

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In the 21st century the world suffer from competition so; the existence of organized financial market and capital market within the boundary of nation is regarded as an essence for the development of a country. The government firm and individuals agencies play vital role in the financial and capital market through investing the collected resources within the recognized and national sector like productive industry and financial area yet expecting reasonable benefit themselves.

Among such financial institutions and intermediaries, insurance companies are also the major ones. Integrated and speedy development of the country is possible only when competitive insurance services reach nooks and corners of the country. Insurance companies occupy quite an important place in the framework of every economy because it provides certainty to the industry, business, and capital for the development of industry, trade, and business investing the fund collected as premium.

Generally, the company that offers insurance policies to the public either by selling directly to an individual or through another source such as an employee's benefit plan. An insurance company is usually comprised of multiple insurance agents. These company collects the money through premiums.

The premium is the financial compensation that consumes pay to insurance company for protection from loss is called a premium, which is in monthly or quarterly installments. Typically the amount of the premium is determined by the amount of protection provided by the insurance policy. This premium is used as investment in different sector. An investment is an assets or item that is purchased with the hope that it will generate income or appreciate in the future. In an economic sense . An investment is the purchase of goods that are not consumed today but are used in the future to create wealth.

According to nature, characteristics, and objective of the insurance company, they are also referred to as financial intermediaries. Hence, insurance industry, a composite structure of insurance companies, is also various financial institution bearing very different characters among various financial institutions and intermediaries. All insurance companies are capable of providing industrial finance, government finance or even personal finance. They provide different finance through their own investment policy and pattern based upon their own corporate objective and nature of the line of insurance business.

In the context of Nepalese insurance companies, they provide various insurance policies and charge premium under insured risk and nature. Insurance companies collect fund through various clients (people and organization) as premium. Therefore, all the insurance companies are responsible for their clients' interest. This study looks and analyzes different insurance company's premium collection and investment situation and sector.

1.1.1 Company Profile

1.1.1.1 Introduction to Nepal Insurance Co. Ltd.

Nepal Insurance Co. Ltd is the first insurance company of Nepal. The company specializes general insurance business. It was developed by Nepal Bank Limited in 1947 AD with the name of 'Nepal Mal Chalani and Beema Company'. At that time, it had done general insurance and custom clearing of Nepal Bank Ltd. In 2016, BS the name of this company changed into 'Nepal Insurance and Transport Company Limited'. Later on in 2048 BS, this company was renamed as 'Nepal Insurance Company Limited'. It is mandated by 51% of Nepal Bank Limited and 49% of the public. Regarding the insurance business, it is involved non life insurance business only. It provides an insurance business as fire, marine, motor, contractor's risk and engineering, personal accident, cash in transit, storehouse, worker's group accident, households etc.

1.1.1.2 Introduction to United Insurance Co. (Nepal) Ltd.

It is also a native insurer operating in the field of non life insurance business. It was a joint venture with Pragati Insurance of Bangladesh. Although, it was organized in the year 2049 but it started its operation in around 2050, presently it has seven branches and some contact offices all over the country. This company covers fire insurance, motor insurance, aviation insurance, cash- in- transit insurance, fidelity guarantee insurance, student protection liability insurance etc.

1.1.1.3 Introduction to Neco Insurance Co. Ltd.

It is also a major non-life insurance company operating in Nepalese insurance industry. It was organized as on the year 2051 BS, but started its operation 2 years later in the year 2053 BS. This company covers engineering insurance, personal and group accident insurance, public liability insurance, workmen's compensation insurance, medical scheme etc.

1.1.1.4 Introduction to Sagarmatha Insurance Co. Ltd.

It is a native insurer operating in the field of non-life insurance business. It was organized as on the year 2051 but started its operation in the year 2053. It is joint-ventured with Calico Insurance Co. Ltd of Sri-Lanka. It provides an insurance business as fire, marine consequential loss, theft, cash-in-transit, fidelity guarantee, worker's group accident, public liability, aviation etc.

1.1.1.5 Introduction to Alliance Insurance Co. Ltd.

It is also an insurer operating within the Nepalese insurance industry. It was organized as on the year 2052 but started its operation one year later 2053. Presently it has eight branches. Regarding the insurance business, it is also involved in non-life insurance only. This includes fire insurance, motor insurance, aviation insurance, employee insurance, burglary, and house breaking insurance, employee groups insurance, goods in transit insurance.

1.2 Statement of the Problem

Nepalese insurance companies are the successful public enterprises of Nepal, which are still running in the insurance business without suffering any losses from the date of establishment until now. So, the investors and businesspersons involved in insurance business, subsequently now twenty-five insurance companies were established and operate their services and activities too. Nowadays, international insurance companies are also opened in our country to transact insurance business. However, an overlook on the balance sheet and profit and loss account of insurance companies are earning profit each year; however, it is not significant and satisfactory against the volume of transaction. The volumes of transaction are increasing tremendously year by year but the growth of net earning is not in the same ratio. It is because of price-cutting under rating and cutthroat competition in the market. The other reasons for earning less net amount are as follows:

- a) Time-consuming procedures in accepting, issuing, and dispatching policy.
- b) Practice of only traditional insurance policies practice and schemes.
- c) Less attention in arrangements due to budgetary constraints in refreshment to clients.

The big problem of such institution is to collect premium and mobilize in suitable sector. Nepal is an underdeveloped country and more than 70% of people live in village and are illiterate. The geographical situation also does not favor for the expansion of insurance activities. Most of Nepalese people do not have faith on insurance and have not living standard to get insurance services. Poverty is also main cause to have dropped the insurance business. The main problems of these insurance companies are finance and collect of premium fund. Finance means to sources of fund and its proper utilization. This study aims to analyze and find out answers through various methods of analysis as well as using various techniques.

The specific problems regarding these insurance companies are listed as follows:

- a) What is the situation of premium collection and investment pattern of insurance companies?

- b) What is the relationship of premium and investment variable ?
- c) What are the views of executives of the insurance companies on premium collection and investment?

1.3 Objectives of the Study

The basic aim of this study is to define current situation of insurance industry in Nepal and find out premium collection and investment position of Nepalese insurance companies. For this purpose these specific objective are spelled out as:

- a) To compare the premium collection and investment pattern of particular Nepalese insurance companies.
- b) To analyze the relationship of premium and investment variable.
- c) To analyze the views and opinion of executives of insurance companies on premium collection and investment .

1.4 Significance of the Study

The process of insurance has been involved to safeguard the interest of people from uncertainty by providing certainty of payment at a given contingency. It does not serve the end of individuals but tends to pervade and to transform our modern social order. From an institutional viewpoint, the insurance companies are primarily aimed at providing the security against definite risk for an individual or organization. However, as supplementary to their basic aim the insurances perform as financial intermediaries too. The insurer will have a huge amount to invest, which they collect as individual's savings or as the cost of being insured. Therefore, the study analyzes these premium collection and investment pattern. This will show the fund's actual scenario.

The study is needed to frame out the premium collection and investment position of Nepalese insurance industry. Insurance companies need to soundly mobilize its collection fund. Thus, it would be better to evaluate the condition of premium collection and investment pattern of Nepalese insurance companies. It is also needed to disclose the utility of insurance in Nepalese prospects. The study focuses the

insurance market and possibility of future expansion in Nepal and is concerned to trace the weak area to suggest far its improvements.

Most of the researcher concentrates their research work either about the part of premium collection of insurance company or only the part of investment pattern of the company. But this research study tries to include these both aspects of insurance company. So it may be fruitful for the insurance business.

Nowadays, insurance is overcoming commonly as almost business but the concept of insurance is not old in Nepal. When the policy breaks the monopoly system and brings competition in insurance business, hence, so many private insurance companies have been opening now. Private insurance companies have been started cutthroat competition in this business. Because of such types of competition, management has to be made efficient; on the other hand, premium rate has to be reduced.

1.5 Limitations of the Study

This study aims at findings the facts and the trend or pattern of the investment and premium collection within the Nepalese insurance industry. Therefore, the scope is limited within the insurance companies operating. Here are mention some limitations of purpose study. Every activity has also some boundaries, which cannot be ignored. These boundaries are called as limitations of this study. The limitations of this study are:

- a) This study was conducted on the basis of secondary data. Therefore reliability of conclusion of the study is based on the accuracy of secondary data .
- b) The data has been taken only five companies.
- c) The study concern only seven years periods of data (060/061 to 066/067) and conclusion drawn confines only to the limit duration.
- d) This study covers only the area of premium collection and investment, beside this other area is not touched.
- e) The cumulative data of investment are used in the study.

1.6 Organization of the Study

The whole study is based on secondary and primary data collected from concerned insurance company, Beema Samitee, NEPSE, and other relevant sources. Here the study is computed by utilizing many analytical tools by separating in following five chapters:

First chapter contained Introduction of the Study. It is all about the background of the study, focus of the study, statement of the problems, objectives of the study, significance of the study and limitations of the study.

Second chapter deals with the Review of Literature. It contained conceptual meaning, evaluations, types, and other related topic and review of related studies as well as company profile too.

Third chapter is Research Methodology. It contained research design, source of data, data analysis, tools, and techniques, limitations of the study etc.

Fourth chapter deals with Data Presentation and Analysis. In this chapter, data of the study are presented and these data are analyzed by separating different parts. Based on this analysis of data, major findings of the study are confined.

At last, of the entire study, fifth chapter contained Summary, Conclusion, and Recommendations of the study.

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Introduction

This chapter is concerned with review of literature relevant to the premium collection and investment position of NIC¹, UIC, NIC, SIC, and AIC. Every study is very much based on past knowledge. The past knowledge or the previous studies should not be ignored as it provides foundation to the present study. Therefore, this chapter has its own importance in the study. This chapter is divided into the following parts:

2.2 Conceptual Framework

The main objective of this part is to develop theoretical foundation of the student on the study area. This part shall include the conceptual review on the area that needs to be based on a review of textbooks and other reference materials such as journals and magazines.

Human beings are facing various sorts of risk from every beginning of the human civilization. For reducing the risk, insurance proved as an effective device that could be safeguard against such unfortunate happenings.

2.2.1 Meaning of Insurance

The insurance is the principle against risk. The risk means uncertainty about future losses, or in other words, the inability to predict the occurrence or size of a loss. The objective of insurance is to spread to loss exposure or to co-operate the risk holders in covering losses in case of occurrence. The terminology used for taking risk or assuring to cover loss is known as insurance.

Definition of insurance can be made from two points of views:

- a) Co-operative concept or Functional definitions; and

b) Legal concept or Contractual definition.

2.2.1.1 Co-operative Concept or Functional Definition

John Bainbridge defines, as *“Insurance is indispensable to free economy and a free society because it not only protects the values produced by men and women who work for themselves but fasters in the confidence to produce more”* (Bainbridge, 1952, P:15).

M.N. Mishra defines insurance as co-operative device. *“Insurance is co-operative device to spread the loss by particular risk over a number of person, who are expose to it and who agree to insure themselves against the risk”*(Mishra, 1979, P:5).

Robert I. Mehr and Emerson Commack define insurance in this way: *“Insurance may be defined as a device for reducing risk by combining a sufficient number of exposure units to make their individual losses collectively predictable loss is then shared proportionately by all units in the combination”* (Mehr and Commack, 1972, P: 72).

Frederick G. Crane said, *“Insurance may be defined as a system of combining many loss exposure, with the costs of the losses being shared by all of the participants”* (Crane, 1980, P: 8)

Thus from the above definition, we came to know that insurance is a compensation for uncertain happening of any loss which are insured for certain period of time and for specified amount, human life and property are subject to the risk of loss or damage from the various sources. The persons on whom such losses full suffer financially and practically ruined in several causes. The basic concept of insurance is a method of sharing financially loss of a few from the common fund out of contribution of the many who are equally exposed to the same loss.

2.2.1.2 Legal Concept or Contractual Definition

According to E. R. Hardy, it can be defined the insurance contract as “*A contract where by one person called insurance undertakes, in the return for the agreed consideration called the premium, to pay the another person called the assured a sum of money or its equivalent, on the happening of a specified event*”(Hardy,1973, P: 3).

M. N. Mishra again defines insurance as this way,” *Insurance may be define as a consisting one party(the insurer) agrees to pay to the other party(the insured) or his beneficiary, a certain sum upon a given contingency(the risk) against which is sought*”(Mishra, 1979, P: 5).

Thus from the above definition, we came to know that insurance is only legal contract between the insurance company (the insurer) and the insured. The legal document is the policy of insurance.

2.2.2 Risk and Insurance

Due to the aforementioned circumstances, human beings are suffering from huge loss. No one can foresee the future. We know that life is full of risks and uncertainties, which result in fear, nervousness, and horrible outcomes in human life. It stands as a constraint in the socio-economic development. Because of it, most of the investors hesitate to initiate their business. These risks may be of losing life and properties. Risk to human being can be categorized as financial risk and non-financial risk. The outcome of financial risks can be measured in terms of monetary units whereas the outcome of non-financial risks cannot be measured in terms of monetary units. Therefore, in this modern age insurance is only one ultimate solution to avoid risk or compensate with loss. Risks may be classified in many ways; however, there are certain distinctions that are particularly important for our purposes. These include the following:

- a) Financial and Non-financial Risks
- b) Static and Dynamic Risks
- c) Fundamental and Particular Risks

d) Pure and Speculative Risks

Financial and Non-financial Risks

In its broadest context, the term *risk* includes all situations in which there is an exposure to adversity. In some cases, this adversity involves financial loss, while in others it does not. There is some element of risk in every aspect of human endeavor, and many of these risks have no (or only incidental) financial consequences. In this text, we are concerned with those risks that involve a financial loss.

Financial risk involves the relationship between an individual (or an organization) and an asset or expectation of income that may be lost or damaged. Thus, financial risk involves three elements: (1) the individual or organization that is exposed to loss, (2) the asset or income whose destruction or dispossession will cause financial loss, and (3) a peril that can cause the loss.

The first element in financial risk is that someone will be affected by the occurrence of an event. The second and third elements are the thing of value and the peril that can cause the loss of the thing of value. The individual who owns nothing of value and who has no prospects for improving that situation faces no financial risk. Further, if nothing could happen to the individual's assets or expected income there is no risk.

Static and Dynamic Risks

A second important distinction is between static and dynamic risks. Dynamic risks are those resulting from changes in the economy. Changes in the price level, consumer tastes, income and output, and technology may cause financial loss members of the economy. These dynamic risks normally benefit society over the long run, since they are the result of adjustments to misallocation of resources. Although these dynamic risks may affect a large number of individuals, they are generally considered less predictable than static risks, since they do not occur with any precise degree of regularity.

Static risks involve those losses that would occur even if there were no changes in the economy. If we could hold consumer tastes, output and income, and the level of technology constant, some individuals would will suffer financial loss. These losses arise from causes other than the dishonesty of other individuals. Unlike dynamic risks, static risks are not a source of gain to society. Static losses involve either the destruction of the asset or a change in its possession because of dishonesty or human failure. Static losses tend to occur with a degree of regularity over time and, as a result, are generally predictable. Because they are predictable, static risks are more suited to treatment by insurance than are dynamic risks.

Fundamental and Particular Risks

The distinction between fundamental and particular risks is based on the difference in the origin and consequences of the losses. Fundamental risks involve losses that impersonal in origin and consequence. They are group risks, caused for the most part by economic, social, and political phenomena, although they may also result from physical occurrences. They affect large segments or even all of the population. Particular risks involve losses that arise out of individual events and are felt by individuals rather than by the entire group. They may be static or dynamic. Unemployment, war, inflation, earthquakes, and floods are all fundamental risks. The burning of house and the robbery of a bank are particular risks.

Particular risks are considered the individual's own responsibility, inappropriate subjects for action by society as a whole. They are dealt with by the individual with insurance, loss prevention, or some other technique.

Pure and Speculative Risks

One of the most useful distinctions is that between pure risk and speculative risk. Speculative risk describes a situation where there is a possibility of loss, but also a possibility of gain. Gambling is a good example of a speculative risk. In a gambling situation, risk is deliberately created in the hope of gain. The term pure risk in contrast, is used to designate those situations that involve only the chance of loss or no loss. One of the best examples of pure risk is the possibility of loss surrounding the

ownership of property. The person who buys an automobile, of example, immediately faces the possibility that something may happen to damage or destroy the automobile. The possible outcomes are loss or no loss.

The distinction between pure and speculative risks is an important one, because normally only pure risks are insurable. Insurance is not concerned with the protection of individuals against those losses arising out of speculative risks. Speculative risk is voluntarily accepted because of its two-dimensional nature, which includes the possibility of gain. However, not all pure risks are insurable.

2.2.3 Types of Insurance

All the insurance companies provided certainty against the risk. When they can define in the generic concept, it will take the form like social insurance and private insurance. However, we have divided the insurance in two parts as life insurance and general insurance. Life insurance may be defined as the contract, where by the insurer in consideration of a premium, undertakes to pay a certain sum of money either on the death of the insured or on the expiry of a fixed period. Life insurance is concerned only about physical and mental accident risk. General insurance considers all insurance except life insurance. Some of experts and writers separate the insurance in different viewpoint i.e. from the potential insurers view and other. When viewed from professional use insurance will take broad forms as life insurance and non-life insurance.

Insurance can be classified in two type based on different point of views: they are

- a) Business point of view and,
- b) Risk point of view

2.2.3.1 Business Point of View

Insurance can be further classified into the following categories based on business point of view.

Life Insurance

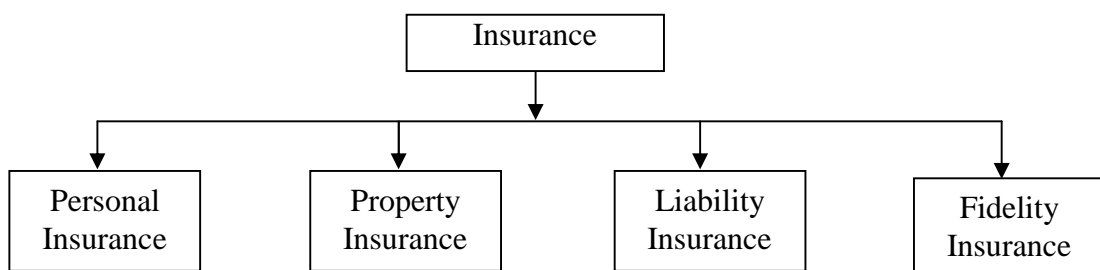
The insurance, which is made against the risk, related to the human life, is life insurance. It is a method by which a group of people may co-operate to ease the loss resulting from the premature death of members of the group. In general “Life Insurance is the contract under which the insurer undertakes the responsibility to pay certain sum of money either on death of insured or on the expiry of fixed period in consideration of premium” (Mishra, 1979, P: 15). Therefore, life insurance is concerned with economic value of human life, which is derived from its earning capacity and the financial dependence of occurrence lives in that earning capacity from the individual point of view, life insurance is a method of creating an estate. In Nepal, there are Nine life insurance companies are conducting their business.

General Insurance (Non-Life Insurance)

Insurance, other than life insurance is called general or non-life insurance. It is a pure insurance because it can measure any risk in terms of money. The subject matter affected under it is in nature of property. The insurance company provides indemnity to the insured. Such compensation should be based on the actual value. The examples are fire insurance, marine insurance, aviation insurance, engineering insurance, motor insurance, crops insurance, liability insurance, theft insurance etc. in Nepal there are 17 general companies, which are shown in the **Appendix I**.

2.2.3.2 Risk Point of View

The insurance from risk point of view is classified in the following ways:



Personal Insurance

Under personal insurance, the insurance is made to the subject related to the person's life. There is possibility of risk associated to death, accident, and diseases. The insurance, which is effected against such risks, with the objective of getting financial protection, is called personal insurance. Life insurance, personal accident insurance, and health insurance etc. are the example of personal insurance.

Property Insurance

Under this insurance, insurance of the different nature property is affected to compensate the property damaged or loss. The compensation is given to the assured by the insurance company. The insurance company gives only actual compensation to an insured based on fact and event. The example of property insurance are fire, marine, crops, cattle, and burglary insurance etc.

Liability Insurance

Under this insurance, compensation is given to third person for loss or damage caused by negligence, or other reason, of the party. The examples of liability insurance are motor insurance, public liability insurance etc.

Fidelity Insurance

Under this insurance, the insurance company gives the guarantee of faithfulness or the honesty of any employee or any other person and it accepts the liability of compensation on financial loss to the insured with the cause of dishonesty and fraud. The examples of guarantee insurance are credit right, fidelity, guarantee insurance etc.

2.2.4 Functions of Insurance

Functions of insurance can be further classified into two categories: they are,

- a) Primary function
- b) Secondary function

2.2.4.1 Primary Function

The primary functions of insurance are considered very important. Followings are the primary functions of insurance:

To Provide Certainty

Insurance provides certainty whereas risk is uncertain. It is very difficult to guess that there would be any loss or not, from any risk in the future. If it would loss no one can predict how much loss, when and how will occur. Therefore, such uncertainty may create many difficulties to human. However, if it is insured, the loss of uncertainty turns into certainty.

To Provide Protection

The primary function of insurance is to provide protection and security. The loss from the risk always is uncertain and the man does not know when and how much loss will be suffered. Therefore, the human wants to protect their own life and property from the perils and the insurance provides security to protect by taking the burden of compensation of the loss that may occur in future.

To Distribute Risk

Another primary function of insurance is to distribute risk. The insurance distributes the risk to the community based on the principle of co-operative. The insurance company distributes in proportion the financial loss of person insured, to other persons insured whether it is greater loss or little loss, the rule is that it is to be distributed naturally to all. Thus, the insurance company is always capable to pay such amount of the small or big loss.

2.2.4.2 Secondary Function

The secondary functions of insurance are very important which are stated below:

To Prevent Loss

The insurance has carried the concept to reduce the loss. It circulates and extends the means to prevent the loss to the people. To prevent the social loss there are different organizations like educational institutions, health organizations, police office which are engaged in the protection of human life and other possible losses. Insurance companies mutually perform the public awareness programmed, trainings, and research. Therefore, insurance helps to prevent loss.

To Provide Capital

Insurance company assembles small amount of money as a premium from different persons and organizations, which is a capital formation for it. Insurance company invests the capital and utilizes it in different productive sectors of the country. Most of the insurance companies of Nepal may invest in corporate bonds, government bonds, etc which enhance the economic development of the country. Similarly, it may invest in health organizations, educational institutions and other public activities in the society.

To Improve Efficiency

Efficiency comes in the practice whenever the human beings are free from tension. If the business, property, and life are secured from the insurance, then the organizations and persons feel their risks are mutually shared and are free from anxiety. All because of these, efficiency of the organizations and persons will be high in their job.

To Decrease Social Problem

In modern age, insurance can be used as a means to save the society from the unforeseen risks. The economic burden that may come on the society from the old age, unemployment, industrial accident or other type of event can be lessened with the help of insurance. The insurance may decrease the economic problems that may fall on the individuals from event happened in the society and it maintains the liability upon the state.

To Help in Foreign Trade

Insurance assists international trade. The international trade among different countries is based on marine, airways, and land route. In the course of trade transaction, there may be different risks and uncertainties for the businesspersons. However, insurance company provides economic protection against such risks. No doubt, it increases the foreign trade and adds to the efficiency of business.

To Help in Economic Progress

Insurance helps in economic progress, because the insurance companies, by insuring life and property of different person, are giving a kind of economic assistance to them. Thus, people can work freely. New industries and trades are started in the countries, which improve the economic standard of people. It ultimately leads to the economic progress in the country.

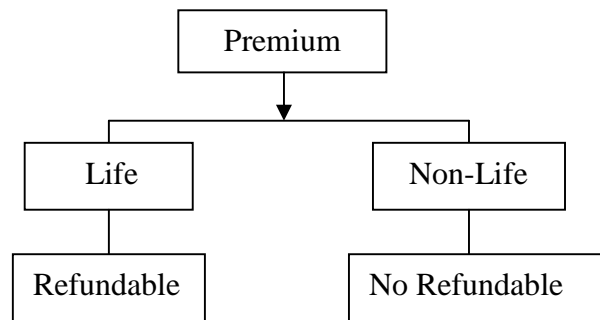
2.2.5 Premium

Premium is the certain amount of payment, which is paid by the insured to the insurer for bearing uncertain risk. Usually, premium is calculated under different methods as considering different considering factors. Premium can be ascertained by numerical rating system, it evaluates each item, and marks are assigned to them according to their merits and degrees of influencing risk. Insurer changes the premium differently in accordance to the nature of risk. Thus, the judgment and personal evaluation plays

a vital role in premium calculation. The management and ownership are very important factors while evaluating risks for the purpose of premium rate making.

Generally, the insurer charges higher premium for higher risk insurance and lower premium for less risk insurance policy. The premium is always directly affected by the nature or risk, other expenses and time. Generally, only premium is one of the main sources of raising fund for insurer. There are different kinds of insurance premiums. The main types of insurance premium are shown in the fig 2.1 below:

Figure No. 2.1
Main types on insurance premium



We know that premium means a certain charged amount, which is paid by the insurance to the insurance for bearing future risk, and uncertainty premium is of two types: net premium and gross premium.

2.2.6 Investment

Insurance collects scattered money from the community as a premium against the risk and loss, which is called insurance fund. Insurance fund is considered as the main source of capital for the economic development of a country. Insurance invests necessary funds in productive sectors. Insurance Act 2049, under section 21 and 22 has the provisions regarding to the insurance fund. Accordingly, insurance company should prepare separate account compulsorily which is defined under the section 20. The investment amount i.e. insurance fund is collected in the form of premium, interest, dividends, registration fee, capital gain, non-payment of claims.

Insurance company can invest thus collected insurance fund in government securities, and other productive sectors in return receive the interest. It can also invest its' funds in purchasing shares of other companies from where it can collect dividends too.

Insurance company should invest their insurance funds all because of the following reasons:

- a) Disbursement of claim
- b) To meet expenses of management
- c) To provide dividends and bonus
- d) To avoid financial deficit
- e) To fulfill the national interest

Similarly, the followings are the principles of investment of insurance fund:

- a) Principle of security
- b) Principle of profitability
- c) Principle of liquidity
- d) Principle of diversification
- e) Principle of business growth

2.2.7 Types of Non-Life Insurance Policies

Non life insurance is also known as general insurance. It is pure insurance because it can measure any risk in terms of money. General insurance is the insurance of property and liabilities risk of insured against some specified cost i.e. the premium. General insurance considers all the risk and it provided certainty against the risk through certain sum of money. There are different types of non-life insurance policies that are significant in the economic activities of the country and in the course of business, some of them are as follows:

2.2.7.1 Marine Insurance Policy

The marine insurance is the oldest form of modern insurance. The modern insurance developed from marine insurance. The marine insurance policy will be written to

provide the security against peril of sea. An essential part of that security is protection against loss or damage by peril of the sea or through the hazards of transit generally. Usually, such policy will provide the assurance / insurance not only against the natural disaster, but also against piracy and other manmade disaster. Further, the modified marine insurance policy provides the protection against various risks, which does not belong to sea. The marine insurance policy provides the protection against inland transit loss, which is arising in the way to seller and buyer, and protection against lording and unloading also. Marine insurance provides separate policy in whole risk of adjusted in sea. In practice, we can see following insurance policy under marine insurance.

- a) Ship insurance
- b) Cargo insurance
- c) Freight insurance

2.2.7.2 Fire Insurance Policy

Fire insurance had been originated in Germany in the beginning of sixteenth century. Fire insurance policies are issued to indemnity owners of property, whether buildings or contents, against destruction or damage caused by fire and lightning. In generic from fire, insurance provides indemnity for loss or damage caused by the fire.” Basic from of fire insurance offers protection to the insured against the destruction of physical property as a result of fire” (Welshman and Melcher, 1980, P: 213). There may be various caused to extent an accident by fire. Insurer only responsible to provide the indemnity against the risk, which was held at accordance to policy. The field of fire insurance can be modified or extended to include a number of peril closely allied to fire like wind, storm, earthquake, Riot and strike, damage, terrorism, explosion, landslide or else. Insurer may change higher premium as per the nature of risk and insurance policy.

2.2.7.3 Aviation Insurance Policy

Aviation insurance is related with the risk occurring due to the peril, hazards or risks created by the aircraft. Aviation insurance provides the indemnity against the risk,

which is created on flight, landing, and the time of take off an aircraft. Aviation insurance acquires the risk of passenger, cargo, hull (plane) also. Despite the heavy charges, all sends considerable quantities of goods and there is a demand for insurance, more particularly because such goods are usually of small bulk and high value. Thus, the aviation insurance is essential and important in aviation field. Aviation insurance covers the hull insurance, aircraft liability insurance and medical payments too.

2.2.7.4 Automobile Insurance Policy

Automobile insurance policy is related to the risk of vehicles. It provides certainly against the risk of accident the risk of accident. It is directly related with providing the insurance against the perils or loss accruing with respect to the vehicle and with providing financial assistance to the insured to remit the third party liability occurring due to the damage caused by the vehicle. The automobile insurance covers the full comprehensive policy and third party liability insurance too.

2.2.7.5 Burglary Insurance Policy

The burglary insurance provides the certainty against the case of criminal nature. Under this policy, the insured gets financial assurance against the losses by theft, burglary, and house breaking. Thus, the burglary insurance covers the house and house breaking, theft, burglary and other criminal natures of insurance.

2.2.7.6 Money in Transit Insurance Policy

This type of policies is generally required for bank and financial institutions that involves in the functions of receiving and sending cash from one place to another. If the cash is lost during transit period then the policy of money in transit insurance provides the indemnity to the insured.

2.2.7.7 Personal Accident Insurance Policy

Under this policy, the insured gets the financial assurance against being handicapped from any accidents. This policy may be written for the temporary disabilities, for permanent disabilities, or for comprehensively all disabilities, too. Under this policy, the payment of the insurance amount will be up to the limit prescribed for each level of disabilities like 50% of insured amount for the damage of one leg or hand etc.

2.2.7.8 Household Policy

Under this policy insurer writes the insurance against the risk of personal house/building and other properties. In this policy, the loss occurred due to the natural disaster like earthquakes windstorm, lightning, and the loss occurred due to the other disasters like vandalism, riot is financially protected from the insurer if this insurance policy is written.

2.2.7.9 Medical Aid Scheme Insurance

Under this policy insurer provides the financial support against the health problem to the insured. In this policy, insurer will be responsible to pay the all-medical expenses for the insured if the insured needs medical treatment unexpectedly within the insurance written period.

2.2.7.10 Fidelity Guarantee Insurance

The world stays at the faith. However, fidelity guarantee insurance is attended in the case of fraud and dishonesty. Under this policy the owner of the firm, organization gets the guarantee against the fraud or betrays or dishonesty caused by the employees like accountants, cashiers distributors etc. the insurer fulfills the loss occurring due to the discard of the fidelity of the beloved person.

2.2.7.11 Workmen's Compensation and Employers Liability Insurance

This insurance is a means of motivation to the worker because a firm/ organization give the indemnity to the worker if they get occupational accident. For this purpose, the owner of the firm on behalf of the worker will purchase workmen's compensation and employers' liability insurance. In this policy, the insurer provides the financial support if the worker meets with the accident within the working place and time. This scheme will be written by the owner of the firm to secure from the unexpected claims occurring due to the occupational accident that took place on the work place.

2.3 Review of Different Thesis

This part covers a review of past studies conducted by other researchers, various experts, authorities, and MBS students on related topic, which are as follows:

Pant; (1978) has objectives of his thesis that to recommend probable corrective measures relating to the improvements of the premium collection and investment aspect. He has concluded that fire insurance plays a vital role in the development of commerce and industry and has great significance in developing the country. It has a very good prospect. He recommended that most of the people are ignorant about fire insurance and also its importance and benefit. For this, more publicity is needed. Advertisement through newspaper, radio, televisions should be made to acquaint the people about fire insurance and its branch should be extended in different cities.

Joshi; (1978) has the objective of his study is to analyze the management opinion instance's premium collection and investment system. He has conducted by found that the premium charged by Rastriya Beema Sansthan seems to be high and recommended to the corporation for having policy of low premium to increase business and the premium should be reviewed carefully. The huge amount of outstanding premium is lying, which shows the corporation's inefficiency to collect the outstanding premium and recommended to collect immediately for the protection of increasing bad debt.

Poudel; (1995) has conducted by entitling 'Insurance companies in Nepal' was among those few. Poudel's study was descriptive and diagnostic one and was

interested to cover every policy and practical issues relating the insurance business. In his study, Poudel had attempted to analyze the status of the insurance companies. For this purpose, he had set the objectives like assessing the status of the industry, analyzing policy issues examining the liability structure and investment portfolio, and to review major policy issues of the insurers.

To attain the objective he had used descriptive research design based upon the secondary data only. He had used qualitative rather than quantitative analysis. Throughout the study, the research was concentrated on analyzing the regulatory provision and its impact on the practice among the insurers. In the study, Poudel had analyzed every provision relating the formation, working, and governance of the insurance companies. As a part of his study, he had also provided in sight upon the investment of the insurers and the provisions governing the investment function. His all over findings and conclusion was that the basic laws and by law are not sufficient. The excess power on the hand of the insurance committee was advantageous to some extent but it was much costly in many cases.

His conclusion relating the investment was that the regulatory provisions were not welcoming rather they were much restricting. The classification between the portfolios on 'Compulsory' and 'Optional' caused hindrance to the insurers in their investment management process, but the limited number of allowed portfolios as "Optional Sectors" causes more hardness. Further suggested that to divert the insurance from investing in the traditional fields of investment a conducive investment environment need to be created and it can be formed through adding more investment alternatives in "Optional" fields rather than increasing its share.

Hence, this study was descriptive rather than analytical. The qualitative analysis might not be enough to present the exact picture of the status of the insurance companies. Further, the research revolved around the policy issues rather than practical issues. The analysis of investment aspect among the insurers was a part of his research but he had given less emphasis to the investment aspect among the insurance companies. Further, the investment return and investment performance was also ignored in the study. Further, the views and perception of practicing manager regarding the investment and its performance had also been ignored in his study.

Raut; (1995) conducted a thesis entitled 'A Study on the Financial Performance of National Life and General Insurance Co. Ltd'. He has analyzed the various financial ratios of it. He had analyzed liquidity ratio, premium turnover ratio, return on shareholder's equity, earning per share, dividend per share, investment on total assets ratio, fixed assets to total ratio. He had also analyzed financial performance of different insurance business.

Raut found the following major findings from the study:

- a) Regarding liquidity management, the NLGI is not in sound position. The current ratios come to a highest of 0.3 in 1988/89 to a lowest 0.17 in 1992/93 taking derivation from average standard i.e. 0.89 times.
- b) The company's outstanding premium in the five years period jumped from Rs. 5.22 million in 1988/89 to Rs. 15.68 million in 1992/93.
- c) We found that the return on net-worth of NLGI is satisfactory because return on net worth is in increasing trend. The return on net-worth increased from 8.35% in 1988/89, 30.29% in 1992/93.
- d) Return on shareholder's equity is also in better position because it shows improving trend. In the base year 1988/89, it was 9.19% and now it is 55.32% in 1992/93.
- e) The trends of earning per share are fluctuating. It deviates from minimum level of Rs. 7.72 per share in 1988/89 to maximum Rs.55.28 per share in 1992/93; it proves that there is no constant return on the investment to shareholders during the study periods.
- f) The NLGI declared the dividend in increasing trend. The data shows that the company's dividend paying ability increased from 10 million-bonus share in 1993/94. Bonus share affected the market price of a share because it reduced the market price of a share from Rs.780 in 1992/93 to Rs. 630 in 1993/94. Thus, bonus share reduced the market price of a share.
- g) Investment of NLGI is not less than fifty percent of the total assets in every year of the study period. Therefore, it was continuously increasing except the F.Y. 1989/90 and 1992/93. Investment to total asset ratio was minimum 1:1.6 in 1989/90 to maximum 1:9.9 times in 1991/92.

Premium earning of NLGI in insurance has increased day by day. The net premium earning of Rs.43.68 million for the year 1992/93 against the net premium earnings of Rs. 7.99 million for the year 1988/99 suggest successfulness of insurance business in Nepal.

Bhattarai; (1998) has conducted by on “Insurance Board in Nepal its effectiveness in regulation and controlling insurance companies.” This study was focused on how to control the insurance companies by government on itself. He defined the measures of regulating and controlling system. It has a descriptive analysis. The conclusion drawn by him in his studies was the majority of the respondent fell under the group of 41 years and above. Most of them were married and majority of them had a master’s degree. The respondent of the insurance board was experienced in other field than insurance. It might be due to the part time nature responsibility in the board.

He has taken specific activities of the insurance companies into consideration for respondent’s board member and the insures identified legal reserve regulation as effective one than that of capitalization. He had found the tariff rate too high. He pointed that the recent regulation of the board was less effective in safeguarding the interest of the insuring. He had found that the policy form approval was time consuming and delay that create unhealthy competition. He has recommended modifying the existing tax rate in his study. The board should strictly check if the company really completed and set aside funds for their reserve to over come the problem on legal reserve.

Gelal; (1998) has covered the periods of 5 years from 1988/89 to 1992/93. This study only deals with National Life & General Insurance Co. Ltd. There is no comparison between other insurance companies and industry. This study is emphasis with financial tools (mainly with ratios). This study ignores the importance of statistical tools.

Gelal had prepared comparative study of financial performance between Nepal Insurance Company Ltd and National Life & General Insurance Co. Ltd.

This study finds the following:

- a) Data reveal, total percentage in fixed assets is more in NLGI compared to NIC¹ while vice-versa in percentage in current assets. Growth in fixed assets was in slower rate in NIC¹. However, investment in current assets was decreasing in both the companies.
- b) NIC¹ increased its share capital up to 2049/50 B.S. and decreased up to 2052/53 B.S, whereas NLGI showed decreasing trend in share capital percentage to total assets during this study period.
- c) The reserve of both the companies followed increasing trend during the study period.
- d) The net profit percentage of NIC¹ found better than NLGI.
- e) Current ratio of both the companies is able to meet the standard form i.e.2:1.
- f) Cash to current liabilities ratio shows insufficient cash balance in both companies because cash to current liabilities ration of both companies found less than standard form i.e. comparatively NLGI is having better than ration than NIC.
- g) The liquidity position of both NIC¹ and NLGI found better means above the standard norm.
- h) Leverage ratio shows the level of risk. Having overview in this ratio, NIC¹ is found risky than NLGI. D/E ratio of NIC¹ ranged 57% to 118% whereas the same ratio of NLGI ranged 42% to 70% only during the study period.

2.4 Review of Related Journals and Other Publications

Insurance contributes to society by favorably affecting the apportionment of the factors of production, engaging in loss prevention activities, indemnifying losses, serving as a channel for investible funds. Insurance policies are written by business organizations caked “Insure.” In order to function properly, these insurance must have a large number of policyholders, who are obtained either by direct representative, or through against (Robert and Emerson, 1972).

The essence of the insurance scheme is that, it is a social device, which involves the accumulation of funds, that it involves a group of risks, and that each person of firm

who becomes a member of the group transfers his risks to the whole group (James L. Athearn, 1981). The purpose of insurance is to reduce the uncertainty and worry caused it becomes aware of the possibility of loss. It does this by spreading the economic burden of losses among members of the group. Insurance does not prevent loss but it relieves the financial burden.

Mehr; (1986) outlined about the insurance through his book as, insurance is a useful device for solving complex social problem. Compensating victims of industrial accident is handled by compulsory worker's compensation insurance, automobile accident victims is handled to some extent by providing financial responsibility as per the insurance laws, by the company by furnishing evidence of ownership of automobile liability insurance. Social insurance is used to help, death and medical care for the aged. Insurance is affected with the public interest and is consequently subject to government regulation, mostly by the states.

Insurance, in its pure insurance function (ignoring for the moment its efforts at prevention) may be linked to the springs of vehicle. It absorbs the shock and distributes its overall risks insured in the same class. It absorbs freer functioning of credit and industry generally but does not eliminate loss. The retarding effect of risk removed, but the cost and retarding effect of loss are still present. The burden of loss is still on society (Albert and Ralph, 1995).

Bickhaput; (1983) has stated about the general legal requirement of insurance as, the right and obligation of the parties to an insurance agreement are determined largely by reference to the general laws, which govern contracts. The agreement by which the insure is consideration of the payment if specified. Sum by the insured agrees to make good the losses suffered through the happening of designated unfavorable contingency. The insurance contract need not be in writing, but as a matter of business practice such agreement are ordinarily written. Even social insurance, such as workers compensation, are written, through the terms appear in a state rather than in private agreement.

Magee; (1958) outlined life insurance as financial uncertainties arising from the nature contingencies, old age, and death and to bring about a compatible certainty in

the case of possible misfortunes injure and sickness then is to furnished protection against the financial demand occasioned by disability, old age, and death. It has sometimes been termed “Income replacement insurance” because it provides such necessities as food, shelter and clothing if illness, injury or death cuts off the income of the breadwinner. It is all of this and, as well presently is noticed much more.

It is necessary to address current academic working contributed toward the field of this study. Here in this section, articles from various journals are reviewed and the attempt is concentrated to grab current picture of subject matter, which ultimately helps for the success of study.

Leading American Journal (Journal of Finance) has thrown enough light on risk and return subject. Therefore, it is thought to be relevant to review an article from the same.

“Robert utilized the CAPM assumption and additional assumption that corporation can borrow and lend at risk- free interest rate. He has presented theoretical relationship of systematic risk, the firm’s leverage, accounting beta, earning variability, dividend or payout and growth. Shortly his findings are as follows:

- a) Systematic risk of levered firm is equal to the systematic risk of the same firm without leverage.
- b) Between earning variability and market, risk there is no direct relationship.
- c) There is no any theoretical relationship between size and growth of the firm and systematic risk.
- d) There is no any theoretical relationship between dividend and systematic risk and theoretical basis for relationship of dividend payout and beta.
- e) To the according systematic risk is directly related.

This study shows that there is a theoretical relationship between systematic risk and firm’s accounting beta and systematic function is not a function of earning variability, dividend polices and size and growth of firms (Bowman,1979,P: 617-628).

The study that testing the CAPM with time varying risk and return from monthly observation on total equity return for firm’s listed in NYSE and monthly treasury bill

yields. The estimation period cover 1926-1985. They used time series returns for five value-weighted portfolios as assets priced by CAPM and the market return that they used is the CRPs value weighted market return.

The conditional CAPM provides a convenient way to incorporate the time varying conditional variance and covariance and allows risk premium vary overtime because of time variation in three components: The market conditional co-variance between the assets risk premium. In the conditional CAPM, an assets beta is the ratio of the conditional co-variance between assets and market returns and the conditional variance of the market's return. (Bodurtha and Mark, 1991, P: 1418-1503).

Insurance has direct role to play in a developing country because of the fact that the government is utilizing its entire mean and resources for the all round development of the country (Bhattari, 1993, P: 17).

Insurance plays the important role in the trade and commerce. It is true that export trade is more risky than domestic. Most of the export risks are unpredictable. These risks are to be insured to protect exporters. Various forms of insurance have been in existence for hundred of years, just as many of the term used today are the same as they were many years ago (Shrestha, 1994, P: 1-4).

Nepalese insurance companies continued to face a growing magnitude of the problem in the collection of outstanding premium from the period of the company's establishment to the present years (Shrestha, 1991, P, 12-18).

On the liquidity position of the National & General, Insurance Co. Ltd. M.K. Shrestha's view is that- "The management is varying caution on matching the current assets with current liabilities. In addition, he has mentioned in his study about the profitability position of NLGI that it is not satisfactory. He has further mentioned the management does not consider shareholders interests (Shrestha, 1991).

Nepal; (2002) has mentioned about the current market of insurance industry in Nepal. The article is a complete study of potentials of insurance in Nepal and problems facing by the insurance companies in Nepal. He reveals that there is keen competition

in general insurance. There are 17 general insurance companies in the small country like Nepal. Therefore, they are competing with each other to capture other's market without creating their own market and going to other sectors of insurance behind the traditional functioning. However, the 90% of life insurance market remains untouched. The life insurance companies are far from reach to the majority public. There is potential in the life insurance in Nepal (Nepal, 2002, P: 38-45).

Bhandari; (1993) explained that insurance is a key in the economic development of a country. Insurance companies not only shift the risk but also collect small-scattered capital and inject these in the development activities of long-term nature. It has direct role to play in a developing country because of the fact the government is utilizing its entire means and resources for the all-sound development of the country. A slight mistake on the regulating of insurance activities will create an adverse effect in the over all economy of the country. Hence, the supervision of insurance through regulation is necessary in order to accelerate the pace of economic growth. A sound insurance regulation is a means to provide for insurance to stable and strength the national insurance market. Thus, insurance regulation facilities are necessary control of insurance activities

Dr. Pant; (1995) On the flow of funds in Nepal has analyzed the flow of funds of Rastriya Beema Sansthan since 1975 to 1991. He found that the small volume of credit transaction of Rastriya Beema Sansthan in areas other than government bonds means that it has influence in determining the structure of demand in the economy. The savings that it has managed to mobilize, especially through life insurance is considerable. It has, however, been used to finance government budget deficit or to further increase fixed deposit liability of the commercial banks, which in many occasions, has excess liquidity at their disposal. Rastriya Beema Sansthan however, has no alternative either (Pant, 1995).

In twentieth century, **Philip Zorin and William N. Geotzman** has studies about global stock market. To estimate for the long run expected return on equity in international base is the main purpose of this study. About the implication of this study, they mention "In a famous article Mehra and Prescott (1995) argue that standard general equilibrium models cannot explain the size of the risk premium on

US equities which average about 6% over the 1978/89 periods. They show that one would need a very large difference of risk aversion, largely in excess of the usual value of two to generate such a premium. This up setting result has sparked a flurry of theoretical research that explains alternatives performance structure; including dropping the expected utility assumption and introducing habit function” (Zorin and Goteman,(1999, P: 95).

2.5 Research Gap

As we know that research means to carry out the real problem on the particular field on a particular topic.

Previous research was related only focus on premium collection and investment pattern but this research depends on premium collection, investment and claim paid of NIC¹, UIC, NIC, SIC, and AIC, the management opinion instance’s premium collection and investment system and identify interest earning in the investment. This research has probable corrective measures relating to the improvement of the premium collection and investment aspect. It has concluded that fire insurance plays a vital role in the development of commerce and industry and has great significance in developing the country. It has a very good prospect. Therefore, it is different from previous studies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology is a systematic way to solve the research problem. Thus, research Methodology describe the method and process applied in the entire aspect of the study. “Research methodology refers to the various sequential steps to be adopted by a researcher in studying a problem with certain objective in view” (C.R. Kothari, 1989).

This study aims at presenting, evaluating and finding about the investment pattern, premium collection condition and investment return of NIC¹, UIC, NIC, SIC & AIC. The study will draw an actual scenario of investment pattern and premium collection condition of NIC¹, UIC, NIC, SIC & AIC. To accomplish this goal, the study follows the research methodology described in this chapter as:

3.2 Research Design

A research design is a framework to research objectives. It is planning and procedure to solve a phenomenon. A research design is the arrangement of condition for collection and analysis of data, in a manner that aims to combine relevance to the research purpose with economy in procedure. Research design is the plan, structure and strategy of investigation conceived, so as to obtain answers to research question and to control variances. Research design is the starting point of the research; therefore, a research cannot obtain any fact result with out consulting the research design.

To achieve the objective of this study descriptive and analytical research designs have been used. The research is so designed that the analysis and interpretation of the secondary data relates to the evaluation of past behavior of the insurers relating the investment with in the industry. Collection of premium and the analysis and

interpretation of the primary data relates to finding and predicting about forth coming behavior of the insurers relating to the premium collection and investment within the industry.

3.3 Population and Sampling

The completely insurance industry consists of twenty -five insurers in Nepal. Among them, Nine of the insurers are involved in life insurance business along with non life insurance business. For the purpose of the study, five insurance companies are taken as sample from the population. They are as follows:

- a) Nepal Insurance Company Limited
- b) United Insurance Company Limited
- c) Neco Insurance Company Limited
- d) Sagarmatha Insurance Company Limited
- e) Alliance Insurance Company Limited

3.4 Data Period Covered

This study has covered the overall 7 years period from financial year 2060/2061 to 2066/2067.

3.5 Methods and Sources of Data Collection

For the fulfillment of above-mentioned objective, a definite series of analysis is introduced. The research is based upon the description of the primary and secondary data for the historical performance assessment and the future prediction of planning and upcoming policy and implementation among the insurers. Hence, the primary and secondary data are for the analysis and drawing a valid conclusion.

3.5.1 Primary Data and Its Source

The primary data is collected from various insurance companies for the opinion on investment of insurance fund, its policy and premium and other relevant factors.

Primary data for the purpose of this study is collected using pre-set questionnaire, which is supported by the study is collected using pre-set questionnaire, which is supported by the direct interview with the relevant authorities.

3.5.2 Secondary Data and Its Source

This research is based upon secondary data. Therefore, the secondary data for the purpose of the study is collected through various published and unpublished documentary type sources. The source of valid secondary data is:

- a) Published or unpublished annual reports of the respective insurer,
- b) Published or unpublished financial statements of the respective insurers,
- c) Various Brochure, Journals as well as Bookies published by the insurers,
- d) Publications of the insurance committee,
- e) Various publications of the Government agencies and Bodies relating to the field,
- f) Books relating the subject,
- g) Periodicals, newspapers, and magazines.

3.6 Tools and Techniques Used

Further arising the aforementioned objectives following tools and techniques are used in this study, which are applicable in analysis phase.

3.6.1 Financial Analysis Tools

Generally, the financial analysis tools are used for the purpose of the assessment of the financial position to a particular organization. There are various tools in financial sector. However, for the purpose of this study and in accordance to the studies objective ratio analysis is performed in this study. Certainly, ratio analysis can show the position of investment return and its contribution on overall performance.

Ratio Analysis

The term refers to the numerical or quantitative relationship between the two components or variables. Ratio can be expressed as percentage, fraction, and stated comparison between numbers. In simple word, ratio analysis or financial ratio express the relation between the accounting figures mathematically. It is an indicator yardstick or measuring rod for evaluating the financial position and performance of a firm.

As for this study, ratio analysis is used to present the position of the investment and its performance as compared with the overall position and performance of the insurer. In order to analyze, the investment pattern and performance of premium collection, following ratios are used.

$$\text{❖ Return on investment} = \frac{\text{Net Income}}{\text{Total Investment}}$$

$$\text{❖ Investment to total premium} = \frac{\text{Total Investment}}{\text{Total Premium}}$$

$$\text{❖ Govt. saving bond to total investment} = \frac{\text{Govt. Saving Bond}}{\text{Total Investment}}$$

$$\text{❖ Fixed deposits to total investment} = \frac{\text{Fixed Deposits}}{\text{Total Investment}}$$

$$\text{❖ Investment on share to total investment} = \frac{\text{Investment on Share}}{\text{Total Investment}}$$

$$\text{❖ Return on premium} = \frac{\text{Return}}{\text{Premium}}$$

$$\text{❖ Claim paid to premium collection} = \frac{\text{Claim Paid}}{\text{Total Premium}}$$

$$\text{❖ Investment on bank fixed deposit to total investment} = \frac{\text{Investment on BFD}}{\text{Total Investment}}$$

$$\text{❖ Investment of share to total investment} = \frac{\text{Investment on Share}}{\text{Total Investment}}$$

- ❖ Premium collection on marine insurance to total premium collection

$$= \frac{\text{Premium on Marine Insurance}}{\text{Total Premium}}$$
- ❖ Premium collection on fire insurance to total premium collection

$$= \frac{\text{PCFI}}{\text{Total Premium}}$$
- ❖ Premium collection of motor insurance =
$$\frac{\text{PCMI}^1}{\text{Total Premium}}$$

3.6.2 Statistical Analysis Tools

Generally, the statistical tools are used for attaining accuracy on analysis and study. According to this studies objective here, mean, standard deviation, coefficient of correlation, trend analysis, 'F' test, and test of regression coefficient are performed.

Trend Analysis

In order to draw the valid conclusion of investment and premium aspect, some statistical tools are used. As a statistical tool, trend analysis is used to show the basic tendency of investment and premium components.

Co-efficient of Correlation

To attain the relationship between 'premium collection and investment premium collection and claim paid' and investment and net income earns, co-efficient of correlation is used. "The correlation is the statistical tool that is used to describe the degree to which one variable is linearly related to another" (Richard & David, 1991, P: 505). The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding of correlation, Karl Pearson's method is applied in this study. The result of co-efficient of correlation is always between '-1' to '+1'. For the purpose of decision making under correlation, decision is based on following interpretation.

- ❖ When $r = +1$, there is perfect positive correlation.
- ❖ When $r = -1$, there is perfect negative correlation.
- ❖ When $r = 0$, there is no correlation.
- ❖ When 'r' lies between 0.7 to 0.999 (or -0.7 to -0.999), there is a high degree of positive (or negative) correlation.
- ❖ When 'r' lies 0.5 to 0.669, there is a moderate degree of correlation.
- ❖ When 'r' is less than 0.5, there is low degree of correlation.

The Karl Pearson's formula is calculated as:

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}}$$

Probable Error (P.E.)

The Probable Error (P.E.) is used to measure the reliability and test of significance of correlation coefficient. Probable error of correlation is calculated by the following formula:

$$P.E. (r) = 0.6745 \times \frac{[1-r^2]}{\sqrt{n}}$$

Where, r = the value of correlation coefficient

n = number of pairs of observations

P.E. is used in interpretation whether the calculated value of 'r' is significant or not.

- a) If $r < P.E.$, it is insignificant, i.e., there is no evidence of correlation.
- b) If $r > 6P.E.$ it is significant.
- c) If $P.E. < r < 6P.E.$ nothing can be concluded.

Mean

The simple arithmetic mean is the sum of total values to the number of values in the sample. Thus,

$$\text{Mean} = \frac{\text{Sum of Total Value}}{\text{Number of Values}} = \bar{X} = \frac{\sum X}{n}$$

Standard Deviation (S.D.)

The measurement of the scatter ness of the mass of figures in a series about an average is known as dispersion. The standard deviation measures the absolute dispersion. The greater the 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 of different ratios is calculated. It is denoted by σ (sigma) and calculated as:

$$\text{S.D. } (\sigma) = \text{for an individual series} = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

Co-efficient of Variation (C.V.)

The co-efficient of variation is the relative measure of dispersion, comparable a cross distribution which is defined as the ratio of the standard deviation to the mean expressed in percentage. It is used for comparing variability of two series or set of data with the same or different units and is expressed in percent since it is independent of units. It is calculated as follows:

$$\text{C.V.} = \frac{\sigma}{\bar{x}} \times 100\%$$

Co-efficient of Determination

The coefficient of determination is a measure of the degree of linear association or correlation between two or more independent variables and a dependent variable. Generally, coefficient of determination (R) measures the percentage total variation in dependent variable explained by independent variables.

F - test

The Fisher's F-distribution is defined as a distribution of the ratio of two independent chi-square variables each divided by the corresponding degrees of freedom. However, F-test is used to examine the significance of the difference between more than two

sample means at the same time. The F-test enables us to test the significance of the difference between more than two samples means. This technique can be used to conclude whether the regression equation provides significant result or not.

Test of hypothesis is a process of testing of significance regarding the parameter of the population based on sample drawn from the population. In testing hypothesis, we examine, based on statistics. Computed form the sample drawn, whether the sample drawn belongs to the parent population with certain specified characteristics or not.

In this topic, an effort has been made to test the significance regarding the parameter of the population based on sample drawn from the population. Generally, following steps are followed for the test of hypothesis. A sample of f-test calculation is presented in **Appendix III**

- a) Formulating hypothesis
 - Null hypothesis
 - Alternative hypothesis
- b) Computing the test statistic
- c) Fixing the level of significance
- d) Finding critical region
- e) Deciding two tailed or one tailed test
- f) Making decision

First Hypothesis (F - test for premium collection)

Null Hypothesis

$H_0: \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$ there is no significant difference between total premium of Nepal Insurance Company Limited, United Insurance Company Limited, Neco Insurance Company Limited, Sagarmatha Insurance Company Limited, and Alliance Insurance Company Limited.

Alternative Hypothesis

H₁: μ₁ μ₂ μ₃ μ₄ μ₅ there is significant difference between total premium of Nepal Insurance Company Limited, United Insurance Company Limited, Neco Insurance Company Limited, Sagarmatha Insurance Company Limited, and Alliance Insurance Company Limited.

Second Hypothesis (F - test for Investment Amount of Sampled Insurer)

Null Hypothesis

H₀: μ₁= μ₂ = μ₃ = μ₄ = μ₅ there is no significant difference between investment of Nepal Insurance Company Limited, United Insurance Company Limited, Neco Insurance Company Limited, Sagarmatha Insurance Company Limited, and Alliance Insurance Company Limited.

Alternative Hypothesis

H₁: μ₁ μ₂ μ₃ μ₄ μ₅ there is significant difference between investment of Nepal Insurance Company Limited, United Insurance Company Limited, Neco Insurance Company Limited, Sagarmatha Insurance Company Limited, and Alliance Insurance Company Limited.

Test of Regression Coefficient of Multiple Regression Model

Let the multiple regression equation of X₁ on X₂ and X₃ be

$$X_1 = a_1 + b_1 X_2 + b_2 X_3 \dots\dots\dots (i)$$

The values of constant a₁, b₁, and b₂ can be obtained by solving the following three normal equations.

$$X_1 = na_1 + b_1 \sum X_2 + b_2 \sum X_3 \dots\dots\dots (ii)$$

$$\sum X_1 X_2 = a_1 \sum X_2 + b_1 \sum X_2^2 + b_2 \sum X_2 X_3 \dots\dots\dots (iii)$$

$$\sum X_1 X_3 = a_1 \sum X_3 + b_1 \sum X_2 X_3 + b_2 \sum X_3^2 \dots\dots\dots (iv)$$

Where, b_1 and b_2 are the partial regression coefficients. We can determine whether there is a significant relationship between the dependent variable and the set of independent (explanatory variables) by using F test or analysis of variance (ANOVA) discussed earlier.

The following steps can be used to test the significance of regression coefficient of multiple regression models.

Step 1: Formulation of Hypothesis

Because there is more than one explanatory variable, the null and alternative hypothesis is set up as follows:

$H_0: b_1 = b_2 = 0$ (There is no relationship between the dependent variable (profit) and the explanatory variables (premium and investment) OR (the regression equation of X_1 on X_2 and X_3 is not significant.)

$H_1: b_1 \neq b_2 \neq 0$ or at least one $b_i \neq 0$ (There is linear relationship between the dependent variable and at least one of the explanatory variables) OR (the regression equation of X_1 on X_2 and X_3 is significant.)

Step 2: Calculation of Test Statistic

Under H_0 , F statistic is given by

$$F = \frac{\text{Mean sum of squares due to regression (MSR)}}{\text{Mean sum of squares due to error (MSE)}}$$

$$= \frac{\text{Explained variance}}{\text{Unexplained variance}}$$

$$\text{Where, Explained variance} = \frac{\text{Explained variation}}{\text{its degree of freedom}} = \frac{\sum \left(\hat{x}_1 - x_1 \right)^2}{k - 1}$$

k is the number of constants in regression model. Also, k is the number of total variables involved in regression model so that (k-1) is the number of explanatory variables.

$$\text{Unexplained variance} = \frac{\text{Unexplained variation}}{\text{its degree of freedom}} = \frac{\sum \left(x_1 - \bar{x}_1 \right)^2}{n - k}$$

Where, n is the sample size or number of observations.

Step 3: Construction of ANOVA Table

ANOVA table for testing of set of regression coefficients in multiple regression models with two explanatory variables.

Source of variation	Sum of squares	Degree of freedom	Mean sum of squares	F statistic
Regression	SSR	k-1	$MSR = \frac{SSR}{K - 1}$	$F = \frac{MSR}{MSE}$
Error (Residual)	SSE	n-k	$MSE = \frac{SSE}{n - k}$	
Total	SST	n-1		

Step 4: Level of Significance

Obtain the critical or table value of F at level of significance for two- tailed test with degree of freedom (k-1, n-k).

Step 5: Decision

If calculated value of F is less than or equal to the tabulated value of F, the null hypothesis H_0 is accepted. If calculated value of F is greater than the tabulated value of F, the null hypothesis H_0 is rejected. Calculation is presented in **Appendix IV**.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

Data analysis and major findings is the most important chapter of this study. For the purpose of study and analysis, secondary and primary data are used. Based upon the data analysis and study, major finding are concluded. This data presentation and analysis chapter is separated into two parts, as evaluation of premium collection and composition through financial tools and evaluation of investment pattern and composition through financial tools and statistical analysis.

It has been already mentioned the methodology to be in third chapter. This chapter has been focused on the analysis of premium collection and investment pattern of selected insurance companies. It considers various variables that are important and reflect the premium and investment of these companies. Premium is the main source of investment for these companies. It plays vital role in the transaction of insurance. It is the main income of the insurance companies. Moreover, investment is the outflow of the company to get more return. An insurance company is also a financial institution, it always thinks for profit. This chapter is dealt with data and its analysis.

4.1.1 Evaluation of premium Collection and Composition through Financial Tools

Collection premium is the main source of an insurer for the purpose of investment. It shows the insurance company. Higher premium tends the higher volume of transaction. The entire insurer tries to collect higher premium because if they succeed to collect high volume of premium, then they also succeed to receive higher income from the investment.

All the theoretical concept of premium is mentioned in the above chapter, which may be enough for the theoretical idea. Therefore, here, only quantitative analysis is

described, which is related to the premium collection and its composition. For the purpose of the evaluation of the premium of the premium collection condition and composition among the portfolios, the trend analysis, 'F' test, Mean, Standard deviation and, coefficient of variation are used. For the comparison of all the respective matter on premium collection, various ratio analysis are computed which will be give the actual proportion to the particular insurance company of premium in total collected premium sum. This evaluation chapter is also separated into two parts as financial analysis and statistical analysis like evaluation of investment patterns chapter.

Under this chapter various chapter financial ratio, which are related to premium collection are studies to evaluate and analyze the performance of sampled insurer and Nepalese insurance industries. These important ratios are calculated and their respective trend presented as follows. All data mentioned in percentage.

4.1.1.1 Return on Premium

It is a rate of average premium income. This ratio shows the portion of return on total premium collection. It is just the calculation of average rate of premium return. We can to know what average return is held with comparison to the total premium collection. Return always shows the performance of the particular companies and industry too. Therefore, here we compute the return on premium to show the percentage rate of return on premium collection of particular insurer and industries too, for a particular year in aggregate.

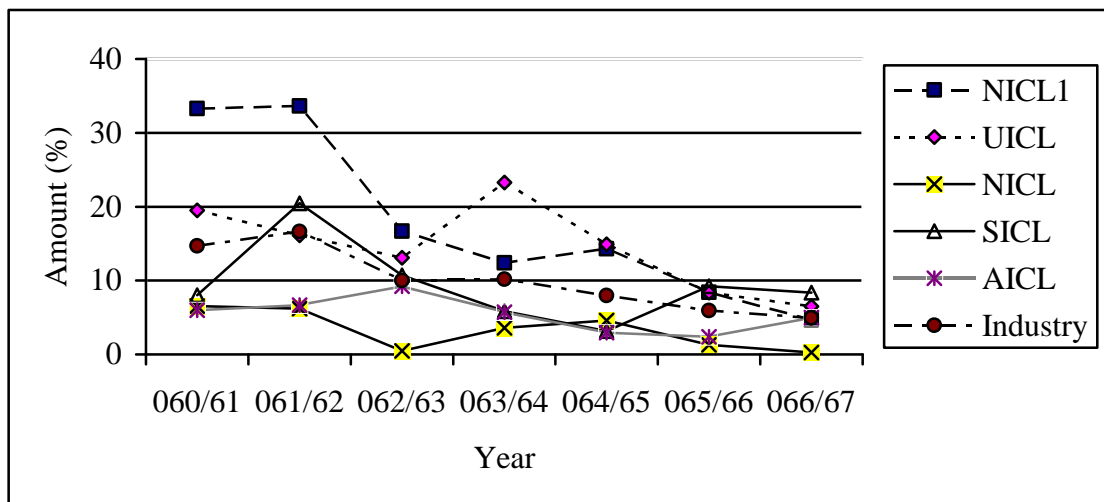
The income amount mentioned in the profit and loss account and total premium arise from adding all policies premium amount, which is mentioned in the P/L account of particular insurance policy. The higher return indicates the higher or better performance of the company.

Table No: 4.1
Return on premium (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	33.30	33.65	16.69	12.41	14.29	8.42	4.66	17.63	10.65	60.40
UICL	19.51	16.13	13.09	23.29	14.90	8.37	6.50	14.54	5.45	37.48
NICL	6.55	6.19	0.46	3.60	4.59	1.32	0.25	3.28	2.45	74.69
SICL	8.01	20.46	10.69	5.83	3.15	9.23	8.38	9.39	5.05	53.78
AICL	5.97	6.66	9.21	5.72	2.93	2.37	5.00	5.41	2.13	39.37
Industry	14.67	16.62	10.03	10.17	7.97	5.94	4.96	10.05	3.99	39.70

Source: Appendix V

Figure No: 4.1
Return on Premium



This table shows the ratio of return on premium of particular sampled insurer and industry. According to this table, we can see that Nepal Insurance Company Limited earns more return (17.63%) with comparison to premium collection and Neco Insurance Company Limited earns less return among the sampled insurers. Nepal Insurance Company has earned more return in the fiscal years 060/61, 061/62, 062/63. United Insurance Company in the fiscal years 063/64, 064/65 and Sagarmatha Insurance Company in the fiscal years 065/66, 066/67 earned more return on premium respectively. The entire sampled insurers have fluctuating trend in income generation in which is shows by the C.V.

Regarding the return on premium ratio of industry, the higher return earns at the fiscal year 2061/062 and least return earn at fiscal year 2066/067.

4.1.1.2 Claim Paid to Premium Collection Ratio

The all insurers are responsible to pay a certain claim when the risk is accrued. If there is no risk than there is no presence of insurance. The large amount of claim forces the insurer to bear the loss. Therefore, the claim paid determines the insurers' profit and loss. However, claim paid to premium collection ratio shows the rate of average claim paid on premium. It is the extent to the ratio if cash outflow from claim in comparison to the premium collection. The ratio of claim paid to premium collection measures the performance of risk evaluation and feasibility study of policy and premium charged calculation. Thus, claim paid to premium collection ratio represents the whole insurers' decision performance. Generally, low ratio seems the good performance and high ratio seems bad performance of the insurer. The amount of claim paid is mentioned in the profit and loss account of particular insurance policy and total premium is calculated (accumulated) through profit and loss account. Therefore, it is directly related to the profit and loss of particular insurer. Hence, this ratio also represents the performance of the insurer. If the insurer paid high claim then the ratio will be high and low claim paid seems low ratio. However, low ratio is preferable to the particular insurer and industry too.

Table No: 4.2

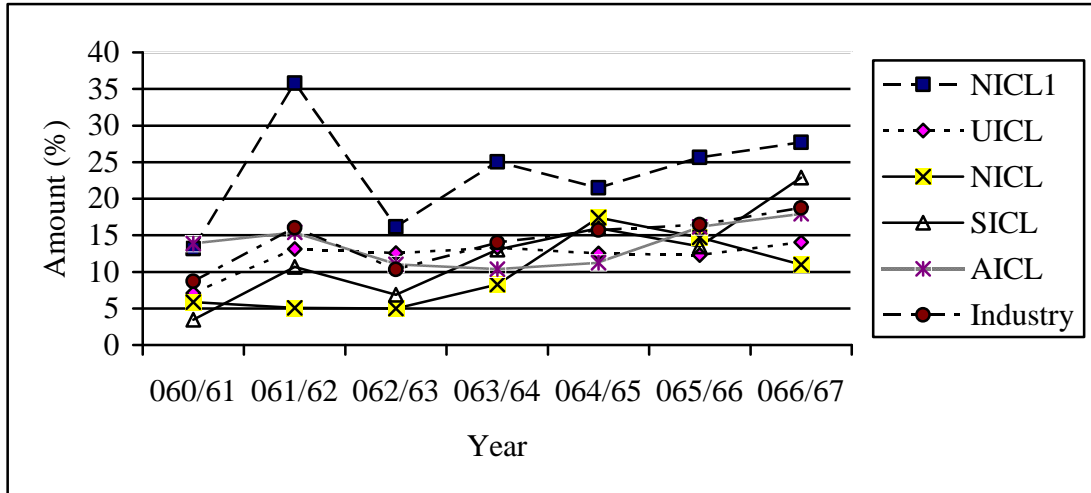
Claim Paid to Premium Collection (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	13.18	35.81	16.13	25.04	21.49	25.63	27.69	23.57	6.97	29.57
UICL	7.07	13.14	12.56	13.30	12.53	12.30	14.04	12.13	2.13	17.55
NICL	5.88	5.08	4.97	8.29	17.42	14.69	10.98	9.62	4.57	47.50
SICL	3.44	10.68	6.86	13.06	15.98	13.48	22.90	12.34	5.83	47.24
AICL	13.88	15.41	11.04	10.39	11.23	16.13	17.96	13.72	2.69	19.60
Industry	8.69	16.02	10.31	14.02	15.73	16.45	18.71	14.28	3.31	23.17

Source: Appendix VI

Figure No: 4.2

Claim Paid to Premium Collection



From the above table we find that the claim paid ratio is at least rate in comparison to premium collection. It is really, because the total premium is calculated without considering reinsurance premium. According to the table presented in the above Nepal Insurance Company is paid more claim with comparison its collected total premium and Neco Insurance paid least claim among them which is shows by the average. The United Insurance Company has least fluctuation among the sample insurer over the study period as revealed by C.V.

Regarding the claim paid to total premium collection ratio of industry, the industry paid higher claim in fiscal year 066/67 and least claim in fiscal year 060/61. The industry has C.V. 23.17, which indicates that it has also fluctuation trend in claim paid ratio.

4.1.1.3 Premium Collection on Marine Insurance to Total Premium Collection Ratio

All insurers write various policies in the insurance business. Marine insurance is one of the insurance policies among them. Nepal is a landlocked country therefore there is no higher transaction of marine insurance. Generally, marine insurance based the export, import business. The ratio of premium collection of marine insurance is low due to the lack of highly transaction of its policy in insurance field. Although marine

insurance has low transaction, it plays vital role in collection the premium because it is a one of the source of premium collection. The premium collection on marine insurance to total premium ratio shows the proportion or average of marine premium. The amount of marine insurance premium is mentioned in the P/L account of the respective companies. The ratios show the share of marine insurance premiums in total premium as percentage.

Table No: 4.3

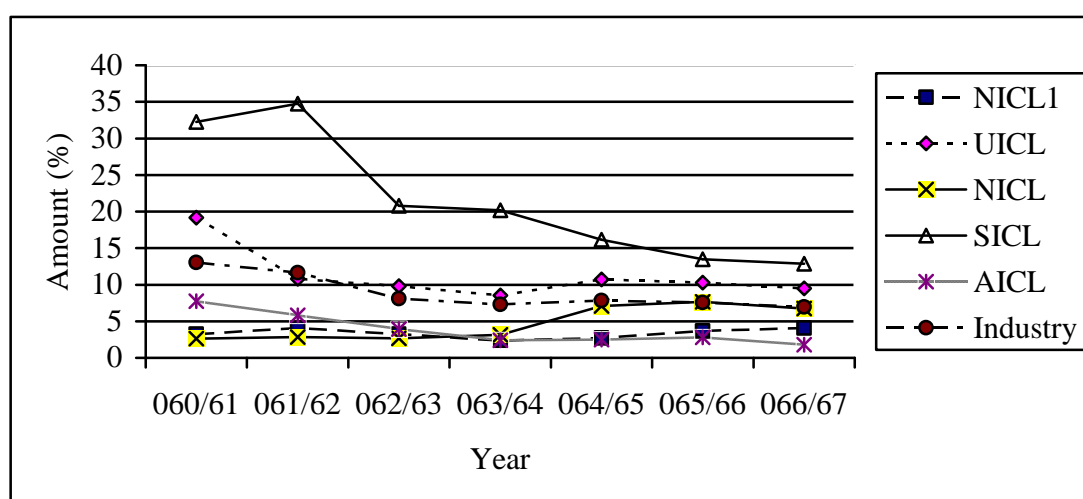
Premium Collection on Marine Insurance to Total Premium Collection Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	3.26	4.07	3.22	2.35	2.72	3.66	4.05	3.33	0.56	16.96
UICL	19.19	10.80	9.81	8.55	10.74	10.28	9.49	11.27	3.31	29.37
NICL	2.63	2.85	2.68	3.15	7.08	7.67	6.72	4.68	2.09	44.65
SICL	32.26	34.75	20.80	20.18	16.16	13.47	12.85	21.50	7.57	35.20
AICL	7.75	5.84	3.95	2.40	2.48	2.80	1.80	3.86	2.017	52.25
Industry	13.02	11.66	8.09	7.33	7.84	7.58	6.98	8.93	2.39	26.76

Source: Appendix VII

Figure No: 4.3

Premium Collection on Marine Insurance to Total Premium Collection



Above table shows the average premium of marine insurance of particular insurance companies and industry year wise at aggregate. According to the table, Sagarmatha

Insurance has the highest premium and Nepal Insurance has the least premium collection from the marine insurance policy at seven years period. Among the all sampled insurance companies, according to C.V. the higher and least fluctuation has Alliance Insurance Company and Nepal Insurance Company respectively.

Regarding the premium collection on marine insurance to total premium collection ratio of industry, the above table clearly shows that, the highest premium collected by industry is in fiscal year 060/61 and the least premium collected at in the fiscal year 066/67. The C.V. of industry is 26.76%, which indicates that there is fluctuation in premium collection trend. The premium collection ratio on marine insurance of industry is in increasing form in fiscal year 060/61, thereafter, which has decreasing trend.

4.1.1.4 Premium Collection on Fire Insurance Policy to Total Premium Collection Ratio

The fire insurance policy is also one of the major sources of premium collection of insurance industry. The amount of premium on fire insurance is also mentioned in P/L account of a particular insurer like other policies. This ratio measures the proportion of fire insurance premium on total collected premium. This ratio is the rate of average of fire insurance premium collection. Therefore, it shows the share of fire insurance premium in total premium collection.

Table No: 4.4

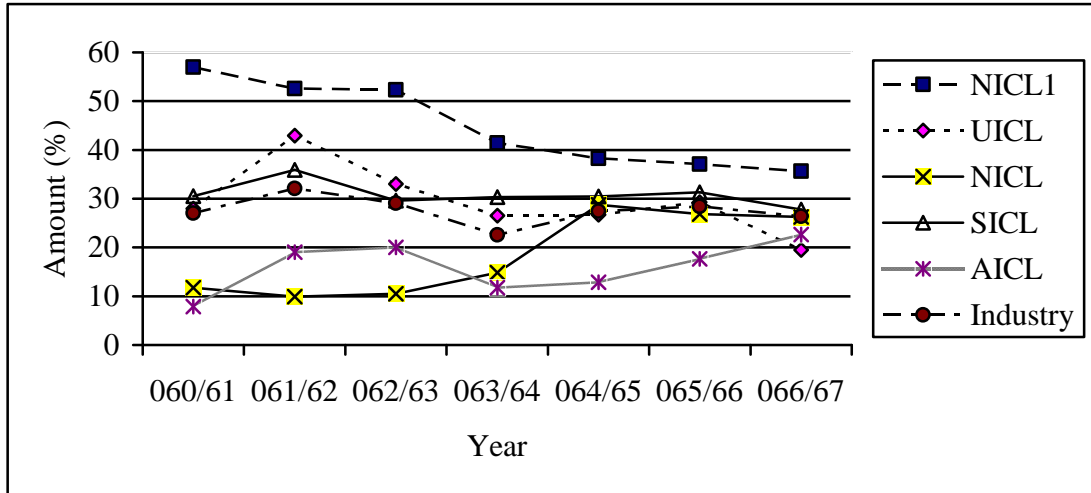
PCFI to Total Premium Collection (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	56.96	52.60	52.33	41.43	38.30	37.10	35.67	44.91	7.93	17.65
UICL	27.99	42.90	33.05	26.52	26.74	29.31	19.49	29.43	7.67	26.06
NICL	11.77	9.90	10.50	14.81	28.78	26.87	26.26	18.41	7.86	42.69
SICL	30.52	35.93	29.63	30.30	30.44	31.29	27.80	30.84	2.30	7.45
AICL	7.88	19.04	19.99	11.77	12.88	17.69	22.67	15.99	4.87	30.45
Industry	27.02	32.07	29.10	22.61	27.43	28.45	26.38	27.58	2.66	9.65

Source: Appendix VII

Figure No: 4.4

PCFI to Total Premium Collection



Above table shows the average of fire insurance premium of particular insurer and industry too. According to the table, Nepal Insurance has the highest premium and United Insurance has the least premium collection from the fire insurance policy at seven years period of time, which is, shows the mean. As for C.V., Neco Insurance has higher and Sagarmatha Insurance has least fluctuation in premium collection.

Regarding the fire insurance premium to total premium ratio to industry, we can see that the highest premium is collected in fiscal year 061/62 and least premium collected in fiscal year 063/64. According to table, the premium collection trend has fluctuation. This is indicated by the C.V.

4.1.1.5 Premium Collection on Motor Insurance to Total Premium Collection Ratio

Motor insurance is the popular policy for the all people who belong to the motor business. However, we have a low position of motor insurance performance in Nepal. The motor insurance premium to total premium ratio shows the average premium of motor insurance in total premium. This ratio measures the percentage rate of premium collection on motor insurance policy of particular insurer and industries, for a particular year. The premium amount of motor insurance is mentioned in the profit

and loss account of respective policy and total premium would get from all policies accumulated premium.

Table No: 4.5

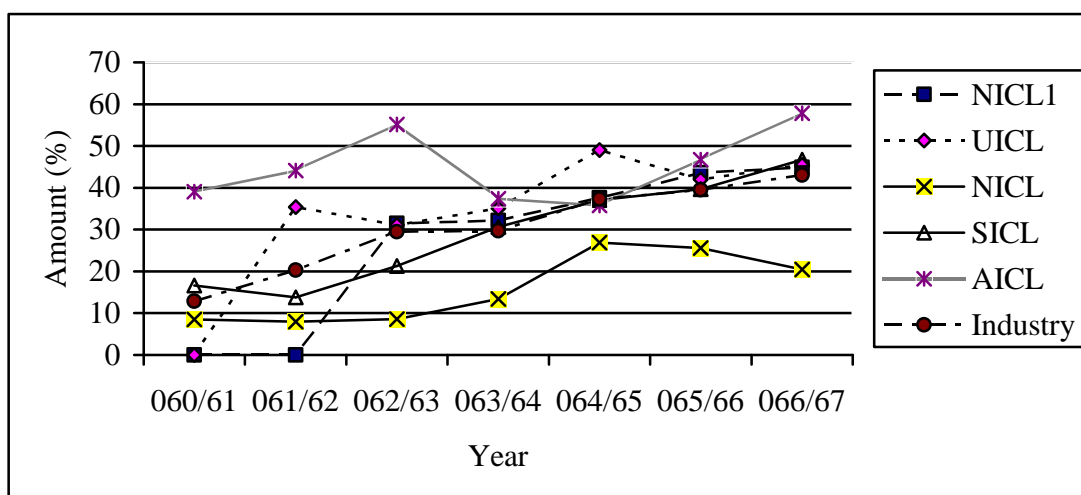
Premium of Motor Insurance to Total Premium Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	0.00	0.00	31.45	32.20	37.58	43.59	44.86	27.10	10.29	37.97
UICL	0.00	35.38	31.07	35.10	49.02	41.96	45.53	34.01	7.86	23.11
NICL	8.49	7.96	8.58	13.38	26.89	25.56	20.45	15.90	7.67	48.23
SICL	16.59	13.80	21.30	30.60	37.10	39.64	46.69	29.39	11.57	39.36
AICL	39.09	44.15	55.11	37.41	35.77	46.74	57.80	45.15	7.99	17.70
Industry	12.83	20.26	29.50	29.74	37.27	39.50	43.07	30.31	10.02	33.05

Source: Appendix VII

Figure No: 4.5

Premium of Motor Insurance to Total Premium



Above table shows the motor insurance premium ratio of sampled insurer and the industries. According to the table, Nepal Insurance Company has started motor insurance premium from the fiscal year 062/63. Among all the sampled insurers, Alliance Insurance Company has highest and stable ratio of motor premium which is clearly shown by the C.V.

Regarding the motor premium to total premium ratio of industry, industry success to collect more premium from motor insurance fiscal year 066/67 (43.07%) out of total premium collection. However, C.V. is 33.05%, which indicated the calculating trend of premium collection exists.

4.1.1.6 Premium Collection on Engineering Insurance to Total Premium Ratio

It is a rate of average premium collection on engineering insurance policy. It shows the ratio or proportion of engineering policies premium with comparison to total premium collection. This ratio measures the engineering premium collection ratio in terms of percentage. The engineering policies premium is also mentioned its profit and loss account like other policies.

Table No: 4.6

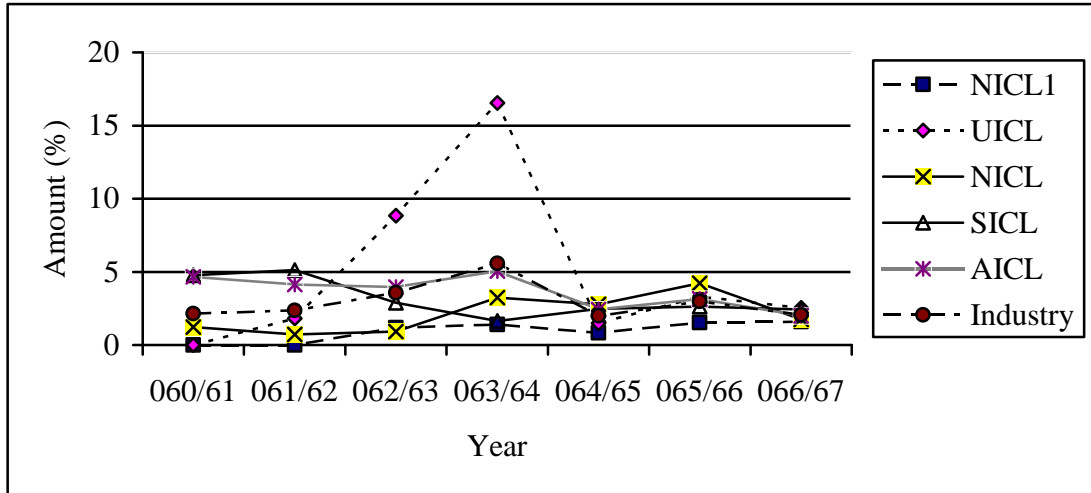
Engineering Insurance Premium to Total Premium Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	0.00	0.00	1.19	1.40	0.84	1.54	1.60	0.94	0.39	41.48
UICL	0.00	1.81	8.84	16.54	1.49	3.30	2.53	4.93	5.0715	102.83
NICL	1.23	0.72	0.92	3.24	2.77	4.23	1.75	2.12	1.21	57.07
SICL	4.78	5.13	2.88	1.64	2.48	2.63	2.43	3.14	1.20	38.21
AICL	4.67	4.14	3.95	5.06	2.43	3.15	1.99	3.63	1.06	29.20
Industry	2.14	2.36	3.56	5.58	2.00	2.97	2.06	2.95	1.19	40.33

Source: Appendix VII

Figure No: 4.6

Engineering Insurance Premium to Total Premium



From the above table we see that Nepal Insurance and United Insurance have just started to collect premium from engineering insurance policy. According to the table, United Insurance Company has higher premium collection rate and Nepal Insurance Company has least collection. The calculated C.V. seems that United Insurance has higher and Alliance Insurance has least fluctuation trend in premium collection.

4.1.1.7 Premium Collection on Miscellaneous Insurance Policy to Total Premium Ratio

It is an average of miscellaneous premium. This ratio shows the proportion of miscellaneous premium in total premium collection. Insurer considers various policies in miscellaneous insurance. Therefore, it is a major source of premium collection.

Table No: 4.7

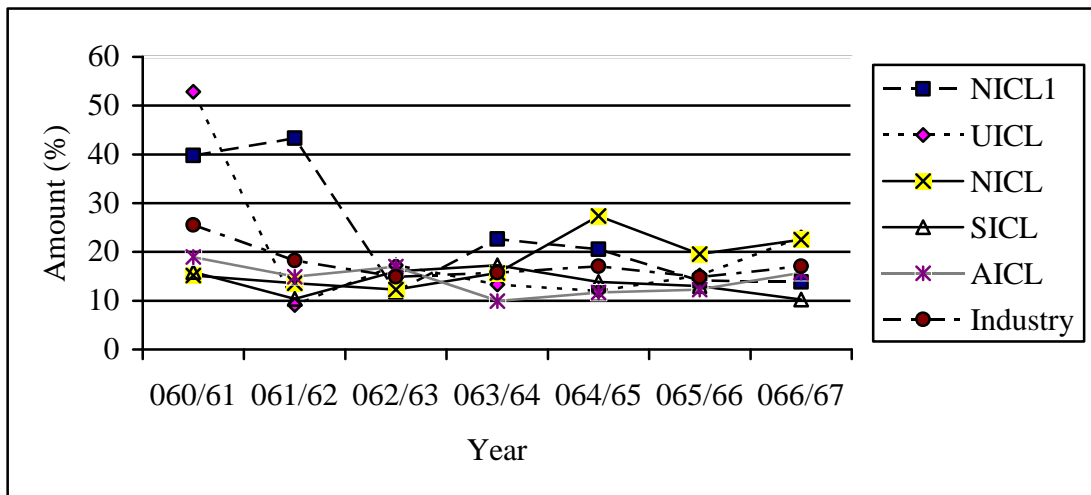
PCMI to Total Premium Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	39.78	43.33	11.81	22.62	20.55	14.11	13.83	23.72	11.83	49.87
UICL	52.82	9.11	17.24	13.30	12.01	15.16	22.96	20.37	13.85	67.9
NICL	15.16	13.60	12.30	15.72	27.35	19.55	22.54	18.03	4.77	26.45
SICL	15.86	10.40	16.01	17.28	13.82	12.97	10.23	13.80	2.56	18.55
AICL	18.96	14.93	16.98	9.88	11.70	12.29	15.73	14.35	2.96	20.62
Industry	25.52	18.27	14.87	15.76	17.09	14.82	17.06	17.63	3.42	19.39

Source: Appendix VII

Figure No: 4.7

PCMI to Total Premium



From the above table we may be able to see the ratio as miscellaneous premium in total premium collection of all sampled insurer and industry too. According to the table, Nepal Insurance Company has more premium collection in comparison (respective total premium) and Sagarmatha Insurance Company has the least premium collection among the sampled insurers. The entire insurer C.V. shows fluctuation in premium collection wherever highest fluctuation in United with 67.9% C.V. and the lowest in Sagarmatha with 18.55%.

Regarding the miscellaneous premium to total premium ratio of industry, in the fiscal year 056/57 industry has more premium collection from miscellaneous premium insurance policy. The C.V. 19.39% shows the low fluctuation trend in premium collection industry too.

4.1.2 Evaluation of Investment Pattern and Composition through Financial Tools

All the concept of insurance and insurance industry in Nepal is already mentioned in above chapters; which may show the detail idea of insurance business. Here, only quantitative analysis is mentioned which are related to the investment and investment pattern.

For the purpose of the evaluation of the investment pattern and composition among the portfolios, the trend analysis and 'F' test are used. For the comparison of all respective matter on investment, the mean, standard deviation, and coefficient of variance is also used. Likewise, to evaluation the return on respective portfolio and investment amount, the ratio analysis is also used. To attain the objectives of the study purpose all the concerned studies and analysis are used. This evaluation chapter is separated into two parts as financial analysis and statistical analysis. The purpose of this part is to study, evaluate, and analyze those major matters, which are related to the investment pattern and composition of Nepalese insurance companies. This analysis moves along with studies objective, therefore only those ratios are calculated and analyzed which are very important to evaluate in investment policy, pattern for this purpose are mentioned below:-

4.1.2.1 Return on Investment

It is a rate of average investment income. It shows the proportion of return with respect to investment. It is just the calculation of average rate of investment insurer and industries too for a particular year in aggregate. This ratio shows the performance of the investment and it indicates the whole investment portfolio performance. Here,

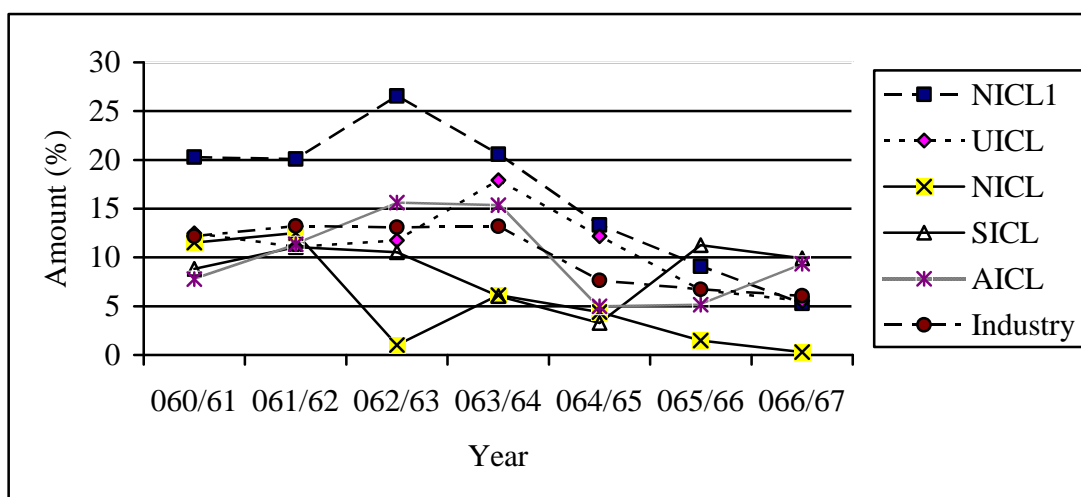
the total investment consists of all the investments optional and compulsory sectors and the net income carried from profit and loss account.

Table No: 4.8
Return on Investment Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	20.27	20.09	26.56	20.58	13.34	9.10	5.27	16.46	6.93	42.10
UICL	12.46	11.11	11.75	17.93	12.18	6.65	5.56	11.09	3.81	34.35
NICL	11.51	12.51	1.02	6.14	4.41	1.49	0.29	5.34	4.63	86.70
SICL	8.84	11.07	10.53	6.03	3.28	11.27	9.92	8.71	2.76	31.68
AICL	7.79	11.37	15.63	15.37	4.98	5.15	9.35	9.95	4.07	40.90
Industry	12.17	13.23	13.10	13.21	7.64	6.73	6.08	10.31	3.06	29.67

Source: Appendix VIII

Figure No: 4.8
Return on Investment



The table shows both particular sampled insurance and industries return on investment ratio. It might be the outcome if the use of the riskier investment components bearing varied rate of return or the outcome of the objective of investment. Among all the sample insurers, Neco Insurance's return on investment has higher fluctuation and Sagarmatha Insurance has lower fluctuation and has more return than all the insurers.

4.1.2.2 Investment to Total Premium Collection Ratio

It is a rate of average premium investment. It shows the ratio or proportion of investment with comparison to premium collection. This ratio measures the investment ratio in percentage. This ratio helps to show, what proportion of collected premium is invested in different sectors in aggregate. However, perhaps the starting time the entire insurer invests their fund (capital) in different sectors that is why the ratio cannot calculate exact for investment portion in collected premium. Here, the total investment consists of all investment portfolios and total premium consists of the entire premium, which is collected from various policies.

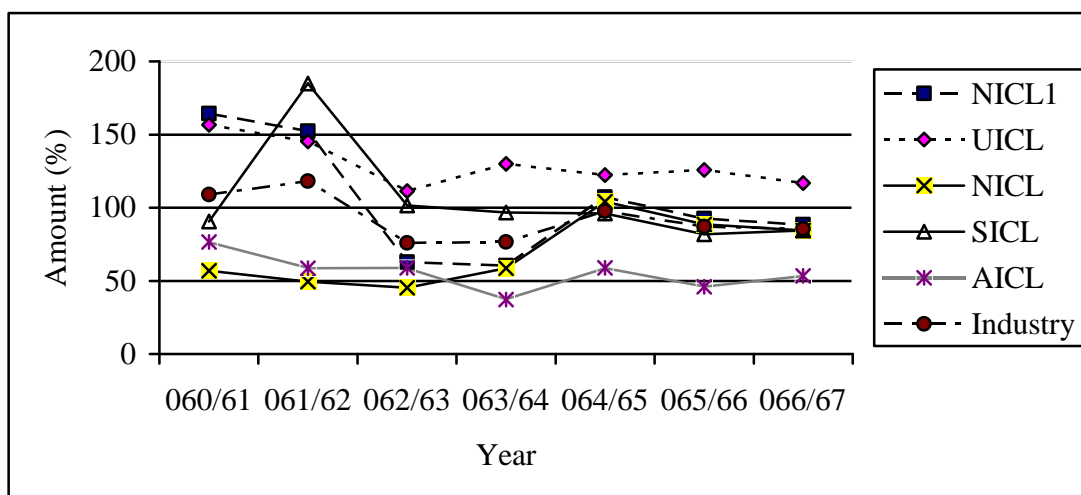
Table No: 4.9

Investment to Total Premium (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	164.29	152.32	62.85	60.30	107.15	92.50	88.47	103.98	37.69	36.24
UICL	156.63	145.27	111.40	129.88	122.32	125.89	116.93	129.76	14.79	11.15
NICL	56.93	49.50	45.19	58.64	104.09	88.67	84.47	69.64	20.88	29.98
SICL	90.55	184.84	101.52	96.78	96.00	81.93	84.52	105.16	33.15	31.52
AICL	76.66	58.57	58.91	37.19	58.85	45.98	53.45	55.66	11.39	20.46
Industry	109.01	118.10	75.97	76.56	97.68	86.99	85.57	92.84	14.92	16.07

Source: Appendix IX

Figure No: 4.9
Investment to Total Premium



Above table shows the investment to total premium ratio of five sampled insurance companies and industries. The investment ratio is shows the higher than each year's premium, it is because the insurer invested the fund firm capital and others source. The entire insurer invested more than their premium collection but somehow Neco Insurance and Alliance Insurance Company invested its fund less than its premium collection. This table clearly shows the fact that the entire insurer uses different sources for investment.

The entire insurer investment trend is fluctuation among them Nepal Insurance Company has more fluctuation on investment. From the fiscal year 060/61 to 063/64, the investment ratio going in a downward direction of Nepal Insurance Company. In the first year, it has higher investment ratio than it slope start to downward.

Among all the sampled companies, United Insurance has constant ratio of investment. It has less fluctuation therefore has C.V. less than other insurers. To compare the entire sampled insurer, United Insurance has good performance in investment. Regarding the investment to total premium, ratio of industry, the table shows wide fluctuation in investment. The C.V. of industry clearly seems the fluctuation trend of investment in insurance industry.

4.1.2.3 Investment on Government Saving Bond to Total Investment Ratio

This ratio is the average government saving bond investment. It shows the proportion of investment on government saving bond. The entire insurer invests their fund to making separate portfolio. It is known as secured investment instrument. The ratio measures the percentage of investment of particular insurer in government saving bond.

This ratio helps to know the average proportion on govt. saving bond of particular insurance companies and industry on aggregate.

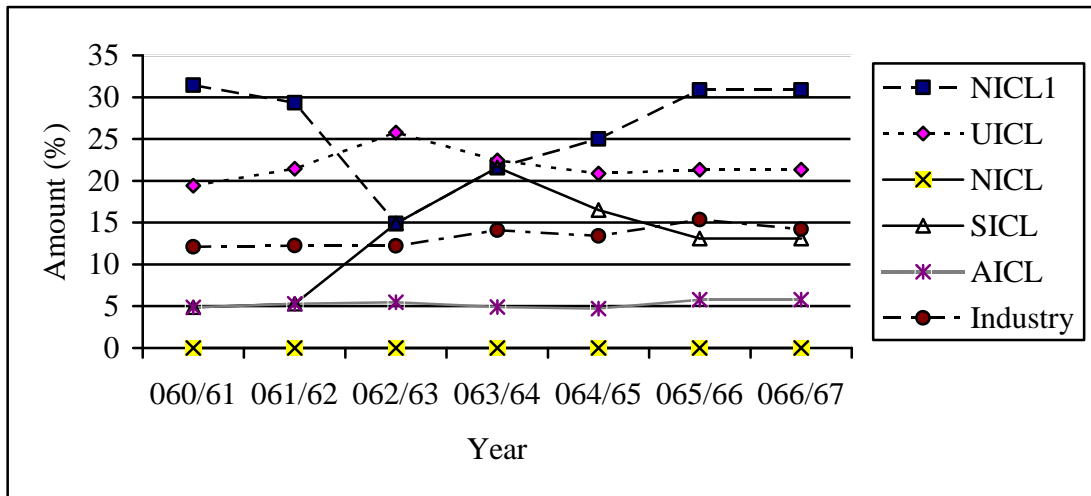
Table No: 4.10
Government Saving Bond to Total Investment (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	31.45	29.35	14.88	21.60	25.00	30.88	30.88	27.00	5.79	21.44
UICL	19.41	21.43	25.78	22.43	20.86	21.34	21.34	21.67	1.83	8.44
NICL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SICL	4.85	5.28	14.88	21.60	16.50	13.08	13.08	13.00	5.54	43.45
AICL	4.85	5.28	5.48	4.89	4.70	5.78	5.78	5.25	0.41	7.80
Industry	12.11	12.27	12.20	14.10	13.41	15.37	14.22	13.38	1.16	8.66

Source: Appendix X

Figure No: 4.10

Government Saving Bond to Total Investment



Above table shows the average percentage of government bond in total investment. According to the table, Neco Insurance Company does not have invested in government saving bond. Comparing the proportion of investment of Nepal Insurance Company has higher investment its fund on government saving bond than others. Sagarmatha Insurance Company has higher fluctuation due to the variance in investment. In between all sampled insurer, comparative Alliance Insurance has low fluctuation in investment, is clearly shown by the C.V.

Regarding the government saving bond to total investment of industry, the calculated coefficient of variation is 8.66%, which is greater. Therefore, we can say the investment of industry has wide fluctuation on investment in government bond.

4.1.2.4 Investment on Bank Fixed Deposits to Total Investment

The banks fixed deposits is the main investment sector of Nepalese insurer. The entire insurer deposits their fund in banks fixed deposits. The investment on bank fixed deposits to total investment ratio is the average of investment on bank fixed deposits. It shows the proportion of fixed deposits of particular insurer and industries too, for a particular year in aggregate. The bank's fixed deposits are the secured investment sector therefore, almost all insurer invest their higher fund in fixed deposits.

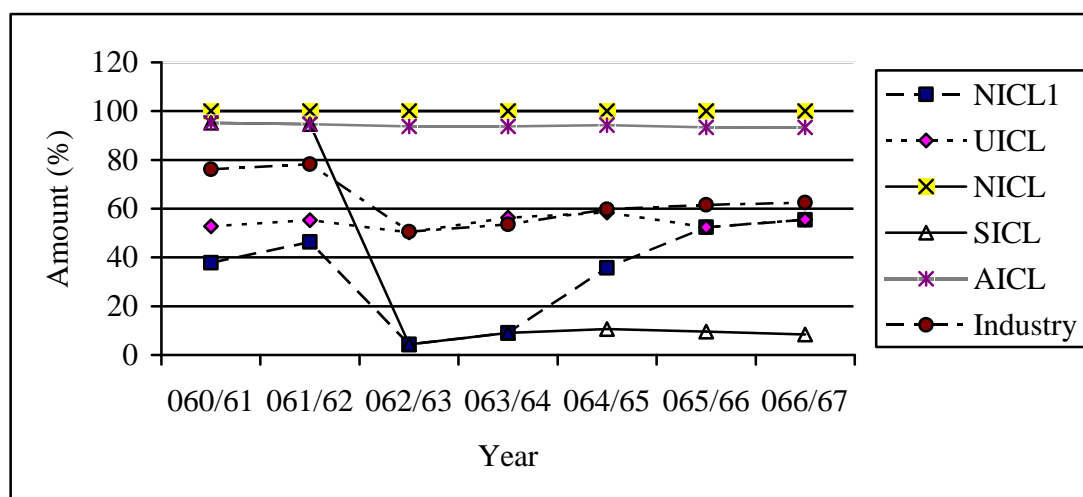
This ratio helps to show the proportion investment in fixed deposits of particular company and aggregate industry too.

Table No: 4.11
Fixed Deposits to Total Investment Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	37.84	46.34	4.38	9.03	35.67	52.32	55.42	34.43	18.75	54.45
UICL	52.80	55.25	50.32	56.32	58.42	52.37	55.52	54.43	2.53	4.64
NICL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00
SICL	95.15	94.71	4.38	9.03	10.64	9.56	8.44	33.13	39	117.71
AICL	95.15	94.71	93.78	93.72	94.25	93.33	93.33	94.04	0.64	0.68
Industry	76.19	78.20	50.57	53.62	59.80	61.52	62.54	63.21	9.7	15.34

Source: Appendix X

Figure No: 4.11
Fixed Deposits to Total Investment Ratio



The above comparative table shows the fixed deposits to total investment ratio of five sampled insurer and industry also. Almost insurers have investment their fund in fixed deposits in higher proportion with Neco Insurance being number one with 100% fund (investment) in fixed deposits. Alliance Insurance also has higher percentage of investment in fixed deposit. From the above table it is seems that the Neco Insurance, Sagarmatha Insurance, United Insurance, and Alliance Insurance have their fund

invested in fixed deposit at higher rate where as Nepal Insurance has the least investment in fixed deposits of all.

According to C.V., Neco Insurance has no any fluctuation in investments. Sagarmatha Insurance has higher fluctuation in investment with comparison to other insurer, which is indicating the calculated C.V. However, Nepal Insurance also has increasing trend of investment in fixed deposits. Regarding the fixed deposits to total investment ratio of industry, the table shows same proportion or stable proportion every year. Therefore, C.V. also indicates there in no higher fluctuation of investment in fixed deposits each year. The calculated C.V. was 15.34%, which was hardly maximum. Therefore, the industries investment trend is going smoothly without vague fluctuation on fixed deposits.

4.1.2.5 Investment on Share to Total Investment

It is an average of share investment. This ratio shows the percentage of investment in share. Generally, we cannot find the investment of all insurers in share but very few insurers invest their fund in share. This ratio shows the share different company's share in total investment of particular insurer and insurance industries as well. This ratio helps to clear the proportion of share in total investment or investment portfolio.

Table No: 4.12

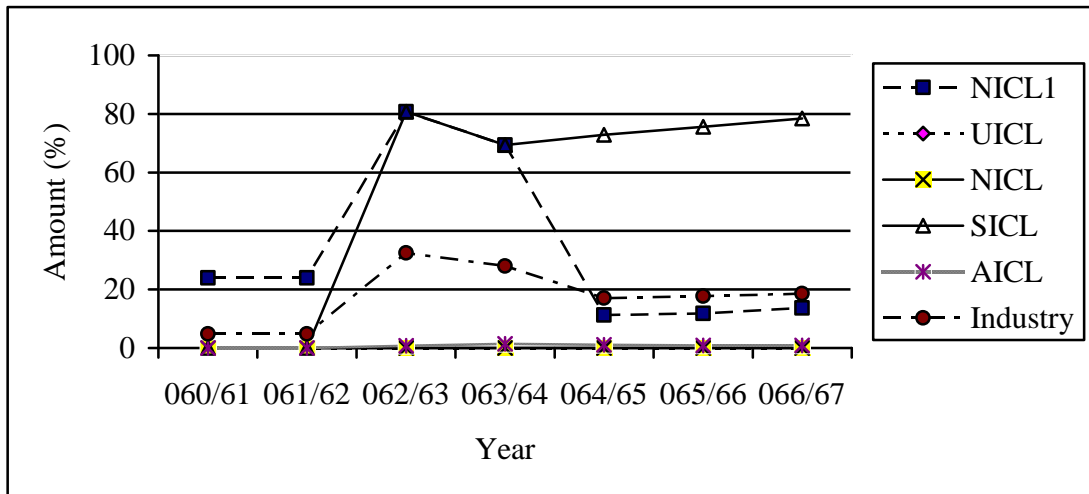
Investment on Share to Total Investment Ratio (in %)

Insurer	Fiscal Year 31 Ashad...							Mean	S.D.	C.V.
	060/61	061/62	062/63	063/64	064/65	065/66	066/67			
NICL ¹	23.91	23.99	80.74	69.37	11.23	11.84	13.70	33.54	20.39	60.79
UICL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NICL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SICL	0.01	0.01	80.74	69.37	72.87	75.61	78.48	53.87	34.21	64.06
AICL	0.01	0.01	0.74	1.39	1.05	0.89	0.89	0.71	0.48	67.6
Industry	4.79	4.80	32.44	28.03	17.03	17.67	18.61	17.62	9.6	54.48

Source: Appendix X

Figure No: 4.12

Investment on Share to Total Investment



From the above table, it is clear that United Insurance, and Neco Insurance has not investment in share, it means they have ignored the share in market from investment portfolio. However, Nepal Insurance, Sagarmatha Insurance, and Alliance Insurance only have invested their fund in share market. According to the table, it seems that Nepal Insurance and Sagarmatha Insurance only has regularly and highest investment of fund in market. Sagarmatha Insurance Company has invested its fund in some equal ratio in share market each year therefore; it has minimum fluctuation in investment trend.

Regarding the investment on share to total investment ratio of industry, the table shows more fluctuation in investment trend. However, it also clears that a minimum percentage of investment is made in share market from insurance industry.

4.1.3 Statistical Analysis

Under this chapter various statistical mathematics are studied which are related to decision making for premium collection and investment pattern. The Trend analysis, Coefficient of correlation, and 'F' Test are used for the purpose to find out tendency, relation and distinguish between premium collection and investment. For this purpose, following measures are analyzed.

4.1.3.1 Correlation Analysis

The statistical tools, correlation analysis is preferred in this study to identify the relationship between premium and investment, whether the relationship is significant or not. For detail calculation sample of the above correlation see in the **Appendix XI**.

Table No: 4.13

Correlation between Premium & Investment of Sampled Insurance Company

Insurer		Relationship	R ²	P.E.	6×P.E.	Sig/Insig.
NICL ¹	0.211	Low Degree of +ve Correlation	0.045	0.243	1.458	Insignificant
UIC	0.968	High Degree of +ve Correlation	0.937	0.016	0.096	Significant
NIC	-0.303	Low Degree of -ve Correlation	0.092	0.231	1.386	Insignificant
SIC	0.989	High Degree of +ve Correlation	0.978	0.006	0.036	Significant
AIC	0.736	High Degree of +ve Correlation	0.542	0.107	0.642	Significant
Industry	0.760	High Degree of +ve Correlation	0.578	0.108	0.648	Significant

Source: Appendix XIV

The above table shows the relationship between premium and investment of five sampled insurance companies. The coefficient of correlation between premium and investment of Nepal Insurance, United Insurance, Neco Insurance, Sagarmatha Insurance, and Alliance Insurance Company Limited 0.211, 0.968, -0.303, 0.989, 0.736, and 0.760 respectively. High degree of positive correlation exists in case of United Insurance, Sagarmatha Insurance, and Alliance Insurance. Except Nepal Insurance and Neco Insurance all the insurer correlation is nearly to +1, therefore the correlation indicates that the relationship between premium and investment is significant at 5% level of significance. Thus, this implies that investment of insurer is

highly affected by premium collections. It means premium is the strongest matter for investment.

The coefficient of determination (R^2) is a measure of the degree of linear association or correlation between two variables. One of which is the independent variable and other, dependent variable. In case of this study, collected premium is the independent variable and investment is the dependent variable. The coefficient of determination between premium and investment of Nepal Insurance, United Insurance, Neco Insurance, Sagarmatha Insurance, and Alliance Insurance are 0.045, 0.937, 0.092, 0.978, 0.542, and 0.578 respectively. In case of Nepal Insurance, the R^2 is 0.045, which means that the variation in independent variable (premium) explains 4.5% of the variation in investment and so on. Generally, probable error is used to measure the significance of the relationship between two dependent and independent variable. In case of this study, the significance of the relationship between premium and investment is measured by calculating probable error of correlation coefficient.

From the above table, we can conclude that the relationship between premium and investment of Nepal Insurance and Neco Insurance Company is insignificant since the coefficient of correlation ' ' is smaller than $6 \times PE$ (). However, in case of United Insurance, Sagarmatha Insurance, and Alliance Insurance Company, since the coefficient correlation () is greater than $6 \times PE$ (). We can conclude the relationship to be significant.

In case of Nepalese insurance industry, the coefficient of correlation is 0.760; therefore, the positive relationship exists in case of industry. It shows the relationship between collected premium and investment has highly positive degree. It means investment of industry depends on premium collection. If premium collection is higher than the investment also is higher and vice-versa.

The coefficient of determination, R^2 of industry is 0.578. It clears that the variation in independent variable (premium) explains 57.8% of the variation exists in investment, which again justifies that the investment depends on premium collection. Likewise, the $6 \times PE$ () of industry is 0.648, which is lesser than coefficient of correlation

therefore, the relationship to be significant. It indicates that industry invests the fund as per the collection of premium.

Table No: 4.14

Correlation Coefficient between Premium Collection and Claim Paid of Sampled Insurer

Insurer		Relationship	R ²	P.E.	6×P.E.	Sig/Insig.
NICL ¹	0.790	High Degree of +ve Correlation	0.624	0.096	0.576	Significant
UIC	0.965	High Degree of +ve Correlation	0.931	0.018	0.108	Significant
NIC	-0.703	High Degree of -ve Correlation	0.494	0.129	0.774	Insignificant
SIC	0.928	High Degree of +ve Correlation	0.861	0.035	0.210	Significant
AIC	0.772	Low Degree of +ve Correlation	0.596	0.103	0.618	Significant
Industry	0.912	High Degree of +ve Correlation	0.832	0.043	0.258	Significant

Source: Appendix XI

The coefficient of correlation between premium and claim paid is to measure the degree of relationship between total premium and net claim paid. Generally, the amount of claim paid depends on premium amount. If the transaction of insurance (premium collection) is higher, than automatically its claim paid will be also higher. Therefore, it may have any negative or positive relation. For finding out the relation, the coefficient of correlation is determined. In this study, we assume premium to be the independent variable and claim paid to be depended variable due to its nature. To find out the correlation, various calculations are performed.

The above table shows the relationship between premium collection and claim paid of five sampled insurer and industry too. The coefficient of correlation between collected premium and net claim paid of Nepal Insurance Co., United Insurance, Neco

Insurance, Sagarmatha Insurance, and Alliance Insurance Co. are 0.790, 0.965, - 0.703, 0.928, and 0.772 respectively. Among the sampled insurer, high degree of positive relation exists. In case of Neco Insurance, there is high degree of negative correlation between two variables. The Alliance Insurance Company's correlation has lower degree, which indicates that the company paid lesser claim with comparison to premium collection and other insurer.

The coefficient of determination measures the degree of linear association or correlation between premium and claim paid. In case of this study, the coefficient of determination between collected premium and net claim paid of Nepal Insurance, United Insurance, Neco Insurance, Sagarmatha Insurance, and Alliance Insurance are 0.624, 0.931, 0.494, 0.861, and 0.596 respectively. All the coefficient of determination in percentage explains the variation of independent variable (premium) with respect to dependent variable i.e. claims paid.

In case of this study, the probable error is used to measure the significance of the relationship between premium and claim paid. According to above table, we can see that the relationship between premium collection and claim paid of all insurers except Neco Insurance Company is significant, which provides from the comparison of ' ' and $6 \times PE ()$.

In case of Nepalese insurance industry, the coefficient of correlation is 0.912, it shows the high degree of relationship between premium, and claim paid exists in case of industry. The relationship justifies that these claim paid depends up on the premium collection, if the collected premium is in high range than the claim paid ratio will also be higher and vice-versa.

The variation in independent variable premium explains 83.2% of the variation exists in net claim paid in case of Nepalese insurance industry. The $6 \times PE ()$ 0.258 is lesser than correlation ' ' therefore the relationship is significant.

Table No: 4.15

Correlation Coefficient between Investment and Net Profit Earned of Sampled Insurer

Insurer		Relationship	R ²	P.E.	6×P.E.	Sig/Insig.
NICL ¹	0.192	Low Degree of +ve Correlation	0.037	0.246	1.476	Significant
UIC	-0.144	Low Degree of -ve Correlation	0.021	0.250	1.500	Insignificant
NIC	-0.784	High Degree of -ve Correlation	0.615	0.098	0.588	Insignificant
SIC	0.692	High Degree of +ve Correlation	0.479	0.133	0.798	Insignificant
AIC	-0.362	Low Degree of -ve Correlation	0.131	0.222	1.332	Insignificant
Industry	-0.620	High Degree of -ve Correlation	0.384	0.157	0.942	Insignificant

Source: Appendix XI

The coefficient of correlation between investment and net profit earned is used to measure the degree of relationship between total investment and net profit earned. Generally, the profit earned strongly depends upon the investment. If the investment amount is higher than definitely the amount of profit will be higher. The role-played by the investment to earn profit and the relation between investment and profit earned is shown by the correlation in this calculation (correlation). Investment is assumed as an independent variable and net profit is dependent variable.

The above table shows the relationship between investment and net profit earned of five sampled insurer and industries. The coefficient of correlation between investment and net profit earned of Nepal Insurance, United Insurance, Neco Insurance, Sagarmatha Insurance and Alliance Insurance is 0.192, -0.144, -0.784, 0.692, and -0.620. Among the sampled insurer, negative relation exists in case of United Insurance, Neco Insurance, and Alliance Insurance. This correlation indicates that the investment do not play vital role in income generation. Moreover, the profit earned does not fully depend upon the investment amount.

In case of this study industries coefficient of correlation is -0.620, it is nearly '-1', so, it has negative relationship. It shows that the profit earned ratio does not depend upon the investment in the respect of industry. The coefficient of determination forecasts the variation in dependent variable of independent variable. Investment explains 38.4% of the variation in profit earned. The $6 \times PE$ () is higher than correlation i.e. $0.942 > -0.620$ so there exists insignificant relation between investment and profit earned of the insurance industry. It clears that the profit earned hardly depends upon the investment in case of industry too.

4.1.3.2 Test of Hypothesis

Test of hypothesis is a process of testing of significance regarding the parameter of the population based on sample drawn from the population. In testing hypothesis, we examine, based on statistics. Computed form the sample drawn, whether the sample drawn belongs to the parent population with certain specified characteristics or not.

In this topic, an effort has been made to test the significance regarding the parameter of the population based on sample drawn from the population. Generally, following steps are followed for the test of hypothesis. A sample of F-test calculation is presented in **Appendix VI**.

F - test for Premium Collection

Computation of Test Statistics 'F':

Correction factor (C.F.)	= 556691.16
Total sum of square (TSS)	= 85650.740
Sum of square between samples (SSC)	= 29080.87
Sum of square within samples (SSW)	= 56569.87

Table No: 4.16

One-way ANOVA table (F-test for premium collection)

Sources of Variation	Sum of Squares	d.f.	Mean Sum of Squares	F-ratio
Between Samples	29080.87	$K-1=7-1=6$	$29080.87/6=4846.81$	2.40
Within Samples	56569.87	$N-K=35-7=28$	$56569.87/28=2020.35$	
Total	85650.74	$N-1=35-1=34$		

Source: Appendix VI

Critical value:

The tabulated value of F at 5% level of significance for 6 and 28 d.f. is 2.46 i.e. $F_{0.05, (6, 28)} = 2.46$

Decision:

Since the calculated value of F is less than tabulated value of F, the null hypothesis H_0 is accepted. Therefore, we conclude that there is not any significance difference in premium collection of sample insurers. There is equality or homogeneous in premium collection.

F - test for Investment Amount

Computation of Test Statistics 'F':

Correction factor (C.F.)	= 403048.85
Total sum of square (TSS)	= 144418.76
Sum of square between samples (SSC)	= 39647.72
Sum of square within samples (SSW)	= 104771.04

Table No: 4.17

One-way ANOVA table (F-test for investment amount)

Sources of Variation	Sum of Squares	d.f.	Mean Sum of Squares	F-ratio
Between Samples	39647.72	$K-1=7-1=6$	$39647.72/6=6607.95$	1.77
Within Samples	104771.04	$N-K=35-7=28$	$104771.04/28=3741.82$	
Total	144418.76	$N-1=35-1=34$		

Source: Appendix VI

Critical value:

The tabulated value of F at 5% level of significance for 6 and 28 d.f. is 2.46 i.e. $F_{0.05, (6, 28)} = 2.46$

Decision:

Since the calculated value of F is less than tabulated value of F, the null hypothesis H_0 is accepted. Therefore, we conclude that there is not any significance difference in investment pattern of sample insurers. There is equality or homogeneous in investment ratio.

F - test for Claim Paid

Computation of Test Statistics 'F':

Correction factor (C.F.)	= 12794.72
Total sum of square (TSS)	= 7234.73
Sum of square between samples (SSC)	= 3881.38
Sum of square within samples (SSW)	= 3353.35

Table No: 4.18

One-way ANOVA table (F-test for claim paid)

Sources of Variation	Sum of Squares	d.f.	Mean Sum of Squares	F-ratio
Between Samples	3881.38	$K-1=7-1=6$	$3881.38/6=646.90$	5.40
Within Samples	3353.35	$N-K=35-7=28$	$3353.35/28=119.76$	
Total	7234.73	$N-1=35-1=34$		

Source: Appendix VI

Critical value:

The tabulated value of F at 5% level of significance for 6 and 28 d.f. is 2.46 i.e. $F_{0.05, (6, 28)} = 2.46$

Decision:

Since the calculated value of F is greater than tabulated value of F, the null hypothesis H_0 is rejected. Therefore, we conclude that there is significance difference in claim paid of sample insurers. There is not equality or homogeneous in claim paid ratio.

F - test for Net Income

Computation of Test Statistics 'F':

Correction factor (C.F.)	= 4523.55
Total sum of square (TSS)	= 3148.06
Sum of square between samples (SSC)	= 1982.99
Sum of square within samples (SSW)	= 1165.07

Table No: 4.19

One-way ANOVA table (F-test for net income)

Sources of Variation	Sum of Squares	d.f.	Mean Sum of Squares	F-ratio
Between Samples	1982.99	$K-1=7-1=6$	$1982.99/6=330.50$	7.94
Within Samples	1165.07	$N-K=35-7=28$	$1165.07/28=41.61$	
Total	3148.06	$N-1=35-1=34$		

Source: Appendix VI

Critical value:

The tabulated value of F at 5% level of significance for 6 and 28 d.f. is 2.46 i.e. $F_{0.05, (6, 28)} = 2.46$

Decision:

Since the calculated value of F is greater than tabulated value of F, the null hypothesis H_0 is rejected. Therefore, we conclude that there is significance difference in net income of sample insurers. There is not equality or homogeneous in income earned.

4.1.3.3 Test of Regression Coefficient of Multiple Regression Model

From this model, we can determine whether there is a significant relationship between the dependent variable and the set of independent variables by using F-test or analysis of variance. This relationship is measured by the ratio of explained variation to total variation where explained variation is the variation of the dependent variable attributable to the movement in the independent variables collectively.

For Nepal Insurance Company Limited

$a_1 = 57.055, b_1 = -0.28338, b_2 = 0.09491$

Calculation of total variation explained variation and unexplained variation

$$\bar{x}_1 = \frac{\sum x_1}{n} = \frac{179.81}{7} = 25.6871$$

$$\text{Now, total variation} = \sum (x_1 - \bar{x}_1)^2 = 782.8508$$

$$\text{Explained variation} = \sum (\hat{x}_1 - \bar{x}_1)^2 = 734.4163$$

$$\text{Unexplained variation} = \sum (x_1 - \hat{x}_1)^2 = 48.44762$$

Table No: 4.20

One-way ANOVA Table (Test of Regression Coefficient of NICL¹⁾)

Source of variation	Sum of square	d.f.	Mean sum of square	F - ratio
Explained	734.4163	3-1=2	$\frac{734.4163}{2} = 367.208$	F = $\frac{367.208}{12.1119}$ = 30.3180
Unexplained	48.44762	7-3=4	$\frac{48.44762}{4} = 12.1119$	
Total	782.8508	7-1=6		

Source: Appendix VII

Tabulated value of F at 5% level of significance for 2 and 4 d.f. is 6.94.

Decision:

Since tabulated value of F is less than calculated value of F, the null hypothesis H₀ is rejected. That is, the regression equation of X₁ on X₂ and X₃ is significant. From this, we can conclude that there is a linear relationship between the dependent variable (profit) and the explanatory variables (premium and investment).

For United Insurance Company Limited

$$a_1 = 12.033, b_1 = -0.0597, b_2 = 0.03929$$

Calculation of total variation, explained variation and unexplained variation

$$\text{Total variation} = \sum (x_1 - \bar{x}_1)^2 = 67.78749$$

$$\text{Explained variation} = \sum (\hat{x}_1 - \bar{x}_1)^2 = 2.613617$$

$$\text{Unexplained variation} = \sum (x_1 - \hat{x}_1)^2 = 65.16174$$

Table No: 4.21

One-way ANOVA Table (Test of Regression Coefficient of UICL)

Source of variation	Sum of square	d.f.	Mean sum of square	F - ratio
Explained	2.613617	3-1=2	$\frac{2.613617}{2} = 1.3068$	$F = \frac{1.3068}{16.2904}$ =0.0802
Unexplained	65.16174	7-3=4	$\frac{65.16174}{4} = 16.2904$	
Total	67.78749	7-1=6		

Source: Appendix VII

Tabulated value of F at 5% level of significance for 2 and 4 d.f. is 6.94.

Decision:

Since tabulated value of F is greater than calculated value of F, the null hypothesis H_0 is accepted. That is, the regression equation of X_1 on X_2 and X_3 is insignificant. From this, we can conclude that there is not linear relationship between dependent variable (profit) and the explanatory variables (premium and investment).

For Neco Insurance Company Limited

$$a_1 = 32.7008, b_1 = 0.06382, b_2 = -0.3723$$

Calculation of total variation explained variation and unexplained variation

$$\text{Total variation} = \sum (x_1 - \bar{x}_1)^2 = 117.3425$$

$$\text{Explained variation} = \sum (\hat{x}_1 - \bar{x}_1)^2 = 98.11034$$

$$\text{Unexplained variation} = \sum (x_1 - \hat{x}_1)^2 = 19.20737$$

Table: 4.22

One-way ANOVA Table (Test of Regression Coefficient of NIICL)

Source of variation	Sum of square	d.f.	Mean sum of square	F - ratio
Explained	98.11034	3-1=2	$\frac{98.11034}{2} = 49.0552$	$F = \frac{49.0552}{4.8018}$ =10.2160
Unexplained	19.20737	7-3=4	$\frac{19.20737}{4} = 4.8018$	
Total	117.3425	7-1=6		

Source: Appendix VII

Tabulated value of F at 5% level of significance for 2 and 4 d.f. is 6.94.

Decision:

Since tabulated value of F is less than calculated value of F, the null hypothesis H_0 rejected. That is, the regression equation of X_1 on X_2 and X_3 is significant. From this, we can conclude that there is linear relationship between dependent variable (profit) and the explanatory variables (premium and investment).

For Sagarmatha Insurance Company Limited

$a_1 = 6.27671, b_1 = 0.2464, b_2 = -0.23914$

Calculation of total variation explained variation and unexplained variation

Total variation = $(x_1 - \bar{x}_1)^2 = 176.2227$

Explained variation = $(\hat{x}_1 - \bar{x}_1)^2 = 117.2562$

Unexplained variation = $(x_1 - \hat{x}_1)^2 = 60.76047$

Table No: 4.23

One-way ANOVA Table (Test of Regression Coefficient of SICL)

Source of variation	Sum of square	d.f.	Mean sum of square	F - ratio
Explained	117.2562	3-1=2	$\frac{117.2562}{2} = 58.6281$	$F = \frac{58.6281}{15.1901} = 3.8596$
Unexplained	60.76047	7-3=4	$\frac{60.76047}{4} = 15.1901$	
Total	176.2227	7-1=6		

Source: Appendix VII

Tabulated value of F at 5% level of significance for 2 and 4 d.f. is 6.94.

Decision:

Since tabulated value of F is greater than calculated value of F, the null hypothesis H_0 accepted. That is, the regression equation of X_1 on X_2 and X_3 is insignificant. From this, we can conclude that there is not linear relationship between dependent variable (profit) and the explanatory variables (premium and investment).

For Alliance Insurance Company Limited

$a_1 = 7.91035, b_1 = 0.03047, b_2 = -0.09551$

Calculation of total variation explained variation and unexplained variation

Total variation = $(x_1 - \bar{x}_1)^2 = 19.5658$

Explained variation = $(\hat{x}_1 - \bar{x}_1)^2 = 5.722893$

Unexplained variation = $(x_1 - \hat{x}_1)^2 = 13.84392$

Table NO: 4.24

One-way ANOVA Table (Test of Regression Coefficient of AICL)

Source of variation	Sum of square	d.f.	Mean sum of square	F - ratio
Explained	5.722893	3-1=2	$\frac{5.722893}{2} = 2.8614$	$F = \frac{2.8614}{3.46098} = 0.8268$
Unexplained	13.84392	7-3=4	$\frac{13.84392}{4} = 3.46098$	
Total	19.5658	7-1=6		

Source: Appendix VII

Tabulated value of F at 5% level of significance for 2 and 4 d.f. is 6.94.

Decision:

Since tabulated value of F is greater than calculated value of F, the null hypothesis H_0 accepted. That is, the regression equation of X_1 on X_2 and X_3 is insignificant. From this, we can conclude that there is not linear relationship between dependent variable (profit) and the explanatory variables (premium and investment).

4.2 Presentations, Analysis, and Interpretation of Primary Data

This chapter concentrates on using the aforementioned methodology to meet the objectives of the study and set forth a logical and qualitative framework to recommended probable solution to the problems that is in here on within investment and premium collection aspect of the insurance industry. For this purpose, some the collected questionnaire answers are analyzed and studied. The questioner was

distributed to the management and the respective insurers. The respondents were regarded as the representative of the entire management for the purpose of analysis and classification of the primary data, a simple ranking method used wherever felt appropriate. While ranking, Rank '1' was assumed as top most prioritized and the last number imparted for the query was assumed as last prioritized. Where the ranking was not possible or necessary, a simple objective (Yes/No) question was used. For classification of the views, percentage method was used, considering the total number of respondent as 100% further, such classification was supported with the graphical presentation, wherever (felt appropriate) necessary.

A sample of questioners is included in the **Appendix V**. The number of respondents for the queries has differed due to the differentiation regarding the formation of the insurers. So the number of respondents for each query is shown in sample questionnaire separately.

This chapter is separated into two parts for the purpose of separate study of premium and investment aspect. These are as follows:

4.2.1 Evaluation of the Insurer's Views, Regarding the Premium Collection Aspect

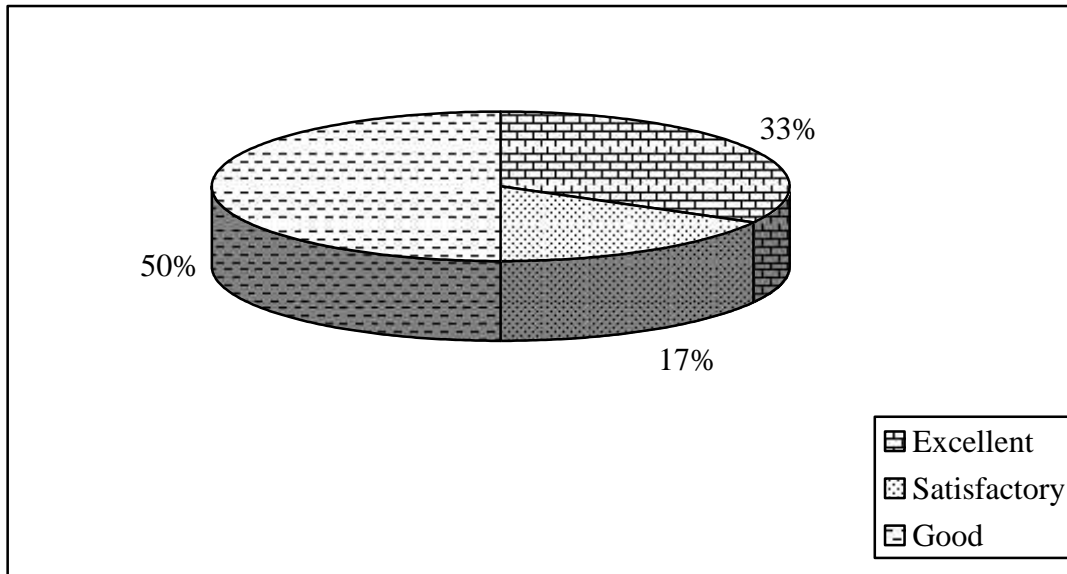
To evaluate the insurer views relating to the premium collection aspect of the insurers, a set of questioners was used, which contents some questions relating to the premium and its collection system and other relevant system. These questioners' aims to take insurer view on present premium collection system, premium rate and collected premium ratio etc. In this aspect, the queries and the views of respondents regarding those queries are presented as such.

Condition of the Premium Collection (of insurer) at Present Situation

This query was intended to find out the condition of premium collection of Nepalese insurers. There is higher competition in insurance business. Therefore, the competition has directly affected the premium collection. According to view of

insurer, we can find the actual condition of premium collection. Among the viewers around 50% of the insurer were in favor of option 'Good', around 33.33% were in favor of the option 'Excellent' and 16.67% of the insurer were in favor of option 'Satisfactory', which is shown in the following chart:

Figure: 4.13
Condition of the Premium Collection



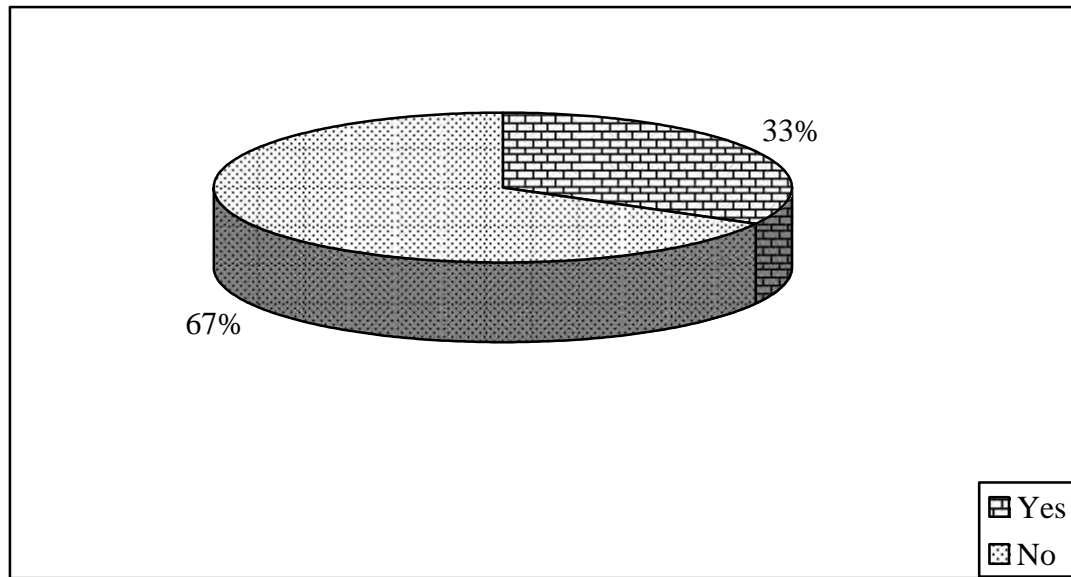
This above chart shows the percentage of three options. The highest percentage is for option 'Good', it means the premium collection of insurer is not excellent overeagerly only for right because few of insurers were favor have excellent.

Rate of Premium under Different Insurance Policy

This query aims to identify view of insurer regarding the rate of premium. Beema Samitee directly regulates per premium rate of insurance policy. Hence, the Authority of Government (Beema Samitee) published the rate of premium and forces to follow all the insurers. To follow them however this question aims to know view of respondents as for premium rate. Among the viewers, around 66.67% of insurer were in favor of options 'No' and around 33.33% of the insurer were in favor of option 'Yes' which is shown in the figure below:

Figure: 4.14

Rate of Premium under Insurance Policy



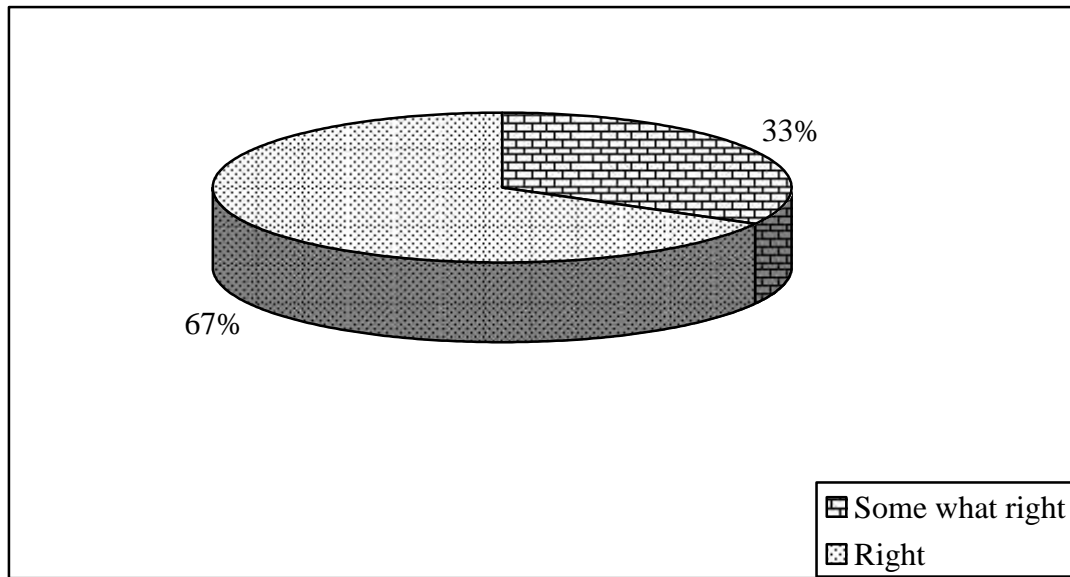
This chart clearly shows that almost of the insurer disagree to the rate of premium as establish had by Beema Samitee they want to change positively on premium rate.

Premium Collection System of Insurance Companies

This query was intended to find out the condition of premium collection system of Nepalese insurer. This question is based on theoretical aspect. There are so many factors, which the question was attended. Among the entire viewer, 66.67% were in favor of first option 'Right' and around 33.33% were in favor of

second option 'Somewhat right'. It required corrective measures. This data, we can plot following chart:

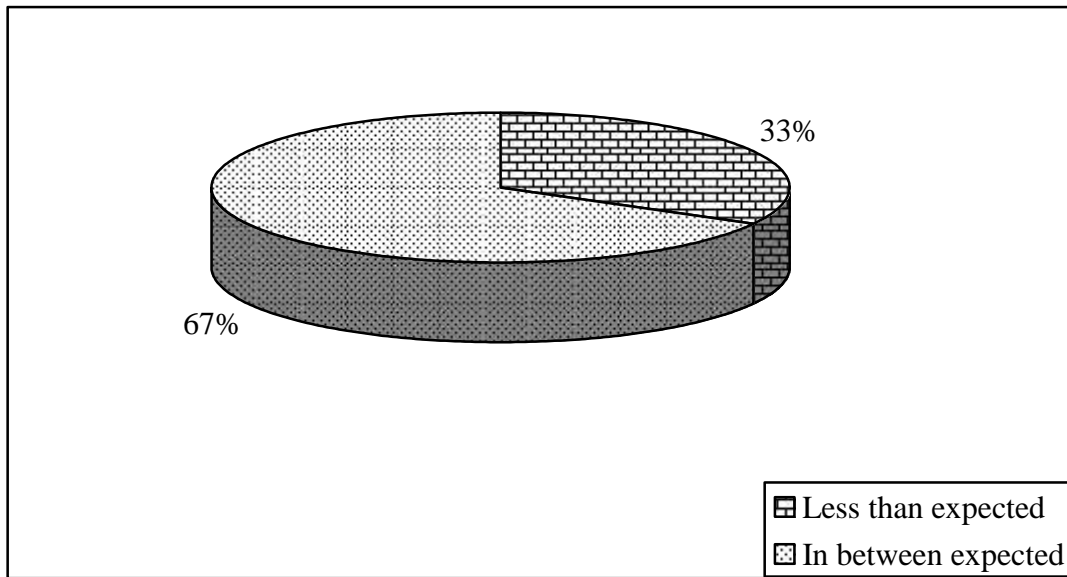
Figure: 4.15
Premium Collection System



Collection from Premium, at Present Insurance Market

This query was intended to find out the collection trend and present collection ratio of premium at Nepalese insurer from market. Among the viewers, around 66.67% of insurers were in favor of option 'In between Expected' and 3.33% of insurers were in favor of option 'Less than Excepted', which is shown in the chart below:

Figure: 4.16
Collection from Premium

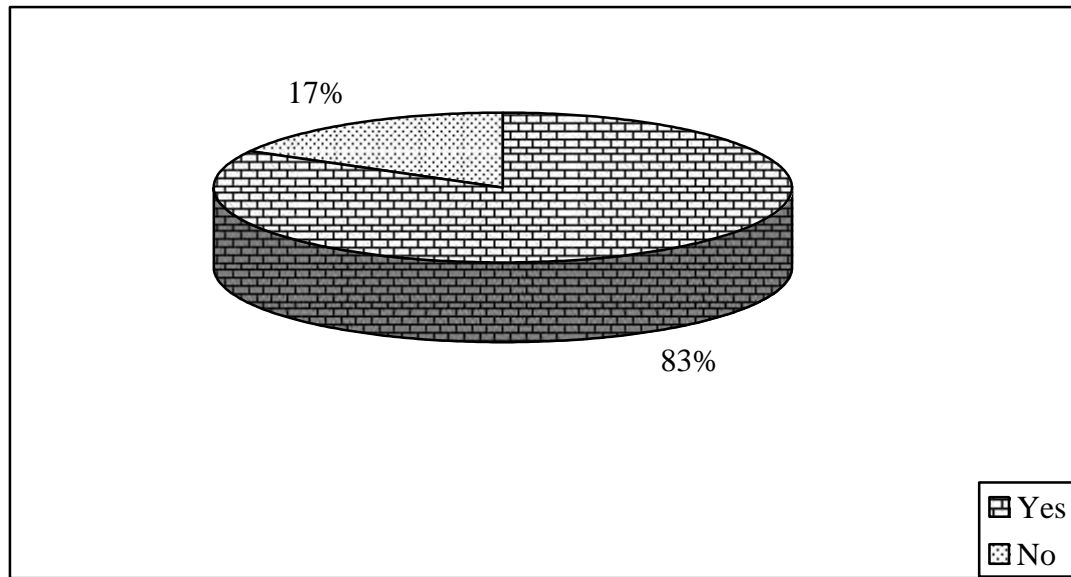


This chart clearly shows that most of the insurers were successful in collecting premium in between their expectation. It indicates that the collection ratio of premium is satisfactory.

Collection of Target Premium Amount

This query was meant to identify the premium collection rate is as per the target or not. Among the viewers around 83.33% were in favor of option 'Yes' and around 16.67% were in favor of option 'No'. From this query, we can say that the industry average collection is in right position, which is more clearly from this chart below:

Figure: 4.17
Collection of Target Premium



This above chart shows the percentage of respondent's view. The first option 'Yes' got the 83.33% of view among total viewers. It means Nepalese insurance is successful in collecting good premium from market.

4.2.2 Evaluation of the Insurer Views Regarding the Investment Pattern Aspect

To evaluate the insurer's views, relating the investment aspect of the insurers, a set of questioners is used which contain some questions relating to the investment aspect of the insurer business. The questioners include the insurer views relating to the present practices, policies, system, performance, and conditions of investment.

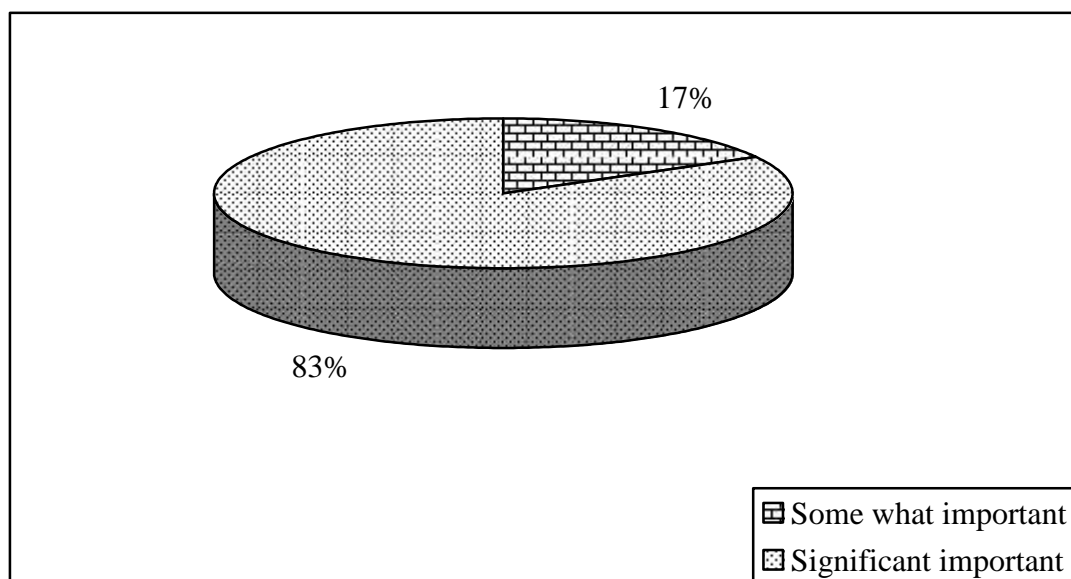
This part was objected to find out the view and practices of insurer about investment pattern and to form a rational to recommend the possible solutions of the problems. In general, this part of the study was concentrated to find out what a practice is being in insurer's investment management and what condition had in investment position and return. In this aspect, these were the queries and the views of respondents regarding those queries:

Importance of Investment Policy

The question was intended to find out the weight given by the insurer to the importance of investment policy as for investing a fund. Through the classification of views of the respondents, this result was generated. Here, a major portion of the insurers showed their concentration regarding the investment policy and accepted it important for investing (fund). The following figure justifies it:

Figure: 4.18

Importance of Investment Policy



Regarding this query, around 83.33% were in favor of the option 'Significant important' and around 16.67% were in favor of the option 'Somewhat important', however major portion was in favor of significant important. It is thus, clear that the investment policy is highly preferable for the insurer at the time of investing fund.

Concerned with Investment Management

This question was intended to find out the weight given by the insurer to their functioning as financial institution through investment management. The views of the insurers were not differentiating. Regarding this query, all of the insurers showed their concern regarding the investment management 100% of the observed insurers were in

favor of the option 'Significant concern'. It means all of the insurers invest their fund according to the investment management.

Essential of Portfolio, while Investing a Fund

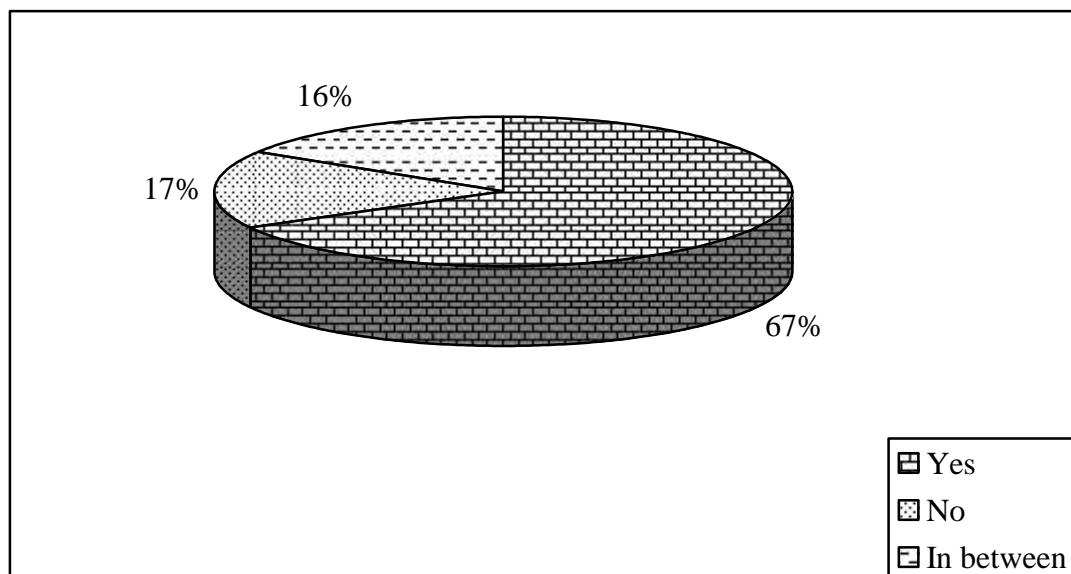
This question aims to find out the weight given by the insurer to the essentiality of portfolio when investing a fund. For this questioner, again, the entire insurers were in one lift. The views of the insurer were not differentiating for this matter. It means the entire insurer accepts the importance and essentiality of portfolio. While investing a fund, 100% of the views were in favor of option 'Significant essential', which clearly shows the favor of portfolio.

To Maintain the Desired/ Maximum Beneficial Investment Policy

This question was intended to find out the present status of the insurer relating to the investment policy and their perception regarding the present environment. Here, a major portion of the insurer showed their view for favorable result (Yes) and some insurer showed their view for other result, which is shown in the chart below:

Figure: 4.19

Maintain the Desired Investment Policy



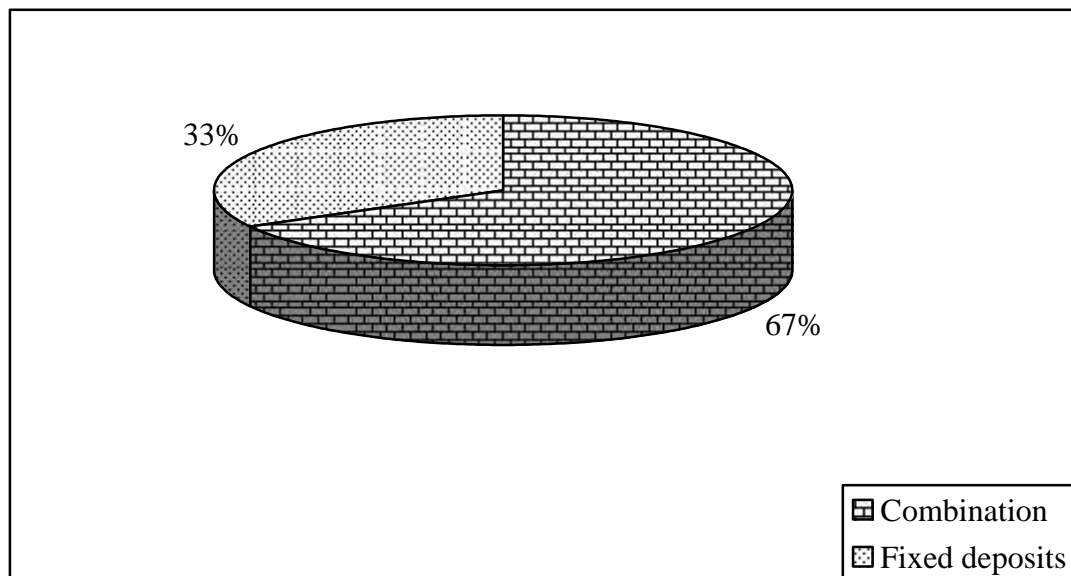
Regarding the query around 67% was in favor of the option (Yes), 16.5% were in favor of option (No), and around 16.5% were in favor of option in between. It means most of the insurer can maintain the desired minimum beneficial investment policy. Few of the insurers could not maintain maximum beneficial investment policy.

Suitable Sectors for the Purpose of Invest to the Insurer

This question was meant to find out weight given by the insurer to investment sector. There are various investment sectors but government classified the investment sector in two parts optional and compulsory regarding this query 67% of the look was in favor of first option 'Fixed Deposits' and others favored the 'Combination' of mentioned all options, which is shown in below chart:

Figure: 4.20

Suitable Sectors to Invest



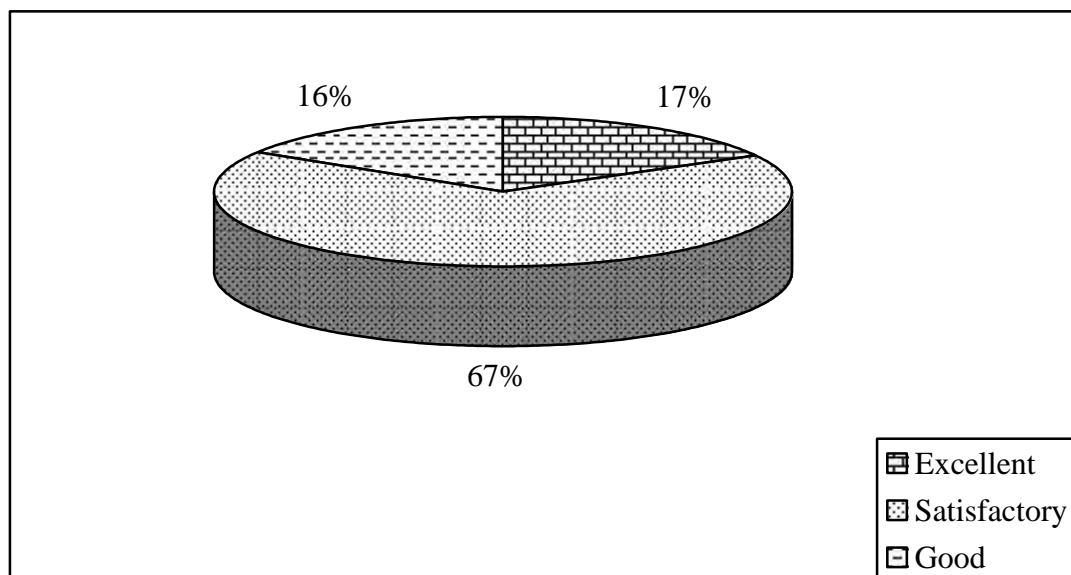
This figure clearly shows that more of the respondent preferred the fixed deposits for investment and few are in favor of combination of all sectors.

Current Investment System of Nepalese Insurance Companies

This question intended to find out the weight given by the insurer to the current investment system of Nepalese insurance companies. Now a day we face the critical situation of National economy, which is directly affected by investment system also. For this matter, this query helps to analyze the view of Nepalese insurers.

Among the observed query around 67% were in favor of the option ‘Satisfactory’, 16% were in favor of the option ‘Good’ and 17% were in favor of excellent which shown in the following chart:

Figure: 4.21
Current Investment System



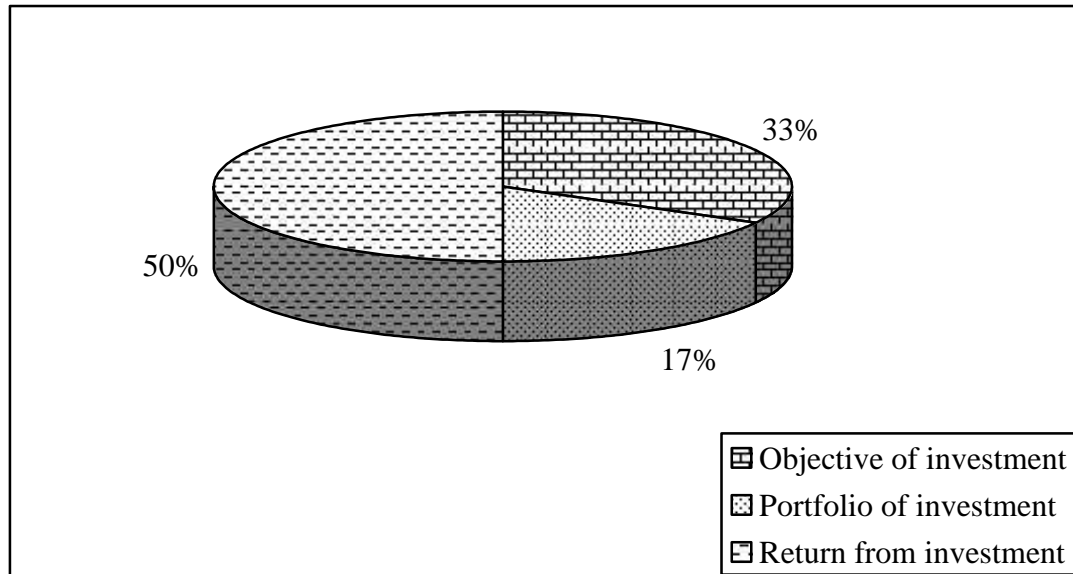
This observation and figure clearly shows that the current investment systems of Nepalese insurer are not so bad. Hence, satisfactory indicate the investment system performance is not in excellent motion that only right.

Preferences of the Investment Policy

This question was intended to find out the concentration of the insurer on particular aspect of the investment, while forming the investment policy. The option was give as

portfolio of investment, return from investment, and objective of investment. Among them around 50% respondents were in favor of option 'Return from investment' 33.33% were in favor of option 'Portfolios of investment', which is shown in the figure below.

Figure: 4.22
Preferences of the Investment Policy



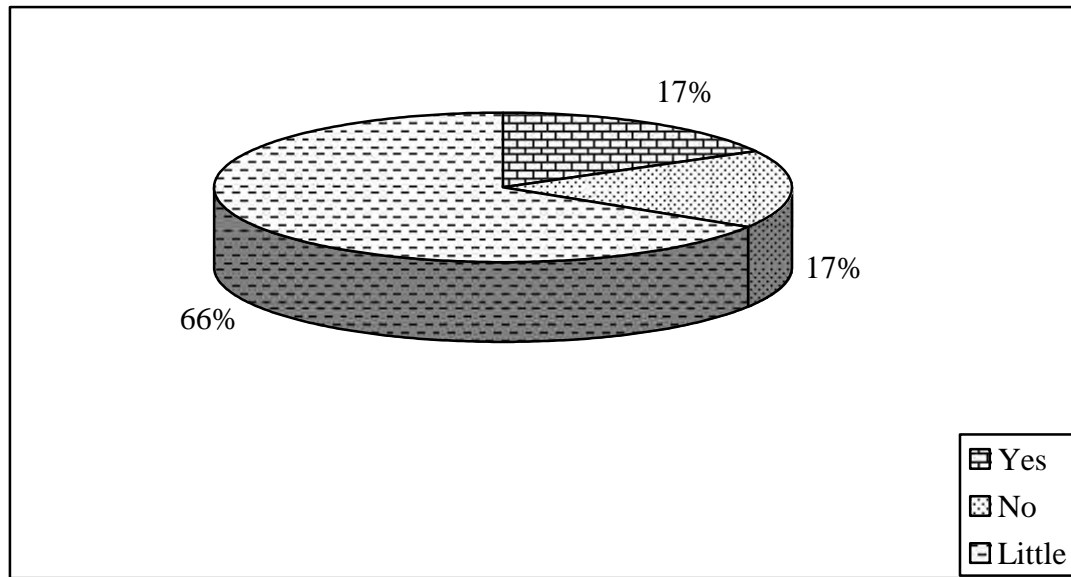
From this above figure and query we can conclude that most of the insurer preferred the return from investment, which forming the investment policy.

Get desired return

This question objective was to know view of respondent to get desired return from investment. According to viewers, answer came to know present status and income generating of viewers name in favor of option 'Little' 17% each were in favor of option 'Yes/No' which is shown in below chart:

Figure: 4.23

Gain Desired Return



It shows that almost all of the insurers investment was not effective & appropriate as most of the respondents were in favor of option little.

4.3 Major Findings of the Study

This chapter is the consequence of the whole studies and analysis and a result and achievement of entire study too. Therefore, this chapter concentrated on drawing the conclusion of all analysis and providing suggestive package of premium collection aspect of Nepalese insurance industry. Regarding the conclusion and findings drawn from the detailed analysis of primary and secondary data separately and at last some recommendation also arrives.

In this section, findings are presented in accordance with the analysis as different analysis tools are used in the process of analysis for the collected primary and secondary data. In accordance to the study and analysis of 'Investment pattern and composition' and 'Premium collection and composition', it will be clear that the Nepalese insurance industry were not following generally accepted principles of investment and the investment components. Likewise, they have not similarity in premium chargeable rate and collection rate too, under different policies since

establishment to till now. The main findings, which are, conclude from this analysis as follows:

- ❖ The premium collection rate of Nepalese insurance industry has been fluctuating trend under all respective policy in each year and differentiation in investment amount with respective investment sector (optional and compulsory). However, almost of the insurer invest their major portion fund of in Bank fixed deposits. In addition, the insured chargeable rate of premium is based on Beema Samitee's regulation. However, as for life insurance, premium is calculates personal character sticks of insured person under based on Beema Samitee's regulation and policy.
- ❖ The insurance industry has not consisted in the investment proportion of various investment sector and investment portfolio too but they have similarly in investment sectors, however the return on premium seems to the decreasing trend, however the claim paid ratio and premium collection ratio of insurance industry are increasing trend in study period.
- ❖ Among the insurance policy, the ratio of premium collection is higher in fire insurance and lower in engineering policy.
- ❖ The coefficient of correlation between premium and investment of Nepalese insurance industry has high degree of positive correlation with significant relationship.
- ❖ The analysis of correlation between premium collection and claim paid of sampled insurer and industry has positive relationship. However, Neco Insurance Company Limited has high degree of negative relationship and the probable error shows insignificant relationship between premium collection and claim paid.
- ❖ The coefficient of correlation between investment and net profit earned seems to be high degree of negative, in case of United, Neco, and Alliance too. However, it is positive in case of Nepal Insurance and Sagarmatha Insurance companies. However, the probable error shows the insignificant relationship between investment and net profit earned of all insurance companies except the Nepal Insurance Company Limited.
- ❖ The test of hypothesis helps to conclude that total premium amount of five sampled insurer and industry has significantly different or not. It seems that there is no significant difference in premium collection and investment pattern.

It indicates that the premium and investment amount of industries have the same.

- ❖ 'F' Test for claim paid of insurance industries seems that, there is no significant difference in claim paid. Hence, the claim paid ratio is similar in among the Nepalese insurer. It means almost of the insurer claim paid in equal range.
- ❖ The test of hypothesis 'F' statistic an income earned is significant different at 5% level of significance. It means there is variation in income earned ratio of Nepalese insurance industry.
- ❖ The trend analysis on aggregate premium collection and investment shows that there is increasing trend in premium collection and investment amount but has fluctuating trend in respective policy.
- ❖ Under multiple regression model, in case of Nepal Insurance Company and Neco Insurance Company there is linear relationship between profit, premium, and investment. That indicates that the profit is depends upon the premium and investment of the sample insurers.
- ❖ However, in case of United, Sagarmatha, and Alliance Insurance Company Limited there is not linear relationship between profit, premium, and investment. It indicates that the profit is hardly depends upon the premium collection and investment pattern.
- ❖ Almost of the insurer followed the investment policy at investing a fund but some insurer give less importance on investment policy and they invest their fund only accordance to government rules and regulation and management desire, although all the insurer concerns with investment management and they heartily accepted if too.
- ❖ All the insurer or insurance industry prefers the portfolio to investment a fund and they accept its essence in investment. However, only 67% of insurer utilizes the maximum beneficial investment policy among the insurer. Among the investment sectors 67% of the insurer addressed their importance in fixed deposits and 33% favored to make combination of investment sectors. Their view shows the higher preference to bank fixed deposits of insurer.
- ❖ The collected view shows the only satisfactory position of the current investment system of Nepalese insurance industry. However, among the query 17% were able to gain desired return, 16% were not gain desired return and 67% were able to gain little return from the investment.

- ❖ In the case of premium collection of Nepalese insurer, there are variation in their view 50% of the insurer are side of good, 17% are side of satisfactory and 33% are side of excellent. However, almost of the insurer can collect the premium under their target only 17% of the insurer cannot collect under target but almost of the insurer are not agree to the premium rate which is issued by Beema Samitee.

CHAPTER FIVE

SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 Summary

Insurance has been introduced to safeguard the interest of people from uncertainties by providing certainty of payment at a given contingency. According to nature, characteristic, and objective of the insurance company, they are also referred to as financial intermediaries. In the modern society and 21st century business age, it plays vital role through risk bearing and providing certainty. Therefore, insurance is an assist of a world's economy.

Among the 25 insurance companies, this present study has been taken to evaluate the premium collection and investment pattern of industry through the sample base. The study analyzed the annual report of seven years starting from 2060/061 to 2066/067 has been taken into consideration for the purpose of the study.

All the study is analyzed reviewing the secondary data from journal articles, annual report of the company and other relevant sources as well as primary data too. To reveal the problems financial as well as statistical tools are applied. The recommendation is provided based on findings from analysis.

In the context of Nepal, insurance business is one of the business, which has not any loss and it suffered at profit from establishment date to till now. However, the trend of premium collection investment and profit earned are fluctuated. There is no informality. The rate of premium of insurance policy, which regulates by government (Beema Samitee), is also unscientific. It is needed to restudy and reanalyzed as for present condition and situation. The insurance act aimed regulation should be clear enough to guide the investment-related matter to a direction. The regulatory limits relating the investment should be promptly changed according to the change in over all macro economy and money capital condition.

Although, Nepalese insurance industry runs smoothly with profit, they faced various problems. The main problem is cut throat competition due to liberalization and privatization thus under rating and price cutting and unhealthy competition between each other (insurance companies). Terrorism, inflation, and recession are also the main problems of insurance business in Nepal. Likewise, insurance company, insured also has some problems in different situation. In about claim received, time consuming procedures in accepting, issuing, and survey report, submission procedures is not clear to clients, insufficient document submission by client. Thus, delay in claim settlement. Moreover, per-capita income and the purchasing power of people are not so good due to the political condition of nation.

After the formation of Nepal Insurance Association, the companies can place their problems jointly to the government and go forward for the interest and benefit of insurer. This platform should be taken an opportunity. Now a days insurer are try to formation a reinsurance agency in Nepal, if they success for it, than they could take high benefit as well as national economy also grow up.

5.2 Conclusion

From the analysis of the available data, the researcher has been able to draw certain conclusion. This study is mainly focused on the comparative study on premium collection and investment position of Nepal Insurance Company Limited, United Insurance Company Limited, Neco Insurance Company Limited, Sagarmatha Insurance Company Limited, and Alliance Insurance Company Limited.

- ❖ The insurance company collects the higher proportion of premium from fire and motor insurance .
- ❖ Almost insurers have investment their fund in fixed deposits in higher proportion with Neco insurance being 100% fund in fixed deposits where Nepal insurance has the least investment in fixed deposit of all.
- ❖ Though the collection of premium is increasing every year, the return on premium is decreasing and claim paid to premium collection is increasing trend .

- ❖ The Co-efficient of correlation between premium and investment of Nepalese insurance industry has high degree of positive correlation with the significant relationship.
- ❖ Almost of the insurance company can collect the premium under their target and all the insurer or insurance industry prefers the portfolio to investment fund and most of them utilizes the maximum beneficial investment policy among the insurer .

5.3 Recommendation

The recommendations are made as per the analysis of primary, secondary, and valid findings from study as well as relating information about Nepalese insurance industry. Since, the insurance directly related to premium collection and investment aspect and its management, they would be the ultimate bearer of the soundness and weakness of their functioning as financial institution. They have also barrier from government rules and regulation and through other relevant side these correctives action needs to be introduced:

a. The company should collect more general premium:

Generally, in these days, general insurance is classified into five types; and they are fire insurance, marine insurance, motor insurance, engineering insurance, and miscellaneous insurance. Miscellaneous insurance covers all the insurance business rather than fire, marine, motor, and engineering.

From the analysis of premium, collection of five sample insurers it can be concluded that all of these companies should try to increase the premium collection. In the case of fire premium, the collection trend has been decreasing in comparison to the previous years. It goes the same for the marine, engineering, and miscellaneous except motor insurance. In the case of motor insurance, all companies have the excellent premium collection.

b. The company should collect investment fund:

Insurance company is also one of the financial institutions. It collects investment fund in the form of premium and invests in various sectors for the profit motive. However, insurance company itself could not invest their funds as it is directed by the insurance board of Nepal. They must have invested 75% of their fund in 'compulsory sectors' and rest for 'other sectors'. The sample insurance companies should also invest its investment fund as per the rules and regulations formulated by the insurance board of Nepal. Regarding its investment pattern there is an inconsistency in the government saving bonds and corporate securities but the investment pattern of the bank fixed deposits seems to be good compared to the previous year for all companies.

c. The company should increase investment in policy loans:

Insurance company always thinks about profit or return. It invests its fund in different sectors eager for better return from it. All the insurance companies should increase investment in policy loan.

d. Claim should be paid in time:

Settlement of claims should be made in time. Delay in the settlement of claims may affect the business and company may lose its goodwill as well as reliability. From the analysis of the claims paid by insurance companies, the general insurance seems becoming more risky because the rate of claims paid has been increasing every year.

e. The company should establish R & D unit:

The company should set up a separate research and development department. This department looks the present and potential business opportunities in the market. This department calculates the risk involved in the every insurance business because insurance business is becoming more risky than the previous. The major portion of general insurance goes to claims paid. This department suggests for issuing new policies. If the company follows our suggestion, it would be able to find more reliable

and worthy policyholder towards the company. The company will be able to take the profitable opportunities.

f. The company should increase the efficiency of employees:

The company should provide the development programs in the country for their employees. Training programs for all levels of employees should be organized within the country for enhancement of their capacity and efficiency. Obviously, it may be productive if the companies should provide such training programs.

g. Service sector should be effective

Analysis shows the details about the services executed by the insurance companies. Based on the result, it can be concluded that services provided by Nepal Insurance Company Limited seems higher than the other does. Hence, all insurance companies should take care for the existing services provided by them.

h. Employers should be cooperative:

From the analysis, it shows the details about the co-operation of people from sample insurers. Based on the result presented, it can be seen that co-operation in Nepal Insurance Company Limited seems higher than the co-operation of people in others. It may reduce the goodwill and reliability of the company, which may harm the company. Hence, the employers of Nepal Insurance Company Limited should be more cooperative in the future.

i. Insurance companies should do promotion:

The world is changing into the global village due to networking business and communications. Therefore, it is necessary that each business should do promotion and from this insurance business could not remain out of it. Therefore, the insurance business could promote its business through various options like personal selling, mass advertisement, sales promotion, and other various kinds of methods.

j. New types of insurance policy should be developed:

Most of the insurance companies are still running under the same condition as before how they used to run. However, the world is changing into the small market as in the concept of globalization. Companies should bring advance and modern concepts that can bring most of the people within the periphery of insurance business. Similarly, some fields in which insurance could not reached due to the high risks. They have such as agriculture, hatchery, and poultry sectors though they are the most important fields of developing country like Nepal. Hence, companies should bring new policies to cover such fields.

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APPENDIX-I

LIST OF EXISTING LIFE AND NON-LIFE INSURANCE COMPANIES

S.N	Name of the company	Life &Non Life
1	Rastriya Beema sansthan	Life & Non life
2	National Life Insurance co.Ltd	Life
3	Nepal Life Insurance co.Ltd	Life
4	Life Insurance corporation	Life
5	American Life Insurance co Ltd	Life
6	Prime Life Insurance co.Ltd	Life
7	Surya Life Insurance co.Ltd	Life
8	Asian Life Insurance co.Ltd	Life
9	Guransh Life Insurance co.Ltd	Life
10	Nepal Insurance co.Ltd	Non Life
11	The Oriental Insurance co.Ltd	Non Life
12	National Insurance co.ltd	Non Life
13	NLG Insurance co.Ltd	Non Life
14	Himalayan General Insurance	Non Life
15	Non United Insurance co.Ltd	Non Life
16	Premier Insurance co.Ltd	Non Life
17	Everest Insurance Co.Ltd	Non Life
18	Neco Insurance Co.Ltd	Non Life
19	Sagarmatha Insurance co.Ltd	Non Life
20	Alliance Insurance co.Ltd	Non Life
21	N.B Insurance Co.Ltd	Non Life
22	Prudential insurance co.Ltd	Non Life
23	shikhar Insurance co.Ltd	Non Life
24	Lumbini General Insurance co.	Non Life
25	Siddhartha Insurance Ltd	Non Life

APPENDIX- II

QUESTIONNAIRE

This questionnaire is prepared only for assist the research conducted for partial fulfillment of requirement of the Masters of Business Studies (MBS). The collected views will be used for the purpose of this study and will not misuse anywhere. Therefore, the views will be kept confidential and will not be published anywhere.

Further, researcher would like to request you to fill up the questionnaire and conferring your view with hopping your co-operation and radiant participation. Your co-operation counts a lot for the success of the study. To attain your view, please put the tick mark on the 'Box' and write your a verdict as for questionnaire.

Again, requesting and thanking you.

Name of Insurance Company :

Name of Representing Personnel :

Designation :

1. While investing a fund, How is the importance of investment policy?
 Significant important Somewhat important Not important
2. How well are you / your firm concerns with investment management?
 Significant concerned somewhat concerned Not concerned
3. How essential of portfolio, while investing a fund?
 Significant essential somewhat essential Not essential
4. Do you feel that you / yours firm are able to maintain the desired / maximum beneficial investment policy?
 Yes No In between
5. Which sectors are suitable for the purpose of invest to the insurer?
 Fixed Deposit Govt. Saving Bond Share in Market
6. How is the current investment system of Nepalese insurance companies?
 Excellent Good Satisfactory
Any other :

7. While forming the investment policy, what will be you / your firm's preferences among these?
- Portfolios of investment Return from investment
- Objective of investment
8. Is the present investment able to gain desired return?
- Yes No Little
9. What condition is of the premium collection (of insurer) at present situation?
- Excellent Good Satisfactory
10. Are you/your firms satisfied with the various rate of premium under different insurance policy?
- Yes No

APPENDIX- III

F-TEST FOR PREMIUM COLLECTION OF SAMPLE INSURER

Calculation of the correction factor, total sum of square, sum of square between samples, and sum of square within samples:

Let, Nepal Insurance be the X_1 , United Insurance X_2 , Neco Insurance X_3 , Sagarmatha Insurance X_4 , and Alliance Insurance be the X_5 .

Insurer Year	X_1	X_2	X_3	X_4	X_5	X_1^2	X_2^2	X_3^2	X_4^2	X_5^2
060/61	116.80	57.26	149.34	58.11	67.30	13642.24	3278.71	22302.44	3376.77	4529.29
061/62	124.80	54.95	187.93	35.51	80.89	15575.04	3019.50	35317.68	1260.96	6543.19
062/63	143.87	67.90	218.09	89.07	80.41	20698.58	4610.41	47563.25	7933.47	6465.77
063/64	166.62	76.05	168.09	103.81	141.40	27762.22	5783.60	28254.25	10776.52	19993.96
064/65	187.54	90.84	96.65	140.81	149.93	35171.25	8251.91	9341.22	19827.46	22479.00
065/66	206.21	114.02	113.98	183.55	140.07	42522.56	13000.56	12991.44	33690.60	19619.60
066/67	216.08	133.39	119.65	201.64	131.53	46690.57	17792.89	14316.12	40658.69	17300.14
Total	1161.92	594.41	1053.73	812.5	791.53	202062.46	55737.58	170086.4	117524.5	96930.96

$$\begin{aligned} \text{Grand Total (T)} &= X_1 + X_2 + X_3 + X_4 + X_5 \\ &= 1161.92 + 594.41 + 1053.73 + 812.5 + 791.53 \\ &= 4414.09 \end{aligned}$$

$$\begin{aligned} \text{Correction Factor (C.F.)} &= \frac{T^2}{N} \\ &= \frac{(4414.09)^2}{35} \\ &= 556691.16 \end{aligned}$$

$$\begin{aligned} \text{Total Sum of Square (TSS)} &= X_1^2 + X_2^2 + X_3^2 + X_4^2 + X_5^2 - \frac{T^2}{N} \\ &= 202062.46 + 55737.58 + 170086.4 + 117524.5 + 96930.96 - 556691.16 \\ &= 85650.74 \end{aligned}$$

$$\begin{aligned} \text{Sum of Square between Samples (SSC)} &= (X_1)^2/n_1 + (X_2)^2/n_2 + (X_3)^2/n_3 + (X_4)^2/n_4 + (X_5)^2/n_5 - \text{C.F.} \\ &= 585772.03 - 556691.16 \\ &= 29080.87 \end{aligned}$$

$$\begin{aligned} \text{Sum of Square within Samples (SSW)} &= \text{TSS} - \text{SSC} \\ &= 85650.74 - 29080.87 \\ &= 56569.87 \end{aligned}$$

Same process is for investment; claim paid and net income.

APPENDIX- IV
TEST OF REGRESSION COEFFICIENT OF MULTIPLE
REGRESSION MODEL

For Nepal Insurance Company Limited

(Amount in Rs. '000,000)

Profit, X_1	38.89	42.00	24.02	20.67	26.80	17.36	10.07
Premium, X_2	116.80	124.80	143.87	166.62	187.54	206.21	216.08
Investment, X_3	191.88	190.10	90.42	100.47	200.95	190.75	191.17

Let the multiple regression equation of X_1 on X_2 and X_3 be

$$X_1 = a_1 + b_1X_2 + b_2X_3 \dots\dots\dots (i)$$

The values of constant a_1 , b_1 , and b_2 can be obtained by solving the following three normal equations.

$$X_1 = na_1 + b_1 \sum X_2 + b_2 \sum X_3 \dots\dots\dots (ii)$$

$$X_1X_2 = a_1 \sum X_2 + b_1 \sum X_2^2 + b_2 \sum X_2X_3 \dots\dots\dots (iii)$$

$$X_1X_3 = a_1 \sum X_3 + b_1 \sum X_2X_3 + b_2 \sum X_3^2 \dots\dots\dots (iv)$$

Calculation of sum values

X_1	X_2	X_3	X_1X_2	X_2X_3	X_1X_3	X_1^2	X_2^2	X_3^2
38.89	116.8	191.88	4542.352	22411.58	7462.213	1512.432	13642.24	36817.93
42	124.8	190.1	5241.6	23724.48	7984.2	1764	15575.04	36138.01
24.02	143.87	90.42	3455.757	13008.73	2171.888	576.9604	20698.58	8175.776
20.67	166.62	100.47	3444.035	16740.31	2076.715	427.2489	27762.22	10094.22
26.8	187.54	200.95	5026.072	37686.16	5385.46	718.24	35171.25	40380.9
17.36	206.21	190.75	3579.806	39334.56	3311.42	301.3696	42522.56	36385.56
10.07	216.08	191.17	2175.926	41308.01	1925.082	101.4049	46690.57	36545.97
= 179.81	1161.92	1155.74	27465.55	194213.8	30316.98	5401.656	202062.5	204538.4

Substituting the sum values in normal equations

$$179.81 = 7a_1 + 1161.92b_1 + 1155.74b_2$$

$$27465.55 = 1161.92a_1 + 202062.5b_1 + 194213.8b_2$$

$$30316.98 = 1155.74a_1 + 194213.8b_1 + 204538.4b_2$$

Solving the equations

$$a_1 = 57.055, b_1 = -0.28338, b_2 = 0.09491$$

Substituting the values of a_1 , b_1 , and b_2 in (i), we get the required regression equation

of X_1 on X_2 and X_3 is given by $\hat{X}_1 = 57.055 - 0.28338X_2 + 0.09491X_3$

Calculation of total variation explained variation and unexplained variation

X_1	X_2	X_3	\hat{X}_1	$(x_1 - \bar{x}_1)^2$	$(\hat{x}_1 - \bar{x}_1)^2$	$(x_1 - \hat{x}_1)^2$
38.89	116.80	191.88	42.1656	174.3155	271.5406	10.72974
42.00	124.80	190.10	39.7297	266.1094	197.1925	5.154416
24.02	143.87	90.42	24.8660	2.779356	0.674308	0.715678
20.67	166.62	100.47	19.3728	25.17169	39.87054	1.682657
26.80	187.54	200.95	22.9801	1.238457	7.328229	14.59187
17.36	206.21	190.75	16.7214	69.34126	80.38476	0.407829
10.07	216.08	191.17	13.9643	243.8951	137.4254	15.16544
$\sum X_1$ =179.81	$\sum X_2$ =1161.92	$\sum X_3$ =1155.74		$\sum (x_1 - \bar{x}_1)^2$ =782.8508	$\sum (\hat{x}_1 - \bar{x}_1)^2$ =734.4163	$\sum (x_1 - \hat{x}_1)^2$ =48.44762

$$\bar{x}_1 = \frac{\sum x_1}{n} = \frac{179.81}{7} = 25.6871$$

Now, total variation = $(x_1 - \bar{x}_1)^2 = 782.8508$

Explained variation = $(\hat{x}_1 - \bar{x}_1)^2 = 734.4163$

Unexplained variation = $(x_1 - \hat{x}_1)^2 = 48.44762$

Similar process for other insurance companies

APPENDIX- V
RETURN ON PREMIUM

Nepal Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	38891357	42000000	24018312	20674812	26803952	17364032	10073995
Premium	116796157	124803822	143870497	166622268	187539222	206212322	216075707
Percentage	33.30	33.65	16.69	12.41	14.29	8.42	4.66

United Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	11172330	8862451	8884716	17713346	13539290	9547442	8675489
Premium	57259030	54951038	67903229	76053952	90840343	114015511	133385887
Percentage	19.51	16.13	13.09	23.29	14.90	8.37	6.50

Neco Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	9783129	11638693	1005079	6055273	4433545	1503601	295734
Premium	149338378	187934101	218086558	168091383	96651771	113984978	119646721
Percentage	6.55	6.19	0.46	3.60	4.59	1.32	0.25

Sagarmatha Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	4652489	7265126	9520140	6055273	4433545	16949364	16902350
Premium	58111563	35513634	89068848	103813812	140808430	183550807	201637153
Percentage	8.01	20.46	10.63	5.83	3.15	9.23	8.38

Alliance Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	4019366	5385408	7405681	8083006	4397501	3317532	6576231
Premium	67295981	80885688	80406638	141397369	149930767	140073536	131531158
Percentage	5.97	6.66	9.21	5.72	2.93	2.37	5.00

Source: The data have been taken from websites of particular companies.

APPENDIX- VI

CLAIM PAID TO PREMIUM COLLECTION RATIO

Nepal Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Claim Paid	15391658	44694000	23206683	41725929	40298801	52857388	59842055
Premium	11679617	1248022	14387047	166622268	187539222	206212322	216075707
Percentage	13.18	35.81	16.13	25.04	21.49	25.63	27.69

United Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Claim Paid	4047472	7221737	8529005	10114813	11383827	14029961	18731645
Premium	57259030	54951038	67903229	76053952	90840343	114015511	133385887
Percentage	7.07	13.14	12.56	13.30	12.53	12.30	14.04

Neco Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Claim Paid	8782759	9552428	10844115	13932656	16839501	16747370	13139042
Premium	149338378	187934101	218086558	168091383	96651771	113984978	119646721
Percentage	5.88	5.08	4.97	8.29	17.42	14.69	10.98

Sagarmatha Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Claim Paid	1999556	3792512	6110354	13555638	22498593	24718705	46177856
Premium	58111563	35513634	89068848	103813812	140808430	183550807	201637153
Percentage	3.44	10.68	6.86	13.06	15.98	13.48	22.90

Alliance Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Claim Paid	9343876	12463977	8879731	14691426	16836203	22593234	23628569
Premium	67295981	80885688	80406638	141397369	149930767	140073536	131531158
Percentage	13.88	15.41	11.04	10.39	11.23	16.13	17.96

Source: The data have been taken from websites of particular companies.

APPENDIX- VII

PREMIUM COLLECTION OF DIFFERENT INSURERS

1. Nepal Insurance Company Ltd

Amount in Rs.

Date	Aviation	Fire	Marine	Misc.	Motor	Eng.	Total
060/61	-	66528584	3807910	46459663	-	-	116796157
061/62	-	65651769	5077801	54074525	-	-	124803822
062/63	-	75285991	4631866	16993882	45251445	1707313	143870497
063/64	-	69027107	3913331	37694813	53656105	2330912	166622268
064/65	-	71833467	5107974	38539309	70480724	1577748	187539222
065/66	-	76496784	7549202	29103050	89889683	3173603	206212322
066/67	-	77065426	8741476	29873829	96939768	3455208	216075707

2. United Insurance Company Ltd

Amount in Rs.

Date	Aviation	Fire	Marine	Misc.	Motor	Eng.	Total
060/61	-	16028589	10988591	30241850	-	-	57259030
061/62	-	23574730	5935934	5004987	19442284	993103	54951038
062/63	-	22440968	6659239	11708984	21094465	5999573	67903229
063/64	-	20168558	6499426	10112666	26695508	12577794	76053952
064/65	-	24294258	9753709	10912630	44257399	1352347	90840343
065/66	-	33419232	11717349	17284960	47835233	3758737	114015511
066/67	-	95998431	12664031	30625052	60729666	3368707	133385887

3. Neco Insurance Company Ltd

Amount in Rs.

Date	Aviation	Fire	Marine	Misc.	Motor	Eng.	Total
060/61	90685998	17583554	3921031	22634683	12674725	1838387	149338378
061/62	122093777	18603044	5357011	25566364	14962752	1351153	187934101
062/63	141774226	22905319	5853516	26829453	18710328	2013716	218086558
063/64	83533353	24898659	5289114	26431873	22485727	5452657	168091383
064/65	6895619	27812267	6841806	26436911	25991138	2674030	96651771
065/66	18384615	30628345	8743150	22279252	29128909	4820707	113984978
066/67	26664024	31413908	8040837	26965974	24463554	2098424	119646721

4.Sagarmatha Insurance Company Ltd

Amount in Rs.

Date	Aviation	Fire	Marine	Misc.	Motor	Eng.	Total
060/61	-	1773542	1874892	9213732	9697845	1775637	58111563
061/62	-	1276014	1234102	3691722	4899778	1820971	35513634
062/63	8341962	26392832	18527144	14263751	18974456	2568703	89068848
063/64	-	31457850	20946650	17933925	31767877	1707510	103813812
064/65	-	42857114	22757133	19463158	52238711	3492314	140808430
065/66	-	57436398	24718739	23806070	72767499	4822101	183550807
066/67	-	56061481	25913963	20630975	94136352	4894382	201637153

5.Alliance Insurance Company Ltd

Amount in Rs.

Date	Aviation	Fire	Marine	Misc.	Motor	Eng.	Total
060/61	14573286	5301345	5214682	12756352	26304304	3146012	67295981
061/62	9632631	15397217	4722931	12072716	35714747	3345446	80885688
062/63	17678	16075258	3173795	13651823	44312531	3175553	80406638
063/64	47346577	16638527	3389352	13967442	52896107	7159364	141397369
064/65	52079900	19316451	3713935	17543607	53629275	3647599	149930767
065/66	24279284	24772888	3916979	17221443	65469324	4413618	140073536
066/67	-	29822534	2369427	20688440	76030620	2620137	131531158

Source: The data have been taken from websites of particular companies.

APPENDIX- VIII
RETURN ON INVESTMENT

Nepal Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	38891357	42000000	24018312	20674812	26803952	17364032	10073995
Investment	191882055	190100000	90419956	100469982	200954579	190754400	191168004
Percentage	20.27	20.09	26.56	20.58	13.34	9.10	5.27

United Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	11172330	8862451	8884716	17713346	13539290	9547442	8675489
Investment	89685898	79824648	75642378	98765031	111115984	143535108	155972186
Percentage	12.46	11.11	11.75	17.93	12.18	6.65	5.56

Neco Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	9783129	11638693	1005079	6055273	4433545	1503601	295734
Investment	85025000	93025000	98563000	98563000	100596429	101096429	101096429
Percentage	11.51	12.51	1.02	6.14	4.41	1.49	0.29

Sagarmatha Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	4652489	7265126	9520140	6055273	4433545	16949364	16902350
Investment	51590500	47371750	90419956	100469982	135181410	150383060	170423029
Percentage	8.84	11.07	10.53	6.03	3.28	11.27	9.92

Alliance Insurance Company Ltd

(Amt. in round figure)

Year	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Income	4019366	5385408	7405681	8083006	4397501	3317532	6576231
Investment	51590500	47371750	47371750	52590600	88226429	64400929	70300929
Percentage	7.79	11.37	15.63	15.37	4.98	5.15	9.35

Source: The data have been taken from websites of particular companies.

APPENDIX- IX

PREMIUM & INVESTMENT OF SAMPLED INSURERS

Nepal Insurance Company Ltd

(Figure in million)

Date	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Premium	116.80	124.80	143.87	166.62	187.54	206.21	216.08
Investment	191.83	190.10	90.42	100.47	200.95	190.75	191.17

United Insurance Company Ltd

(Figure in million)

Date	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Premium	57.26	54.95	67.90	76.05	90.84	114.02	133.39
Investment	89.69	79.82	75.64	98.77	111.12	143.54	155.97

Neco Insurance Company Ltd

(Figure in million)

Date	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Premium	149.34	187.93	218.09	168.09	96.65	113.98	119.65
Investment	85.03	93.03	98.56	98.56	100.60	101.07	101.07

Sagarmatha Insurance Company Ltd

(Figure in million)

Date	060/61	061/62	062/63	063/64	064/65	065/66	066/67
Premium	58.11	35.51	89.07	103.81	140.81	183.55	201.64
Investment	51.59	47.37	90.42	100.47	135.18	150.38	170.42

Alliance Insurance Company Ltd

(Figure in million)

Date	056/57	057/58	058/59	059/60	060/61	061/62	062/63
Premium	67.30	80.89	80.41	141.40	149.93	140.07	131.53
Investment	51.59	47.37	47.37	52.59	88.23	64.40	70.30

Source: The data have been taken from websites of particular companies.

APPENDIX- X

INVESTMENT PORTFOLIO OF DIFFERENT INSURANCE COMPANIES

Nepal Insurance Company Ltd

Year		Govt. Saving Bond	Fixed Deposits on Bank	Investment on Share	SPF (Fixed)	SWF	SPF	Total
060/61	Amt	60350000	72600000	45882055	12450000	600000	-	191882055
	%	31.45	37.84	23.91	6.49	0.31	-	100
061/62	Amt	55800000	88100000	45600000	-	600000	-	190100000
	%	29.35	46.34	23.99	-	0.34	-	100
062/63	Amt	13450000	3963476	73006480	-	-	-	90419956
	%	14.88	4.38	80.74	-	-	-	100
063/64	Amt	21700000	9069982	69700000	-	-	-	100469982
	%	21.60	9.03	69.37	-	-	-	100
064/65	Amt	50238645	71680498	22567199	40391870	16076366	-	200954579
	%	25.0	35.67	11.23	20.1	8.00	-	100
065/66	Amt	683667497	99802702	22585321	-	-	-	190754400
	%	35.84	52.32	11.84	-	-	-	100
066/67	Amt	59032679	105945308	26190016	-	-	-	191168004
	%	30.88	55.42	13.70	-	-	-	100

United Insurance Company Ltd

Year		Govt. Saving Bond	Fixed Deposits on Bank	Investment on Share	SPF (Fixed)	SWF	SPF	Total
060/61	Amt	17404000	47353600	-	24928298	-	-	89685898
	%	19.41	52.80	-	27.80	-	-	100
061/62	Amt	17104000	44104350	-	18616298	-	-	79824648
	%	21.43	55.25	-	23.32	-	-	100
062/63	Amt	19500605	38063244	-	18078528	-	-	75642378
	%	25.78	50.32	-	23.90	-	-	100
063/64	Amt	22152996	55624465	-	20987569	-	-	98765031
	%	22.43	56.32	-	21.25	-	-	100
064/65	Amt	23178794	64913958	-	23023232	-	-	111115984
	%	20.86	58.42	-	20.72	-	-	100
065/66	Amt	29309869	75169336	-	39055903	-	-	143535108
	%	20.42	52.37	-	27.21	-	-	100
066/67	Amt	33284464	86595758	-	36091963	-	-	155972186
	%	21.34	55.52	-	23.14	-	-	100

Neco Insurance Company Ltd

Year		Govt. Saving Bond	Fixed Deposits on Bank	Investment on Share	SPF (Fixed)	SWF	SPF	Total
060/61	Amt	-	85025000	-	-	-	-	85025000
	%	-	100	-	-	-	-	100
061/62	Amt	-	93025000	-	-	-	-	93025000
	%	-	100	-	-	-	-	100
062/63	Amt	-	98563000	-	-	-	-	98563000
	%	-	100	-	-	-	-	100
063/64	Amt	-	98563000	-	-	-	-	98563000
	%	-	100	-	-	-	-	100
064/65	Amt	-	100596429	-	-	-	-	100596429
	%	-	100	-	-	-	-	100
065/66	Amt	-	101096429	-	-	-	-	101096429
	%	-	100	-	-	-	-	100
066/67	Amt	-	101096429	-	-	-	-	101096429
	%	-	100	-	-	-	-	100

Sagarmatha Insurance Company Ltd

Year		Govt. Saving Bond	Fixed Deposits on Bank	Investment on Share	SPF (Fixed)	SWF	SPF	Total
060/61	Amt	2500000	49086000	4500	-	-	-	51590500
	%	4.85	95.15	0.0087	-	-	-	100
061/62	Amt	2500000	44867250	4500	-	-	-	47371750
	%	5.28	94.71	0.0094	-	-	-	100
062/63	Amt	13450000	3963476	73006480	-	-	-	90419956
	%	14.88	4.38	80.74	-	-	-	100
063/64	Amt	21700000	9069982	69700000	-	-	-	100469982
	%	21.60	9.03	69.37	-	-	-	100
064/65	Amt	22300000	14381410	98500000	-	-	-	135181410
	%	16.50	10.64	72.87	-	-	-	100
065/66	Amt	22300000	14383060	113700000	-	-	-	150383060
	%	14.83	9.56	75.61	-	-	-	100
066/67	Amt	22300000	14383060	133739969	-	-	-	170423029
	%	13.08	8.44	78.48	-	-	-	100

Alliance Insurance Company Ltd

Year		Govt. Saving Bond	Fixed Deposits on Bank	Investment on Share	SPF (Fixed)	SWF	SPF	Total
060/61	Amt	2500000	49086000	4500	-	-	-	51590500
	%	4.85	95.15	0.0087	-	-	-	100
061/62	Amt	2500000	44867250	4500	-	-	-	47371750
	%	5.28	94.71	0.0094	-	-	-	100
062/63	Amt	2595972	44425227	350551	-	-	-	47371750
	%	5.48	93.78	0.74	-	-	-	100
063/64	Amt	2571680	49287910	731009	-	-	-	52590600
	%	4.89	93.72	1.39	-	-	-	100
064/65	Amt	414664	8315340	926388	-	-	-	88226429
	%	4.70	94.25	1.05	-	-	-	100
065/66	Amt	3722374	60105387	573168	-	-	-	64400929
	%	5.78	93.33	0.89	-	-	-	100
066/67	Amt	4063394	65611857	625678	-	-	-	70300929
	%	5.78	93.33	0.89	-	-	-	100

Source: The data have been taken from different websites of particular companies.

APPENDIX- XI

COMPUTATION OF THE CO-EFFICIENT OF CORRELATION BETWEEN INVESTMENT & NET PROFIT EARNED OF NEPALESE INSURANCE INDUSTRY

Year	X	Y	$x=X-\bar{X}$	$y=Y-\bar{Y}$	x^2	y^2	$x y$
060/61	93.96	13.70	-13.35	2.33	178.22	5.43	-31.11
061/62	91.54	15.03	-15.77	3.66	248.69	13.40	-57.72
062/63	80.48	10.17	-26.83	-1.20	719.85	1.44	32.20
063/64	90.17	11.72	-17.14	0.35	293.78	0.12	-6.00
064/65	127.22	10.72	19.91	-0.65	396.41	0.42	-12.94
065/66	130.03	9.74	22.72	-1.63	516.20	2.66	-37.03
066/67	137.79	8.51	30.48	-2.86	929.03	8.18	-87.17
Total	751.19	79.59	0.00	0.00	3282.18	31.65	-199.77

Where X = Investment amount of insurance industry
Y = Net Profit Earned of insurance industry

$$\text{Here, } \bar{X} = \frac{\sum X}{N} = \frac{751.19}{7} = 107.31$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{79.59}{7} = 11.37$$

$$\begin{aligned} \text{Now, } r &= \frac{\sum xy}{\sqrt{\sum x^2 \times \sum y^2}} \\ &= \frac{-199.77}{\sqrt{3282.18 \times 31.65}} \\ &= -0.6198 \end{aligned}$$

Computation of Probable Error (P.E.)

$$\begin{aligned} \text{P.E. (r)} &= 0.6745 \times \frac{[1-r^2]}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-(-0.6198)^2}{\sqrt{7}} \\ &= 0.1570 \end{aligned}$$

$$\begin{aligned} \text{So, } 6 \times \text{P.E. (r)} &= 6 \times 0.1570 \\ &= 0.942 \end{aligned}$$

Other process for premium, and claims paid for different insurance companies can be drawn similarly.