65	100				100	100				100
065/66	100				100	100				100
066/67	100				100	100				100
067/68	98.74			1.26	100	96.18	2.9		0.97	100
068/69	89.4			10.6	100	100				100
Mean	97.63			5.9	100	99.2	2.9		0.97	100

Source: AFCL, KFCL Annual Report and Appendix I

The table 4.1 reveals the investment trend of both the finance companies AFCL and KFCL. It also shows that most of the investment of both the finance companies is in loan and advance. In the fiscal year 067/68 1.26% in other investment and in 068/69 only 10.6% of investment is invested in other sector by the AFCL and In KFCL only in the fiscal year 067/68, 2.9 % in government securities and 0.97 in other investment is invested. It is well known that the investment in the loan and advances has higher risk than other investment. Hence, KFCL seems to be higher risk that AFCL. But in overall, the mean score of loan and advance of both companies AFCL and KFCL is 97.63 and 99.2 reveals that both companies are in higher risk.

4.1.1 Analysis of Sector wise Loan Investment

The main objectives of the finance companies are to serve to the people and to earn profit. Finance company can also perform banking transaction after getting permission from NRB. Both the companies have mainly concentrated their loan investment of five sectors, such as hire purchase loan, housing loan, term loan and fixed deposit loan and other loans to different types of borrowers. As per the norms (rules) NRB, finance companies should not exceed their investment regarding to the different types of sectors wise loan investment. So, each and every sectors loan investment of AFCL and KFCL have been compared and described in detail in order to analyze the portfolio behavior of Loan and advances.

a. Hire Purchase Loan

Hire purchase loan is related to purchase of vehicles, machinery and instruments clients use the amount of loan to purchase such items because these types of loans are generally provided for business or for luxury high interest rate is applied for such sectors. The interest rate was 15% to 17% during the study period of both companies. They should not increase their investment above 40% as per Nepal Rastra Bank Act, 2058. The hire purchase loan investment of AFCL and KFCL is shown in table 4. And figure 4.

Table 4.2

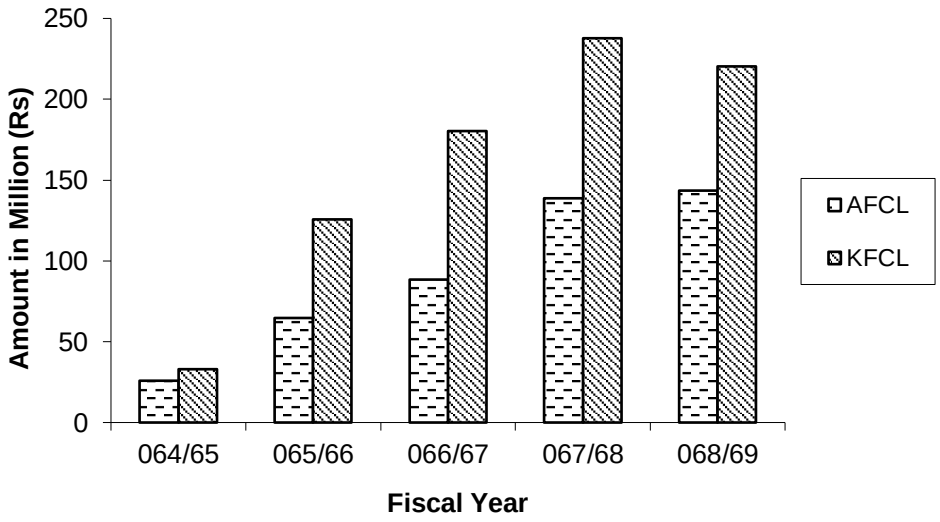
Hire Purchase Loan Investment (In Millions)

F. Y.	AFCL	KFCL
	Hire purchase Loan	Hire purchase Loan
064/65	25.85	33.19
065/66	64.48	125.72
066/67	88.54	180.2
067/68	138.77	237.6
068/69	143.49	220.24
Mean	92.23	159.39
S.D.	49.96	82.63
C.V.	184.60	192.89

Source: Annual Report of AFCL and KFCL

Figure 4.1

Hire Purchase Loan Investment Analysis of AFCL and KFCL



Source: Annual Report of AFCL and KFCL

Table 4.2 and figure 4.1 reflect the investment on hire purchase loan of AFCL and KFCL for five consecutive years. It is found that investment of KFCL is higher than AFCL during study period. In the fiscal year 064/65 both companies have similar amount investment like 25.85 million of AFCL and 33.19 million of KFCL. In the next fiscal year 065/66, AFCL has increased by more than two times i.e. 64.48 million where as KFCL has increased their investment in hire purchase by more than three

times i.e. 125.72 million. In the same way AFCL has increased their investment up to 143.49 millions in the fiscal year 068/69, which is highest during these five years. Similarly, KFCL has also increased their investment in hire and purchase every year and in the fiscal year it becomes 220.24 millions. The mean ratio of AFCL and KFCL are 92.22 million and 159.39 million. This shows that KFCL has far more investment in hire purchase than that of AFCL.

Similarly, the S.D. and C.V. of KFCL are again higher than of AFCL, which is 49.96 and 184.6 for AFCL and 82.63 and 192.89 for KFCL. We can conclude that whenever standard deviation and coefficient of variation is higher, the organization will be at higher risk similarly with higher profit. So, KFCL is at higher risk as compared to AFCL. Hence KFCL is at higher profit.

b. Housing Loan

This type of loan, finance company invests in purchase of land and construction of house and ware house especially comes under building construction, the interest rate charged for, ranges from 16% to 19% during the study period. According to NRB act 2058, section 79; the finance company should not exceed this type of investment by 40% of total loan and advances. The housing loan investment of both companies is shown in the Table 4. 3 and Figure 4.2.

Table 4.3

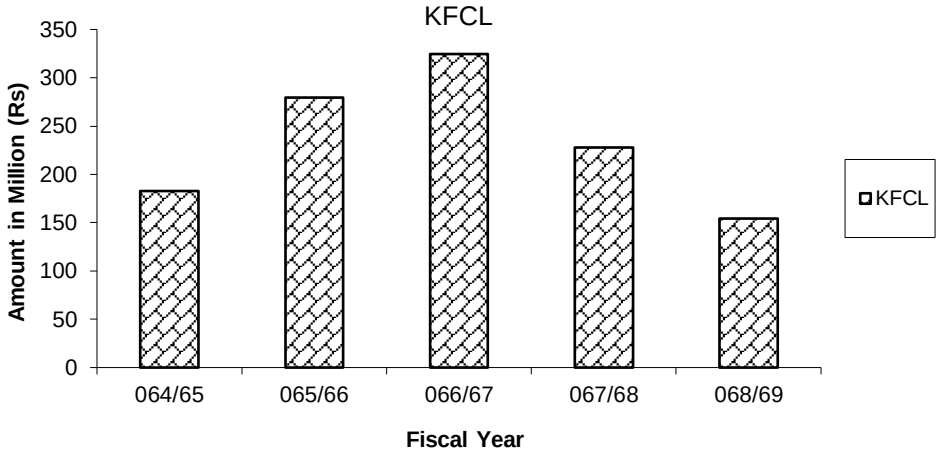
Housing Loan Investment of AFCL and KFCL

	AFCL	KFCL
F. Y.	Housing Loan	Housing Loan
064/65	29.58	182.52
065/66	108.64	279.38
066/67	91.69	324.36
067/68	149.73	227.70
068/69	124.25	154.17
Mean	100.78	233.63
S.D.	45.17	69.44
C.V.	223.12	336.45

Source: Annual Report of AFCL and KFCL

Figure 4.2

Housing Loan Investment of AFCL and KFCL



Source: Annual Report of AFCL and KFCL

According to table 4.3 and figure 4.2, the investment in housing of AFCL has fluctuated during the study period. In the fiscal year 064/65 it is 28.58 million and highest in the fiscal year 067/68 which is 149.73 million. On the other hand, in KFCL the lowest investment in housing is 154.17 in the fiscal year 068/69 which is more than the highest of AFCL. The mean ratio of AFCL and KFCL are 100.78 and 233.63 respectively. The mean ratio of KFCL is more than two times than in AFCL. The investment of AFCL is very low than in KFCL.

The statistical measures S.D. and C.V. of AFCL and KFCL are 45.17 and 223.12 and 69.44 and 336.45 respectively. Both S.D. and C.V. of AFCL is lower than in KFCL, it shows that AFCL has low amount of investment in this sector & having low risk bearing.

c. Term Loan

Term loan is the loan which is invested non-business sector like education, agriculture, tourism, health, industry and trade etc. It can be assumed that the investment made in term loan is productive and is social as well. The interest rate for such type of loan ranges from 16% to 19% which varies according to the nature of the business sector, need for number of year etc. As stated in section 79, of NRB act

2058, the financial institution should not invest above 75% in term loan. The term loan investment of both the companies is presented and compared here.

Table 4.4

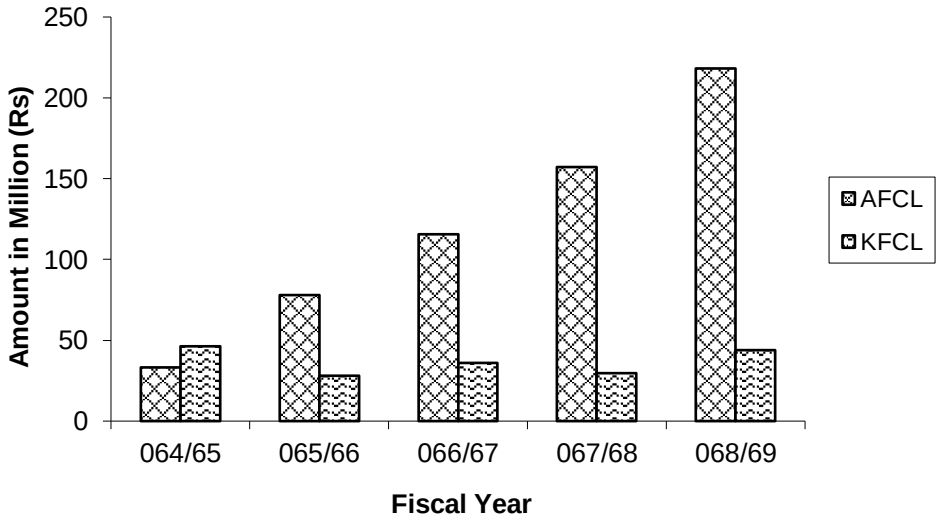
Term Loan Investment of AFCL and KFCL

F. Y.	AFCL	KFCL
	Term Loan	Term Loan
064/65	33.29	46.46
065/66	77.85	27.94
066/67	115.75	36.04
067/68	157.29	29.70
068/69	217.98	44.05
Mean	120.43	36.84
S.D.	71.24	8.30
C.V.	169.04	443.9

Source: Annual Report of AFCL and KFCL

Figure 4.3

Term Loan Investment of AFCL and KFCL



Source: Annual Report of AFCL and KFCL

Table 4.4 and figure 4.3 Illustrate that the investment in term loan of both the companies AFCL and KFCL. The result shows that the AFCL has increasing trend in investment during study period. In the fiscal year 064/65 it is 33.29 million and it increases to 217.98 millions in the fiscal year 068/69. Similarly, In KFCL having 46.46 million investments in the fiscal year 064/65 and in the fiscal year 068/69 it is 44.05 million. And in others year it seems up and down. The mean ratio of AFCL and KFCL are 120.43 million and 36.84 million respectively. It gives the result that in term loan AFCL has nearly four times greater investment than in KFCL.

The statistical ratio S.D. and C.V. are 71.24 and 169.04, 8.30 and 443.9 respectively for AFCL and KFCL. This data reveals that AFCL is in high risk than in KFCL but KFCL has more variation than AFCL.

d. Others Loan

The investment of the financial companies in various sectors like personal loan, foreign loan, working capital loan, deprived loan, real estate loan etc. comes under other loans sector. The interest rate charged on the other loan 10% to 19% during study period. Other loan investment of AFCL and KFCL is presented in the Table 4.5 and figure 4.4.

Table 4.5

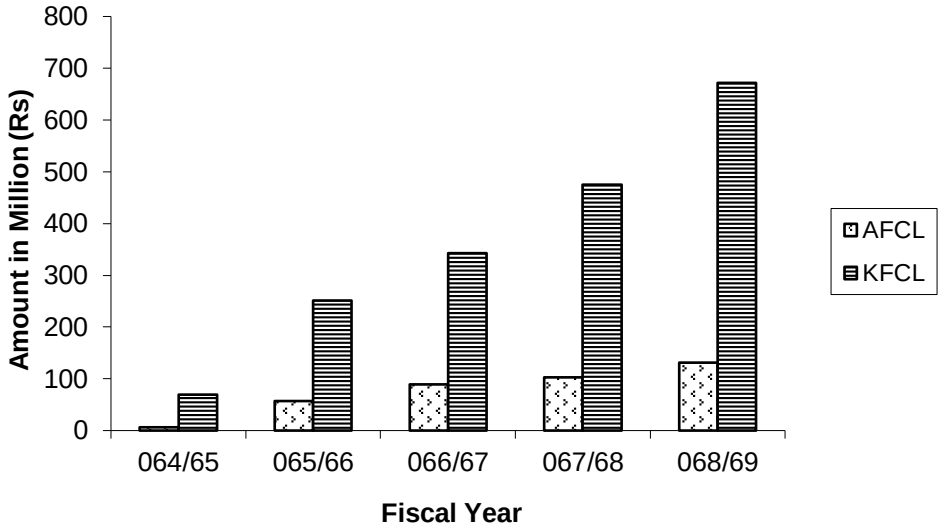
Others Loan Investment of AFCL and KFCL

F.Y.	AFCL	KFCL
	Others Loan	Others Loan
064/65	6.88	69.69
065/66	56.97	251.44
066/67	89.46	342.38
067/68	102.27	475.19
068/69	130.91	671.73
Mean	77.30	362.09
S.D.	47.48	227.38
C.V.	162.80	159.25

Source: Annual Report of AFCL and KFCL

Figure 4.4

Others Loan Investment of AFCL and KFCL



Source: Annual Report of AFCL and KFCL

Table 4.5 and figure 4.4 Illustrate that the investment in others loan of both the companies is in increasing trend. In the fiscal year 064/65, 6.88 million of AFCL and 69.69 million of KFCL which grew year after year to 130.91 million and 671.73 million of AFCL and KFCL respectively. In the first year KFCL having 10 times greater than AFCL, and where in the last year it is more than five times. The mean ratio of AFCL and KFCL are 77.30 and 362.09 respectively. The mean ratio of KFCL is more than four times than of AFCL.

The S.D. and C.V. of others loan for AFCL and of KFCL are 47.48 and 162.80, 227.38 and 159.25 respectively. KFCL having more S.D. than in AFCL, which means KFCL is in high risk than AFCL. The variation of both companies seems equal. It gives the result that they have equal variation in investment of others loan.

The comparative study of sectored loan of both the financial institutions is shown below.

Table 4.6

Sector Wise Investment AFCL and KFCL (In Millions)

F. Y.	AFCL					KFCL				
	Hire purchase Loan	Housing Loan	Term Loan	Fixed loan	Others Loan	Hire purchase Loan	Housing Loan	Term Loan	Fixed loan	Others Loan
064/65	25.85	29.58	33.29	0	6.88	33.19	182.52	46.46	0	69.69
065/66	64.48	108.64	77.85	0	56.97	125.72	279.38	27.94	13.97	251.44
066/67	88.54	91.69	115.75	0	89.46	180.20	324.36	36.04	18.02	342.38
067/68	138.77	149.73	157.29	0	102.27	237.60	227.70	29.70	19.80	475.19
068/69	143.49	124.25	217.98	0	130.91	220.24	154.17	44.05	11.01	671.73
Mean	92.226	100.78	120.43	0	77.30	159.4	233.63	36.84	12.56	362.09
S.D.	49.96	45.17	71.24	0	47.48	82.63	69.44	8.30	7.82	227.38
C.V.	184.6	223.12	169.04	0	162.80	192.9	336.45	443.9	160.70	159.25

Source: Annual Report of AFCL and KFCL

Table 4.6 demonstrates the sectored loan investment of AFCL and KFCL respectively for the study period. Comparative study is mention in previous tables. But, AFCL has no fixed loan investment but KFCL has fixed loan investment. It has S.D. and C.V. is 7.82 and 160.70 respectively. Which gives the result that, it has not high risk but more variation in fixed loan investment.

4.2 Analysis of Loan Repayment

Deposit collected from the customer is to be utilized in various type of loan sector by the finance companies. They have to maintain the repayment of the investment for the sustainability and profitability of the company. Loan repayment ratio shows the sustainability and profitability of the company. It can be analyzed through the loan loss provision. Money circulation is possible only when repayment is regular.

Every financial companies has to classify loan and advances into four categories as according to NRB unified directives for banking and non-banking financial institutions (Issue number E. Pra. Ni. No. 02/062/063).

Table 4.7

Loan Loss Provision

Classification of Loan	**Time Period**	**Loan Loss Provision**
Good Loan	1-3 Months Matured	1%
Sub-Standard Loan	3-6 Months Matured	25%
Doubtful Loan	6-12 Months Matures	50%
Bad Loan	More than 1 year Matured	100%

Loan loss provision signifies the cushion against future contingency created by default of the borrowers in payment of loans and ensures the continued solvency of financial institutions. According to NRB directive No. E. Pra NI. 303/061/062 finance company an extend its loan to single or group of related borrowers to a maximum of 50% of its core capital (primary capital) since high provision has to be made for non-performing loan, higher provision for loan, loss reflects increasing non-performing loan, higher provision for loan, loss reflects increasing non-performing loan in volume of total loans and advances. It indicates how efficiently it manages loan and advances and makes efforts to cope with probable loan loss. Higher ratio implies, higher portion of NPL in the total loan portfolio.

Table 4.8

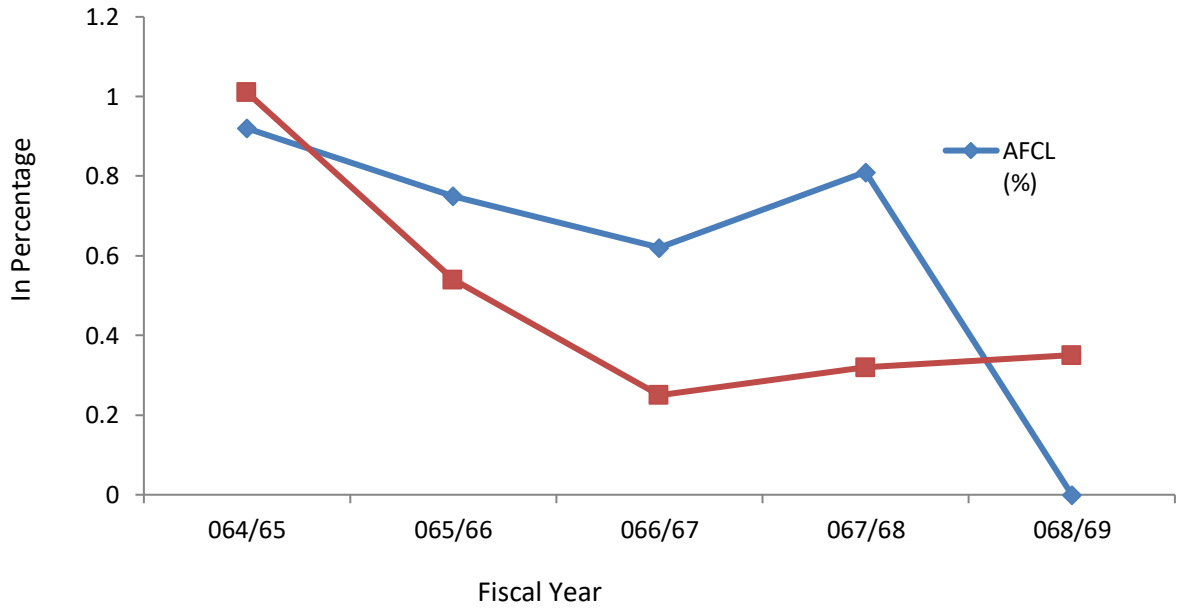
Loan Loss Provision to Total Loans and Advance Ratio of AFCL and KFCL (%)

F. Y.	Total Loan Loss Provision to Total Loans and Advances	
	AFCL (%)	KFCL (%)
064/65	0.92	1.01
065/66	0.75	0.54
066/67	0.62	0.25
067/68	0.81	0.32
068/69	0	0.35
Mean	0.62	0.49
S.D.	0.36	0.31
C.V.	58.57	62.42

Source: Annual Report (AFCL, KFCL and Appendix-II)

Figure 4.5

Loan Loss Provision to Total Loans and Advance Ratio of AFCL and KFCL (%)



Source: Annual Report of AFCL and KFCL

Table 4.8 and figure 4.5 exhibits the ratio of loan loss provision to loan and advance of AFCL and KFCL. The above data illustrates that both companies have highest ratio in the fiscal year 064/65 i.e. 0.92 and 1.01 respectively and lowest in the fiscal year 068/69 i.e. 0 and 0.35 respectively of AFCL and KFCL. It reveals that both companies ratio is increased in decreasing order. So, their control over creditors is improving. As the higher loan loss provision indicates poor and ineffective credit policy, higher non-performing loan and poor performance of economic, AFCL has greater mean ratio i.e. 0. 62 which indicates that AFCL is not having control over its creditors with compared to KFCL. The statistical study of Standard Deviation (S.D.) is 0.36 and 0.31 respectively for AFCL and KFCL. Similarly, Coefficient of Variation (C.V.) is 58.57% and 62.42% respectively. As compared to AFCL, KFCL has least deviation and least degree of variability of ratio during the study period.

4.3 Assets Management Ratio

Asset management ratios measure the efficiency of the finance to manage it asset in profitable and satisfactory manner. They indicate the speed with which assets are

being converted into cash. Thus these ratios are used to measure the finances ability to utilize their available resources.

4.3.1. Total Investment to Total Deposits Ratios

The ratio total investment to total deposits ratio shows that the utilization of firm's deposits on investment in government securities and purchasing shares and debentures of other companies. These ratios of AFCL and KFCL have been tabulated below.

Table 4.9

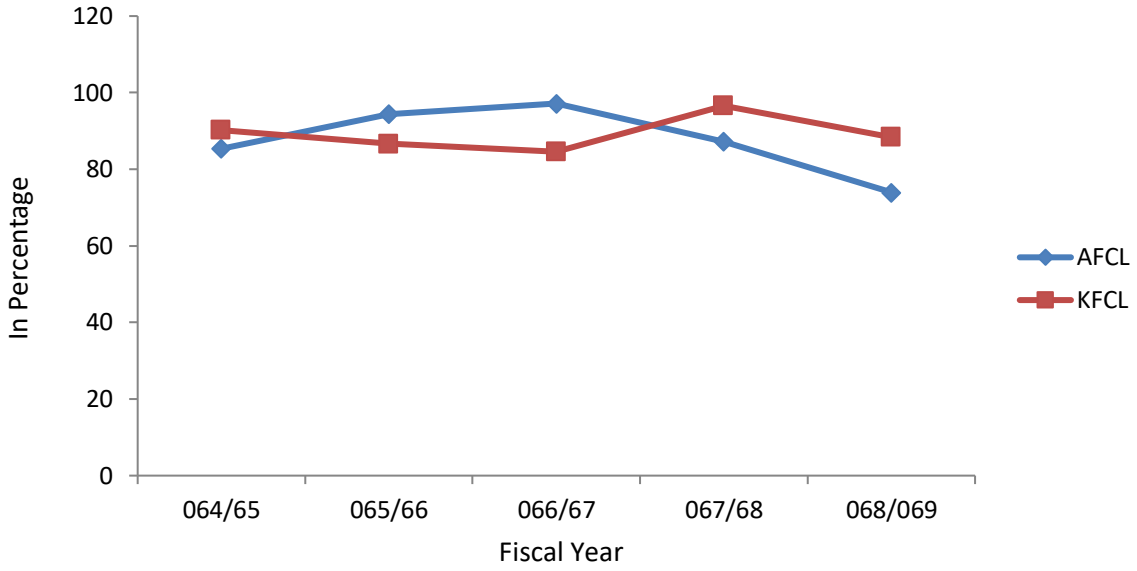
Total Investment to Total Deposit Ratios of AFCL and KFCL (%)

F. Y.	Total Investment to Total Deposits Ratio	
	AFCL (in %)	KFCL (in %)
064/65	85.38	90.22
065/66	94.43	86.67
066/67	97.17	84.58
067/68	87.26	96.56
068/069	73.99	88.39
Mean	87.65	89.28
S.D.	9.06	4.57
C.V.	10.34	5.12

Source: Annual Report (AFCL, KFCL and Appendix-III)

Figure 4.6

Total Investment to Total Deposit Ratios of AFCL and KFCL (%)



Source: Annual Report of AFCL and KFCL

The ratio of total investment to total deposits of both companies is fluctuating as illustrated in the table no. 4.3 and figures no 4.3. The maximum ratio of AFCL and KFCL is 97.17% and 95.56% in the fiscal year 066/67 and 067/68 respectively. The mean ratio of both AFCL and KFCL is 87.65% and 89.28% respectively. This reflects that KFCL is quite more successful in mobilizing its deposits to investment.

The S.D. and C.V. of AFCL and KFCL are 9.06 and 4.57%, 10.34% and 5.12%. This reflects that KFCL has least degree of deviation and least degree of variability of the ratio during the study period. From the above data we can conclude that both companies are more or less equally successful in mobilizing the total deposit collected in various form of investment.

4.3.2 Loan and Advances to Total Deposit Ratios of AFCL and KFCL

The ratio often calls as credit deposit ratio (C.D. ratio). The C.D. ratio measures the extent to which the company is successful in utilizing the total deposit in the form of loan and advances. The higher C.D. ratio represent higher efficiency to utilized the deposit and vice-versa and similarly, in profit generation. However, due consideration has to be given to the liquidity requirement a well. The C.D. ratio of AFCL and KFCL has been tabulated below.

Table 4.10

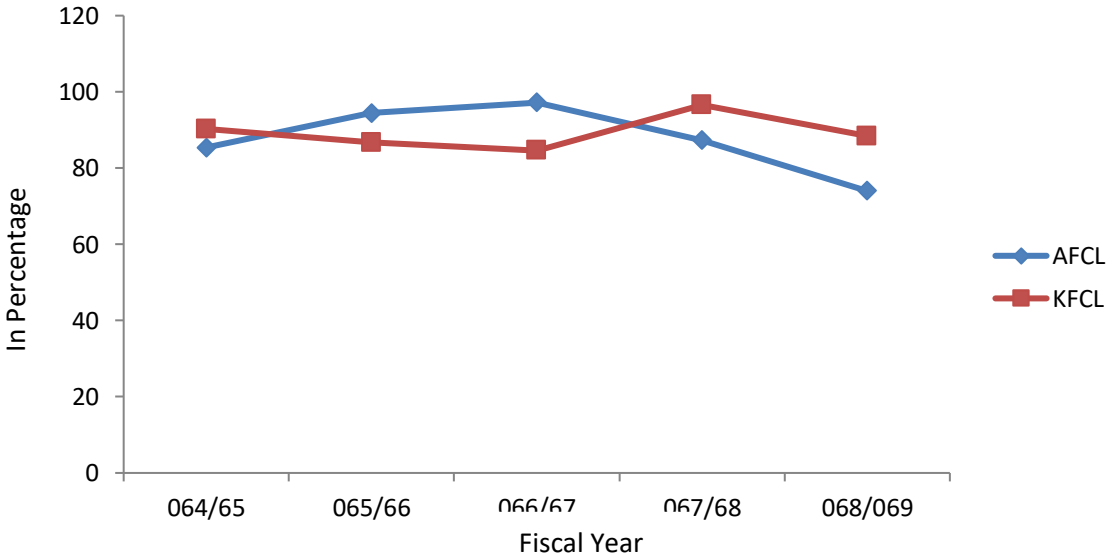
Loan and Advances to Total Deposit Ratios of AFCL and KFCL

F. Y.	Loan and Advances to Total Deposits Ratio	
	AFCL (%)	KFCL (%)
064/65	85.38	90.22
065/66	94.43	86.67
066/67	95.94	84.58
067/68	78.01	92.86
068/069	73.99	88.39
Mean	85.55	88.55
S.D.	9.71	3.19
C.V.	11.35	3.60

Source: Annual Report (AFCL, KFCL and Appendix-IV)

Figure 4.7

Loan and Advances to Total Deposit Ratios of AFCL and KFCL



Source: Annual Report (AFCL, KFCL and Appendix-IV)

According to Table 4.4 and figure 4.4 the loan and advances to total deposit ratio of both of the finance for the observation period is fluctuating year after year. AFCL has highest ratio in the fiscal year 066/67 with 95.94 whereas KFCL has the highest ratio in the fiscal year 067/68 with 92.86. Similarly, AFCL has the least ratio of 73.99 in

the fiscal year 068/069 and KFCL has least ratio of 84.58 in the fiscal year 066/67. The mean ratio for AFCL and KFCL is 85.55 and 88.55 respectively. This signifies that KFCL is far more ahead utilizing depositors' money on loan and advances with higher profit maximization that AFCL.

The S.D. and C.V. of Loan and advances to total deposit ratio of AFCL and KFCL for the observation period is 9.71% and 3.19%, 11.35% and 3.60 respectively. Thus it signifies that AFCL has higher degree of deviation and higher degree of variation in the ratio that KFCL, which means AFCL, is not more successful in utilizing depositors' money and earning profit.

4.3.3 Total Loan and Advances to Total Assets Ratios of AFCL and KFCL

The ratio of loan and advances to total assets measure the volume of loan and advances in the structure of total assets the high degree of ratio indicates good performance of financial institution in mobilizing their funds in lending functions. However in the opposite side the lower degree of the ratio represent the low liquidity crisis. As loan and advances is the risky asset this ratio measure the management's attitude towards such assets. The ratio of loan and advances to total assets of AFCL and KFCL is given in the table 4.11 and figure 4.8 respectively.

Table 4.11

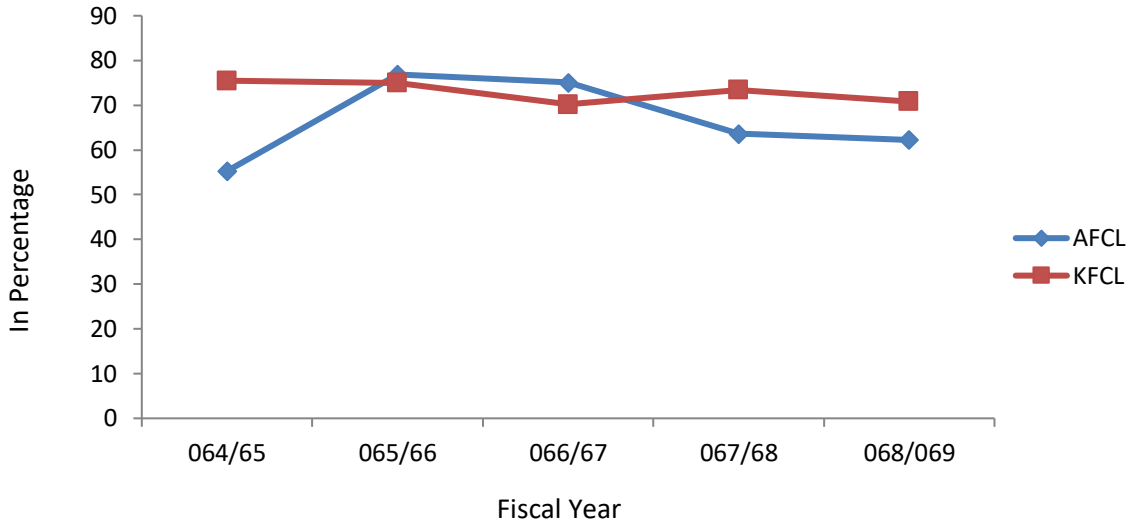
Total Loan and Advances to Total Assets Ratios of AFCL and KFCL (%)

F. Y.	Loan and Advances to Total Deposits Ratio	
	AFCL (%)	KFCL (%)
064/65	55.27	75.48
065/66	76.87	74.99
066/67	75.05	70.21
067/68	63.64	73.40
068/069	62.25	70.86
Mean	66.62	72.99
S.D.	9.12	2.38
C.V.	13.70	3.26

Source: Annual Report (AFCL, KFCL and Appendix-V)

Figure 4.8

Total Loan and Advances to Total Assets Ratios of AFCL and KFCL (%)



Source: Annual Report (AFCL, KFCL and Appendix-V)

As seen in table 4.11 and figure 4.8 the ratio of loan and advances to total asset of AFCL is 55.27% in the fiscal year 064/65 which gradually increases up to 76.87% in the fiscal year 065/66 which then vigorously decreases to 62.25% in the fiscal year 068/69. Whereas the ratio of KFCL is fluctuating year after year with the maximum 75.48% in the fiscal year 064/65 and minimum of 70.21% in the year 066/067. The mean of the ratio for AFCL and KFCL is 66.62% and 72.99% respectively which implies that KFCL is at higher risk with high profit generation as compared to AFCL with higher safety and lower return.

The S.D. and C.V. of AFCL and KFCL are 9.12% and 2.38% and 13.7 and 3.26 respectively. Hence we can interpret that KFCL has lower deviation with lower degree of variation in this ratio leading to higher degree of safety and lower profit.

4.3.4 Total Non-performance Loan to Total Loans and Advance Ratios of AFCL and KFCL

This ratio is the proportion of non-performing loans in the total loan portfolio. As per NRB directives that loans falling under category of substandard, doubtful and bad loan are regarded as non-performing loan. Higher ratio reflects the bad performance of the company in mobilizing loans and advances and bad recovery rate and vice-versa. Hence, lower ratio of non-performing loan to total loan and advances is preferred for any financial institution. Internationally only 5% non-performing loan is

accepted. The non-performing loans to total loan and advances ratio of AFCL and KFCL have been tabulated in table 4.12.

Table 4.12

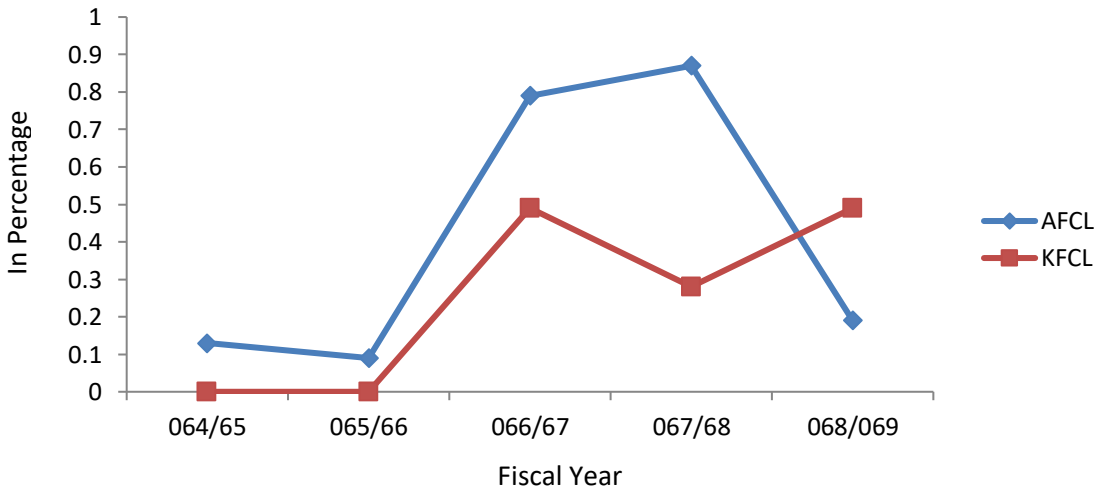
Total Non-performance Loan to Total Loans and Advance Ratios of AFCL and KFCL (%)

F. Y.	Total Non-performance loan to Total loans and Advance Ratio	
	AFCL (%)	KFCL (%)
064/65	0.13	0
065/66	0.09	0
066/67	0.79	0.49
067/68	0.87	0.28
068/069	0.19	0.49
Mean	0.42	0.25
S.D.	0.38	0.25
C.V.	91.34	97.73

Source: Annual Report (AFCL, KFCL and Appendix-VI)

Figure 4.9

Total Non-performance Loan to Total Loans and Advance Ratios of AFCL and KFCL



Source: Annual Report (AFCL, KFCL and Appendix-VI)

As presented by the table 4.12 and figure 4.9 the ratio of non-performing loans to total loan and advances of AFCL is fluctuated. The maximum ratio is 0.87 in the fiscal year 067/68 and lowest 0.09 in the fiscal year 065/66. The ratio of KFCL is 0 in the first two years and increased to 0.49 in the fiscal year 068/69. The mean ratio of AFCL and KFCL are 0.42 and 0.25 respectively, which reflect that AFCL is holding greater amount of non-performing loan hence leading to bad recovery rate. This ratio of AFCL is higher than that of internationally accepted standard.

The S.D. and C.V. of AFCL and KFCL are 0.38 and 0.25 and 91.34 and 97.73 respectively. AFCL has highest deviation but KFCL has high deviation which indicates that both should give high attention to this ratio.

4.4 Profitability Ratio

Profitability ratios are used to indicate and measure the overall efficiency of a firm in terms of profit and financial performance. For better performance, profitability ratios of firms should be higher. Profitability is of two types in relation to sales and in relation to investment. In financial institution relation to investment is taken. Return on total asset, return on equity and return on total investment are computed to analyze the profitability ratio.

4.4.1 Return on Total Assets Ratio (ROA)

This ratio measures the profitability earned from different sources of fund. It indicates the power of finance company and shows how the assets are utilized. A higher ratio indicates total assets are used effectively and lower ratio indicates poor the total assets. This ratio is the ratio between net profits after tax to total assets. The return on total assets of AFCL and KFCL are shown on the table 4.13.

Table 4.13

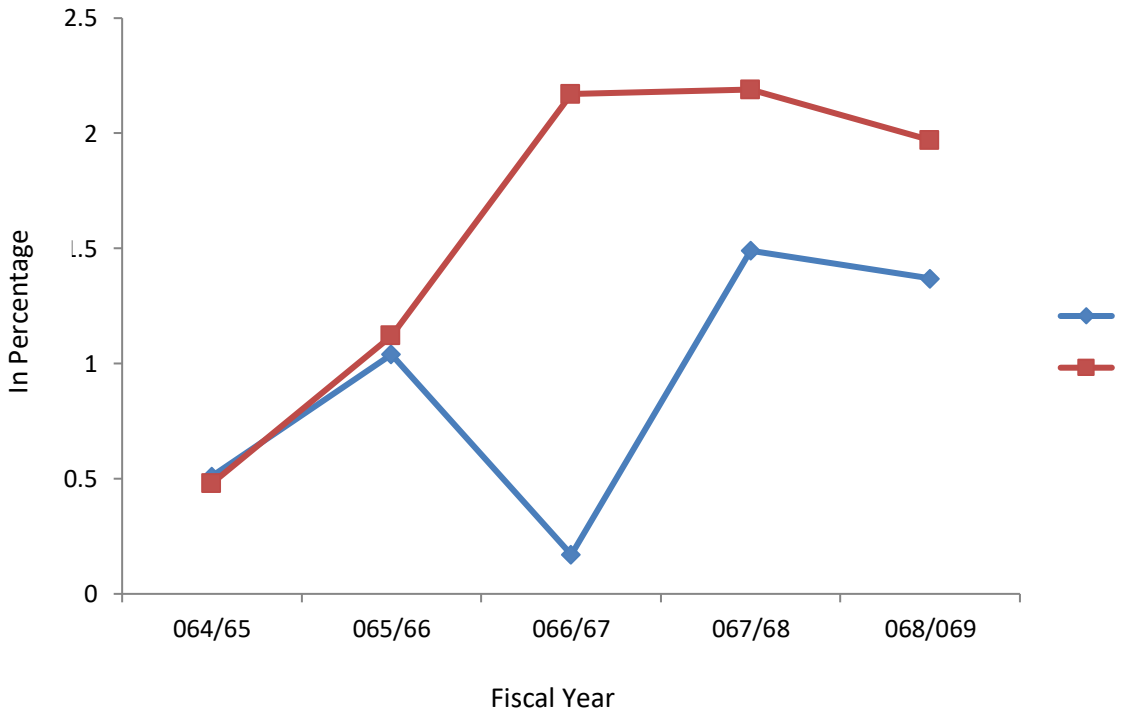
Return on Total Assets Ratio of AFCL and KFCL (%)

F. Y.	Return on Total Assets Ratio	
	AFCL (%)	KFCL (%)
064/65	0.51	0.48
065/66	1.04	1.12
066/67	0.17	2.17
067/68	1.49	2.19
068/069	1.37	1.97
Mean	0.92	1.58
S.D.	0.57	0.76
C.V.	61.94	48.04

Source: Annual Report (AFCL, KFCL and Appendix-VII)

Figure 4.10

Return on Total Assets Ratio of AFCL and KFCL (%)



Source: Annual Report (AFCL, KFCL and Appendix-VII)

As seen in the table 4.13 and figure 4.10 the return on total assets ratio of AFCL is increased in first three years and the maximum ratio is 1.49% in the fiscal year 067/68 and minimum 0.51% in the fiscal year 064/65. Where the ratio of KFCL is fluctuating year after the year and the highest ROA is in the fiscal year 067/68 which is 2.19% and minimum in 064/65 which is 0.48. The mean ROA ratio of AFCL is 0.92 and that of KFCL is 1.58, which indicates that KFCL is more successful in utilizing assets.
The standard deviation and coefficient of variation of AFCL and KFCL is 0.57 and 0.76, 61.94 and 48.04 respectively. This shows that the degree of deviation and degree of variation of KFCL on return on total assets ratio is higher than that of AFCL which is surely reflects that AFCL is more successful in utilizing their assets.

4.4.2. Return on Total Equity Ratio of AFCL and KFCL

Shareholder's wealth is known as equity. In the financial organization, equity is the ownership on the assets after all the debt. Associated with the assets are paid off. It helps to analyze return on shareholder's investment. This ratio states how well the firm has used the resources of the owners to earn the profit. So, it is one of the important ratios to judge whether the company has earned a satisfactory return for its equity or not. The return earn equity of both the institution is tabulated in the table 4.14.

Table 4.14

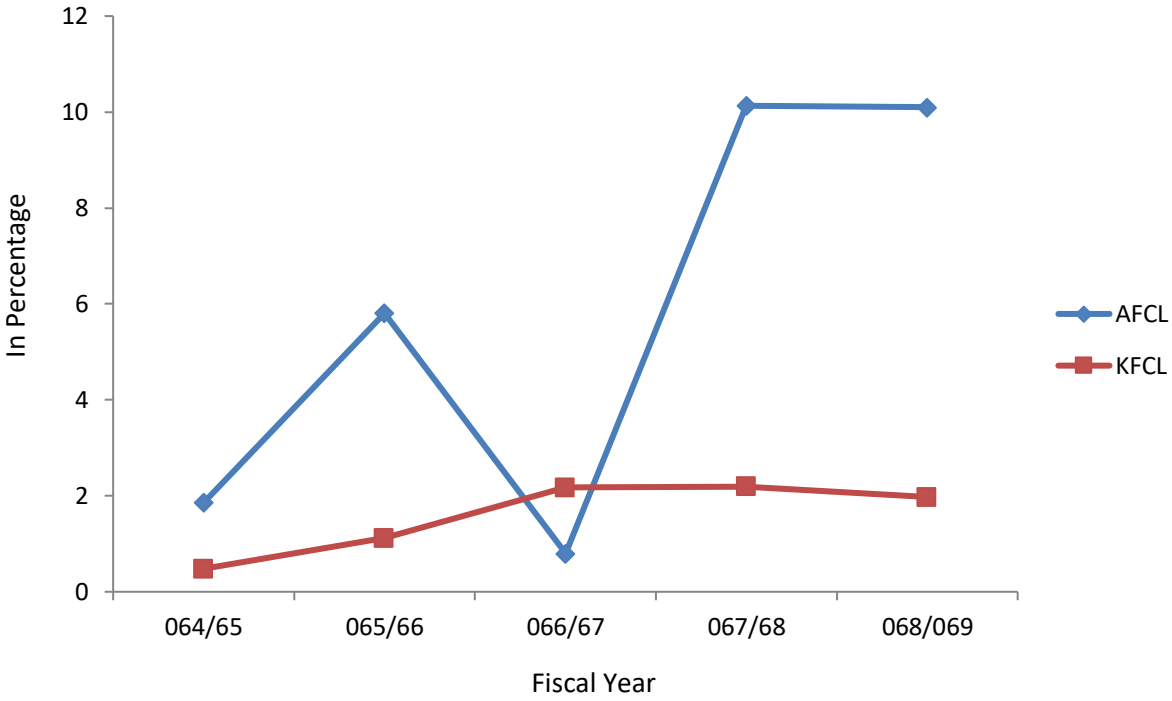
Return on Total Equity Ratio of AFCL and KFCL (%)

F. Y.	Return on Total Equity Ratio	
	AFCL (%)	KFCL (%)
064/65	1.86	0.48
065/66	5.81	1.12
066/67	0.8	2.17
067/68	10.13	2.19
068/069	10.10	1.97
Mean	5.74	1.58
S.D.	4.41	0.76
C.V.	76.86	48.04

Source: Annual Report (AFCL, KFCL and Appendix-VIII)

Figure 4.11

Return on Total Equity Ratio of AFCL and KFCL (%)



Source: Annual Report (AFCL, KFCL and Appendix-VIII)

The table 4.14 shows the ratio of ROE of AFCL and KFCL. AFCL has fluctuating ROE than KFCL in different years. The maximum ROE of AFCL is 10.13% and minimum is 0.8 %in the fiscal year 067/68 and 066/67 respectively. Similarly, the maximum ROE of KFCL is 2.17% and minimum is 0.48 in the fiscal year 66/67 and 064/65 respectively. The mean ROE of both companies is 5.74% of AFCL and 1.58 of KFCL which indicates that AFCL is more successful in returning the share holder's investment.

The S. D. and C.V. of AFCL and KFCL are 4.41% and 76.86 and 0.76 and 40.04 respectively. This result shows that KFCL has no more deviation degree of variation than AFCL.

4.4.3 Return on Total Investment Ratio of AFCL and KFCL

Return on investment ratio (ROI) shows how efficiently the organization is investing its fund in different sectors for generating profit. The higher ratio shows the better profit of the organization. The ROI ratio measures how efficiently the organization can earn on its investment. It is a kind of technique that measures the profitability

position of the organization. Return on investment of AFCL and KFCL is being tabulated as shown in the table 4.15.

Table 4.15

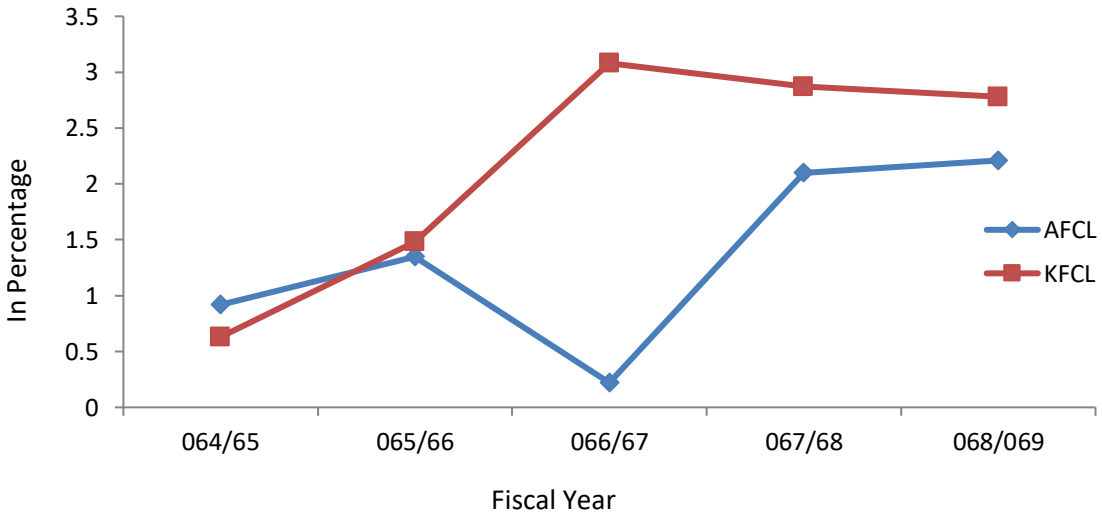
Return on Total Investment Ratio of AFCL and KFCL (%)

F. Y.	Return on Total Investment Ratio	
	AFCL (%)	KFCL (%)
064/65	0.92	0.63
065/66	1.35	1.48
066/67	0.22	3.08
067/68	2.1	2.87
068/069	2.21	2.78
Mean	1.36	2.17
S.D.	0.83	1.07
C.V.	61.16	49.18

Source: Annual Report (AFCL, KFCL and Appendix-IX)

Figure 4.12

Return on Total Investment Ratio of AFCL and KFCL (%)



Source: Annual Report (AFCL, KFCL and Appendix-IX)

Table 4.15 and figure 4.12 reflect that the return on investment ratio is fluctuating throughout the study period of AFCL maximum return on investment is 2.21% in the fiscal year 68/69 and minimum 0.22% in the fiscal year 66/67. The ratio of KFCL increases during the first three years and slightly decreases. The maximum ratio is

3.08 in the fiscal year 66/67 and minimum ratio 0.63 in the fiscal year 64/65. The mean ratio of AFCL and KFCL are 1.36% and 2.17% respectively. This result shows that KFCL is earning better profit than that of AFCL.

The S.D. and C.V. of AFCL and KFCL are 0.83 and 61.16, 1.07 and 49.18 respectively. This result reveals that risk of KFCL is higher than AFCL but the degree of variation on the return on investment of KFCL is lower, this it has no more variation on return on investment and it bears more risk to get more profit.

4.5 Risk Ratios

Risk means uncertainty, variability of return, which is inherent in any investment portfolio of the business enterprises. Risk is an important element since investment with greater risk requires higher return than investments with lower risk. Risk ratios measures the degree of risk involved in various financial operations. The; possibility of risk involved I financial operations makes the investment a challenging task. As the notion goes, "no risk no gain". Therefore if a financial organization expects high return on its investment it must be prepared to accept the risk and mange it efficiently. The following risk ratios are used to analyze and interpret the financial data and investment policy.

4.5.1 Liquidity Risk Ratio

Liquidity risk is the portion of assets total variability of return that results from price discounts given or sales commission paid in order to sell the assets without delay. Perfectly liquid assets are highly marketable and suffer no liquidation costs. Liquid assets are not readily marketable either price discounts must be given or sales commissions must be paid, or both of these costs must be incurred by the seller. (Kiran Thapa, investments, theory and solution, MBS II year). This ratio measures the risk associated with the liquid assets. i.e. cash and bank balance that are kept to satisfy the cash demand of customers. A higher ratio show that the financial organization has sufficient cash to meet its current obligations i.e. lower liquidity risk, but that may have an adverse impact on the profitability position of the finance company. A tradeoff between liquidity and profitability must be maintained. This ratio of AFCL and KFCL has been tabulated in the given table 4.16.

Table 4.16

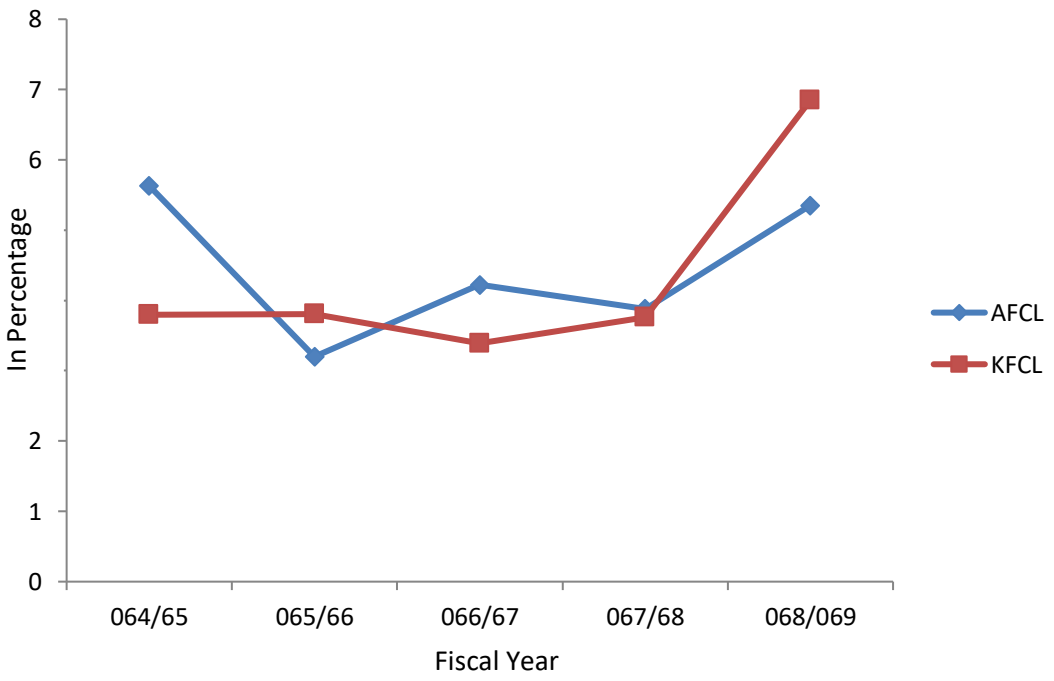
Liquidity Risk Ratio of AFCL and KFCL (%)

F. Y.	Liquidity Risk Ratio	
	AFCL (%)	KFCL (%)
064/65	5.63	3.80
065/66	3.2	3.81
066/67	4.22	3.39
067/68	3.88	3.76
068/069	5.35	6.85
Mean	4.46	4.32
S.D.	1.02	1.42
C.V.	22.87	32.9

Source: Annual Report (AFCL, KFCL and Appendix-X)

Figure 4.13

Liquidity Risk Ratio of AFCL and KFCL (%)



Source: Annual Report (AFCL, KFCL and Appendix-X)

While studying the liquidity ratio of AFCL and KFCL, in the year 064/65 the ratio of AFCL is 5.63% with the opposite data of 3.80% of KFCL. In the year 065/66 the ratio of AFCL decreased by 2.43% and the data become 3.2% whereas the ratio of KFCL is 3.81% which has not mush variation comparing to the last year. In the fiscal year

066/67 the ratio of AFCL is 4.22 %with opposite data 3.39 % of KFCL. The rate of risk ratio of AFCL becomes 3.88% in the year 067/68. At that time the liquidity ratio of KFCL is 3.76%. Finally, in the fiscal year 68/69 the ratio of AFCL increased by 1.47% with the data 5.35% whereas the data of KFCL shows that it has been increased by 3.09% with the data 6.85%. The mean liquidity ratio of AFCL and KFCL are 4.46% and 4.32% respectively, which refers that AFCL can satisfy the cash demand and can meet its current obligation.

The S.D. and C.V. of AFCL and KFCL are 1.02 and 22.87%, 1.42 and 32.9% respectively. These statistical data also refers that AFCL is lesser liquidity risk than that of KFCL leading to lesser profitability.

4.6 Growth Trend

Growth ratio is the major tool for analyzing financial performance of the organization. It represents how well the finance companies are maintaining the economic and financial position. Growth ratio measures the increase and decrease of present year's figure in comparison to previous year's figure. Higher ratios represent the better performance of the company. Basically, in this study, growth ratio related to the total deposit, loan and advances and total investment of AFCL and KFCL.

Table 4.17

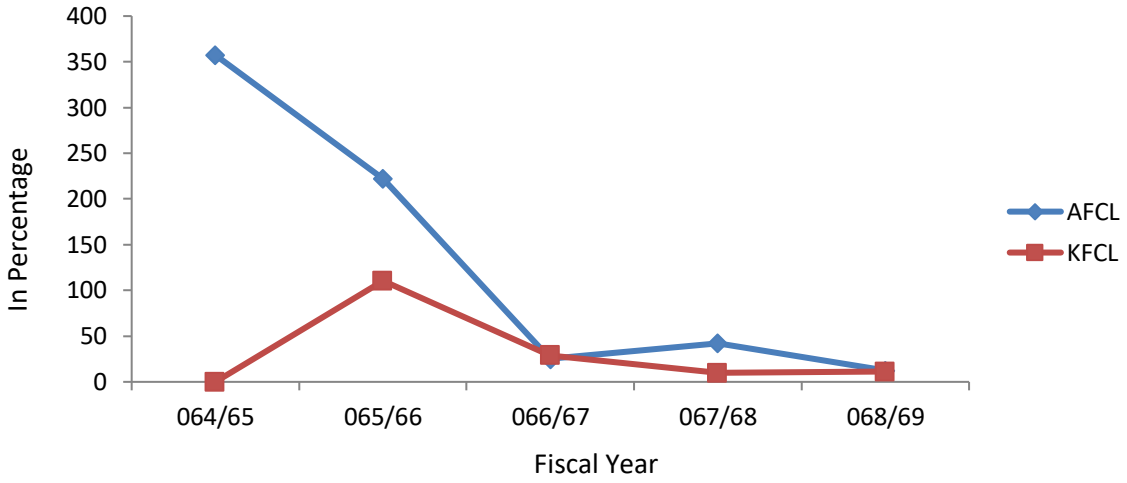
Growth Trend of Total Deposit Ratio (%)

F.Y	Growth Trend of Total Deposit Ratio	
	AFCL Ratio (%)	KFCL Ratio (%)
064/65	357.32	-
065/66	222.08	110.47
066/67	25.17	29.00
067/68	42.19	9.88
068/69	12.51	11.23
Growth Mean	131.85	40.14

Source: Annual Report (AFCL, KFCL and Appendix-XI)

Figure 4.14

Growth Trend of Total Deposit Ratio (%)



Source: Annual Report (AFCL, KFCL and Appendix-XI)

Table 4.17 and figure 4.14 shows the growth trend of total loan and advance of AFCL and KFCL. Throughout the study period, the growth trend of AFCL decreases dramatically in the first three fiscal years from 357% to 25% then slightly increases to 42% and again falls to 12%. KFCL has same trend like AFCL that in the fiscal year 065/66 it has 110.47% falls to 9.88% in the fiscal year 067/68 and slightly increases to 11.23% in the fiscal year 068/69. The mean ratio of AFCL and KFCL are 131.85 and 40.14 respectively. This gives the result that both have same pattern of growth trends but AFCL has higher mean ratio than KFCL.

Table 4.18

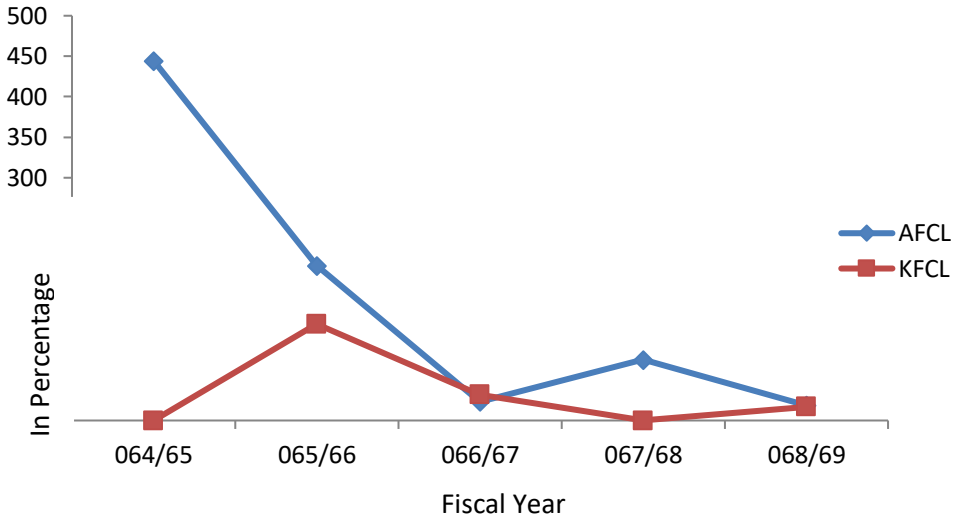
Growth Trend of Total Loan and Advance (%)

F.Y.	Growth Trend of Total Loan and Advance Ratio	
	AFCL Ratio (%)	KFCL Ratio (%)
064/65	444.5	-
065/66	191.22	119.1
066/67	23.2	32.18
067/68	74.9	0.08
068/69	18.63	16.86
Growth Mean	150.49	42.04

Source: Annual Report (AFCL, KFCL and Appendix-XII)

Figure 4.15

Growth Trend of Total Loan and Advance (%)



Source: Annual Report (AFCL, KFCL and Appendix-XII)

Table 4.18 and figure 4.15 shows the growth trend of total loan and advance of both AFCL and KFCL. The trend of AFCL is more fluctuated than KFCL. The highest growth ratio of AFCL in the fiscal year 064/65 is 444.5% it decreases to 191.22% in next fiscal year 065/66 and lowest growth ratio is 18.63% in the fiscal year 68/69. In KFCL having highest ratio 119.1% in the fiscal year 065/66 lowest goes to 0.08% in the fiscal year 067/68. While going through the mean growth ratio of loan and advance of AFCL and KFCL are 150.49% and 42.04%. Hence, AFCL have three-times more growth ratio than KFCL.

Table 4.19

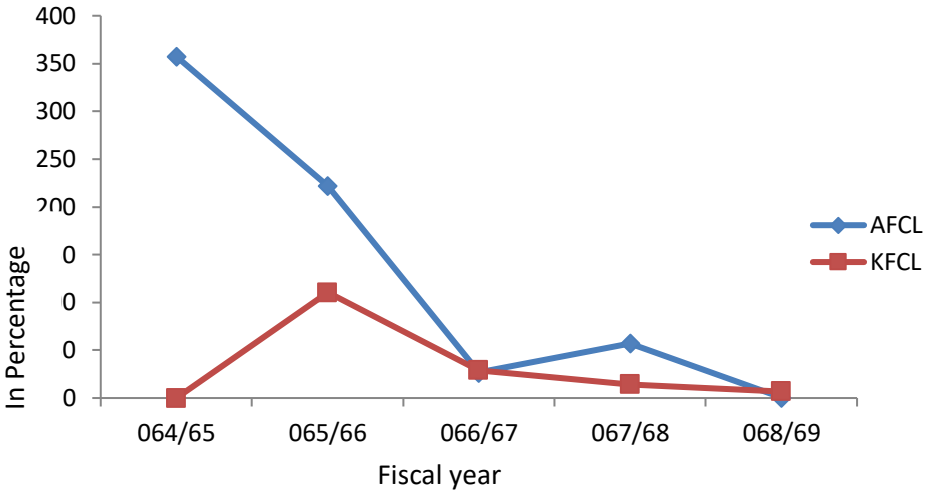
Growth Trend of Total Investment (%)

F.Y.	Growth Trend of Total Investment Ratio	
	AFCL Ratio (%)	KFCL Ratio (%)
064/65	357.32	-
065/66	222.08	110.47
066/67	26.77	29.0
067/68	57.05	14.24
068/69	0.59	6.98
Growth Mean	132.76	40.17

Source: Annual Report (AFCL, KFCL and Appendix-XIII)

Figure 4.16

Growth Trend of Total Investment



Source: Annual Report (AFCL, KFCL and Appendix-XIII)

Table 4.19 and figure 4.16 reveals the growth trend of total investment of AFCL and KFCL. Both companies have decreasing growth trend. AFCL have more decreasing trend than KFCL but the mean growth ratio of AFCL is thee-times greater than KFCL i.e. 132.76% and 40.17% respectively. It shows the relation that AFCL have more investment trend than in KFCL during the study period.

4.7 Relationship between Deposit Mobilization and Loan Investment

It is useful statistical tool for measuring the intensity or the magnitude of linear relationship between the series. Karl Pearson's coefficient of correlation is used to find out the relationship between deposit and total loan and advances, total investment and loan and advances and deposit and investment.

4.7.1 Co-efficient of Correlation between Deposit and loan and advances

This correlation measures a unit increase or decrease in deposit impact in the volume of loan and advances. Here, deposit is taken as independent variable (x) and loan and advances is the dependent variable (y). This correlation between deposit and loan and advances shows the degree of relationship between these two quantities.

Table 4.20

Correlation between Deposit and Loan and advances

Org^n	Correlation Coefficient (r)	Coefficient of Determination (r^2)	P.Er	6*P.Er	Remark
AFCL	0.98552281	0.971255209	0.00867	0.052	r>6*P.Er
KFCL	0.99695214	0.993913569	0.00183	0.011	r>6*P.Er

Source: AFCL, KFCL and Appendix XIV

Table 4.20 represents the value of correlation, coefficient of determination, probable error, and six times of probable error between two variables deposit and loan and advances of AFCL and KFCL. As shown in the table, the correlation coefficient between deposit and loan and advances of AFCL and KFCL are 0.98552281 and 0.99695214 respectively. It is found that there is a high degree of positive correlation between deposit and loan and an advance of both companies; KFCL has more than the AFCL. It reveals that KFCL having better deposit and loan and advances relation than in AFCL. Similarly, Value of coefficient of determination (r^2) is 0.9712 and 0.9939 respectively, which means 97.12% and 99.39% of variation in the dependent variable. i.e. loan and advances has explained by the independent variable (deposit). When, we compare the correlation coefficient (r) with 6*P.Er. correlation coefficient (r) is found greater than of six times probable error of both the companies i.e 0.98552281>0.052 and 0.99695214>0.011 respectively of AFCL and KFCL. It shows that the relationship between deposit and loan and advances is significant in both companies.

4.7.2 Co-efficient of Correlation between Investment and Loan and Advances

The correlation between the investment and loans and advances measures whether the financial company has a rigid policy to maintain a consistent relationship between two assets or not, so the increase or decrease in the volume of loans and advance directly reduces or increase the level of idle fund and this result affects investment. Here investment is the independents variable and loan and advance is the dependent variable presented below is the correlation between investment and loan and advances.

Table 4.21

Correlation between Investment and Loan and Advances

Org^n	Correlation Coefficient (r)	Coefficient of Determination (r^2)	P.Er	6*P.Er	Remark
AFCL	0.993104268	0.98624761	0.004145	0.0248	r>6*P.Er
KFCL	0.99856853	0.99700225	0.00086	0.00517	r>6*P.Er

Source: AFCL, KFCL and Appendix XV

This table 4.21 shows that the coefficient of correlation between independent variable investment and dependent variable loan and advances of the AFCL and KFCL. The correlation coefficient between two variables investment and loan and advanced is 0.9931 and 0.9985, coefficient of determination is 0.9862 and 0.9970, probable error is 0.0041 and 0.0086 and the six times the probable error is 0.0248 and 0.00517 respectively of AFCL and KFCL. The correlation coefficient (r) of the companies is more than 0.75 and also more than six times of probable error. It indicates that there is strong positive correlation between investment and loan and advances of both companies during the study period. Comparatively, KFCL has higher coefficient of correlation much more than AFCL. So, in conclusion we can say that the KFCL has better investment in loan and advances than AFCL.

4.7.3 Co-efficient of Correlation between Deposit and Investment

This correlation measures a unit increase or decrease in deposit impact in the volume of Investment. Here, deposit is taken as independent variable (x) and Investment is the dependent variable (y). This correlation between deposit and Investment shows the degree of relationship between these two quantities.

Table 4.22

Correlation between Deposit and Investment

Org^n	Correlation Coefficient (r)	Coefficient of Determination (r^2)	P.Er	6*P.Er	Remark
AFCL	0.979518223	0.9594	0.0122	0.0733	r>6*P.Er
KFCL	0.988030392	0.9761	0.007177	0.04306	r>6*P.Er

Source: AFCL, KFCL and Appendix XVI

Table 4.22 represents the value of correlation, coefficient of determination, probable error, and six times of probable error between two variables deposit and loan and advances of AFCL and KFCL. As shown in the table, the correlation coefficient between deposit and Investment of AFCL and KFCL are 0.979518223 and 0.988030392 respectively. It is found that there is a high degree of positive correlation between deposit and loan and an advance of both companies; KFCL has more than the AFCL. It reveals that KFCL having better deposit and loan and advances relation than in AFCL. Similarly, Value of coefficient of determination (r^2) is 0.9594 and 0.9761 respectively, which means 95.94% and 97.61% of variation in the dependent variable. i.e. Investment has explained by the independent variable (deposit). When, we compare the correlation coefficient (r) with 6*P.Er. correlation coefficient (r) is found greater than of six times probable error of both the companies i.e. 0.979518223>0.0733 and 0.988030392 > 0.04306 respectively of AFCL and KFCL. It shows that the relationship between deposit and investment is significant in both companies.

4.8 Major Findings of the Study

The final and the most important task of the research are to enlist the findings. The major findings of this study are presented below.

- Most of the investment of both the finance companies AFCL and KFCL are in loan and advance. In the fiscal year 067/68 1.26% in other investment and in 068/69 only 10.6% of investment is invested in other sector by the AFCL and In KFCL only in the fiscal year 067/68, 2.9 % in government securities and 0.97 in other investment is invested.
- It is found that investment of KFCL is higher than AFCL during study period. In the fiscal year 064/65 both companies have similar amount investment like 25.85 million of AFCL and 33.19 million of KFCL. In the next fiscal year 065/66, AFCL has increased by more than two times i.e. 64.48 million where as KFCL has increased their investment in hire purchase by more than three times i.e. 125.72 million. In the same way AFCL has increased their investment up to 143.49 millions in the fiscal year 068/69, which is highest during these five years. Similarly, KFCL has also increased their investment in hire and purchase every year and in the fiscal year it becomes 220.24 millions.

- The investment in housing of AFCL has fluctuated during the study period. In the fiscal year 064/65 it is 28.58 million and highest in the fiscal year 067/68 which is 149.73 million. On the other hand, in KFCL the lowest investment in housing is 154.17 in the fiscal year 068/69 which is more than the highest of AFCL.
- The investment in term loan of both companies AFCL and KFCL. The result shows that the AFCL has increasing trend in investment during study period. In the fiscal year 064/65 it is 33.29 million and it increases to 217.98 millions in the fiscal year 068/69. Similarly, In KFCL having 46.46 million investments in the fiscal year 064/65 and in the fiscal year 068/69 it is 44.05 million. And in others year it seems up and down. The mean ratio of AFCL and KFCL are 120.43 million and 36.84 million respectively.
- The investment in term loan of both the companies is in increasing trend. In the fiscal year 064/65, 6.88 million of AFCL and 69.69 million of KFCL which grew year after year to 130.91 million and 671.73 million of AFCL and KFCL respectively. In the first year KFCL having 10 times greater than AFCL, and where in the last year it is more than five times. The mean ratio of AFCL and KFCL are 77.30 and 362.09 respectively. The Ratio of loan loss provision to loan and advance of AFCL and KFCL illustrates that both companies have highest ratio in the fiscal year 064/65 i.e. 0.92 and 1.01 respectively and lowest in the fiscal year 068/69 i.e. 0 and 0.35 respectively of AFCL and KFCL. It reveals that both companies ratio is increased in decreasing order. So, their control over creditors is improving. As the higher loan loss provision indicates poor and ineffective credit policy, higher non-performing loan and poor performance of economic, AFCL has greater mean ratio i.e. 0. 62 which indicates that AFCL is not having control over its creditors with compared to KFCL.
- The ratio of total investment to total deposits of both companies is fluctuated. The maximum ratio of AFCL and KFCL is 97.17% and 95.56% in the fiscal year 066/67 and 067/68 respectively. The mean ratio of both AFCL and KFCL is 87.65% and 89.28% respectively. This reflects that KFCL is quite more successful in mobilizing its deposits to investment.

- The loan and advances to total deposit ratio of both of the finance for the observation period is fluctuating year after year. AFCL has highest ratio in the fiscal year 066/67 with 95.94 whereas KFCL has the highest ratio in the fiscal year 067/68 with 92.86. Similarly, AFCL has the least ratio of 73.99 in the fiscal year 068/069 and KFCL has least ratio of 84.58 in the fiscal year 066/67. The mean ratio for AFCL and KFCL is 85.55 and 88.55 respectively.
- The ratio of loan and advances to total asset of AFCL is 55.27% in the fiscal year 064/65 which gradually increases up to 76.87% in the fiscal year 065/66 which then vigorously decreases to 62.25% in the fiscal year 068/69. Whereas the ratio of KFCL is fluctuating year after year with the maximum 75.48% in the fiscal year 064/65 and minimum of 70.21% in the year 066/067. The mean of the ratio for AFCL and KFCL is 66.62% and 72.99% respectively.

- The ratio of non-performing loans to total loan and advances of AFCL is fluctuated. The maximum ratio is 0.87 in the fiscal year 067/68 and lowest 0.09 in the fiscal year 065/66. The ratio of KFCL is 0 in the first two years and increased to 0.49 in the fiscal year 068/69. The mean ratio of AFCL and KFCL are 0.42 and 0.25 respectively.
- The return on total assets ratio of AFCL is increased in first three years and the maximum ratio is 1.49% in the fiscal year 067/68 and minimum 0.51% in the fiscal year 064/65. Where the ratio of KFCL is fluctuating year after the year and the highest ROA is in the fiscal year 067/68 which is 2.19% and minimum in 064/65 which is 0.48.
- The maximum ROE of AFCL is 10.13% and minimum is 0.8 %in the fiscal year 067/68 and 066/67 respectively. Similarly, the maximum ROE of KFCL is 2.17% and minimum is 0.48 in the fiscal year 66/67 and 064/65 respectively. The mean ROE of both companies is 5.74% of AFCL and 1.58 of KFCL which indicates that AFCL is more successful in returning the share holder's investment.
- The return on investment ratio is fluctuating throughout the study period of AFCL maximum return on investment is 2.21% in the fiscal year 68/69 and minimum 0.22% in the fiscal year 66/67. The ratio of KFCL increases during the first three years and slightly decreases. The maximum ratio is 3.08 in the

fiscal year 66/67 and minimum ratio 0.63 in the fiscal year 64/65. The mean ratio of AFCL and KFCL are 1.36% and 2.17% respectively.

- The liquidity ratio of AFCL and KFCL, in the year 064/65 the ratio of AFCL is 5.63% with the opposite data of 3.80% of KFCL. In the year 065/66 the ratio of AFCL decreased by 2.43% and the data become 3.2% whereas the ratio of KFCL is 3.81% which has not mush variation comparing to the last year. In the fiscal year 066/67 the ratio of AFCL is 4.22 %with opposite data 3.39 % of KFCL. The rate of risk ratio of AFCL becomes 3.88% in the year 067/68. At that time the liquidity ratio of KFCL is 3.76%. Finally, in the fiscal year 68/69 the ratio of AFCL increased by 1.47% with the data 5.35% whereas the data of KFCL shows that it has been increased by 3.09% with the data 6.85%. The mean liquidity ratio of AFCL and KFCL are 4.46% and 4.32% respectively, which refers that AFCL can satisfy the cash demand and can meet its current obligation.
- The growth trend of total loan and advance of AFCL decreases dramatically in the first three fiscal years from 357% to 25% then slightly increases to 42% and again falls to 12%. KFCL has same trend like AFCL that in the fiscal year 065/66 it has 110.47% falls to 9.88% in the fiscal year 067/68 and slightly increases to 11.23% in the fiscal year 068/69. The mean ratio of AFCL and KFCL are 131.85 and 40.14 respectively.
- While comparing the growth trend of total loan and advance of both AFCL and KFCL is that the ratio of AFCL is more fluctuated than of KFCL. While going through the mean growth ratio of loan and advance of AFCL and KFCL are 150.49% and 42.04%. Hence, AFCL have three-times more growth ratio than KFCL.
- Total investment of AFCL and KFCL has decreasing growth trend. AFCL have more decreasing trend than KFCL but the mean growth ratio of AFCL is thee-times greater than KFCL i.e. 132.76% and 40.17% respectively. It shows the relation that AFCL have more investment than in KFCL during the study period.
- The correlation coefficient between deposit and loan and advances of AFCL and KFCL are 0.9855 and 0.9969 respectively. It is found that there is a high degree of positive correlation between deposit and loan and an advance of

both companies; KFCL has more than the AFCL. It reveals that KFCL having better deposit and loan and advances relation than in AFCL. But, the relationship between deposit and loan and advances is significant in both companies.

- The correlation coefficient between two variables investment and loan and advanced is 0.9931 and 0.9985, coefficient of determination is 0.9862 and 0.9970, probable error is 0.0041 and 0.0086 and the six times the probable error is 0.0248 and 0.00517 respectively of AFCL and KFCL. The correlation coefficient (r) of the companies is more than 0.75 and also more than six times of probable error. It indicates that there is strong positive correlation between investment and loan and advances of both companies during the study period. Comparatively, KFCL has higher coefficient of correlation much more than AFCL. So, in conclusion we can say that the KFCL has better investment in loan and advances than AFCL.
- The correlation coefficient between deposit and Investment of AFCL and KFCL are 0.979518223 and 0.988030392 respectively. It is found that there is a high degree of positive correlation between deposit and loan and an advance of both companies; KFCL has more than the AFCL. It reveals that KFCL having better deposit and loan and advances relation than in AFCL. The relationship between deposit and investment is significant in both companies.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This is the last chapter of this study, in this chapter an attempt has been made first to summarize the study then conclusions of the analysis has been presented. And some recommendations, which may be useful for concerned stakeholders authorities and researchers, have been forwarded.

5.1 Summary

The study entitled ' Portfolio management of finance company in Kaski district, comparative study of Api finance company limited and Kaski finance company limited' has been prepared to fulfill the partial requirement of Master of business studies (M.B.S) from Tribhuvan University. This study is mainly based on secondary data provided by the concerned stakeholders and compiled and published by KFCL and AFCL. The study coves the data of last five years since FY 2064/65 to 2068/69. The whole thesis of this study has been divided into five chapters the summary of which has been presented in the following paragraphs.

The first chapter provides brief background and information on concept of finance company, their investment sectors and portfolio management. Accordingly, set objectives, give rational and mention some limitations of the study.

The second chapter is about review of literature, which deals with both the theoretical as well as practical review. The portion of theoretical review covers the investment, investment process, investment alternatives, risk and return, measurement of risk, portfolio investment and management likewise, the previous studies related to the present study all in global, regional and Nepalese context have been reviewed in this chapter.

The chapter three explains the data and research methodology used in the study, in which the research design, population and sample size, nature and source of data as well as time horizon of the study. Mostly, the secondary data for last five years have been used in this study. Both the descriptive and analytical research designs have been

used in this study. Financial as well as statistical tools including ratio analysis, correlation analysis, mean, probable error, SD, CV and trend analysis have been used.

Chapter four mainly deals with the issues identified in the introduction chapter. This is the heart of the thesis in actual sense as the collected data are presented analyzed and interpreted with the help of different financial, graphical and statistical tools. This chapter mainly covers the presentation and analysis of data related to the portfolio management of KFCL and AFCL. This chapter presents analysis of investment portfolio of both finance companies, analysis of sector wise loan investment, analysis of loan repayment, assets management ratios, profitability ratio, risk ratios, growth trend, correlation analysis.

From this analysis, it has been found that, both finance company KFCL and AFCL have mainly focused their investment in loan and advanced. Besides this, while going though the statistics KFCL has mainly focused in other loans where as AFCL has given preference to term loan. The return on investment ratio is fluctuating thorough out the study period of AFCL. Where as in KFCL the ratio increases during fist three years and slightly decreases. The liquidity ratio of AFCL is better than KFCL but KFCL has earned more profit than AFCL.

5.2 Conclusions

Based on the findings of the study following conclusions is drawn.

- AFCL and KFCL have invested maximum percentage i.e 97.63% and 99.2% of investment in loan and advanced respectively, this result shows that KFCL is in higher risk than AFCL.
- While comparing the sector wise investment of AFCL and KFCL, it has been found that, AFCL has lower investment than KFCL in purchase, housing and others loan, similarly AFCL has no investment in fixed loan but in Term loan AFCL has greater investment than KFCL. This shows the result that the capital of AFCL is lower than KFCL. AFCL has invested more in education, tourism, health, industry, trade and real estate, personal loan etc. The result also reveals that investment in real estate has been taken more than others.

- Loan loss provision of both companies have in decreasing order so, their control over creditors is improving. The mean ratio of KFCL is less than AFCL, so KFCL has more control over creditors.
- The mean ratios of total investment to total deposits of both companies AFCL and KFCL have nearly equaled i.e. 87.65% and 89.28% respectively. It reflects that both companies are successful in mobilizing its deposits where as KFCL is more successful than AFCL in this regard. Similarly, the mean ratio of loan and advanced to total deposits of AFCL and KFCL are 85.55% and 88.55% respectively. This signifies that KFCL is far more ahead utilizing depositors' money on loan and advances with higher profit maximization than AFCL. In the same way, KFCL has greater mean ratio of total loan and advances to total assets ratio. It reveals that KFCL is at higher risk and higher profit than AFCL.
- While comparing total non-performing loan to total loan and advances ratios of both companies AFCL and KFCL, it is found that AFCL has meet up the international standard i.e. 5% it has more than 5%. It gives the result that AFCL has more bad debts and other non-performing loans. But, in KFCL is seems better than AFCL.
- Profitability ratios are used to indicate and measure the overall efficiency of a firm in terms of profit and financial performance. For better performance, profitability ratios of firms should be higher. In comparison to AFCL and KFCL, the ROA of KFCL is higher than AFCL which implies that KFCL is more successful in utilizing assets. Similarly, ROW of AFCL is greater than KFCL this implies that AFCL is more successful in returning the shareholders investment and ROI of KFCL is higher than AFCL which shows that KFCL is earning better profit than AFCL.
- The liquidity risk ratio of both finance company AFCL and KFCL are 4.46% and 4.32% respectively, which refers that AFCL can satisfy the cash demand can meet its current obligation than KFCL.
- The growth trend represents how well the finance companies are maintaining the economic and financial position. The growth trend of total deposit ratios of both finance companies are in decreasing order but the mean ratio of AFCL and KFCL is 131.85% and 40.14% respectively. It reveals that AFCL has

better growth trend than KFCL. Similarly, mean growth ratios of loan and advance of AFCL is nearly four times than KFCL. In addition to total investment growth trend of AFCL is also three times more than KFCL during the study period. So, AFCL seems fine in this regard.

- Analysis of correlation coefficient between AFCL and KFCL is strongly positive among deposits, loan and advanced and investment during the study period. From the comparison it can be judged that KFCL is found to be better than AFCL.

The trend of investment of AFCL and KFCL shows that the large investment has been made on loan and advanced. Secondly, None of these company have been investing in government securities and bond and debentures. Very few percentage of investment of KFCL has in other investment where as AFCL has slightly more than KFCL in the same areas. This is concluded that both the finance companies have managed their investment to earn moderate profit but they have not sufficiently diversified their investment s mush as the investment alternatives available. After the statistical comparative study of portfolio management between AFCL and KFCL, we concluded that KFCL is better in many sectors than AFCL.

5.3 Recommendations

On the basis of the conclusions of the study the following recommendations are forwarded.

- To minimize the risk and for the betterment of the company both the company are suggested to investment in non riskier sector like government securities and in share and debentures.
- KFCL is requested to invest more this investment in government securities and in other sectors rather than others loans.
- Loan loss provision of both companies seems good, which should be maintained in coming days.
- AFCL is suggested to increase their capital and invest it in different sectors to earn more profit and should be reduced non-performing loan ratios.

- KFCL is suggested to manage the liquidity crisis in the company and more return should be managed to the shareholders. Whereas AFCL is requested to make new strategies to get more profit.
- The growth trend of loan and advance, total deposits and total investment of AFCL is more fluctuating during study period so, it is necessary to managed well.
- The correlation coefficient among deposits, loan and advances and investment is strongly positive. But, KFCL is found to be better than AFCL relation so, AFCL is suggested for its betterment in coming days.
- Finally, this study is focused on the ' Portfolio Management of AFCL and KFCL so, similar studies should be executed in other part and company of Nepal.

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APPENDIX-I

Investment Portfolio of AFCL

F.Y	Loan and Advance	%	Other Investment	%	Total Investment	%
064/65	95610175	100	-	-	95610175	100
065/66	307943879	100	-	-	307943879	100
066/67	385445118	98.74	4921980	1.26	390367098	100
067/68	548060446	89.4	65000000	10.6	613060446	100
068/69	616,647,411	100	-	-	616,647,411	100

Investment Portfolio of KFCL

F.Y	Loan and Advance	%	Government Sec.	%	Other Investment	%	Total Investment	%
064/65	331856226	100	-	-	-	-	331856226	100
065/66	698456556	100	-	-	-	-	698456556	100
066/67	901004293	100	-	-	-	-	901004293	100
067/68	989987886	96.18	29353020	2.9	10000000	0.97	1029340906	100
068/69	1101198047	100	-	-	-	-	1101198047	100

APPENDIX II

Loss Provision to Total Loans and Advance Ratio of APCL and KFCL

(In RS)

F.Y	Loan Loss Provision	Total Loan and Advance	Ratio (%)	Loan Loss Provision	Total Loan and Advance	Ratio (%)
064/65	888623	95610175	0.92	3365680	331856226	1.01
065/66	2331802	307943879	0.75	3835019	698456556	0.54
066/67	2391649	385445118	0.62	2338429	901004293	0.25
067/68	4487495	548060446	0.81	3185712	989987886	0.32
068/069	-	1,101,198,047	0	3827892	1101198047	0.35
Mean			0.62			0.49
S.D			0.36			0.31
C.V.			58.57			62.42

APPENDIX-III

Total Investment to Total Deposit Ratios of AFCL and KFCL (%)

F.Y	Total Investment to Total Deposit Ratio of AFCL			Total Investment to Total Deposit Ratio of KFCL		
	Total Investment	Total Deposit	Ratio (in %)	Total Investment	Total Deposit	Ratio (in %)
064/65	95610175	111978358	85.38	331856226	367828507	90.22
065/66	307943879	326110070	94.43	698456556	805902970	86.67
066/67	390367098	401740565	97.17	901004293	1065246932	84.58
067/68	613060446	702533161	87.26	1029340906	1066061748	96.56
068/069	61,66,47,411	833,394,656	73.99	1101198047	1245782216	88.39
Mean			87.65			89.28
S.D.			9.06			4.57
C.V.			10.34			5.12

APPENDIX-IV

Loan and Advances to Total Deposit Ratios of AFCL and KFCL (%)

(In RS)

	AFCL (in %)			KFCL (in %)		
F. Y.	Loan and Advance	Total Deposit	Ratio (in%)	Loan and Advance	Total Deposit	Ratio (in%)
064/65	95610175	111978358	85.38	331856226	367828507	90.22
065/66	307943879	326110070	94.43	698456556	805902970	86.67
066/67	385445118	401740565	95.94	901004293	1065246932	84.58
067/68	548060446	702533161	78.01	989987886	1066061748	92.86
068/069	616647411	833394656	73.99	1101198047	1245782216	88.39
Mean			85.55			88.55
S.D.			9.71			3.19
C.V.			11.35			3.60

APPENDIX-V

Total Loan and Advance to Total Assets Ratio of AFCL and KFCL (%)

F.Y	AFCL loan and Advance to Total Assets			KFCL loan and Advance to Total Assets		
	Loan and Advance	Total Assets	Ratio (in%)	Loan and Advance	Total Assets	Ratio (in%)
064/65	95610175	172984646	55.27	331856226	439669374	75.48
065/66	307943879	400591656	76.87	698456556	931300288	74.99
066/67	385445118	513579701	75.05	901004293	1283370517	70.21
067/68	548060446	861216547	63.64	989987886	1348911968	73.40
068/069	616647411	990638804	62.25	1101198047	1553956226	70.86
Mean			66.62			72.99
S.D.			9.12			2.38
C.V.			13.70			3.26

APPENDIX-VI

Total Non-performance Loan to Total Loans and Advance Ratios of AFCL and KFCL (%)

F.Y.	AFCL Non-performance loan to Total loans and Advance			AFCL Non-performance loan to Total loans and Advance		
	Non-performing loan	Loan and Advance	Ratio (in %)	Non-performing loan	Loan and Advance	Ratio (in %)
064/65	126087	95610175	0.13	0	331856226	0
065/66	301058	307943879	0.09	0	698456556	0
066/67	3025806	385445118	0.79	4380740	901004293	0.49
067/68	4774782	548060446	0.87	2724962	989987886	0.28
068/069	1179248	616647411	0.19	5429519	1101198047	0.49
Mean			0.42			0.25
S.D.			0.38			0.25
C.V.			91.34			97.73

APPENDIX-VII

Return on Total Assets Ratio of AFCL and KFCL (%)

F.Y	AFCL (%)			KFCL (%)		
	NPAT	Total Assets	Ratio (in %)	NPAT	Total Assets	Ratio (in %)
064/65	875554	172984646	0.51	2089285	439669374	0.48
065/66	4148943	400591656	1.04	10330282	931300288	1.12
066/67	859104	513579701	0.17	27785451	1283370517	2.17
067/68	12858630	861216547	1.49	29581946	1348911968	2.19
068/069	13605567	990638804	1.37	30603592	1553956226	1.97
Mean			0.92			1.58
S.D.			0.57			0.76
C.V.			61.94			48.04

APPENDIX-VIII

Return on Total Equity Ratio of AFCL and KFCL (%)

F.Y	AFCL (%)			KFCL (%)		
	NPAT	Total Equity	Ratio (in %)	NPAT	Total Equity	Ratio (in %)
064/65	875554	47165126	1.86	2089285	439669374	0.48
065/66	4148943	71381805	5.81	10330282	931300288	1.12
066/67	859104	107952279	0.8	27785451	1283370517	2.17
067/68	12858630	126974411	10.13	29581946	1348911968	2.19
068/069	13605567	134643136	10.10	30603592	1553956226	1.97
Mean			5.74			1.58
S.D.			4.41			0.76
C.V.			76.86			48.04

APPENDIX-IX

Return on Total Investment Ratio of AFCL and KFCL (%)

F.Y	AFCL (%)			KFCL (%)		
	NPAT	Total Investment	Ratio (in %)	NPAT	Total Investment	Ratio (in %)
064/65	875554	95610175	0.92	2089285	331856226	0.63
065/66	4148943	307943879	1.35	10330282	698456556	1.48
066/67	859104	390367098	0.22	27785451	901004293	3.08
067/68	12858630	613060446	2.1	29581946	1029340906	2.87
068/069	13605567	616647411	2.21	30603592	1101198047	2.78
Mean			1.36			2.17
S.D.			0.83			1.07
C.V.			61.16			49.18

APPENDIX-X

Liquidity Risk Ratio of AFCL and KFCL (%)

F.Y	AFCL (%)			KFCL (%)		
	Cash and Bank Balance	Total Deposit	Ratio (in %)	Cash and Bank Balance	Total Deposit	Ratio (in %)
064/65	6304664	111978358	5.63	13986515	367828507	3.80
065/66	10420740	326110070	3.2	30731822	805902970	3.81
066/67	16942935	401740565	4.22	36089163	1065246932	3.39
067/68	27281153	702533161	3.88	40089995	1066061748	3.76
068/069	44594003	833394656	5.35	85288109	1245782216	6.85
Mean			4.46			4.32
S.D.			1.02			1.42
C.V.			22.87			32.9

APPENDIX-XI

Growth Trend of Total Deposit

F.Y	Total Deposit		Total Deposit	
	AFCL	Ratio %	KFCL	Ratio%
064/65	95610175	357.32	331856226	-
065/66	307943879	222.08	698456556	110.47
066/67	385445118	25.17	901004293	29.00
067/68	548060446	42.19	989987886	9.88
068/69	616647411	12.51	1101198047	11.23

APPENDIX-XII

Growth Trend of Total Loan and Advance

F.Y	Total Loan and Advance		Total Loan and Advance	
	AFCL	Ratio %	KFCL	Ratio%
064/65	111978358	444.5	367828507	-
065/66	326110070	191.22	805902970	119.1
066/67	401740565	23.2	1065246932	32.18
067/68	702533161	74.9	1066061748	0.08
068/69	833394656	18.63	1245782216	16.86

APPENDIX-XIII

Growth Trend of Total Investment

F.Y	Total Investment		Total Investment	
	AFCL	Ratio %	KFCL	Ratio%
064/65	95610175	357.32	331856226	-
065/66	307943879	222.08	698456556	110.47
066/67	390367098	26.77	901004293	29.0
067/68	613060446	57.05	1029340906	14.24
068/69	616647411	0.59	1101198047	6.98

APPENDIX-XIV

Calculation of Correlation Coefficient between Deposit and loans and Advances of AFCL

(Rs in million 000,000)

F.Y	Total Deposit(X)	Loan and Advance(Y)	x^2	y^2	xy
064/65	111.978358	95.610175	12539.15266	9141.305564	10706.2704
065/66	326.110070	307.943879	106347.7778	94829.43261	100423.5999
066/67	401.740565	385.445118	161395.4816	148567.939	154848.9395
067/68	702.533161	548.060446	493552.8423	300370.2525	385030.6375
068/69	833.394656	616.647411	694546.6526	380254.0295	513910.657
Total	2375.756810	1953.707029	1468381.907	933162.9591	1164920.104

Calculation of Correlation Coefficient (r) =

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

$$= \frac{5X1164920.104 - 2375.756810X1953.707029}{\sqrt{5X1468381.907 - (2375.756810)^2}\sqrt{5X933162.9591 - (1953.707029)^2}}$$

= 0.985522812

Probable Error of Correlation Coefficient (P. Er.)

P.Er = 0.6745 X $\frac{1-r^2}{\sqrt{N}}$

P.Er = 0.6745 X $\frac{1-(0.985522812)^2}{\sqrt{5}}$

= 0.00867

* 6 X P.Er

=0.05202

Calculation of Correlation Coefficient between Deposit and loans and Advances of KFCL

(Rs in million 000,000)

F.Y	Total Deposit (x)	Loan and Advance(Y)	X^2	Y^2	XY
064/65	367.828507	331.856226	135297.8106	110128.5547	122066.1801
065/66	805.902970	698.456556	649479.5971	487841.5606	562888.2129
066/67	1065.246932	901.004293	1134751.026	811808.736	959792.0588
067/68	1066.061748	989.987886	1136487.651	980076.0144	1055388.216
068/69	1245.782216	1101.198047	1551973.33	1212637.139	1371852.943
Total	4550.822373	4022.503008	4607989.414	3602492.005	4071987.611

Calculation of Correlation coefficient (r) =

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

$$= \frac{5X4071987.611 - 4550.822373X4022.503008}{\sqrt{5X4607989.414 - (4550.822373)^2}\sqrt{5X3602492.005 - (4022.503008)^2}}$$

= 0.99695214

Probable Error of Correlation Coefficient (P. Er.)

P.Er = 0.6745 X $\frac{1-r^2}{\sqrt{N}}$

P.Er = 0.6745 X $\frac{1-(0.99695214)^2}{\sqrt{5}}$

=0.001835

* 6 X P.Er

=0.011

APPENDIX-XV

Calculation of Correlation Coefficient between Total Investment and loans and Advances of AFCL

(Rs in million 000,000)

F.Y	Total Investment (X)	Loan and Advance(Y)	X^2	Y^2	XY
064/65	95.610175	95.610175	9141.305564	9141.305564	9141.305564
065/66	307.943879	307.943879	94829.43261	94829.43261	94829.43261
066/67	390.367098	385.445118	152386.4712	148567.939	150465.0922
067/68	613.060446	548.060446	375843.1104	300370.2525	335994.1815
068/69	616.647411	616.647411	380254.0295	380254.0295	380254.0295
Total	2023.629009	1953.707029	1012454.349	933162.9591	970684.0413

Calculation of Correlation coefficient (r) =

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

$$= \frac{5X970684.0413 - 2023.629009X1953.707029}{\sqrt{5X1012454.349 - (2023.629009)^2}\sqrt{5X933162.9591 - (1953.707029)^2}}$$

= 0.993104268

Probable Error of Correlation Coefficient (P. Er.)

P.Er = 0.6745 X $\frac{1-r^2}{\sqrt{N}}$

P.Er = 0.6745 X $\frac{1-(0.993104268)^2}{\sqrt{5}}$

= 0.004145

* 6 X P.Er

=0.0248

Calculation of Correlation Coefficient between Total Investment and loans and Advances of KFCL

(Rs in million 000,000)

F.Y	Total Investment(X)	Loan and Advance(Y)	x^2	y^2	xy
064/65	331.856226	331.856226	110128.5547	110128.5547	110128.5547
065/66	698.456556	698.456556	487841.5606	487841.5606	487841.5606
066/67	901.004293	901.004293	811808.736	811808.736	811808.736
067/68	1029.340906	989.987886	1059542.701	980076.0144	1019035.028
068/69	1101.198047	1101.198047	1212637.139	1212637.139	1212637.139
Total	4061.856028	4022.503008	3681958.691	3602492.005	3641451.018

Calculation of Correlation coefficient (r) =

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

$$= \frac{5X3641451.018 - 4061.856028X4022.503008}{\sqrt{5X3681958.691 - (4061.856028)^2}\sqrt{5X3602492.005 - (4022.503008)^2}}$$

= 0.99856853

Probable Error of Correlation Coefficient (P. Er.)

$$P.Er = 0.6745 \text{ X } \frac{1-r^2}{\sqrt{N}}$$

$$P.Er = 0.6745 \text{ X } \frac{1-(0.99856853)^2}{\sqrt{5}}$$

= 0.00086

* 6 X P.Er

= 0.00517