Chapter I

INTRODUCTION

1.1   BACKGROUND OF THE STUDY

All the people will desire to live a cleaner, healthier, comfortable and easy life. To meet this requirement different enterprises produce and provide goods and services. They make innovation and inventions, which take great risk. Large responsibility falls on the shoulder of innovators and inventors. A small error or lapse may cause numerous side effects and cause death or disability. These types of risks highlight the importance of insurance. If there had not been insurance at the back of all innovators, the world would have never been progressed. After considering this in security factor, the enterprises started looking for new and more high-tech machines - robots and gadgets, atomic technology, space traveling, computers, deep sea exploration, development of Concords and Jumbos and medical technology for Hydro Hear led diseases. All these developments could be possible with the support of insurance.

In law and economics, insurance is a form of risk management primarily used to hedge against the risk of a contingent, uncertain loss. Insurance is defined as the equitable transfer of the risk of a loss, from one entity to another, in exchange for payment. An insurer is a company selling the insurance; an insured, or policyholder, is the person or entity buying the insurance policy. The insurance rate is a factor used to determine the amount to be charged for a certain amount of insurance coverage called the premium. Risk management, the practice of appraising and controlling risk, has evolved as a discrete field of study and practice *(http://en.wikipedia.org/Insurance, 2008).*

Insurance is defined as a cooperative form of distribution of a certain risk over a group of people who are exposed to it *(M.K.Ghos, and A.N., Agrawal, 1959)*. As a device for handling the financial aspects of risk, insurance is feasible because insurance is able to combine the risks of individuals into groups and pay losses with funds collected from its members.

In peace, the insurance provides protection to trade and industry which ultimately contributes towards human progress. Thus insurance is the most lending force contributing towards economic, social and technological progress of mankind. Without insurance over all industrial, economic and social activities of the world will come to a grinding halt. Thus insurance is an important and growing part of the financial sector in almost all developed and some developing economies.

The insurance industry primarily provides indemnification of risks faced by both individuals and companies, strengthens the linkages with other sectors of the economy promoting growth and stability, and creating a sizeable impact on the national income of a country. Insurance industry is part of immune and repair systems of an economy. Successful operation of the insurance industry sets impetus for other industries and development of an economy.

In the context of Nepal, the history of insurance business is not as long as in the other countries. Generally insurance activities of Nepal were executed by the Indian Insurance companies prior to the 2007 B.S. However the history shows the introduction of insurance company named "Mal Chalani and Beema Company" in 2004 B.S. It was later converted into "Nepal Insurance and Transport Co. Pvt. Ltd" in 2016 B.S and now named as Nepal Insurance.

Rastriya Beema Corporation (RBC) was introduced under the insurance act 2025 as first public insurance company in order to compete with the organized Indian insurance companies as well as to expand insurance business. It conducted General Insurance business from the starting time but life insurance business was started in 2025. In private sector, National Life of General Insurance Company Pvt. Limited was established in 2043, as per

insurance act of 2025 B.S. Since that time it has been conducting both life and general insurance business. New insurance act was formed in 2049 after restoration of democracy and economic liberalization. This regulation facilitates the liberalize market and hence a number of insurance companies have been established. Now there are 24 insurance companies including life and non - life in Nepal.

Furthermore, after the restoration of democracy in 1990 AD; insurance environment began to change simultaneously along with other factors. Thus to meet the requirements of the changing situation, Insurance Act, 1968 was replaced by new Insurance Act, 1992 (Beema Ain, 2049). The preamble of the Act clearly states "to establish an Insurance Board to systematize, regularize develop and regulate the insurance business". To achieve the goal of the preamble, Beema Samiti (Insurance Board) is formed as an autonomous body under the Insurance Act of 1992. Currently sixteen non – life and 9 life insurance companies are being regulated through Beema Samiti (Insurance Board Nepal).

1.1.1 Profile of Sample Insurance Companies

Alliance Insurance Company Limited

Alliance Insurance Company Limited was established in 1996 with a mission to provide quality and satisfactory service to valued clients. The objectives of the company are to give effective check towards plugging of capital overflow from the country in the form of insurance and re-insurance premium; to add national exchequer by earning foreign currency by the way of accepting reciprocal re-insurance from the foreign re-insurance companies. The core business of the company is non-life insurance, re-insurance and broking in the sub-continent region. The company's total paid up capital is Rs.137, 939,500.

Himalayan General Insurance Company Limited

Himalayan General Insurance Co. Ltd. commenced operations in December 1993 to write Insurance Policies after obtaining license from the Insurance Board of Nepal to underwrite General Insurance (Non-life). Before that it worked with Swire Blanch Asia Ltd Singapore, through a technical service agreement for the initial five years in order to arrange reinsurance with the world's best reinsurers.

It has been providing clients with stability and confidence of security, and shareholders with consistent returns. Through customer-driven service packages, personalized service delivery, and technology-focused operations, its clients enjoy value and benefits that are unparalleled in the industry. Its clients span all levels of society – business corporations, development organizations and individual customers. The company's total paid up capital is Rs.100, 800,000.

Premier Insurance Company Limited

Premier Insurance Company Limited was incorporated on 12th may 1994. It has been providing the various schemes of property insurance with a vision to be the most trustworthy insurance company and force to reckon with. The major objectives of the company are to provide customer oriented services; to provide sound working environment; to improve cost effectiveness via the proper utilization of Information Technology and provide the prudent practices to gain the maximum trust of the international re-insures. The company's total paid up capital is Rs.360, 000,000.

Sagarmatha Insurance Company Limited

Sagarmatha Insurance Co. Ltd was incorporated in 1996 A.D and the is first Foreign Joint Venture Company of Nepal in General Insurance, with Ceylinco Insurance Co. Ltd; of Sri Lanka. The company is professionally managed by a team of highly experienced and dedicated executives. The main objective of the company is to provide wide range of covers against physical damage or losses under various insurance products. The company's total paid up capital is Rs.102, 102,000.

United Insurance Company Limited Company

United Insurance Company (Nepal) Limited was established in 1993 A.D with an objective of providing non-life insurance services in the field of fire, marine, vehicle and miscellaneous insurance in the country and abroad. The company's vision is to contribute the development of the National Economy by ensuring prompt insurance service to the non - life policyholders. The company's mission is to provide the best insurance service, valuing customers in all ways possible and making them feel special through individualistic approach, believing in passion, innovation, integrity, flexibility and positive approach. The total paid up capital of the company is Rs.100, 800,000.

1.2 Focus of the Study

The purpose of this study is to assess the financial performance and emerging trends of Nepalese non - life insurance industry from fiscal year 2060/61 through 2065/66. Study is also focused to forecast the performance for fiscal year 2066/67. This study is conducted on the non - life Insurance sector as this form of insurance gets the least attention by the insured in Nepal. Ratio analysis is applied to calculate and interpret major indicators in order to assess a firm's performance as per the information from balance sheet, profit and loss account and revenue account. Time series analysis (simple exponential smoothing technique) has been used to forecast the immediate future value based on the past data of major financial performance indicators.

Financial performance analysis is used to determine the relative strength and weakness of a company. It assists to diagnose whether the company is financially sound and profitable than other firms in the study; whether the company's position is improving or deteriorating over the study period. The data given in financial statements are relative form of financial data and very useful techniques to cheek upon the efficiency of a firm. Some ratios indicate the trend or progress or downfall of the firm. One of the most important

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reasons for doing time series analysis is to try to forecast future values of the series. A model of the series that explained the past values may also predict whether and how much the next few values will increase or decrease. The ability to make such predictions successfully is obviously important to any business or scientific field.

Forecasting is a technique for estimating future aspects of a business or the operation. It is a method for translating past data or experience into estimates of the future. It is a tool, which helps management to cope with the uncertainty of the future. Forecasts are important for short-term and long-term decisions. That is why focus of this study is crucial to evaluate the financial performance of Nepalese non - life insurance Industry.

1.3   STATEMENT OF PROBLEM

Insurance industry is considered as financial intermediaries of financial system and works as a double – edged weapon. On one hand, it provides the financial security against future loss and uncertainty and on the hand it acts as a catalyst for economic development. So insurance is an interesting research topic for the researchers and finance students.

In Nepalese economy, insurance companies are growing rapidly with a good operating result. Despite various past studies regarding financial performance of insurance companies, there is the need of the study to evaluate the financial soundness of Nepalese non - life Insurance company to provide clear findings about this sector's performance and contribution to national economy.

In general, the study focuses to assess the financial performance of Nepalese non - life insurance industry from FY 2060/61 to 2065/66 considering the listed companies. The study also tries to answer the following research question.

) How has Nepalese non – life insurance sector performed financially, during the period 2060/61 to 2065/66?

) What are the trend and pattern of major financial ratios of this sector during speculated time?

) What would be the immediate future forecast of some of the performance indicators (ratios) based on their past values?

1.4   OBJECTIVES OF THE STUDY

The primary objective of this study is to assess the financial performance of the Nepalese non - life insurance industry from the FY2060/61 to 2065/66 and perform the one year forecast based on the past values of financial performance indicators. All indicators of the financial health of insurance companies are not worked out and analyzed; but only the indicators that are publicly available and comparable financial data of sample insurance companies have been used. Forecasting is performed for one year period using the time series analysis using simple exponential smoothing technique.

) To study the financial performance of the non – life insurance sector in Nepal.

) To examine the trend and pattern of major financial performance indicators. i.e. chief financial ratios.

) To forecast the future values of the major financial performance indicators based on the past values.

) To make necessary suggestions and recommendations.

1.5   SIGNIFICANCE OF THE STUDY

Although non - life insurance sector in Nepal is continuously growing, it is not well developed. High competition, poor monitoring mechanism, limited market opportunities, low per capita income, lack of profitable investment

opportunities and increasing violence and terrorism pose a negative impact in the financial sustainability of Nepalese insurance companies. The financial performance of Nepalese non - life insurance still remains a question. Even though various studies have been carried out in this sector, they have not been successful to point out the facts for influencing financial performance of this sector. This study aims to provide an insight into determination of financial health of Nepalese non - life Insurance companies and forecast the future performance based on the past performance.

Mainly the purposed study is important for the researcher to fulfill the academic requirements of master's degree M.B.S. Similarly the study might be important for insurance companies, customers, scholars, students and other interested parties to gain knowledge about financial status of Nepalese non - life Insurance companies. The researcher believes that the study sheds some light about use of various financial ratios in analyzing the financial performance of Insurance companies as well as time series analysis to give the future performance aspect of the insurance industry. The research would play vital role to discourse ratios and its use in identifying the major factor for poor financial performance and providing the suggestion to maintain the sound financial position to compete the global and competitive insurance market. This study should also be helpful for upcoming researchers to study further more on this study.

1.6   BOUNDARY OF THE STUDY

This study is limited to evaluate the financial performance of non - life insurance industry based on sampled insurance companies using various key financial indicators such as solvency margin ratio, change in surplus ratio, underwriting ratio, claim ratio, combined ratio, net commission ratio, management expenses ratio, underwriting profit, net earnings ratio, return on net worth, retention ratio, premium growth ratio and technical reserve ratio.

This study has not considered the Air insurance and all the mean figures are obtained deducting the air insurance figures.

) Study has confined to only 5 non – life insurance companies in Nepal as a sample for the whole industry.

) This research is carried out within a time boundary as a partially requirement for an academic program and thus an in depth study could not be conducted.

) This research has conducted based primarily on the secondary data, available in the form of reports and articles, through public sources such as internet, journals, magazines, annual reports, balance sheets, profit and loss account, revenue account and various reports submitted to Beema Samiti by insurers.

) Study conducted for a period from year ending 2060 until year ending 2066. As such only the companies having operation over this span have been considered.

) Forecasting is done for the immediate one year period using the simple exponential method taking the alpha value 0.2 only.

1.7   ORGANIZATION OF THE STUDY

This study is organized into five chapters namely, introduction, review of literature, research methodology, presentation and analysis of data and summary conclusion and recommendations. This study is thus divided to make the study simpler and easy to understand.

Chapter 1: Introduction

Chapter one is the introduction chapter. This chapter contains a brief background of the study, focus of the study, statement of the problem of the study, objectives of the study, significance and delimitation of the study.

Chapter 2: Review of Literature

This chapter includes a discussion on the conceptual framework regarding financial performance analysis of Nepalese non - life insurance companies. It includes relevant past studies conducted by Nepalese scholars in the area of financial performance of the non – life insurance companies and brief review of legal provisions.

Chapter 3: Research Methodology

The third chapter describes the research methodology applied for the study. Research design justification for the selection of the study topic, nature and sources of the data are depicted in this chapter. Various data analysis tools for diagnosing financial health of non - life insurance companies are also discussed in this chapter.

Chapter 4: Data Presentation and Analysis

Chapter four comprises presentation and analysis of data. The information obtained by data processing has been presented using figures and tables along with their interpretations. Major findings of the study are also presented in this chapter.

Chapter 5: Summary, Recommendation and Conclusion

Chapter five is the final section and consists of summary, conclusions, recommendations and suggestions.

Last section includes bibliography and appendixes with detail calculations and data source.

CHAPTER II
REVIEW OF LITERATURE

This section provides a perspective to the subject of study i.e. A study on financial performance of non – life insurance Industry in Nepal. This study tries to simulate the reader as well as the researcher in to getting a deeper understanding of the non –life sector and its financial performance. Literature review helps to emphasize the reason why this study is important and relevant to the current scenario.

Literature review involves extensive reading and helps the researcher to get a closer look at how various insurers are performing. This study aims to promote a better understanding of non – life insurance in Nepal today. In addition, it will also provide information about the future performance of the company. This chapter is further divided into conceptual and research review sections.

2.1   CONCEPTUAL REVIEW

This section consists of the concept, history and types of insurance and presents a review of related books to develop the conceptual framework. This chapter presents review of legal documents, research performed and published by scholars, unpublished dissertations and related published thesis about financial performance indicators.

2.1.1 Concept of Insurance

Not only human life is subject to various risks - risk of death or disability due to natural or accidental causes, also prone to diseases, the treatment of which may involve huge expenditure. Besides that, property owned by man is exposed to various hazards, either natural or man-made. When human life is lost or a person is disabled temporarily or permanently, there is a loss of income to the household. The family is put to hardship. Sometimes survival itself is at stake for the dependents. So when it comes to

property, loss or damage to property results in either whole or partial loss in income to the person or entity. Risk has the element of unpredictability. Death or disability as well as loss or damage could occur at any time. Losses can be mitigated through insurance. Insurance is a commodity which offers protection against various contingencies. An insurance contract promises to make good to the insured a certain sum in consideration for a payment in the form of premium from the insured.

In respect of insurance relating to property, there are many products available. Property may be covered against fire and perils of nature including flood, earthquake etc. Machinery may be insured for breakdown. Goods in transit can be insured under a marine cargo insurance cover. Insurance covers are also available for ships and other vessels. A motor insurance policy covers third party damage as well as damage to the vehicle.

4I's of Insurance Service

The 4I's refers to the different dimensions any service. Unlike pure product, services have its characteristics and problems. So the service provider needs to deal with these problems accordingly. The service provider has to design different strategies according to the varying feature of the service.

These 4I's can be broadly classified as: *(http://en.wikipedia.org/insurance, 2008).*

**Intangibility**

Insurance is a guarantee against risk and neither the risk nor the guarantee intangible. Hence, insurance rightly come under services, which are intangible. Efforts have been made by the insurance companies to make insurance tangible to some extent by including letters and forms.

**Inconsistency**

Service quality is often inconsistent. This is because service personnel have different capabilities, which vary in performance from day to day. This

problem of inconsistency in service quality can be reduced through standardization, training and mechanization.

〕 **Inseparability**

Services are produced and consumed simultaneously. Consumers cannot and don't separate the deliverer of the service from the service itself. Interaction between consumer and the service provider varies based on whether consumer must be physically present to receive the service.

〕 **Inventory**

No inventory can be maintained for services. Inventory carrying costs are more subjective and lead to idle production capacity. When the service is available but there is no demand, cost rises as, cost of paying the people and overhead remains constant even though the people are not required to provide services due to lack of demand. In the insurance sector however, commission is paid to the agents on each policy that they sell. Hence, not much inventory cost is wasted on idle inventory. As the cost of agents is directly proportionate to the policy sold.

In legal terms insurance is a contract whereby, for specified consideration, one party undertakes to compensate the other for a loss relating to a particular subject as a result of the occurrence of designated hazards. The normal activities of daily life carry the risk of enormous financial loss *(http://legaldictionary.thefreedictionary.com/insurance 2008).*

When an insured suffers a loss or damage that is covered in the policy, the insured can collect on the proceeds of the policy by filing a claim, or request for coverage, with the insurance company. The company then decides whether or not to pay the claim. The recipient of any proceeds from the policy is called the beneficiary. The beneficiary can be the insured person or other persons designated the insured.

A contract is considered to be insurance if it distributes risk among a large number of persons through an enterprise that is engaged primarily in the business of insurance. Warranties or service contracts for merchandise, for

example, do not constitute insurance. They are not issued by insurance companies, and the risk distribution in the transaction is incidental to the purchase of the merchandise. Warranties and service contracts are thus exempt from strict insurance laws and regulations.

2.1.2 Types of Insurance

Insurance companies create insurance policies by grouping risks according to their focus. This provides a measure of uniformity in the risks that are covered by a type of policy, which in turn allows insurers to anticipate their potential losses and to set premiums accordingly *(http://legaldictionary.thefreedictionary.com/insurance,2008).* There are various types of insurance which are classified are as follows:

Life Insurance: Life insurance is also known as social insurance. In general, Life insurance is the contract under which the insurer undertakes the responsibility to pay certain sum of money either on the death of the insured or on the expiry of fixed period in consideration of premium. A person may purchase life insurance on his or her own life for the benefit of a third person or persons. Individuals may even purchase life insurance on the life of another person. For example, a wife may purchase life insurance that will provide benefits to her upon the death of her husband. This kind of policy is commonly obtained by spouses and by parents insuring themselves against the death of a child. The objective of the life insurance is to provide protection need and saving need of the insurer and also safeguard the dependent in case of unfavorable incident.

）Whole Life Insurance

）Endowment Life Insurance

）Term Life Insurance

Non-life Insurance (General Insurance): General insurance means managing risk against financial loss arising due to fire, marine or miscellaneous events as a result of contingencies, which may or may not occur. General Insurance

means to Cover the risk of the financial loss from any natural calamities viz. Flood, Fire, Earthquake, Burglary, etc. i.e. the events which are beyond the control of the owner of the goods for the things having insurable interest with the utmost good faith by declaring the facts about the circumstances and the products by paying the stipulated sum a premium and not having a motive of making profit from the insurance contract (*http://www.scribd.com, 2010*).

Some of the General Rules

1) **Miss-description:** The insurance policy shall be void and all the premiums paid by insured may be forfeited by the insurance company in the event of miss-presentation or miss declaration and or non-disclosure of any material facts.

2) **Reasonable Care:** The insured shall take all reasonable steps to safeguard the property insured against any loss or damage. Insured shall exercise reasonable care that only competent employees are employed and shall take all reasonable precautions to prevent all accidents and shall comply with all statuary or other regulations.

3) **Fraud:** If any claim under the policy may be in any respect fraudulent or if any fraudulent means or device is used by the insured or anyone acting on the insured's behalf to obtain any benefit under the insurance policy, all the benefits under the insurance policy may be forfeited.

4) **Few basic principles of general insurance are:**
    - Insurable interest
    - Utmost good faith
    - Subrogation
    - Contribution
    - Indemnity

5) **Risks of loss not covered under general insurance are:** The loss or damage or liability or expenses whether direct or indirect occasion by

happening through or arising from any consequences of war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion revolution, civil commotion or loot or pillage in connection therewith and loss or damage caused by depreciation or wear and tear. However the risk of loss or damage by war can be insured by payment of additional premium in some cases only.

Non-life insurance can be further divided into the following categories:

1) **Fire Insurance:** Fire insurance is a form of property insurance which protects people from the costs incurred by fires, explosions, earthquakes, lightning, water, wind, rain, collisions, and riots. When a structure is covered by fire insurance, the insurance policy will pay out in the event that the structure is damaged or destroyed by fire and other. Some standard property insurance policies include fire insurance in their coverage, while in other cases; fire insurance may need to be purchased separately. Depending on the terms of the policy, the contents of the home as well as the structure may be covered in the event of a fire. Some policies also provide a living allowance which allows the victims of a fire to rent temporary housing while their homes are repaired. These clauses in an insurance policy typically cause the policy to become more expensive, since they will represent additional costs to the insurance company in the event of a fire.

2) **Automobile Insurance:** Vehicle insurance (also known as auto insurance, car insurance, or motor insurance) is insurance purchased for cars, trucks, and other road vehicles. Its primary use is to provide protection against physical damage resulting from traffic collisions and against liability that could also arise there from. Type of Motor Vehicle Insurance Policies available in the Nepalese Insurance Market and its scope of covers are:

) Third Party Liability Insurance which will indemnify for the expenses incurred against third party legal liability arises from the use of Vehicle.

) Third Party Liability, Fire & Theft will indemnify for loss or damage to vehicle as a result of Fire and Theft, apart from Third Party Liability.

) Comprehensive Package Insurance covers the loss or damage to vehicle due to Accident, Fire, Lightning, Explosion, Theft, Earthquake, Flood, Inundation, Landslide, Storm, and Hailstone. The Policy also covers the Third Party Legal Liability.

) With payment of additional premium the Policy may be extended to cover Accident to Driver and Passengers Riot Strike, Malicious Act and Terrorism.

3) **Marine Insurance:** "Ships sailing on are exposed to various types of risks. They be collided against one another, spring a leak, caught by fire, captured enemies and seized by pirates. The ship and cargo may be lost in such a case and tremendous loss may be caused to its owners. Such risks if not covered will greatly discourage the international trade, which is mostly sea borne. That is why the Marine Insurance is considered to be the land mind of modern international trade, which is indispensable auxiliary." (Mishra; 1996:36)

Marine insurance policies insure transporters and owners of cargo shipped on an ocean, a sea, or a navigable waterway. Marine risks include damage to cargo, damage to the vessel, and injuries to passengers. Inland marine insurance is used for the transportation of goods on land and on land-locked lakes

4) **Engineering and Contractor's Risk Insurance:** Engineering and contractor's risk insurance covers for civil works like buildings and machine works like bridges, dams road, sea walls etc. It also covers plant

and machinery used for construction as well as temporary structures set up to support the construction. It furthers covers for natural calamities, third party liability and covers for entire period of construction that may spread over a number of years.

5) **Aviation Insurance:** Aviation insurance is insurance of aircraft and related aircraft activities. One aspect of aviation insurance is Aircraft Hull. Another aspect is aircraft operators carrying passengers that may incur public liability for which aircraft liability insurance is require. Airports can also incur liability; this is termed Airport owners and operators liability insurance (*http://www.saia.co.za*, 2006).

6) **Miscellaneous Insurance:** Miscellaneous Insurance business includes the various types of Insurance business such as Medical Insurance, Accidental Insurance, and Money-in-Transit Insurance, Machinery Breakdown Policy, Workmen's complementation Insurance, Burglary and housebreaking Insurance. Public liability Insurance, Cattle Insurance, Crop Insurance, fidelity guarantee Insurance, household Insurance, Terrorism insurance, boiler Insurance, Credit Insurance, financial loss Insurance, Professional Indemnity Insurance, Travel Insurance etc.

Reinsurance:

Reinsurance companies are insurance companies that sell policies to other insurance companies, allowing them to reduce their risks and protect themselves from very large losses. The reinsurance market is dominated by a few very large companies, with huge reserves. Reinsurance is a means by which an insurance company can protect itself with other insurance companies against the risk of losses. Individuals and corporations obtain insurance policies to provide protection for various risks (hurricanes, earthquakes, lawsuits, collisions, sickness and death, etc.). Reinsurers, in turn, provide insurance to insurance companies.

Ñ The Insurer may re-insure the risks which are in excess from the risks assumed by it.

Ñ   The Categories of Re-insurance Business to be made pursuant to sub-rule (1) and other arrangement shall be as specified by the Board (*http://www.bsib.org.np, 2010).*

Premium

Premiums are a regular periodic payment for an insurance policy, also called insurance premium *(http://www.investorwords.com, 2010).* Different types of policies require different premiums based on the degree of risk that the situation presents. For example, a policy insuring a homeowner for all risks associated with a home valued at Rs.200, 000 requires a higher premium than one insuring a boat valued at Rs.20, 000. Although liability for injuries to others might be similar under both policies, the cost of replacing or repairing the boat would be less than the cost of repairing or replacing the home, and this difference is reflected in the premium paid by the insured *(http://legaldictionary.thefreedictionary.com/insurance, 2010).* Premium rates also depend on characteristics of the insured. For example, a person with a poor driving record generally has to pay more for auto insurance than does a person with a good driving record. Furthermore, insurers are free to deny policies to persons who present an unacceptable risk. For example, most insurance companies do not offer life or health insurance to persons who have been diagnosed with a terminal illness *(http://legaldictionary.thefreedictionary.com/insurance, 2010).*

Claim

An insurance claim is the actual application for benefits provided by an insurance company. The most common issue in insurance disputes is whether the insurer is obligated to pay a claim. The determination of the insurer's obligation depends on many factors, such as the circumstances surrounding the loss and the precise coverage of the insurance policy.

Insurance Business Model

Profit = (earned premium + investment income)–(incurred loss + underwriting expenses). Insurers make money in two ways - through underwriting, the process by which insurers selects the risks to insure and decide how much premiums to charge for accepting those risks and by investing the premiums they collect from the insured. The most complicated aspect of the insurance business is the underwriting of policies. Using a wide assortment of data, insurers predict the likelihood that a claim will be made against their policies and price products accordingly. To this end, insurers use actuarial science to quantify the risks they are willing to assume and the premium they will charge to assume them. Data is analyzed to fairly accurately project the rate of future claims based on a given risk. Actuarial science uses statistics and probability to analyze the risks associated with the range of perils covered, and these scientific principles are used to determine an insurer's overall exposure. Upon termination of a given policy, the amount of premium collected and the investment gains minus the amount paid out in claims is the insurer's underwriting profit on that policy. Insurance companies also earn from investment. Available reserve is the amount of money, at hand at any given moment that an insurer has collected in insurance premiums but has not been paid out in claims. Insurers start investing insurance premiums as soon as they are collected and continue to earn interest or returns on them until claims are paid out.

2.1.3 Insurance Development in Nepal

Insurance system is one of the major aspects of Finance for any country these days. In Nepal too, it holds a big importance. The concept of Insurance policy was first brought in Nepal by the Rana Prime minister Judda Samsher in 1992 B.S. (*http://hubpages.com, 2011)*. The system maintaining 'Guthi' can be taken as the starting point for the development of insurance. The income from such Guthi was used to build building, temple and repairing etc. So the concept

of insurance was emerged with the religious view but not as commercial view. The modern insurance business is relatively new in Nepal. Indian insurance companies initiated the insurance business from the late 1930 in Nepal. At these early period Indian Insurance Company was operating its business in Nepal & there was no such corporation registered in Nepal before 2004B.S. (1947 AD).The modern Insurance in Nepal was developed only after the establishment of the first commercial bank, Nepal Bank Limited & some other industries like Biratnagar Jute Mill etc.

The first Nepalese insurance company, 'Nepal Mal Chalani also known as Rastrya Beema Company limited' was established by Nepal Bank Limited. This pioneering insurance company has changed its name into Nepal Insurance and Transport Company Limited in 2016 and Nepal Insurance Company Limited since 2048. The company started to provide only non - life insurance. There was not any insurance company to carry out life insurance business until 2024. So, the government realized the necessity for the establishment of insurance company to execute life insurance business. In 2024/09/01, Rastira Beema Samiti was established which is an autonomous body to develop, systemize, regularize and regulate the insurance business of Nepal under Insurance Act, 1992. In 2025, this private company was changed into corporation & named Rastriya Beema Shansthan which was brought under Rastriya Beema Shansthan Act 2025. Since then it has been providing life and non - life insurance service all over the country. Now, the government has adopted liberal economic policy as a result many of the insurance company established after the restoration of democracy. The first private insurance company in Nepal was National Life & General Insurance Company Private Limited. It was established in 2043 B.S. (1986A.D.) but due to some internal reasons, it could start its business from 2044 B.S only. Currently there are 25 companies operating insurance business in Nepal. Among them three are composite companies transacting life as well as non-life insurance business, while six life insurance companies and thirteen are non-life insurance companies. They are as follows:

Insurance Companies Providing Life Insurance Services:

1) Rastriya Beema Shansthan

2) National Life Insurance Company Limited

3) Nepal Life Insurance Company Limited

4) Life Insurance Corporation (Nepal) Limited

5) American Life Insurance Company Limited

6) Asian Life Insurance Company Limited

7) Gurans Life Insurance Company Limited

8) Surya Life Insurance Company Limited

9) Prime Life Insurance Company (Nepal) Limited

Insurance Companies Providing Only Non-Life Insurance Services:

1) Nepal Insurance Company Limited

2) The Oriental Insurance Company Limited

3) National Insurance Company Limited

4) Himalayan General Insurance Company Limited

5) United Insurance Company (Nepal) Limited

6) Premier Insurance Company (Nepal) Limited

7) Everest Insurance Company Limited

8) Neco Insurance Company Limited

9) Sagarmatha Insurance Company Limited

10) Alliance Insurance Company Limited

11) NB Insurance Company Limited

12) Prudential Insurance Company Limited

13) Shikhar Insurance Company Limited

14) Lumbini General Insurance Company Limited

15) NLG Insurance Company Limited

16) Siddartha Insurance Limited

These insurance companies are functioning as per the norms and values of Insurance act 1992, and Insurance Rules 1993. These companies perform the works of fund creation, underwriting insurance of life and non-life property for the best security against the specified or non-specified risk; third party insurance. Anyway, there is a big scope of Insurance business in the coming days.

2.1.4 Review of Legal Documents Relating to Insurance

As the insurance industry in different Asian economies is at different stages of development, they require different regulatory guidelines (*George E. Rejda, 2006*).

Insurance Act 1992(Beema Ain 2049)

The Nepalese Insurance Market is regulated by the Insurance Board (Beema Samiti), Ministry of Finance. The Insurance Board is constituted under the Insurance Act of 1992 to systematize, regularize, develop and regulate the Nepalese life and non-life insurance markets. The Insurance Board is responsible for authorizing new insurance companies and for granting them operating licenses, approving new insurance products and policies and tariffs and for regulating the activities of the legally recognized entities including Insurance Companies, Insurance Agents, Surveyors (Loss adjusters) and Brokers, under the provisions of the Insurance Act, 1992. The Insurance Board is funded partly by government, partly by the registration fees paid by the insurance entities and finally by a service charge equivalent to 1 percent of the gross premium income of all insurance companies.

Insurance Regulation 1993 (Beema Niyamabali 2049)

Insurance legislation is set out in the Insurance Act of 1992 and the Insurance Regulation 2049 (1993).The insurance regulation 1993 is explained under the subjection 2 in section 1 of Insurance Act 1992. Other necessary amendments were done in this regulation. The First Amendment was made in 2053.9.15 BS (1996.12.30 AD) and Second amendment was made in 2060.1.18 BS (2003.05.01AD) (*http://www.bsib.org.np, 2010*). Insurance board of Nepal (Beema Samiti) is regulatory authorities of Nepal government that regulates and supervises insurance business in Nepal via Insurance Regulation provisions**.** The Insurance Act contains a series of legal and financial requirements for Insurance Companies to operate in the domestic Nepali market including:

ﺟ The insurance company must be registered with and licensed by the Insurance Board in order to legally transact life or non-life insurance business. The Insurance Board issues an annually renewable certificate to the insurance company which specifies the categories of insurance business which the company is licensed to underwrite.

ﺟ The minimum capital requirements to form an insurance company are NRs 100 million (US$1.43 million) for Non-life companies and NRs 250 million (US$3.57 million) for Life companies.

ﺟ In the case of non-life insurance, solvency margin and minimum reserve are not less than 50 percent of net non-life insurance premiums. The reserves must be deposited in a reserve fund and a separate fund must be maintained for each class of insurance business;

ﺟ The investment norms which each Company must comply with. For life insurers, a minimum of 75 percent of the company's funds must be held in compulsory investments including government securities and treasury bills and fixed-term commercial and development bank deposits; for non-life insurers the corresponding figure is 65 percent of the total

investment. The remaining (25 percent maximum for life companies: 35 percent for non-life companies) optional investments may be held in housing schemes, financial companies and shares in public limited companies.

) The 1993 Insurance Regulations define the permitted Categories of Insurance Business including Life, Non-Life and Reinsurance business. Authorized categories of Non-Life Insurance include fire, motor vehicle, marine, engineering and Contractor's risk insurance, aviation insurance and miscellaneous insurance. Agricultural (crop, livestock, aquaculture or forestry) Insurance is not specifically identified as an authorized category of insurance and currently this class of business therefore falls under "Miscellaneous Insurance". According to the Insurance Board, agricultural crop, livestock and poultry insurance are approved classes of insurance business in Nepal. The special case of index-based insurance will possibly have to be considered by the Insurance Board, which has not yet advised whether index-based insurance is permitted under the Insurance Act 1992 and Insurance Regulations 1993, or whether new legislation is required.

) Section 5 of the regulation states that the insurer may re-insure the risks that are in excess from the risks assumed by it and board shall specify other arrangement.

) Agent commission on fire business is 12 percent where as for other class of business it is 15 percent.

) Section 16 of the regulation states that the insurer may spend up to twenty five percent in case of marine insurance and thirty percent in case of other class of insurance for the management expenses out of the total amount of income generated from the premium for the operations of the insurance business.

) Insurance regulation's section 15 states that provision of reserve for claims should be one hundred fifteen percent of the remaining amount of the payment against claims made by the insured before the expiry of each fiscal year.

) Section 15 of the regulation states that the fifty percent of the profit earned until the amount equals the paid up capital of the insurer operating on - life insurance business. Provided that, in case of marine insurance the amount to be deposited to the reserve fund for at least year shall not be considered to be profit.

2.2   REVIEW OF PREVIOUS STUDIES

This section provides review journals and dissertations related to Non – Life Insurance operations and performance analysis. It provides overview regarding the findings of previous researchers, academicians and institutions in the non - life insurance study domain.

2.2.1 Review of Related Articles and Journals

Limited numbers of article are available in Nepal regarding the financial performance of the Non-Life Insurance companies. The journals reviewed are taken from the websites of Beema Samiti, Insurance Regulation and Development authority of India (IRDA), Emerald Insight and Blackwell synergy. A Few of them which researcher has found relevant to the study are presented below.

One of the researcher Jagdish Agrawl in his research article highlighted that insurance is a key factor in the economic development of a country. Insurance Companies not only shift the risks but also collect small-scattered capital and inject these in the development activities of long-term nature. It has director 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 on adverse effect in the overall economy of the country. Hence, the supervision of insurance through regulation is a must in order to provide for insurance to establish and strengthen the national insurance market. Thus, insurance regulation facilities necessary control of insurers activities *(Jagdish Agrawal, 2000).*

Calendro and Lane had stated that property and casualty insurance industry has historically focused on underwriting ratio as a primary measure of operating performance but in last thirty years there were many dramatic changes occurred in this industry. The changes of underwriting profit have decreased and forcing the industry relies on investment returns and careful reinsurance. A unique performance measurement system, the insurance performance measure (IPM)), was presented and illustrated. IPM integrates other areas of operating activity to measure profitability. The study determined the major ingredients of profitability are underwriting ratio, investment return and float generation, reinsurance, regulatory-imposed format and reserve estimation problems *(Joseph Calandro and Scott Lane, 2006).*

Dr. Shyam Shrestha in his Research stated that there is a no doubt insurance plays a vital role in the development of economy. It gives security to the insured and collected the resources and mobilizes it. To highlight the importance of insurance business Dr. Shrestha says that insurance plays the important role in trade and commerce. He specially focuses to the role of insurance is more sensitive in export marketing through his article. According to his views the role of insurance is more sensitive in export marketing and international trade to protect the risks and foreign exchange fluctuation risk etc. It is absolutely true that export trade is more risky that domestic trade. Generally as an exporter, he should be familiar with these risks involved in his trade. At last, he states that if the exporters are not aware of these facts they may have to face domestic exporters from exports risks by providing adequate insurance services to them, as they required. This would help a lot in the

promotion of the country's export trade and to strengthen the country's balance of payment situation (*Shyam K. Shrestha, 2000*).

Raghav D. Pant has analyzed the flow of funds of Rastriya Beema Shansthan since 1975 to 1991. He found that the small volume of credit transaction of Rastriya Beema Shansthan in areas other than government bonds means that it has influence to determine the structure of demand in the economy. The saving that it has managed to mobilized; especially through life insurance is considerable. It has, however, been used the finance government budget deficit or to further increase fixed deposit liability of the commercial banks which is many occasions has excess liquidity at their disposal. Rastriya Beema Shansthan however, has no alternative either (*Raghav D. Pant, 1999*).

2.2.2 Review of Related Dissertations

The objective of review of previous studies is to gain knowledge about what the previous researchers have identified and recommended solving the existing problems in the field of insurance. The gist of reviewed studies is presented below.

Thapa had conducted thesis work on "Analysis of Risk and Return on Common Stock Investment of Insurance companies" (*Neelam Thapa, 2003*). The prime objective of this study was to examine common stock of listed insurance companies in terms of risk and return as well as to construct portfolio of insurance company with that of Nepal lever limited to see whether it is profitable or not. Also study objective was to construct portfolio between insurance companies. The sample of this study was five insurance companies viz. Premier Insurance Co. Ltd, Himalayan General Insurance Co. Ltd., Everest Insurance Co. Ltd., United Insurance Co. Ltd and Nepal Insurance Company with respect to Market Capitalization, coefficient of variation, standard deviation, market risk etc. Finding of this study was usually higher return and portfolio construction can reduce the risk and increase their chance of acquiring higher return. Portfolio must be constructed wisely to deal with the vicissitudes

of the market. The ranking of companies from lower risk to higher risk during FY 2053/54 to 2057/58 B.S can be presented as United Insurance Co. Ltd., Premier Insurance Co. Ltd., Nepal Insurance Co. Ltd., and Himalayan General Insurance Co. Ltd. and Everest Insurance Co. Ltd. respectively. Expected return of Everest Insurance Co. Ltd. is the highest and followed by Himalayan General insurance Co. Ltd., United insurance co. Ltd., Premier Insurance Co. Ltd and Nepal Insurance Co. Ltd in that order.

A study conducted by Bin Bahadur Raut on "A study on financial performance of National life and General Insurance Co Ltd" (*Bin Bahadur Raut, 2059*). He has analyzed the various financial ratios of this company i.e. Liquidity ratio, premium turnover ratio, return on shareholder's equity, earning per share, investment to total assets ratio, fixed assets to total ratio. The major findings from his study are: NLGI has sound liquidity position with increasing trend of outstanding premium and net worth. His study find out that earning per share is fluctuating whereas investment is not less than fifty percent of the total assets throughout the study period.

He has recommended that NLGI should maintain the mutual relationship among the policyholders to collect premium on time and should adopt the proper management between the current assets and liabilities to improve liquidity position. Also company should settle the claim in time and should use the effective investment policy to win the competitive market.

Sharma had conducted a thesis work on "Study on Financial Performance of Rastriya Beema Shansthan and Nepal Life and General Insurance Limited" (*Bhumi Prasad Sharma, 1993)*. His major objective was to study the trend of premium collection and payment of claim and utilization of available resources, evaluate the comparative financial performance with appropriate research tools etc. The major findings are although absolute value of premium is increasing it shown decreasing trend in respect to GDP. Net premium to claim ratio is gradually decreasing; claim outstanding and Premium outstanding are increasing year by year since the overall liquidity position is

weakening whereas Most of the parts of investment portfolio are composed of bulk fixed deposit account and Nepal Sparker securities.

Based on the issues he gives various recommendations to the companies the chief are that sample insurers require to make an effective program to capture larger share in insurance market. Also there is necessary to increase retention capacity, outstanding premium collection. They should improve liquidity position and investment portfolio to service in the competitive insurance market.

The study conducted by Joshi "An appraisal of financial aspects of United Insurance Company (Nepal) Limited and Himalayan General Insurance Company Limited" (*Gehini Joshi, 2060)*. He has also used different ratios to find out the financial performance. In his study the financial performance analysis is based on the financial statement from fiscal year 2000 to 2004. He has used various financial as well as statistical tools viz. –financial ratio, tend analysis and test of hypothesis are used to accomplish the study. Some of the major findings of this study are: the average current ratio of both companies is more than two times which is above the rule of thumb i.e.2:1.The cash to current liabilities ratio shows that the companies have cash balance to meet short term obligations and fixed assets turnover ratio shows the satisfactory trends.

The study made by Sharma "Financial Performance Analysis of Nepalese Insurance Companies" (*Ganga Sharma. 2058*), using different financial ratios and statistical tools has concluded that to survive and achieve better performance level insurance companies need to remove weaknesses and should manage sound liquidity position, optimal capital structure, suitable investment portfolio, effective operating management, hiring qualified human resources, introducing human resource developing program, formulating fixed rules and regulations, conducting strong supervision, evaluation and control program etc.

Major findings from his study are as follows:

⟩ Unsatisfactory level of the liquidity position of the insurance companies.

⟩ All the sampled companies have return and hence no loss regarding net profit, ROA, ROE, ROI & ROC.

⟩ Operating position of the insurance companies is not so high due to low efficiency of operating management.

⟩ The capital structure of insurance companies was unhealthy and need to improve.

⟩ Turnover ratios were low satisfactory.

⟩ Investment policy was not good as most of the investment fund was made on risk less areas and only normal fund invested in shares of other companies without prior knowledge of the market.

⟩ The declining financial condition of the insurance company due to unstable political condition of the country.

Rijal had conducted a thesis work on "diagnosis of Financial Performance of Himalayan General Insurance Company Limited in the Framework of IRDA"(*Umesh Raj, Rijal, 2063*). His study major objectives were to analyze the trend in gross premium, shareholder's fund growth rate and expenses of management in HIG; to measure the pattern in risk and premium retention, commission, technical reserves and reinsurance in HGI and to examine the profitability pattern of HGI. His study duration was form fiscal year 2050/51 to 2062/63. His method of study was financial analysis of the ratio by ignoring statistical analysis. Also his study concluded that

⟩ Gross premium of the insurance industry was in growing trend and so same trend for HGI.

⟩ Along with the increase in gross premium there was corresponding increase in the gross premium to shareholders fund ratio during the study period. GPSF was found to be highest in FY 2058/2059.

- Shareholders fund had growing trend, from FY 2050/2051 to 2062/63except in FY 2058/2059.

- Retention ratio shown decreasing trend at initial phase but it was fluctuating after that. The company could maintain the higher rate in motor business.

- Technical reserve ratio was higher than 50% thus reserve for unexpired risk was higher than the reserve for outstanding claims.

- Underwriting profit was maintained by the company except in FY 2050/2051.

- Positive operating profit (Underwriting profit) throughout 1993/94 to 2004/05. Growing trend in during first four years of the study period then fluctuating trend.

- Net profit is in increasing trend throughout the study period except 2001/02 and 2004/05. Continuous growth in net premium.

- The company had decreasing trend for management expenses with better effective utilization of resources.

- The company could strengthen shareholders equity for the study period.

- Combined ratio of the company had shown the decreasing pattern.

- Return on net worth was growing from initial years to the later years.

- Since reinsurance ratio was between 70% and 80%, more than 70% in average amount went to reinsurance companies.

Bashnyat has completed thesis on "Financial analysis of Nepalese insurance companies, a comparative study of Himalayan General Insurance Co. Ltd and Nepal Insurance Company Co. Ltd" (*Mahesh-war Man Singh Bashnyat, 2065)*. His study period was from FY 2059/60 to FY 2064/65. He had analyzed the data using ratios analysis, cash flow statements and trend analysis. The main objective of the study was to check the consistencies among DPS, EPS and DPR as well as to find the trend of premium collection and

payment of claim, utilization of available resources and offer a package of suggestions and guideline to improve the financial strength of the selected companies. The major findings of the study were:

) NICL maintained higher current ratio, management expenses ratio, commission ratio whereas HGI maintained higher fixed asset turnover ratio, current asset turnover ratio, Net profit margin ratio

) Both companies performed well in terms of asset turnover ratio but poor performance in terms of gross profit margin.

) EPS and DPS of HGI were greater than NICL showing inconsistency.

) Per staff premium generation of HGI is higher than NICL and collection any payment utilization of premium and commission of both companies are satisfactory.

K.C conducted the thesis entitled" a study on financial performance of some listed insurance companies" (*Malika K.C, 2008)*. The objective of her study was to assess the financial performance of Insurance companies in Nepal considering the various aspects relating to financial performance indicators determining the MPS. She tried to find out the relationship between the major financial indicators (DPS, EPS and NWPS) with MPS as well as the trend analysis of premium collection and payment of claim. Her study period was from FY 2001/02 to FY 2005/06. She had analyzed the data by using financial and statistical tools. She used single variable analysis between ratios of MPS, NWPS, EPS, DPS, and DY, PER, MBV of sampled insurance companies and regression and time series analysis as statistical tools. The major finding of this study is as follows:

) EICL could maintain comparatively satisfactory performance in terms of EPS than other sample insurers.

) DPS indicates that except UICL and EICL other companies are not paying the dividend regularly showing bad impact among the investors.

⟩ EICL has better MPS in compared to other companies. Overall MPS trend was fluctuating.

⟩ UICL maintained the highest P/E ratio among the sample companies.

⟩ NWPS of sample insurance companies for study period ranges from Rs. 25.50 to Rs. 470.82. EICL has better performance than others.

⟩ The average P/E ratio is quite low and ranges from 6.17 to 23.12 times during the period of study.

⟩ The average growth rate on MPS of sampled insurance companies during the period of 2001/02 to 2005/06 is higher than the average growth of EPS during the period thus growth on MPS and EPS of stocks of the companies are not consistence.

⟩ Relationship between MPS and other indicators EPS, DPS and NWPS shows mixed result with no specific trend.

⟩ Except HGI other has decreasing trend of premium because of the negligence of agents, brokers and development officer for not helping to the company for collection despite receiving the insurance commission in huge amount.

⟩ The relationship among MPS on EPS, DPS and P/E (t-1) of sample five Insurance companies show the mix result.

She recommended that investors should consider the market value of the share prior to make any investment decision. She suggested improving the outstanding premium collection by properly managing the credit sales of the policy and encouraging the agent to collect outstanding premium by maintaining the good relationship with agent and company. She suggested expanding the business in wider scale adopting the effective promotional activities. There should be improvement in the trading system adopting the modern technology to circular information among the investors in time and with less cost for the prompt decision process. She also recommended

conducting the appropriate research to exploit the market opportunity and witness the cut throat competitive market.

2.2.3 Research Gap

Since the above mentioned studies offer limited findings, more extensive testing and adjustment of necessary variables are needed in order to be more conclusive about the financial performance of the insurance companies. Previous studies were performed based on the traditional ratios except the study carried out by Umesh Raj Rijal who used the ratios from the IRDA framework. Still some of the major financial indicators of the non - life insurance sector have not been explored such as Solvency Margin Ratio, Change in Surplus Ratios, Premium Stability Ratio etc. Apart from this, most of the studies in the domain of insurance financial performance include limited samples especially comparative study between two insurance companies. Thus there is devoid of industry level performance analysis. Even though researcher Ganga Sharma carried out the study regarding the financial performance of Nepalese non- life insurance, this study period was before 2060 using the primitive ratios.

Presently, this study aims to analyze financial performance of Nepalese non - life insurance industry adopting the modern ratios that reflect the true picture of the company's financial soundness. The current study is a supplement to overcome the weakness and limitation of previous studies. Also this study focus to forecast the future performance of Nepalese non - life insurance companies based on the past performance.

Chapter III

RESEARCH METHODOLOGY

This chapter deals with methods and techniques that are adopted for analyzing financial performance of Nepalese Non-life Insurance companies. A sound and systematic methodology is required to conduct any study or research work. "Research Methodology refers to the various sequential steps to adopt by researcher in studying a problem with certain objectives in view" (*C.R. Kotari, 1989, p.172*). It gives a systematic way and a framework to solve phenomena.

The research methodology includes research design, population and sample, nature and source of data, data collection techniques, data analysis tools and procedure of analysis of data.

3.1   RESEARCH DESIGN

The research design is a purposeful scheme to deal with the problem during the process of research. "Research design is the plan, structure and strategy of investigation conceived so as to obtain answer to research question and to control variance" (*Selltiz Claire, Homewood Irwin.p.50*).

This study attempts to analyze the financial performance of Nepalese Non- life Insurance companies with the help of various financial indicators obtained from ratio analysis. This study is exploratory in nature. The research design for this study is an analytical and descriptive one. The analytical research design is used to access and analyze the financial indicators of Nepalese Non- life Insurance companies. The descriptive design has been used to explore and find out existing condition and necessary recommendations for improving financial performance.

3.2 POPULATION AND SAMPLE

There are 17 general insurance companies registered Nepal Stock Exchange (NEPSE) and 16 general insurance companies registered in Beema Samiti Nepal. The sample of the study is following listed insurance companies. These samples are taken considering the convenience to collect the data for desired study period as well to represent the best analysis of the whole industry performance.

1) Alliance Life Insurance Company .Ltd
2) Himalayan Life Insurance Company Ltd
3) Primer Insurance Company. Ltd.
4) Sagarmatha Insurance Company. Ltd.
5) United Insurance Company Ltd.

3.3 NATURE AND SOURCE OF DATA

This study is based on secondary data. Necessary suggestions have been taken from various experts both inside and outside the insurance companies as required. The necessary data such as published balance sheet, profit and loss account and other related statement of account as well as annul reports of sampled insurance companies are obtained from Beema Samiti. Likewise, other related and necessary information are obtained from the publication and website of sampled insurance companies, Beema Samiti and security exchange center. Other sources are books, booklets, magazine, journal and newspaper related to insurance.

3.4 DATA COLLECTION PROCEDURES

As main source of data for this study are secondary, the data regarding financial indicators of the study period are collected constantly from audited annual reports of sampled insurance companies from Beema Samiti. The researcher has regularly concerned Beema Samiti office and sample companies' office for data and information. Formal and informal talk with

Beema Samiti staffs and sample companies staffs to collect information of existing financial pattern and future improvement. Major ratios used in the study are as prescribed by Beema Samiti and other are taken from IRDA Framework and EWS ratios sets. Other related information have collected from websites of Beema Samiti, websites of sample insurers, SSRN, IRDA, MAS, Nepal Stock Exchange, Security Board of Nepal and literature reviews are collected from Western Regional Library Pokhara, Central Library TU, Library of Shanker Dev Campus and Library of Nepal Commerce Campus.

3.5   DATA PROCESSING AND ANALYSIS

The financial analysis has been carried out using ratios. The major financial ratios that have been prescribed by Insurance board of the Nepal (Beema Samiti), Insurance Regulatory and Development Agent of India (IRDA), Insurance Department of Monetary Authority of Singapore (MSA) have been used to evaluate the financial performance of the insurance company. Calculation has been carried out with the aid of the financial software such as Excel, SPSS. Various graphical tools such as bar charts, line charts and tables have been used to present the observations and predictions. Analysis is carried out based on facts and statistics about the industry.

3.5.1 Financial Tools

The financial analysis has been carried out using ratios. The available data are collected and then classified to get the financial ratios. Ratio analysis is performed to compare selected companies financial figures over a study period. Ratio analysis is applied to Financial Statements to analyze the success, failure and progress of insurance business.

Ratio analysis enables the business owner or manager to spot trends in a business and to compare its performance and condition with the average performance of similar businesses in the same industry. Ratio analysis may provide the all-important early warning indications that allow solving business

problems before business is destroyed by them *(http://www.zeromillion.com, 2010).*

Ratio analysis is an important tool for analyzing the company's financial performance. The following are the important advantages of the accounting ratios.

1. Analyzing Financial Statements

Ratio analysis is an important technique of financial statement analysis and useful for understanding the financial position of the company. Ratios are used to provide the company's information to the concerned parties.

2. Judging Efficiency

Ratios are important for judging the company's efficiency in terms of its operations and management. They help to judge how well the company has been able to utilize its assets and earn profits.

3. Locating Weakness

Ratios can also be used in locating weakness of the company's operations even though its overall performance seems to be quite good. Management can then pay attention to the weakness and take remedial measures to overcome them.

4. Formulating Plans

Although ratios are used to analyze the company's past financial performance; they can also be used to establish future trends of financial performance. As a result, they help formulate the company's future plans.

5. Comparing Performance

It is essential for a company to know how well it is performing over the years and as compared to the other firms of the similar nature. Besides, it is also important to know how well its different divisions are performing among themselves in different years.

The limitations of the ratios are:

) Ratio analysis can be only as good as the underlying data.

) Ratio comparisons can be meaningful only, if data is truly comparable.

) Ratio analysis reflects only what is in the financial statements.

) Ratios results should be treated as indicative rather than determinative of the insurer's condition being subject.

Ratio Analysis

Some of the major ratios used as financial performance indicators are mentioned below:

I. **Solvency Margin Ratio**

This ratio is the measure of financial backing provided by shareholders for the volume of business written by insurer. It indicates whether insurer is adequately capitalized in relation to level of retained premium. Low solvency margin means high risk as a result of high risk premium exposure and further analysis is required to determine the severity of the overexposure. An insurance company's solvency ratio must be no less than 100 percent; otherwise it will fall into the inadequate solvency category. It is the statistics of shareholders fund and net premium.

$$\frac{\text{Shareholders fund}}{\text{Net Premium}}$$

II. **Change in Surplus Ratio**

This ratio provides an indication of the improvement or deterioration in insurer's financial condition during the year**.** A Significant decrease in surplus is an indicator of poor performance whereas huge increase in surplus may be an indication of instability and changes in ownership. New issue of capital or extraordinarily large

profit earned during the year could also cause excessive increase in ratio.

$$\frac{\text{Change in Shareholders fund}}{\text{Shareholders Fund (previous year)}}$$

III   Underwriting Ratio

This ratio is underwriting margin of an insurer and measures the profitability of insurance business. It is the principal determinants of the surplus of the insurance business. A negative underwriting ratio may indicate underpricing i.e. premium rates are not commensurate with risk of the business. This is the relationship between underwriting profit or loss and net premium. It shows the percentage of company's net premium that goes toward underwriting expenses. It measures the underwriting efficiency of the company. It is calculated by using following model**.**

$$\frac{\text{Underwriting Profit}}{\text{Net Premium}}$$

IV   Claim Ratio

This ratio is indication of insurer's claim experience and measures the quality of business written. It is claim payable as a percentage of premium income. The influence on profit performance is due to the underlying claims that arise from the business that company has written. Claim costs are influenced by both the number and size of claims the extent that they are more or less than was anticipated in the premium charged. A high ratio could be due to poor underwriting and acceptance of bad quality risk. It is the relationship between Net claims and Net premium.

$$\frac{\text{Net Claims}}{\text{Net Premium Earned}}$$

V   Combined Ratio

Combined ratio is a measure of profitability used by an insurance company to indicate how well it is performing in its daily operations. A ratio below 100 per cent indicates that the company is making an underwriting profit while a ratio above 100 per cent means that it is paying out more money in claims that it is receiving from premiums. A company may still make a profit despite a combined ratio of over a 100% as insurance companies normally have substantial investment income. It is the relationship of claim and operating expenses as a percentage of premium income.

$$\frac{(\text{Incurred Claims} + \text{Expenses})}{\text{Net Earned Premium}}$$

VI   Net Commission Ratio

This ratio measures acquisition cost of business. The higher the ratio higher the acquisition cost. Commission ratio is the relationship between net commission and net premium. A high ratio indicates that premium charge is inadequate and insurer is engaging in cash flow underwriting. This ratio reflects the working efficiency of the insurance company. It is calculated by using following formula.

$$\frac{\text{Commission Net of Reinsurance}}{\text{Gross Premium}}$$

Net commission is taken as companies receive the reinsurance commission as well as pay commission to agent.

VII   Expenses of Management to Gross Premium Ratio

This ratio measures administrative cost incurred in underwriting operations and an indication of efficiency of insurer. It indicates the relationship between management expenses and gross premium. So it measures the expenses relative to premium. The lower value of the ratio

is better performance. As gross premium increases, management expenses increase automatically. So the management expenses should be in the limit as prescribed by regulators. The ratio is obtained by following model.

$$\frac{\text{Management Expenses}}{\text{Gross premium}}$$

VIII Operating Profit Ratio

Operating profit ratio is the numerical relationship between underwriting profit and investment income to net premium. It measures the efficiency of management of business. A higher ratio is prescribed for the company. Following formula is used to determine this ratio.

$$\frac{\text{Underwriting Profit} + \text{Investment Income}}{\text{Net Premium}}$$

IX Net Earnings Ratio

Net earnings ratio is the numerical relationship of profit after tax and net premium. It reveals how much earning is gained in comparison to net premium. It is calculated by using following model.

$$\frac{\text{Profit After Tax}}{\text{Net Premium}}$$

X Return on Net worth Ratio

Return on net worth indicates the relationship between profit after tax and net worth. It tells how much profit a company earned in comparison to the total amount of shareholders equity. It is the final justification of the profitability to evaluate overall return. The following model is used for this ratio.

$$\frac{\text{Profit after Tax}}{\text{Net Worth}}$$

XII   Retention Ratio

Net retention ratio is a ratio of net premium to gross premium. This ratio is the measurer of the insurer's retention for own account and should be commensurate with its financial resources which determine retention capacity. It measures the risk retention capacity of the insurance company. It tells about proportion of risk being carried out by the company. An insurer with low retention ratio and high solvency margin would appear to be acting as an agent and relying on earnings from reinsurance commission.

$$\frac{\text{Net Premium}}{\text{Gross Premium}}$$

XII   Premium Growth Ratio

A large increase or decrease in volume of the net premium written is an indication of lack of stability in insurer's operation. In addition large increase in premium may indicate that the insurer is engaging in cash flow under writing in order to meet the claim**.** This ratio is calculated as change in net premium to the net premium of the previous year premium.

$$\frac{\text{Change in Net Premium}}{\text{Net Premium(Previous year)}}$$

XIII   Technical Reserve to Net Premium Ratio

Technical reserves comprise both reserves for unexpired risk and provision for loss reserve (outstanding claim) protect the company for its sustainability. This ratio is rough measure of the adequacy of reserving. Unexpired risk provisions focus on events that are yet to occur on currently in force policies. Outstanding claims provisions, in contrast, relate to events that have happened, i.e. the claims 'incurred', whether or not the policy is still current, where the company still has an obligation that is to be paid 'outstanding', and regardless of whether or

not a legal acceptance of the claim has taken place A low ratio may imply that insurer is under reserved. A high ratio may also indicate insurer's business portfolio is unprofitable, requiring sustainable provision for loss reserves. It is calculated by following formula.

$$\frac{\text{Technical Reserve}}{\text{Net Premium}}$$

Where: Technical reserve = Reserve for unexpired risk + reserve for outstanding   claims + Premium deficiency reserve.

3.5.2 Time Series Analysis

A time series is a set of observations obtained by measuring a single variable regularly over a period of time. The form of the data for a typical time series is a single sequence or list of observations representing measurements taken at regular intervals. One of the most important reasons for doing time series analysis is to try to forecast future values of the series. A model of the series that explained the past values may also predict whether and how much the next few values will increase or decrease. The ability to make such predictions successfully is obviously important to any business or scientific field.

Forecasting is a method or a technique for estimating future aspects of a business or the operation. It is a method for translating past data or experience into estimates of the future. It is a tool, which helps management in its attempts to cope with the uncertainty of the future. Forecasts are important for short-term and long-term decisions. Businesses may use forecast in several areas: technological forecast, economic forecast, demand forecast. There are two broad categories of forecasting techniques: quantitative methods (objective approach) and qualitative methods (subjective approach). Quantitative forecasting methods are based on analysis of historical data and assume that past patterns in data can be used to forecast future data points. Qualitative forecasting techniques employ the judgment of experts in specified field to

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generate forecasts. They are based on educated guesses or opinions of experts in that area. There are two types of quantitative methods: Times-series method and explanatory methods.

Time-series methods make forecasts based solely on historical patterns in the data. In a time series, measurements are taken at successive points or over successive periods. The measurements may be taken every hour, day, week, month, or year, or at any other regular (or irregular) interval. A first step in using time-series approach is to gather historical data. The historical data is representative of the conditions expected in the future. Time series models are characterized of four components: trend component, cyclical component, seasonal component and irregular component. Trend is important characteristics of time series models. Although times series may display trend, there might be data points lying above or below trend line. Any recurring sequence of points above and below the trend line that last for more than a year is considered to constitute the cyclical component of the time series—that is, these observations in the time series deviate from the trend due to fluctuations.

The component of the time series that captures the variability in the data due to seasonal fluctuations is called the seasonal component. The seasonal component is similar to the cyclical component in that they both refer to some regular fluctuations in a time series. Seasonal components capture the regular pattern of variability in the time series within one-year periods. Random variations in times series is represented by the irregular component. The irregular component of the time series cannot be predicted in advance. The random variations in the time series are caused by short-term, unanticipated and nonrecurring factors that affect the time series.

Simple Exponential Smoothing Methods

A time series is a sequence of observations, which are ordered in time. Inherent in the collection of data taken over time is some form of random variation. There exist methods for reducing of canceling the effect due to random variation. A widely used technique is "smoothing". This technique,

when properly applied, reveals more clearly the underlying trend, seasonal and cyclic components.

There are other techniques that can be used to find a smooth curve that will give an idea of the trend in a time series problem. A very popular method is Exponential Smoothing. In Exponential Smoothing recent observations are given more importance than the older observations. This method also has the advantage that the forecaster can decide the weight that should be placed on the most recent information. This weight is defined by the use of a smoothing constant, which can take values between 0 and 1. The larger is the value, the heavier is the weighting given to recent values. The method of exponential smoothing is used in a step-wise manner. A forecast is made based on existing data; this is compared with the latest observation and then this information is used to produce the next forecast.

Smoothing techniques are used to reduce irregularities (random fluctuations) in time series data. They provide a clearer view of the true underlying behavior of the series. Moving averages rank among the most popular techniques for the preprocessing of time series. They are used to filter random "white noise" from the data, to make the time series smoother or even to emphasize certain informational components contained in the time series. Unlike regression models, exponential smoothing does not imposed any deterministic model to fit the series other than what is inherent in the time series itself. When a time series exhibits no strong or discernable seasonality or trend, the simplest form of exponential smoothing – single exponential smoothing – can be applied. The formula for single exponential smoothing is:

$$_{t+1} = Y_t + (1-) _t$$

In this equation, $_{t+1}$ represents the forecast value for period $t + 1$; Y_t is the actual value of the current period, t; $_t$ is the forecast value for the current period, t; and (alpha) is the 'smoothing constant', a number between 0 and 1. Alpha is the weight assign to the most recent observation in time series. Essentially, process is focused to forecast for the next period on the actual

value for this period, and the value forecasted for this period, which in turn was based on forecasts for periods before that *(http://analysights.wordpress.com, 2010)*.

The reason that the method is called exponential smoothing is because of the inductive nature of the above equation. This can be repeated indefinitely. It can be seen that the contribution to each smoothed value becomes less as the results get older.

Limits on Exponential Smoothing

Exponential smoothing is not intended for long-term forecasting. Usually it is used to predict one or two, but rarely more than three periods ahead. Also, if there is a sudden change in the level values, and the time series continues at that new level, then the algorithm will be slow to catch up with the sudden change. Hence, there will be greater forecasting error. In situations like that, it would be best to ignore the previous periods before the change, and begin the exponential smoothing process with the new level. Since single exponential smoothing, is used when there is no noticeable seasonality or trend in the data. When there is a noticeable trend or seasonal pattern in the data, single exponential smoothing will yield significant forecast error. Double exponential smoothing is needed here to adjust for those patterns.

CHAPTER VI

DATA PRESENTATION AND ANALYSIS

In this chapter, major ratios that are being used by insurance regulatory agency like Beema Samiti, IRDA and MAS are tabulated and presented in graphs for clear picture. The theoretical details have been presented in the Research Methodology. Also major findings of the study are included at the end of this chapter.

4.1   DATA PRESENTATION AND ANALYSIS

This section presents and interprets the ratios calculated using the appropriate model along with the graphical demonstration of the patterns for the clarity. The analysis of forecasted results has been included with appropriate tabulation of the result with the graphical representation of the patterns.

4.1.1 Solvency Margin Ratio

Table 4.1 and Figure 4.1 detail the solvency margin ratio of sampled insurers and whole insurance industry from FY 2060/61 through 2065/66. High solvency margin means insurer is adequately capitalized in relation to level of retained premium. Low solvency margin means high risk as a result of high risk premium exposure. An insurance company's solvency ratio must be no less than 100 percent; otherwise it will fall into the inadequate solvency category.

United and Primer could maintain solvency margin ratio 2.493 and 2.169 respectively which is significantly higher than the industry mean 1.774. The solvency margin ratio of Himalayan, SGI and Alliance is less than the industry growth ratio. Himalayan and SGI has moderate performance with ratio value 1.553 and 1.537 respectively slightly less than the industry but greater than the Alliance. Alliance has the lowest solvency margin ratio 1.326 which is

far less than the industry mean value. Although the solvency margin ratio for industry has increased for the fiscal year 2061/62 but it was declined from fiscal year 2062/63 to 2064/65 with fair increase in fiscal year 2065/66. All the sample insurers has solvency margin more than 100 percent thus adequately capitalized in relation to net premium.

From the Table 4.1 it is clearly seen that the solvency margin of Nepalese Non – life insurance is more than 100 percent throughout the study period. From the study, it can be concluded that Nepalese Non- life insurer industry is adequately capitalized in relation to level of retained premium**.**

Table 4.1: Solvency Margin Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	1.477	1.563	1.315	0.957	0.863	1.783	1.326	0.357	0.128
Himalayan	1.888	1.825	1.710	1.432	1.091	1.369	1.553	0.307	0.095
Primer	1.974	2.153	2.094	3.140	2.003	1.651	2.169	0.506	0.257
SGI	1.638	2.190	1.440	1.268	1.324	1.359	1.537	0.345	0.119
United	2.706	3.619	2.463	2.155	2.020	1.994	2.493	0.616	0.380
Industry	1.878	2.172	1.814	1.514	1.402	1.594	1.774	0.341	0.116

Data Source: Appendix I.I and Beema Samiti Annual Report
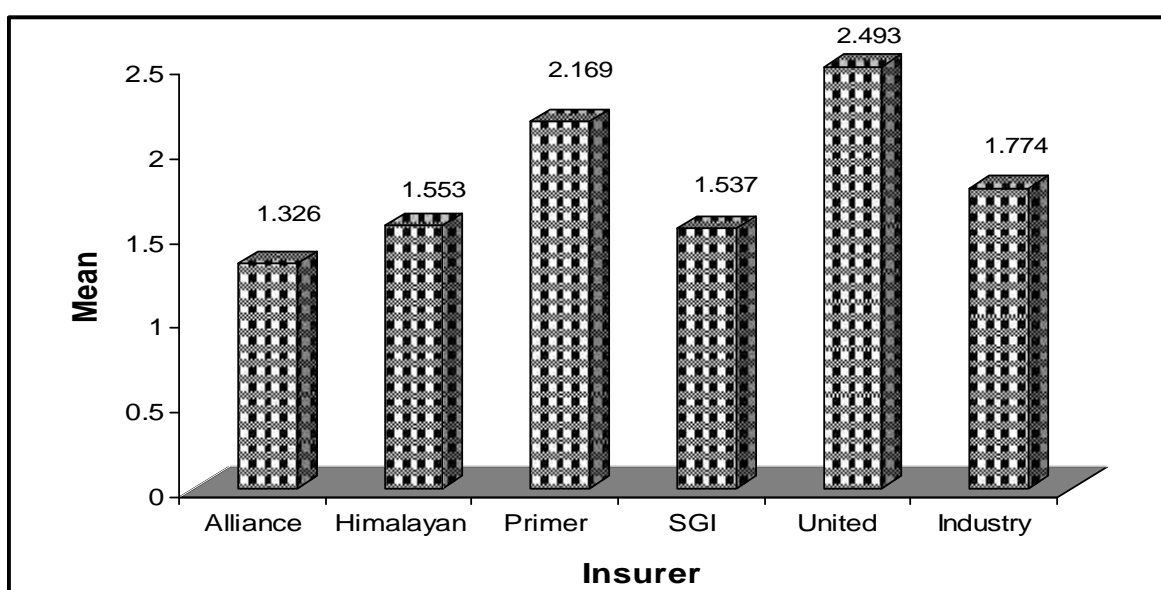
Figure 4.1: Solvency Margin Ratio

4.1.2 Change in Surplus Ratio

The Table 4.2 and Figure 4.2 illustrate the analysis of the ratio of change in surplus of sample insurance companies and industry average over 6 fiscal years. This ratio is used to identify whether there is improvement or deterioration in insurer's financial condition during the year. A significantly decrease in surplus is an indicator of poor performance whereas huge increase in surplus may be an indication of instability and changes in ownership.

Alliance surplus is significantly increased in fiscal year 2061/62 and 2063/64 but significantly decreased in fiscal year 2065/66. In case of Himalayan, there is significant decrease in surplus in FY 2064/65 but sufficiently increased in FY 2065/66 with improved financial condition. Primer's surplus is greatly decreased in FY 2063/64 but prominently increased in fiscal year 2065/66 indicating the improvement in financial performance in later years. These three insures have mixed trend of surplus; deteriorating during early periods whether as improving during later periods. SGI showed the decreasing pattern of surplus throughout the study period thus indicating deterioration in financial condition. United has no surplus in the fiscal year 2065/66 but improved financial condition during early periods.

The industry change in surplus ratio has mixed trend. There is fair increment in FY 2062/63, significant decreased in FY 2063/64, significant increase in fiscal year 2064/65 and moderately decreased in fiscal year 2065/66. The change in surplus ratio does not show the sharp decline or sharp increased pattern with very low ratio mean value i.e. 0.113 thus fair performance and slight stability of change in ownership.

Table 4.2: Change in Surplus Ratio

Insurer/FY	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	-0.027	0.167	0.132	0.223	-0.050	0.089	0.121	0.015
Himalayan	0.156	0.146	0.055	0.006	0.392	0.151	0.149	0.022
Primer	0.219	0.167	0.042	0.246	0.425	0.220	0.139	0.019
SGI	0.187	0.157	0.083	0.059	-0.029	0.091	0.085	0.007
United	0.107	0.108	0.045	0.171	0.000	0.086	0.066	0.004
Industry	0.118	0.135	0.018	0.187	0.110	0.113	0.061	0.004

Data Source: Beema Samiti Annual Reports
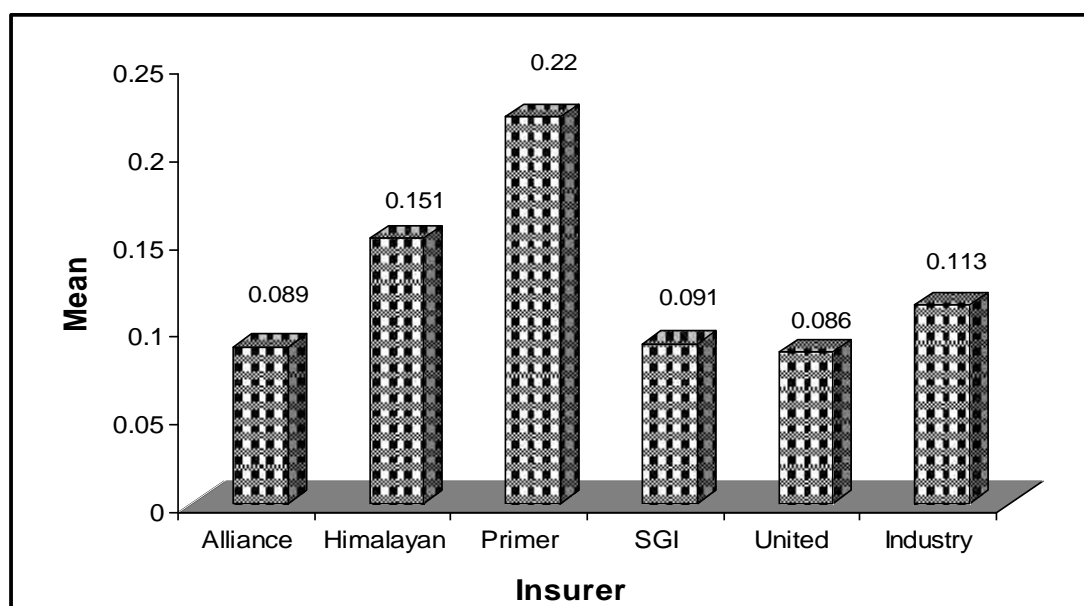
Figure 4.2: Change in Surplus Ratio

4.1.3 Underwriting Ratio

Underwriting ratio is underwriting margin of an insurer and measures the profitability of insurance business with its underwriting efficiency. A negative underwriting ratio may indicate underpricing i.e. premium rates are not commensurate with risk of the business.

The Table 4.3 and Figure 4.3 depict the Underwriting Ratio of the sample insures as well as average ratio of industry from the FY2060/61 to 2065/66. Himalayan and SGI reported the higher values 0.338 and 0.327 respectively being much greater than industry average 0.251.Thus Himalayan and SGI are over-pricing their product and hence failed to utilize the proper underwriting standards. United and Primer has moderate performance in terms of under writing the products but lower than the overall industry performance. Alliance has mean value 0.146 with weakest performance failing to underwrite the products pricing properly.

Overall, the industry underwriting ratio is satisfactory with positive and stable performance except in fiscal year 2063/64.With this fair underwriting performance; Nepalese non- life insurance business shows profitability during study period with proper underwriting practices to commensurate premium rates with risk of the business in spite of the political instability in a country and global economic recession.

Table 4.3: Underwriting Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.239	0.052	0.112	0.175	0.164	0.133	0.146	0.063	0.004
Himalayan	0.540	0.422	0.397	0.201	0.201	0.267	0.338	0.137	0.019
Primer	0.150	0.503	0.386	-0.283	0.278	0.258	0.215	0.272	0.074
SGI	0.301	0.502	0.162	0.159	0.210	0.625	0.327	0.194	0.038
United	0.231	0.346	0.199	0.151	0.278	0.162	0.228	0.074	0.006
Industry	0.294	0.364	0.234	0.133	0.214	0.268	0.251	0.078	0.006

Data Source: Beema Samiti Annual Reports
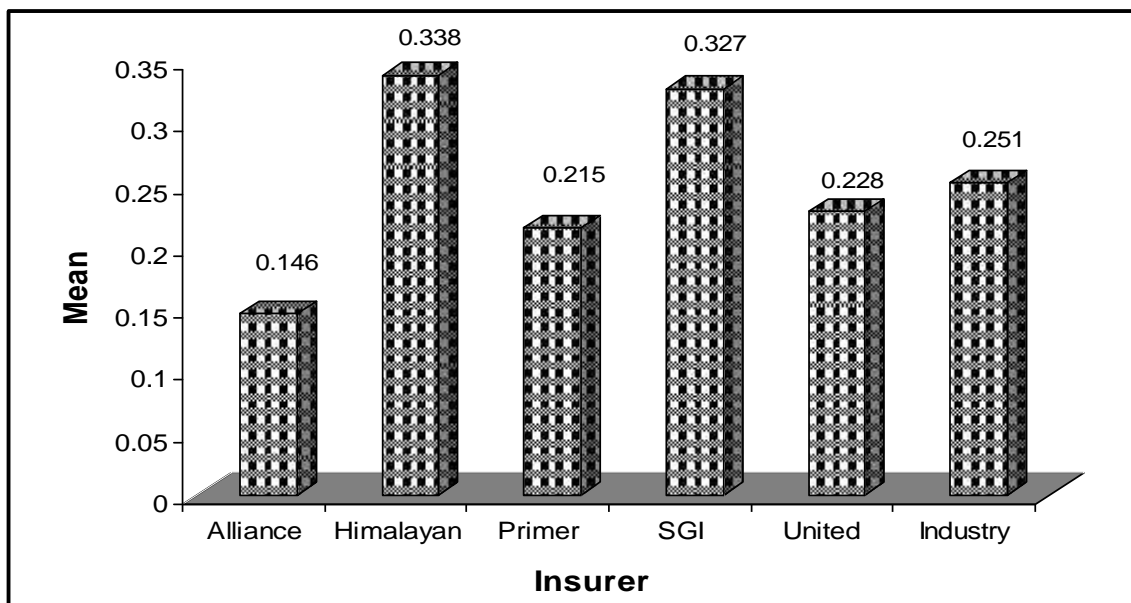
Figure 4.3: Underwriting Ratio

4.1.4 Claim Ratio

Analysis in Table 4.4 gives the incurred claims ratio by five non - life insurers and industry average over a six year period from fiscal year 2060/61 to 2065/66. A high ratio could be due to poor underwriting and acceptance of bad quality risk. Primer has the highest claim ratio value of 142.7 percent, thus paid more amounts in the form of the claims and thus experienced the poor underwriting with bad quality of the risk. It had very high claim ratio 309.2 percent in the fiscal year 2063/64. The other insurers have fairly lesser claim ratio than the industry average which is 52.6 percent. SGI, Himalayan and Alliance have claim ratio less than 50 percent viz. 48.2 percent, 45.4 percent and 40.3 percent thus paid less risky claims. United has the lowest claim ratio during the study period thus is able to manage the underwriting with acceptance of good quality of risk only.

The industry claim ratio shows the mixed trend during the study period. The high value of claim ratio in the FY 2061/62, 2063/63, 2060/61 and 2062/63 whereas fairly lower value in FY 2065/66 and 2064/65.

Since the average claim ratio is around 50 percent i.e. 52.6 percent; it can be concluded that Nepalese insurance companies are not paying higher

value of claim and experiencing proper underwriting practice by accepting the good quality of the risk.

Table 4.4: Claim Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.347	0.489	0.382	0.317	0.438	0.443	0.403	0.086	0.007
Himalayan	0.432	0.481	0.425	0.439	0.519	0.428	0.454	0.077	0.006
Primer	1.611	1.986	1.192	3.092	0.323	0.359	1.427	0.895	0.801
SGI	0.406	0.503	0.534	0.555	0.487	0.405	0.482	0.112	0.012
United	0.322	0.479	0.393	0.427	0.439	0.269	0.388	0.050	0.002
Industry	0.570	0.657	0.540	0.594	0.405	0.389	0.526	0.097	0.009

Data Source: Beema Samiti Annual Reports
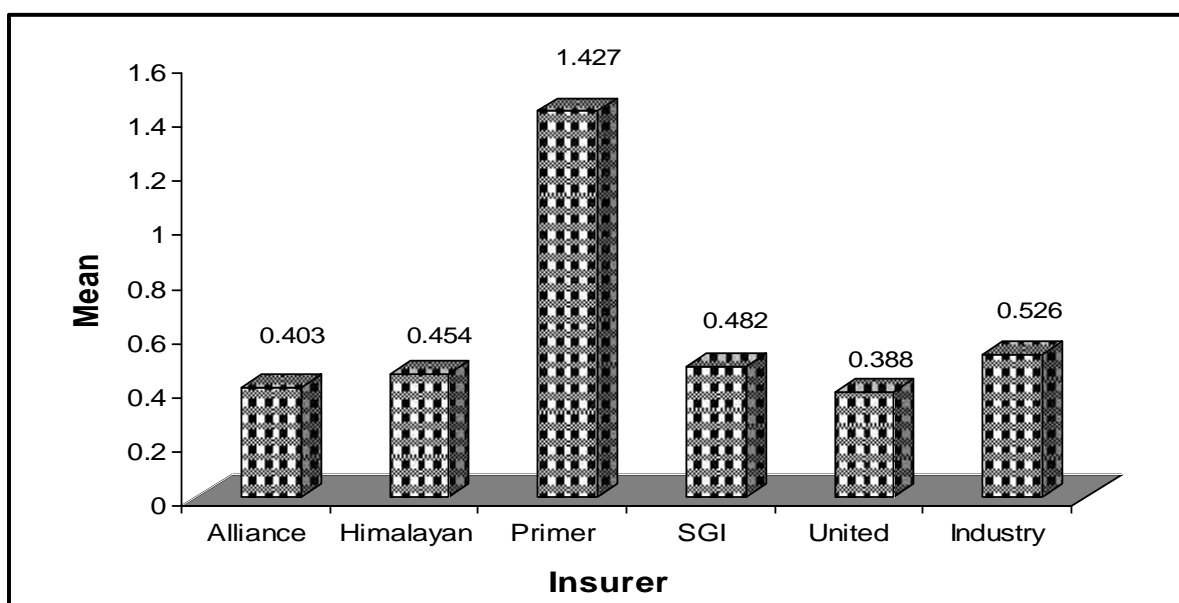
Figure 4.4: Claim Ratio

4.1.5 Combined Ratio

A ratio below 100 per cent indicates that the company is making an underwriting profit while a ratio above 100 per cent means that it is paying out more money in claims that it is receiving from premiums. Table 4.5 gives the combined ratio for sample non -life insurers and average of the industry. Analyses reveals that all the insurers throughout the six year span have had a

combined ratio lower than 100 per cent indicating that insurers are paying fewer claims than what they are earning in the form of premiums. Combined ratio for all the sample insurers has improved gradually over the span of six years. It has decreasing patterns for all sample insurers throughout the study period so as for the average ratio for the industry. Primer had a better combined ratio among all the insurers. It maintained a mean value of combined ratio of 49.4 percent. Alliance and United had mean value of combined ratio 23.2 percent and 20.6percent. United had maximum variation on its claim paying trend. Himalayan had mean ratio of 18.6 percent. SGI had mean value of 18.2 percent. The whole insurance industry claimed ratio is 23.9 percent.

From the study it can be concluded that there is mix pattern of the combined ratio during the study period. This ratio is higher in the FY 2062/63, 2060/61 and 2061/62 but lower values in FY 2064/65 and 2065/65 which may due to the political instability and economic recession during the recent years.

Looking at the combined ratio it can definitely be said that Nepalese non - life insurance industry is failing to manage claims. This fact leaves a scope of improvement for the management of non- life insurers.

Table 4.5: Combined Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.263	0.318	0.309	0.279	0.113	0.106	0.232	0.097	0.009
Himalayan	0.237	0.163	0.256	0.214	0.161	0.088	0.186	0.062	0.004
Primer	0.314	0.295	0.753	0.728	0.229	0.647	0.494	0.240	0.057
SGI	0.124	0.147	0.199	0.190	0.201	0.230	0.182	0.039	0.002
United	0.276	0.243	0.231	0.234	0.114	0.140	0.206	0.064	0.004
Industry	0.236	0.230	0.313	0.298	0.165	0.192	0.239	0.058	0.003

Data Source: Beema Samiti Annual Reports
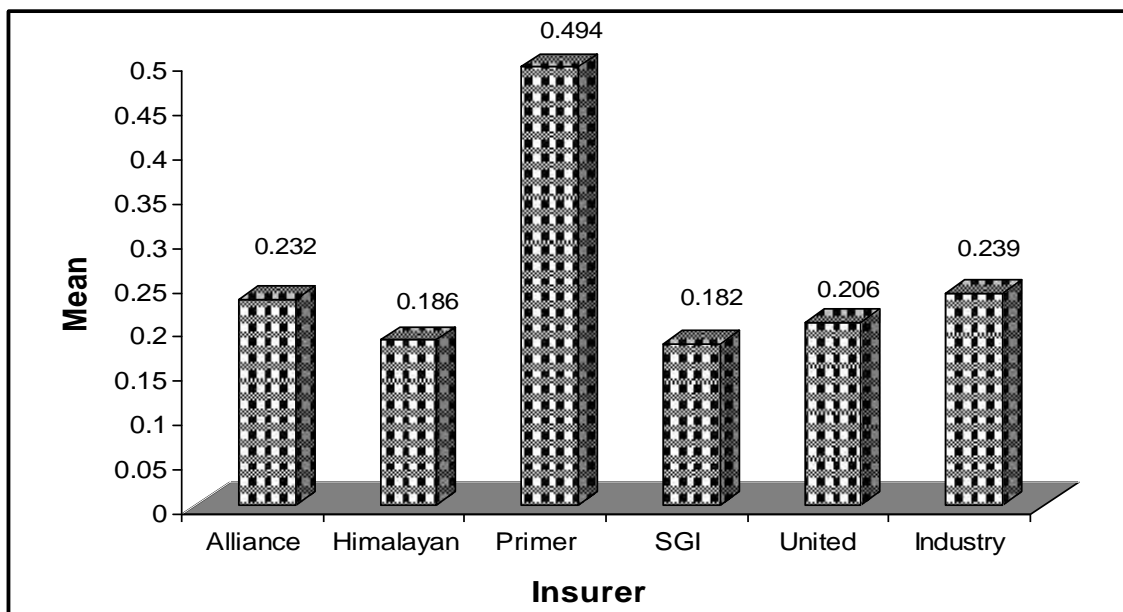
Figure 4.5: Combined Ratio

4.1.6 Net Commission Ratio

This is also one of the financial indicators used to appraise the financial position of the insurance company. From the Table 4.6 and Figure 4.6 it can be inferred that Primer has highest ratio value 0.240 which is much more than the industry mean i.e. 0.150. Since the CV is higher, there is higher fluctuation in the commission ratio during the study period. Himalayan and United reported the mean values 0.207 and 0.196 respectively which is fairly greater than the industry average thus moderate performance in terms of Net Commission ratio. SGI and Alliance mean value is 0.126 and 0.056 respectively.

Since commission is expenses for the company and Alliance reported the lowest value i.e. is 0.056 with the highest performance whereas Primer has highest value 0 .240 thus the lowest performance.

The average commission ratio of the industry shows the declining pattern during the study period. It is increased in FY 2061/62 then is decreased from fiscal year 2062/63 through 2064/65 but fairly increase in fiscal year 2065/66. The industry average 0.150 is not so high value, indicating that Nepalese General Insurance companies have lower commission expenses with good performance for the industry but poor performance as an agent.

Table 4.6: Net Commission Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.072	0.087	0.109	0.039	0.026	0.001	0.056	0.041	0.002
Himalayan	0.218	0.336	0.283	0.187	0.122	0.098	0.207	0.092	0.008
Primer	0.220	0.153	0.379	0.451	0.131	0.108	0.240	0.142	0.020
SGI	0.228	0.276	0.180	0.184	-0.188	0.077	0.126	0.167	0.028
United	0.285	0.293	0.134	0.209	0.190	0.063	0.196	0.088	0.008
Industry	0.199	0.228	0.206	0.172	0.033	0.059	0.150	0.083	0.007

Data Source: Beema Samiti Annual Reports
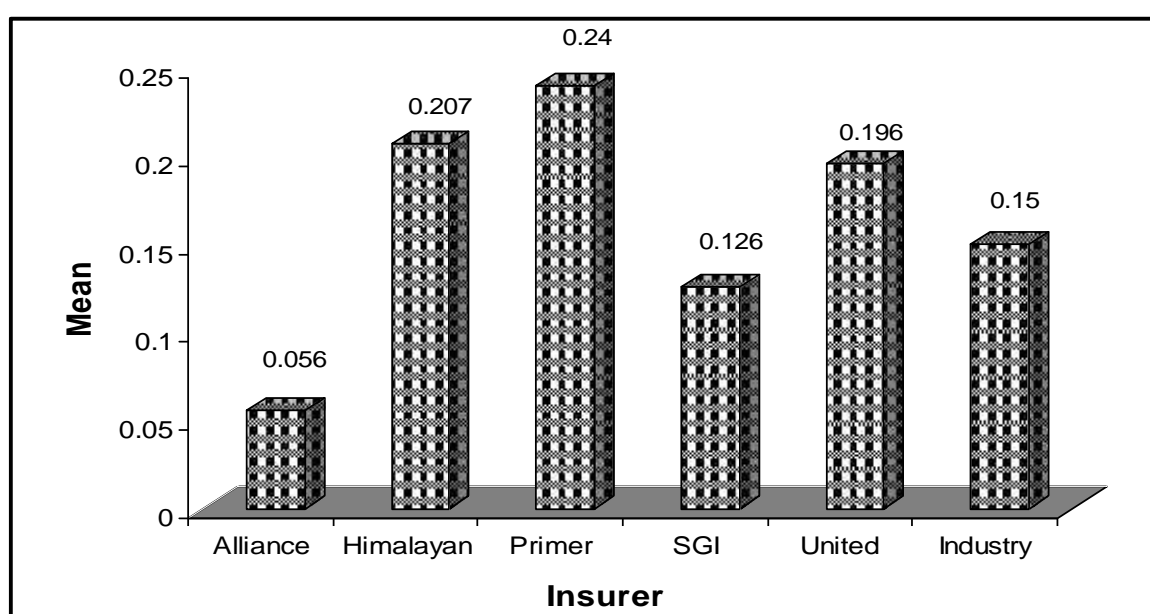
Figure 4.6: Net Commission Ratio

4.1.7 Expenses of Management to Gross Premium Ratio

Expense of the management to gross premium ratio measures the expenses relative to gross premium. The lower is the ratio, the better is the result. As gross premium grows, a management expense grows automatically. From the Table 4.7 and Figure 4.7 it is clear that SGI has the lowest ratio value of 0.059, thus efficient performance due to proper handling of the management expenses and higher growth of gross premium. Alliance, United and then Primer maintained highest value i.e. 0.122, 0.109and 0.107 respectively

showing the poor performance. Himalayan had almost same performance level as industry with the value 0.097 that of industry 0.094.The management expenses ratio for fiscal year 2060/61 is 0.138 and decreased to 0.113 in fiscal year 2061/62 again increased to 0.144 in the year 2062/63. After that this ratio has declined pattern.

Since the average industry Management expenses is not very much high, there is higher growth in gross premium thus satisfactory performance level shown by the industry during the study period.

Table 4.7: Management Expenses to Gross Premium

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.172	0.192	0.181	0.158	0.016	0.013	0.122	0.084	0.007
Himalayan	0.142	0.097	0.144	0.108	0.084	0.008	0.097	0.050	0.002
Primer	0.141	0.093	0.210	0.170	0.010	0.019	0.107	0.081	0.007
SGI	0.080	0.073	0.087	0.083	0.014	0.014	0.059	0.035	0.001
United	0.182	0.154	0.145	0.140	0.015	0.019	0.109	0.073	0.005
Industry	0.138	0.113	0.144	0.126	0.031	0.013	0.094	0.057	0.003

Data Source: Beema Samiti Annual Reports
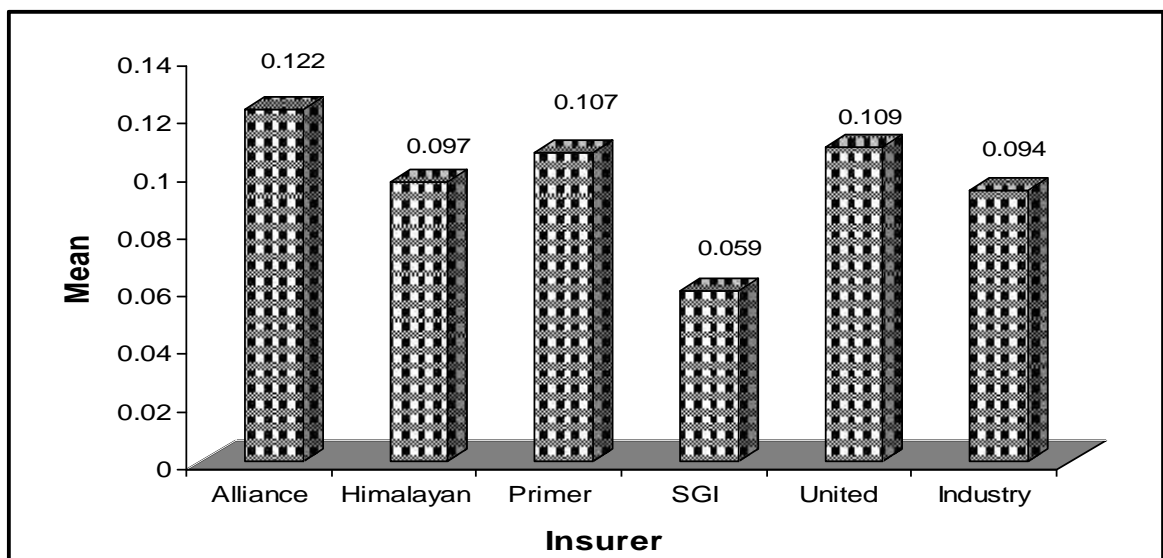

Figure 4.7: Management Expenses to Gross Premium

4.1.8 Operating Profit Ratio

Operating profit ratio is the relationship between underwriting profit plus investment income and net premium. It is used to measure the management efficiency. The Higher is the operating profit ratio; the better is the company's financial performance. Table 4.8 and Figure 4.8 shows the operating profit ratio of sample insures and the industry as a whole. The industry mean value is 0.457. Himalayan, SGI and united maintained the higher values 0.501, 0.494 and 0.474 respectively than the industry. Himalayan showed the best performance indicating that company generating more profit. Primer and Alliance reported the mean values 0.427 and 0.292 respectively lower than the industry mean. Alliance could maintain the lowest value, indicating the weakest performance among the sample insures producing the less profit from the insurance operations. The operating profit has been increased from the fiscal year 2060/61 to 2061/62 then it has declining pattern till fiscal year 2063/64 which is then increased fairly from fiscal year 2064/65 and 2065/66. Since the industry operating profit ratio is 45.7 percent, which is not an outstanding performance in terms of the profit generation. The Nepalese non - life insurance is severely affected by the global economic crisis and the political instability in the country. Also insures are falling to expand the business to the large scale to generate the sufficient operating profit for the financial soundness.

Table 4.8: Operating Profit Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.339	0.150	0.183	0.231	0.236	0.156	0.292	0.118	0.014
Himalayan	0.667	0.584	0.508	0.283	0.245	0.311	0.501	0.171	0.029
Primer	0.353	0.697	0.561	-0.008	0.361	0.402	0.427	0.231	0.053
SGI	0.431	0.705	0.284	0.258	0.270	0.701	0.494	0.237	0.056
United	0.490	0.611	0.398	0.314	0.347	0.281	0.474	0.123	0.015
Industry	0.450	0.542	0.364	0.242	0.279	0.337	0.457	0.137	0.019

Data Source: Beema Samiti Annual Reports
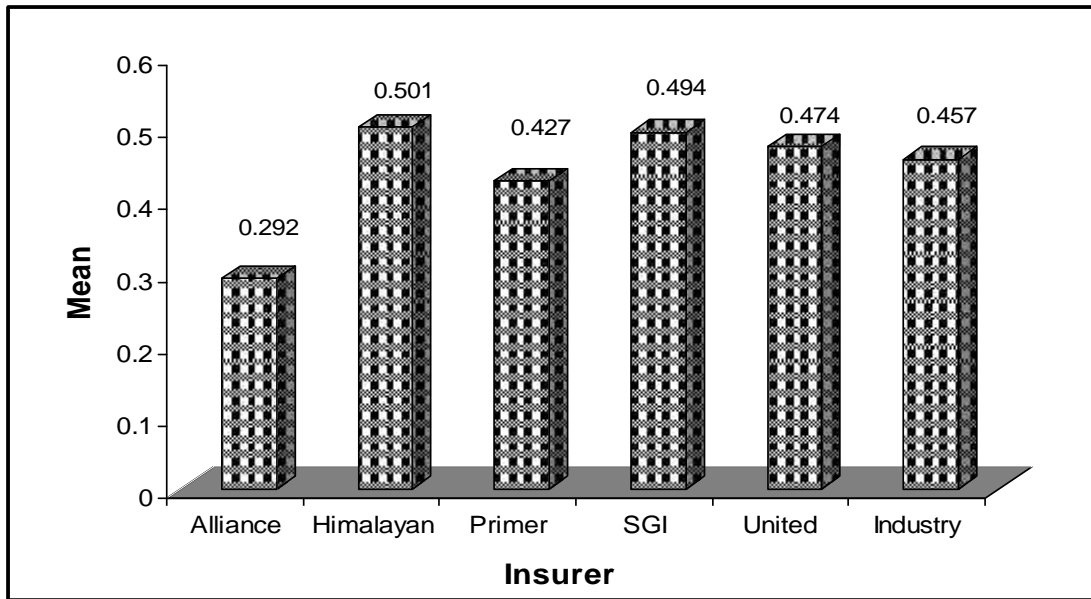
Figure 4.8: Operating Profit Ratio

4.1.9 Net Earnings Ratio

The Net Earnings Ratio shows how profitable the insurance business is. This ratio reflects the summary of all activities during the period under review. The Net Earnings Ratio has been calculated by dividing profit after tax to net written premium. Table 4.9 explains the net earnings of the Nepalese non – life insurance companies for 6 fiscal years.

As it is evident from the Table, Primer, United and SGI have maintained higher values of 25.4 percent, 23 percent and 21.5percent respectively. These figures are significantly higher than the industry average i.e. 17.8 percent thus shown the better performance in terms of earnings. Primer outwits in terms of net earning collection for all sample insures. Himalayan has mean value 18.4 percent which is fairly greater than the industry thus moderate performance in terms of earning. The Alliance fails to collect sufficient profit and hence weakest performer in terms of the net earning with very insignificant mean value 7 percent far less than the industry mean.

The overall net earning pattern of the industry does not have particular trend but has mixed trend. The ratio value is significantly higher in the fiscal year 2061/62 which is 26.9 percent.

From the study it can be inferred that the Nepalese General insurance net earnings is satisfactory. Since the industry average 17.8% is not high figure, there is more ground to improve the net earning patterns.

Table 4.9: Net Earnings Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.041	0.074	0.106	0.116	0.029	0.079	0.074	0.034	0.001
Himalayan	0.320	0.247	0.219	0.109	0.074	0.137	0.184	0.093	0.009
Primer	0.233	0.387	0.300	0.183	0.177	0.245	0.254	0.079	0.006
SGI	0.080	0.345	0.195	0.109	0.143	0.416	0.215	0.136	0.018
United	0.383	0.326	0.182	0.102	0.226	0.161	0.230	0.106	0.011
Industry	0.189	0.269	0.194	0.116	0.114	0.185	0.178	0.058	0.003

Data Source: Beema Samiti Annual Reports
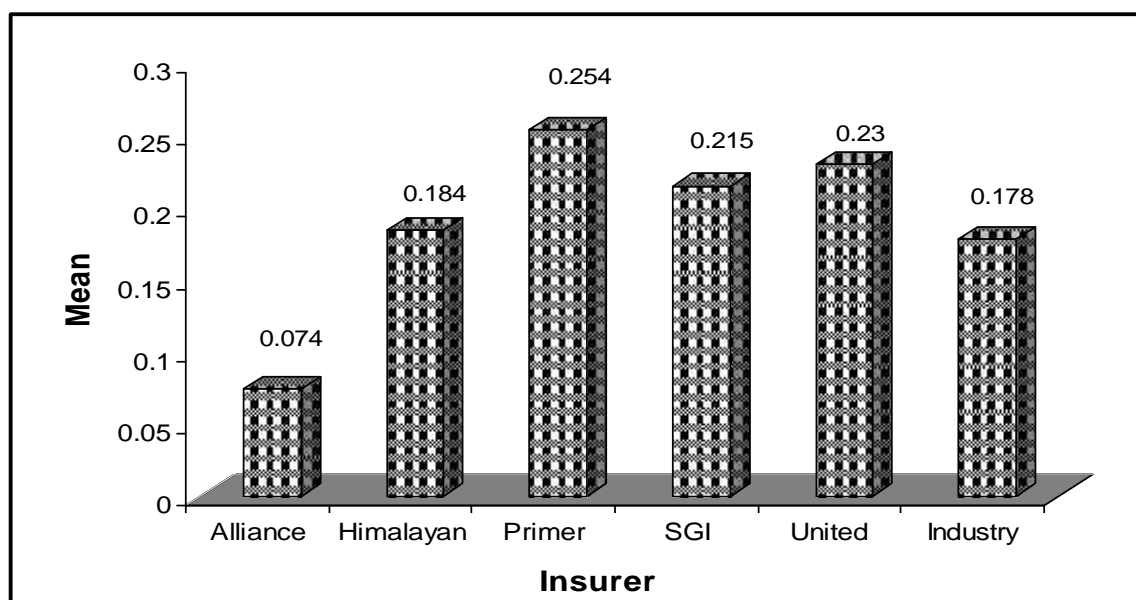
Figure 4.9: Net Earnings Ratio

4.1.10 Return on Net Worth

Return on net worth ratio indicates how well the resources of the owners have been used. It measures the return accruing to owners' capital. It is computed by dividing profit after tax to Net Worth. Table 4.10 shows the return accruing to owners' capital in the General Insurance companies under study.

The Table mirrors that the mean value of Net Worth ratio of SGI is 12.4 percent which is higher than the industry average 10.3 percent thus shown the better performance comparative to other sample insures. Himalayan and Primer maintained the moderate performance with same mean value 11.5 percent slightly greater than the industry mean. Since Primer's SD 4.2 percent and CV 2 percentage slightly higher than the Himalayan's SD 3.9 percent and CV 1 percent, Himalayan outwits primer in terms of Net Worth performance during the study period. United and then Alliance are weaker performer in terms of the Net worth with mean values 8.7 percent and 7.2 percent respectively. These figures are slightly lower than the industry average figures. The Study suggests that Alliance is the weakest performer in terms of Net Worth.

An investigation into the annual reports of all the insurance companies under study revealed that the reason for better performance of net worth of industry is due to their higher investment income.

Table 4.10: Return on Net Worth

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.028	0.048	0.081	0.121	0.037	0.119	0.072	0.041	0.002
Himalayan	0.170	0.135	0.128	0.076	0.066	0.112	0.115	0.039	0.001
Primer	0.118	0.180	0.143	0.058	0.099	0.093	0.115	0.042	0.002
SGI	0.049	0.157	0.136	0.086	0.095	0.220	0.124	0.061	0.004
United	0.141	0.090	0.074	0.048	0.077	0.091	0.087	0.031	0.001
Industry	0.101	0.124	0.113	0.077	0.077	0.130	0.103	0.023	0.001

Data Source: Beema Samiti Annual Reports
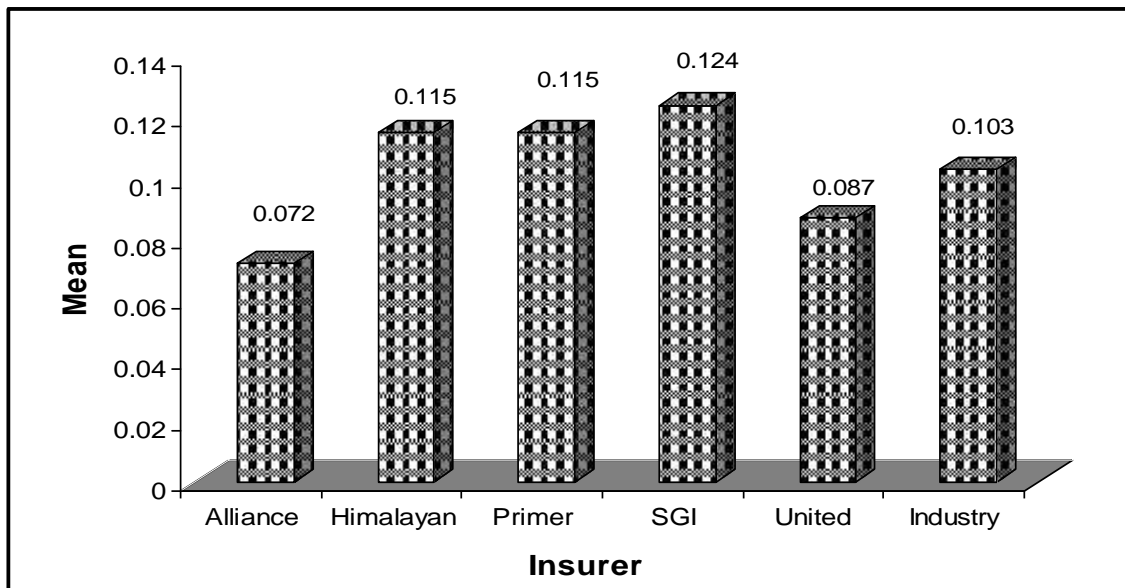
Figure 4.10: Net worth Ratio

4.1.11 Retention Ratio

The retention ratio is the relationship between the net premium and the gross premium. It is a rough measure of how much of the risk is being carried by an insurer rather than bring passed to reinsurers. This ratio is a measure of insurers' retention for own account and should be commensurate with its financial resources that determine retention capacity.

From the Table 4.11 and Figure 4.11 it can be observed that Himalayan maintained the Retention ratio 61.8 percent which is slightly higher than the industry mean 56.8 percent. Other insures have mean value lower than the industry mean. The order of retention performance is Primer 54.7percent, SGI 53.9 percent, Alliance 46.2 percent and United 41.9 percent.

Since the average retention ratio of industry is not significantly high, it can be concluded that insures do not retained the high amount of risk rather feel secured by reinsuring the bad quality of risk from reinsurance companies. Since retention ratio is neither high nor low thus moderately relying on earning reinsurance commission.

Table 4.11: Retention Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.505	0.615	0.530	0.463	0.462	0.465	0.462	0.060	0.004
Himalayan	0.675	0.668	0.618	0.662	0.701	0.670	0.618	0.027	0.001
Primer	0.724	0.811	0.547	0.766	0.751	0.626	0.547	0.098	0.010
SGI	0.607	0.732	0.571	0.539	0.562	0.625	0.539	0.069	0.005
United	0.611	0.743	0.643	0.621	0.624	0.419	0.419	0.106	0.011
Industry	0.628	0.724	0.583	0.599	0.623	0.568	0.568	0.056	0.003

Data Source: Beema Samiti Annual Reports
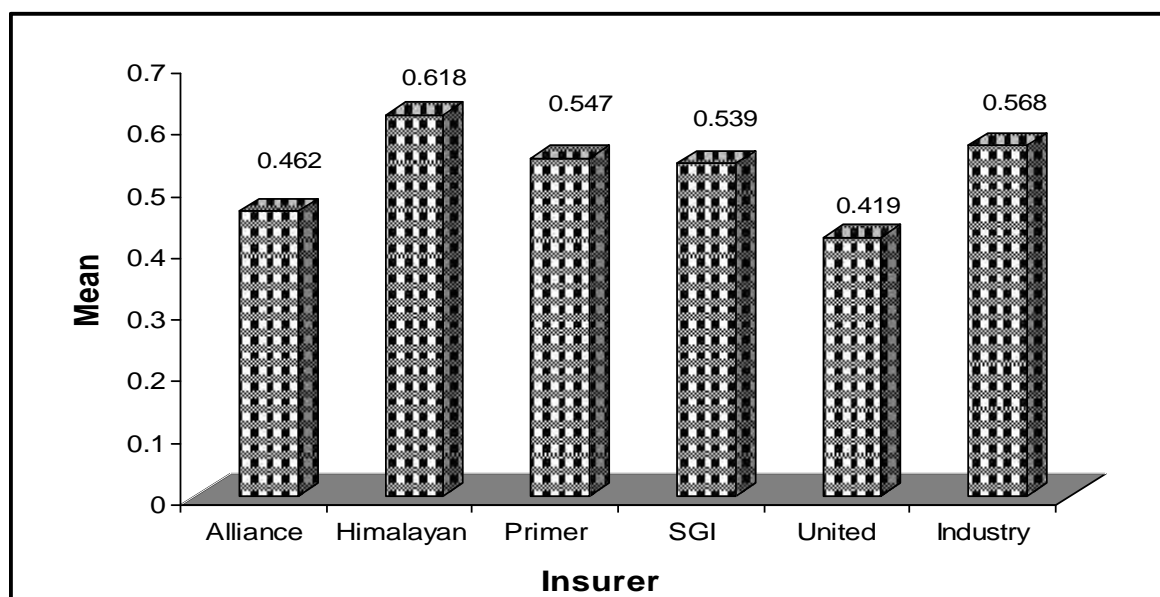
Figure 4.11: Retention Ratio

4.1.12 Premium Growth Ratio

A large increase or decrease in volume of the net premium written is an indication of lack of stability in insurer's operation. In addition large increase in premium may indicate that the insurer is engaging in cash flow under writing in order to meet the claim.

Table 4.12 and Figure 4.12 detail the premium growth ratio of sampled insurers and whole insurance industry for the FY 2060/61 through 2065/66. It is seen that mean premium growth ratio of The Alliance is highest among the

sample insurers which is 0.310 and positive throughout the study period except in FY 2061/62. United has negative growth the in the fiscal year 2061/62 but the average ratio is positive which is 0.308. Himalayan could maintain the positive growth of the premium throughout the study period with average mean value of 0.274. SGI has negative growth in the FY 2061/62 and 2065/66 but average growth is positive that is 0.168. Primer has average premium growth is 0.182 but there was negative growth in the FY2063/64 and 2065/66.

The industry premium growth trend is random order during study period. It was negative in the initial year of the study period then rapidly increased in the FY 2062/63 then decreased in FY 2063/64 again raised in FY 2064/65 and reduced in FY 2065/66.

Since the premium growth ratio 0.233 is positive but not significant value there is poor performance of premium growth of Nepalese non - life insurance. From the study it can be concluded that the insurance industry is experiencing the inadequate reserve and instability in product mix. Also there is cash flow underlying and hence immediate regulatory action is required.

Table 4.12: Premium Growth Ratio

Insurer/FY	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	-0.081	0.388	0.556	0.357	0.330	0.310	0.236	0.056
Himalayan	0.196	0.223	0.260	0.320	0.369	0.274	0.071	0.005
Primer	0.118	0.200	-0.305	0.954	-0.056	0.182	0.473	0.224
SGI	-0.112	0.759	0.230	0.014	-0.050	0.168	0.354	0.126
United	-0.173	0.628	0.194	0.250	0.641	0.308	0.339	0.115
Industry	-0.024	0.442	0.219	0.281	0.247	0.233	0.168	0.028

Data Source: Beema Samiti Annual Reports
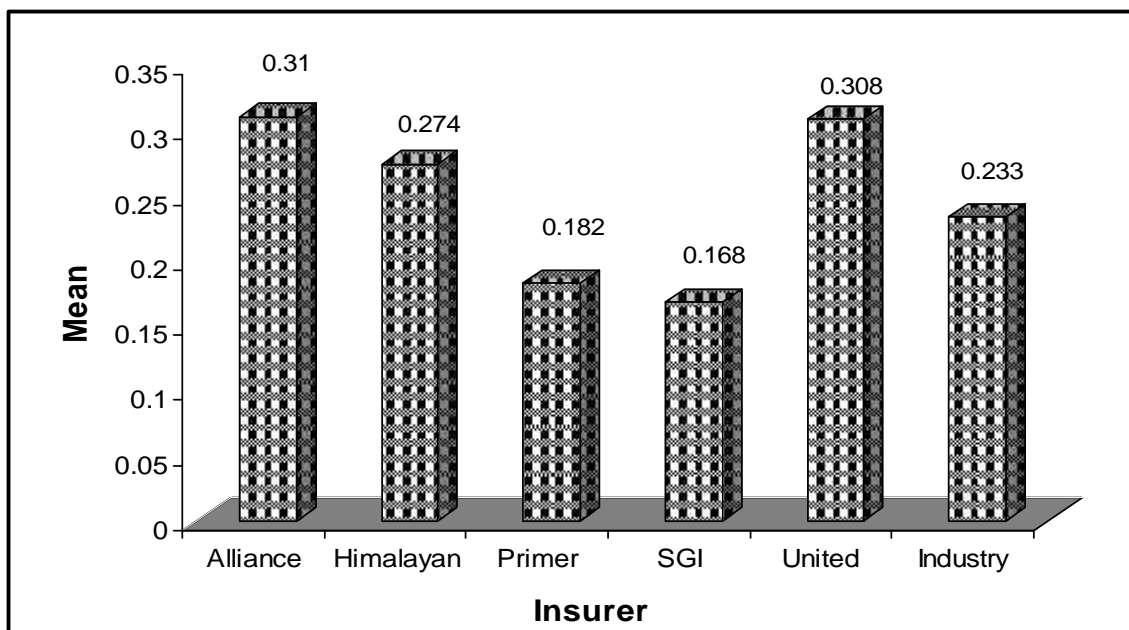
Figure 4.12: Premium Growth Ratio

4.1.13 Technical Reserve Ratio

Technical reserve to net premium ratio is used to assess whether the company is sustainable in terms of unexpected loss. The Higher is the reserve ratio; the better is the company's financial performance. Table 4.13 and Figure 4.13 shows the technical ratio of sample insures and the industry as a whole. Primer has the highest mean value 1.815 which implies good performance indicating that company is more sustainable for any unexpected loss. SGI has mean value 0.900 which is almost similar to industry average 0.902. Alliance and United reported mean value of 0.771 and 0.746. Himalayan maintained relatively lower ratio value 0.597 than the other sample insures during the study period thus less capable of withstand the unexpected loss and need to increase the reserve for future unseen losses.

The ratio is declining from fiscal year 2060/61 to 2062/63 but fairly rose in fiscal year 2063/64 which is again slightly declined in fiscal year 2064/65 and again increased with relatively small value in fiscal year 2065/66.

Since the industry technical reserve ratio is 90.2%, it can be concluded that Nepalese General insurance companies are capable to pay for the future

unseen losses thus better performance in terms of maintain the sufficient reserves.

Table 4.13: Technical Reserve Ratio

Insurer/FY	60/61	61/62	62/63	63/64	64/65	65/66	Mean	SD	CV
Alliance	0.746	0.831	0.774	0.715	0.753	0.807	0.771	0.043	0.002
Himalayan	0.634	0.595	0.236	0.664	0.686	0.767	0.597	0.186	0.035
Primer	2.324	1.660	1.949	2.254	1.216	1.486	1.815	0.438	0.192
SGI	0.894	1.129	0.865	0.887	0.814	0.811	0.900	0.118	0.014
United	0.712	0.841	0.772	0.814	0.738	0.599	0.746	0.086	0.007
Industry	1.004	1.000	0.874	0.902	0.811	0.823	0.902	0.084	0.007

Data Source: Beema Samiti Annual Reports
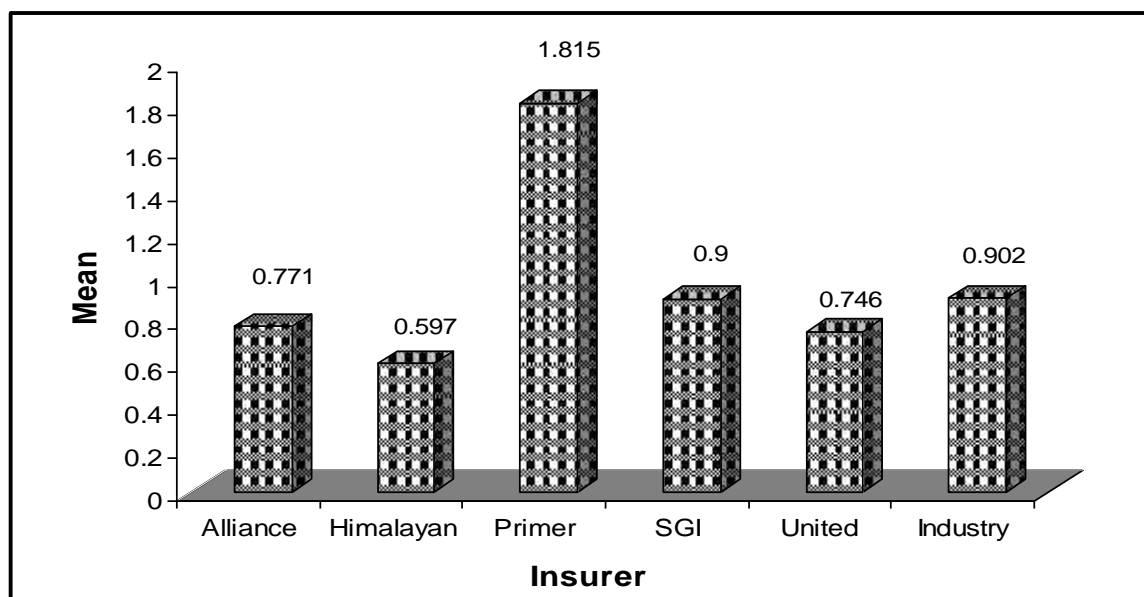
Figure 4.13: Technical Reserve Ratio

4.2   FORECAST USING TIME SERIES

Exponential Smoothing Model

The first step in constructing the exponential smoothing model is to generate a forecast value for the first period in observed time series. Although determination of initial forecast is subjective, in this study the researcher has used the most common practice in which the forecasted value of fist fiscal year

is equal to the actual value of the series. Another approach would be that if have prior data but are not using it in construction of the model, might take an average of a couple of immediately prior periods and use that as the forecast. How one determine initial forecast is subjective.

How Big Should Alpha Be?

This too is a judgment call, and finding the appropriate alpha is subject to hit and trial. Generally, if the time series is very stable, a small is appropriate. Visual inspection of observed data on a graph is also useful in trying to pinpoint an alpha to start with. Why is the size of important? Because the closer is to 1, the more weight that is assigned to the most recent value in determining the forecast, the more rapidly the forecast adjusts to patterns in the time series and the less smoothing that occurs. Likewise, the closer is to 0, the more weight that is placed on earlier observations in determining the forecast, the more slowly your forecast adjusts to patterns in the time series, and the more smoothing that occurs. A number of hit and trial is performed taking the various values of smoothing constant ranging from the lowest to the highest. As with moving average, the Mean Absolute Deviation (MAD) is used to determine which alpha fits the data. Forecasts might be more reliable using an alpha that produces a higher MAD, but has less variance among its individual deviations. Since from the hit and trial approach MAD is highest and curve for forecasted figure is smoother, smoothing constant 0.2 is used in this study.

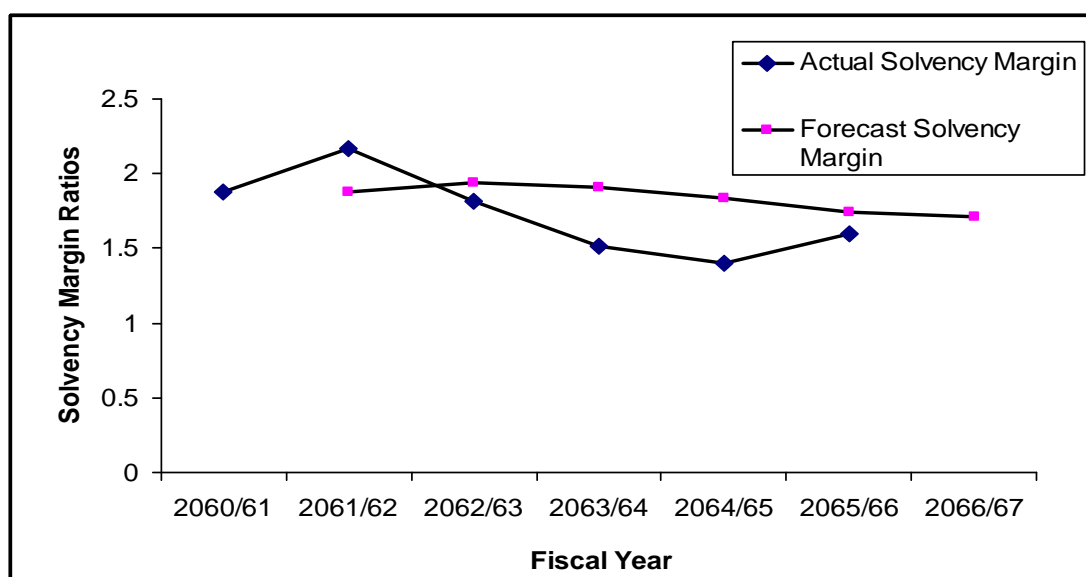### 4.2.1 Forecast of Solvency Margin Ratio

The Table 4.14 shows the actual versus forecast of the solvency margin of the Nepalese non - life Insurance. The actual solvency margin appears somewhat jagged, oscillating between 1.402 and 2.172. Actual value for year 2061/62 is higher whereas forecasts for each of the years 2063/64 and 2066/67 adjust upward.

Table 4.14 : Forecast for Solvency Margin Ratio

Fiscal Year	Actual Value	Forecast Value
2060/61	1.878	
2061/62	2.172	1.878
2062/63	1.814	1.937
2063/64	1.514	1.912
2064/65	1.402	1.833
2065/66	1.594	1.746
2066/67		1.716

Data Source: Appendix II. 1

From the Figure 4.14, it is obvious that the curved obtained by plotting the forecasts of solvency margin ratio is smoother than curved plotting form the actual values. Also it can be clearly seen that the forecasted solvency margin ratio line adjusts to spikes and dips in the actual Solvency Margin Ratio line.

Figure 4.14: Actual versus Forecast Solvency Margin Ratio

Thus based on the value of Alpha used and past series of Solvency Margin Ratio, it predicted Solvency Margin Ratio in fiscal year 2066/67 is1.716 which is fairly greater than the previous year.

4.2.2 Forecast of Change in Surplus Ratio

The Table 4.15 shows the actual versus forecasts of the Change in Surplus ratio of the Nepalese non - life Insurance. The actual Change in Surplus appears somewhat jagged, oscillating between 0.018 and 0.187. Actual value for year 2062/63 and 2064/65 is higher whereas forecasts for each of the years 2063/64 and 2066/67 adjust upward.
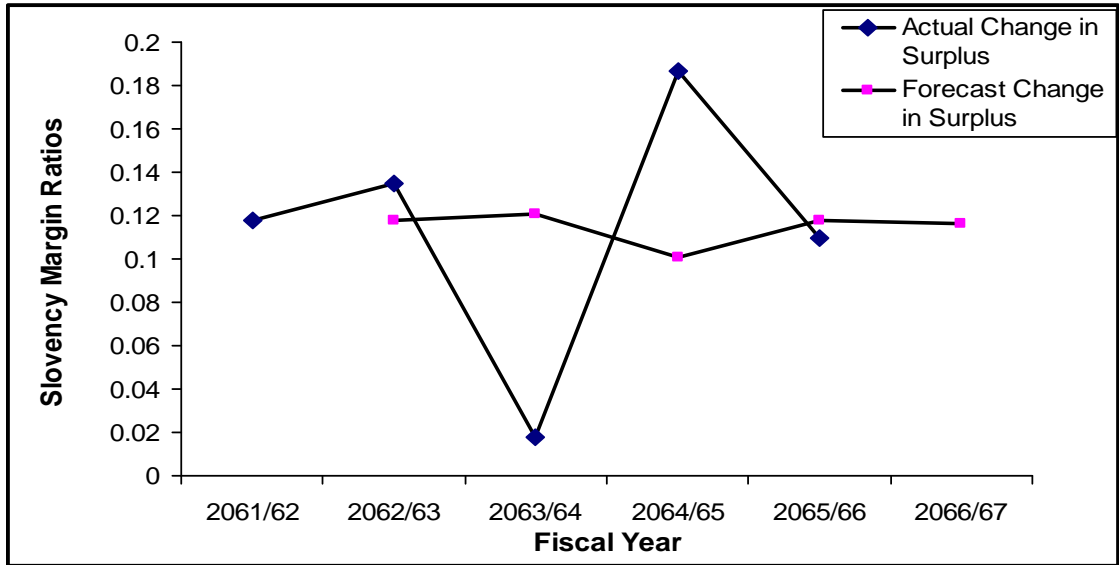
Table 4.15: Forecast for Change in Surplus Ratio

Fiscal Year	Actual Value	Forecast Value
2061/62	0.118	
2062/63	0.135	0.118
2063/64	0.018	0.121
2064/65	0.187	0.101
2065/66	0.11	0.118
2066/67		0.116

Data Source: Appendix II. 2

From the Figure below 4.15, it is obvious that the curved obtained by plotting the forecasts of solvency margin ratio is smoother than curved plotting form the actual values. Also it can be clearly seen that the forecasted solvency margin ratio line adjusts to spikes and dips in the actual Solvency Margin Ratio line.

Thus based on the value of Alpha used and past series of Change in Surplus Ratio, it can be best guess that Change in Surplus in fiscal year 2066/67 is 0.116 which is negligibly greater than the previous year.

Figure 4.15: Actual versus Forecast Change in Surplus Ratio

4.2.3 Forecast of Underwriting Ratio

The Table 4.16 shows the actual versus forecast of the underwriting Ratio of the Nepalese non - life Insurance. The actual Underwriting Ratio appears somewhat jagged, oscillating between 0.294 as highest and .268 as lowest. The forecast figure maintained the upward for all fiscal years of the study period except for fiscal year 2065/66 which has higher actual value.

Table 4.16: Forecast of Underwriting Ratio

Fiscal Year	Actual Value	Forecast Value
2060/61	0.294	
2061/62	0.364	0.294
2062/63	0.234	0.308
2063/64	0.133	0.293
2064/65	0.214	0.261
2065/66	0.268	0.252
2066/67		0.255

Data Source: Appendix II. 3

From the Figure 4.16 below it is observed that the curve obtained from plotting the forecast for Underwriting Ratio is smoother than curve obtained for actual Underwriting Balance Ratio which has more spikes and dips.
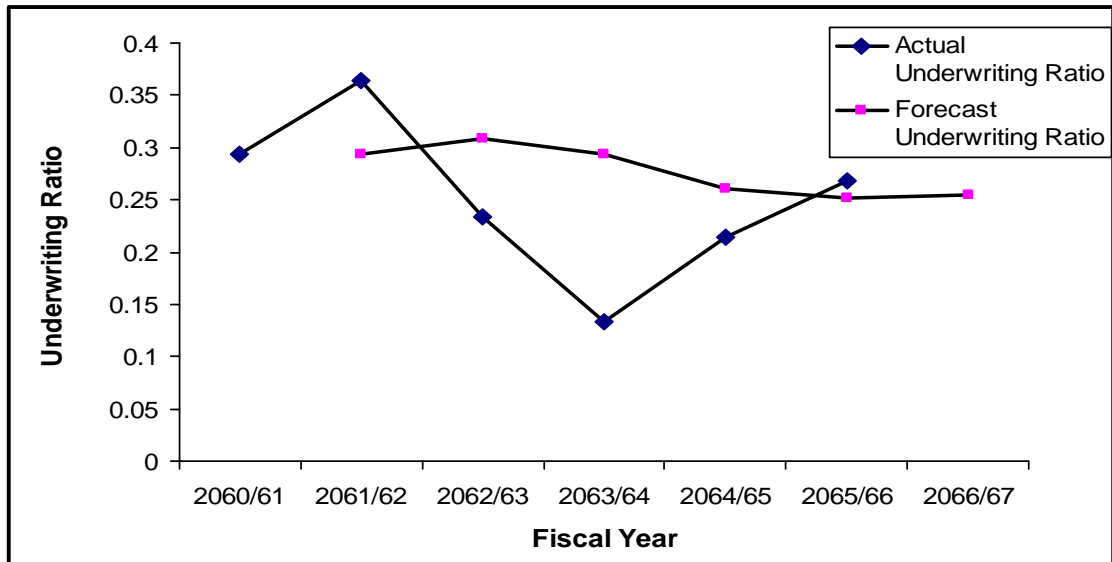
Figure 4.16: Actual versus Forecast Underwriting Ratio

Based on selected smoothing constant value 0.2 and time series data of Underwriting Ratio, the forecasted, value for fiscal year 2066/67 is0.255 which is slightly lower than the previous year.

4.2.4 Forecast of Management Expenses Ratio

The Table 4.17 details the actual versus forecasts of the Management Expenses Ratio of the Nepalese non -life Insurance Industry. The actual Management expenses showed the sharp decline pattern falling from value 0.138 to 0.013.
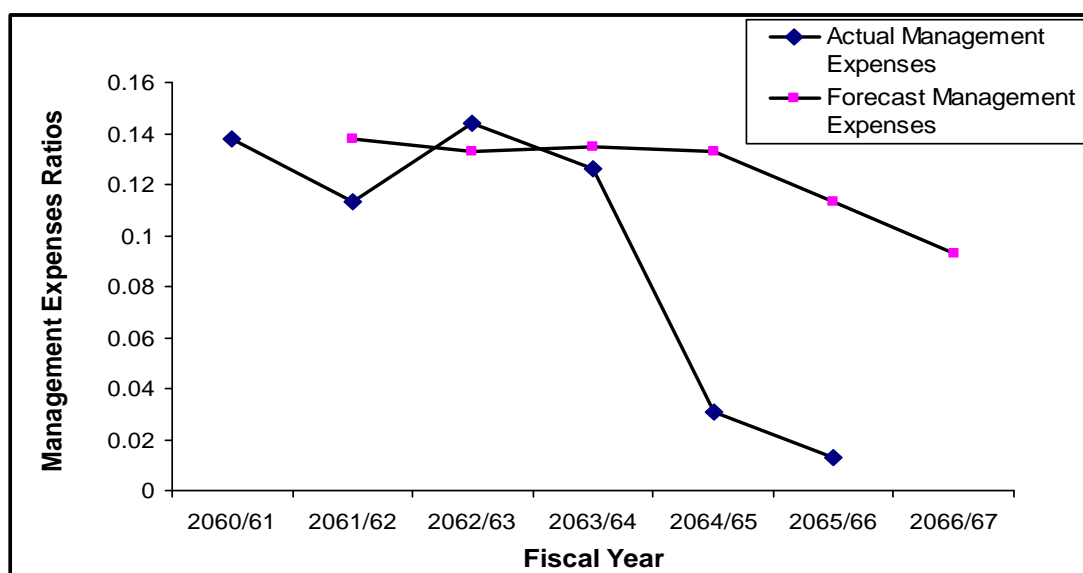
Table 4.17 : Forecast of Management Expenses Ratio

Fiscal Year (I)	Actual Value(A)	Forecast Value (F)
2060/61	0.138	
2061/62	0.113	0.138
2062/63	0.144	0.133
2063/64	0.126	0.135
2064/65	0.031	0.133
2065/66	0.013	0.113
2066/67		0.093

Data Source: Appendix II. 4

The Actual value maintained the upward only for the year 2062/63 whereas forecasts for each of the subsequent years (2063 through 2067) adjusted the upward.

Figure 4.17, below indicates that the line for Management Expenses Ratio forecast is smoother than line for actual. Forecast is not sharply declined as comparison to the actual one.

Figure 4.17 : Actual versus Forecast Management Growth Ratio

From the study it can be concluded that based on chosen smoothing constant 0.2 and time series data of Management Expense Ratio, best forecast for fiscal year 2066-2067 is 0.093 which is significantly greater than the previous year thus require to adopt the effective management practice to reduce the operating cost.
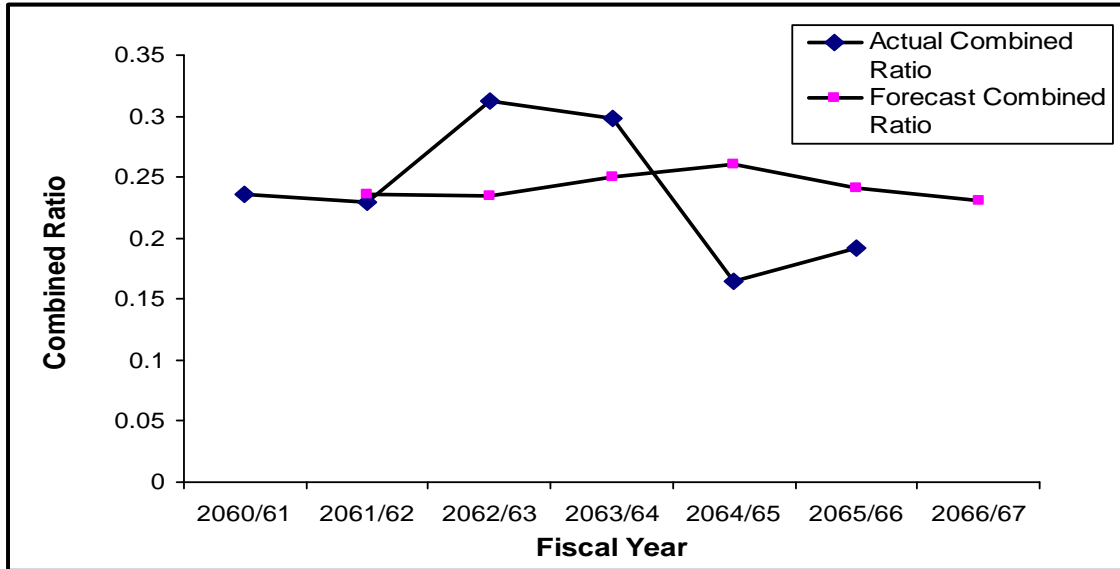
4.2.5 Forecast of Combined Ratio

Actual versus forecast result of the combined Ratio of the Nepalese non - life Insurance is detailed in the following Table 4.18.The actual Combined Ratio is declined and somewhat jagged, oscillating between 0.236 and 0.192. Actual values for each year 2061/62 through 2063/64 are higher whereas forecasts for each of the year through 2064/65 and 2066/67 adjusted the higher values.

Table 4.18 : Forecast of Combined Ratio

Fiscal Year	Actual Combined Ratio	Forecast Combined Ratio
2060/61	0.236	
2061/62	0.230	0.236
2062/63	0.313	0.234
2063/64	0.298	0.250
2064/65	0.165	0.260
2065/66	0.192	0.241
2066/67		0.231

Data Source: Appendix II. 5

From the Figure 4.18 below it is noticed that the forecast curve obtained for Combined Ratio is smoother than curve for actual Combined Ratio. Also from the Figure below it is clearly seen that forecast line adjusts to spikes and dips in the.

Figure 4.18: Actual versus Forecast Combined Ratio

From the study it can be concluded that based on chosen smoothing constant 0.2 and time series data of Combined Ratio, it is expected to be slightly increased in FY 2066/67 with the value 0.231.

4.2.6 Forecast of Net Earnings Ratio

Actual versus forecast result of the Net Earnings Ratio of the Nepalese non - life Insurance is detailed in the following Table 4.19. The actual Net Earnings Ratio is jagged with dips and oscillating between 0.189 and 0.185. The forecasted figure for all study period is higher than the actual figure.

Table 4.19 : Forecast of Net Earnings Ratio

Fiscal Year	Actual Value	Forecast Value
2060/61	0.189	
2061/62	0.269	0.189
2062/63	0.194	0.205
2063/64	0.116	0.203
2064/65	0.114	0.185
2065/66	0.185	0.171
2066/67		0.174

Data Source: Appendix II. 6

From the Figure 4.19 below it is noticed that the line obtained from the forecast of Net Earnings Ratio is smoother than line for actual Net Earnings Ratio which has more spikes and dips. Also from the Figure below it is clearly seen that forecast line adjusts to spikes and dips in the actual line.
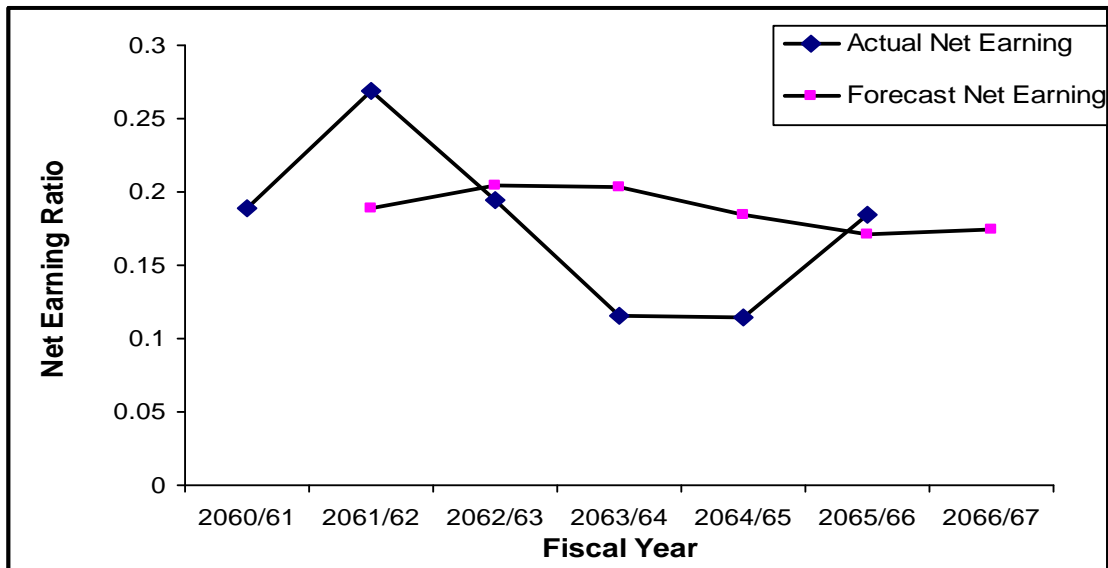
Figure 4.19: Actual Versus Forecast Net Earnings Ratio

From the study it can be concluded that based on chosen smoothing constant 0.2 and past data of Net Earnings Ratio, best forecast for fiscal year 2066-2067 will be 0.174 which is less than the current year actual value.

4.2.7 Forecast of Net worth

Figure 4.20 details Net worth forecast. The actual Net worth Ratio appears slightly jagged, oscillating between 0.101 and 0.130.The forecast figure maintained the upward for first three fiscal years whereas down rest of the study period.

Table 4.20: Forecast of Net Worth

Fiscal Year	Actual Value	Forecast Value
2060/61	0.101	
2061/62	0.124	0.101
2062/63	0.113	0.105
2063/64	0.077	0.107
2064/65	0.077	0.101
2065/66	0.130	0.096
2066/67		0.103

Data Source: Appendix II. 7

From the Figure 4.20 below it is noticed that the line obtained from the forecast of Net worth is smoother than line for actual Net worth Ratio which has more spikes and dips. Also from the Figure below it is clearly seen that forecast line adjusts to spikes and dips in the actual line.
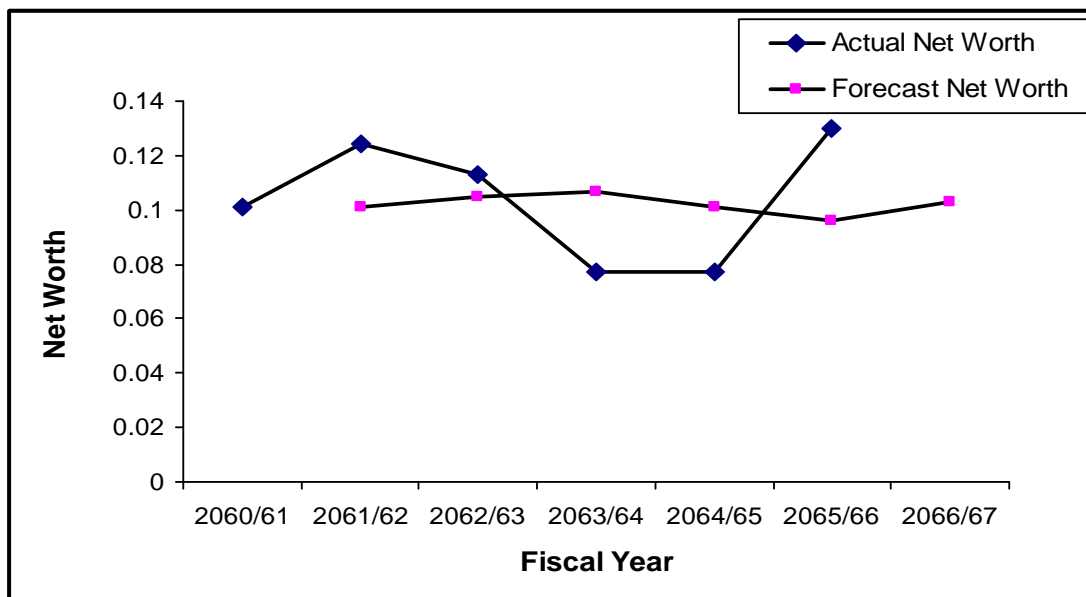
Figure 4.20: Actual Versus Forecast Net Worth

From the study it can be concluded that based on chosen smoothing constant 0.2 and past data of Net worth, best forecast for fiscal year 2066/67 is 0.103 which is less than the current year actual value.
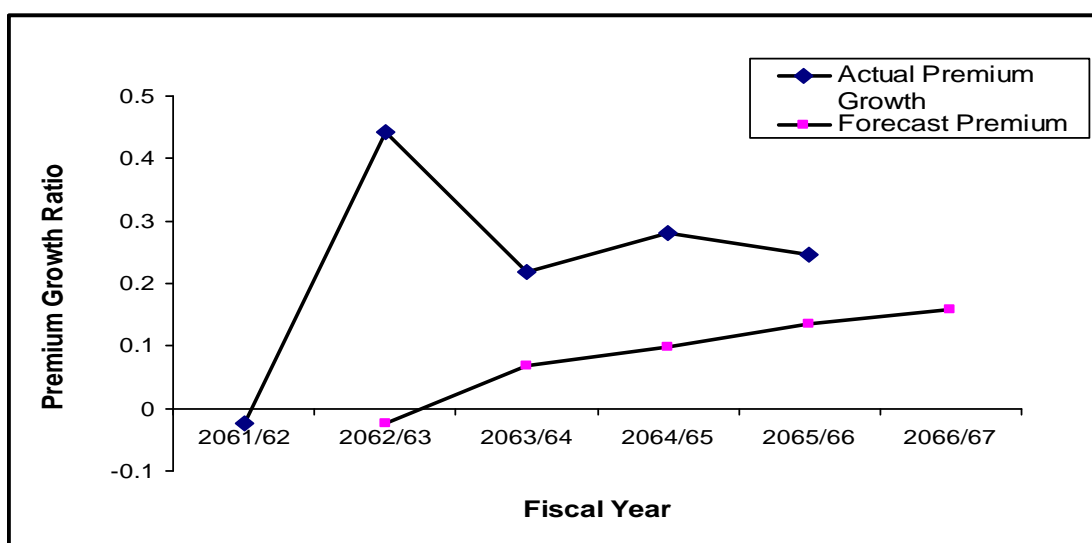
4.2.8 Forecast Premium Growth Ratio

The Table 4.21 summaries the actual versus forecast of the Premium Growth Ratio of the Nepalese non - life Insurance. The actual Premium Growth Ratio appears slightly jagged, oscillating between -0.024 as lowest and0.281 as highest. The actual value is always greater than the forecast value due to random fluctuation.

Table 4.21: Forecast of Premium Growth Ratio

Fiscal Year	Actual Value	Forecast Value
2061/62	-0.024	
2062/63	0.442	-0.024
2063/64	0.219	0.069
2064/65	0.281	0.099
2065/66	0.247	0.135
2066/67		0.158

Data Source: Appendix II. 8

From the Figure 4.21 below it is observed that the curve obtained from plotting the forecast of Premium Growth Ratio is smoother than curve obtained for actual Premium Growth Ratio which has prominent spikes and dips.

Figure 4.21: Actual Versus Forecast Premium Growth Ratio

Based on selected smoothing constant value 0.2 and time series data of Premium growth Ratio, it can be best guess that Premium growth Ratio for fiscal year 2066/67 is 0.158 which is significantly lower than the previous year.

4.2.9 Forecast of Technical Reserve Ratio

The Table 4.22 summaries the actual versus forecast of the Technical Reserve Ratio of the Nepalese non - life Insurance. The actual Technical Reserve Ratio appears slightly jagged, oscillating between 1.004 as highest and .823 as lowest. The forecast figure maintained the upward for all fiscal years of the study period.

Table 4.22: Forecast of Technical Reserve Ratio

Fiscal Year	Actual Value	Forecast Value
2060/61	1.004	
2061/62	1.000	1.004
2062/63	0.874	1.003
2063/64	0.902	0.978
2064/65	0.811	0.962
2065/66	0.823	0.932
2066/67		0.910

Data Source: Appendix II. 9

From the Figure 4.22 below it is observed that the curve obtained from plotting the forecast of Technical Reserve Ratio is smoother than curve obtained for actual Net Earnings Ratio which has slight spikes and dips. Also from the Figure below it is clearly seen that forecast curve adjusts to spikes and dips in the actual curve.
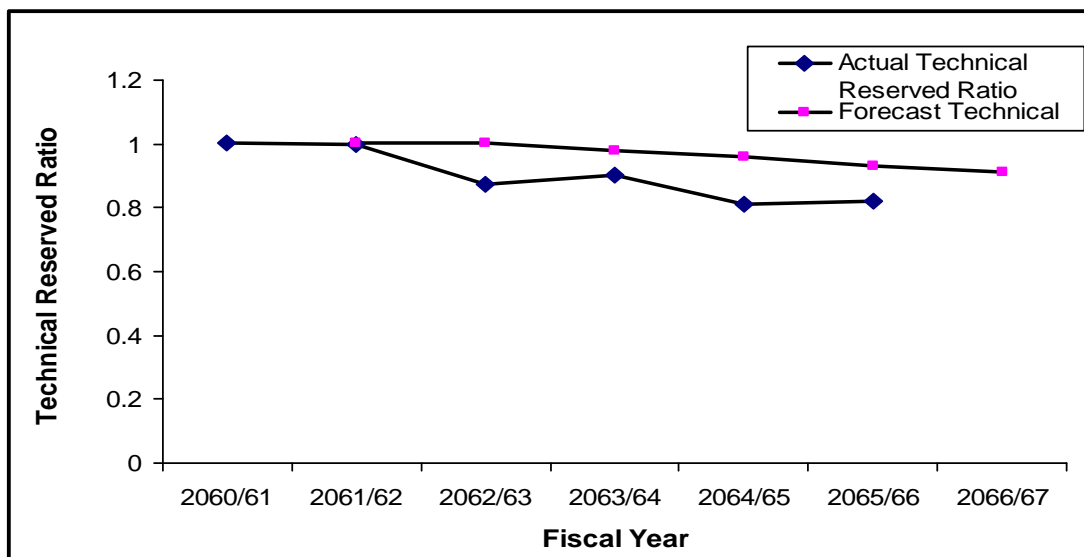
Figure 4.22: Actual Versus Forecast Technical Reserve Ratio

Based on selected smoothing constant value 0.2 and time series data of Technical Reserve Ratio, predicted Technical Reserve Ratio for fiscal year 2066/67 is 0.910 which is slightly more than the previous year.

4.3   MAJOR FINDINGS OF THE STUDY

Based on the analysis form the study following major findings can be drawn.

4.3.1   All sample insurers as well industry maintained fairly higher solvency margin ratio i.e. more than 100 percent thus moderately adequate in relation to level of retained premium with higher value of the shareholders fund and exposed to the less risk with fairly higher underwriting profit and reinsurance protection non –life insurance. The forecast of Solvency Margin ratio for fiscal year 2066/67 is 1.716 which is slightly greater than the previous year.

4.3.2   Alliance, Himalayan and Primer have mixed trend of change in surplus ratio; deteriorating during early periods whether as improving during later periods. SGI has decreasing pattern of surplus throughout the study period. United has no surplus in the fiscal year 2065/66 but improved financial condition during early periods. The industry change in surplus ratio has mixed trend. There is fair increment in

fiscal year 2062/63, significant decreased in fiscal year 2063/64, significant increase in fiscal year 2064/65 and moderately decreased in fiscal year 2065/66. The forecast of Change in Surplus in fiscal year 2066/67 is 0.116 which is negligibly greater than the previous year.

4.3.3   Since all sample insurers and industry as a whole has positive ratio value, it is found that non - life insurance does not experience underpricing and fairly commensurate with risk. Himalayan and SGI reported the higher values 0.338 and 0.327 respectively which is much greater than industry average 0.251. United and Primer has moderate ratio values of 0.228 and 0.215 respectively. Alliance has lowest mean value of 0.146 with weakest performance failing to underwrite the products pricing. The forecast of underwriting ratio of the industry for the fiscal year 2066/67 is 0.255 which is slightly lower than the previous year.

4.3.4   Primer experiences the poor underwriting with bad quality of risk with highest claim ratio 142.7 percent. The other insurers have fairly lesser claim ratio than the industry average which is 52.6 percent. United has the lowest claim ratio during the study period thus is able to manage the underwriting with acceptance of good quality of risk only. Since the average claim ratio of industry is around 50 percent i.e. 52.6 percent; it can be concluded that Nepalese non- life insurance companies are not paying higher value of claim and experiencing proper underwriting practice by accepting the good quality of the risk.

4.3.5   Primer has maintained the combined ratio of 49.4 percent which is higher than the industry mean as well as all other sample insures. The mean combined ratio of the industry is 23.9 percent. Alliance and United has mean value of combined ratio 23.2 percent and 20.6 percent respectively. Himalayan has mean ratio of 18.2 percent. The

forecast of combined ratio for fiscal year 2066/67 is 0.231 which is significantly greater than the previous year.

4.3.6   Primer has highest commission ratio value 0.240 which is much more than the industry value 0.150. Himalayan and United reported 0.207 and 0.196 respectively which is slightly greater than the industry value. SGI has 0.126 and Alliance showed the lowest commission ratio 0.056.

4.3.7   The expenses of management to gross premium ratio value of industry are 0.094 and Himalayan has almost similar value 0.097. SGI has the lowest ratio value 0.059. Alliance, United and then Primer maintained highest value i.e. 0.122, 0.109 and 0.107 respectively. The forecast of Management Expense Ratio for fiscal year 2066/67 is 0.093.

4.3.8   Operating profit is positive throughout the study period. General insurance could maintain 45.7 percent of operating profit during the study period. Himalayan, SGI and united maintained the higher values 0.501, 0.494 and 0.474 respectively than the industry. Himalayan showed the best performance indicating that company generating more profit. Primer and Alliance reported the mean values 0.427 and 0.292 respectively lower than the industry mean. Alliance could maintain the lowest value, indicating the weakest performance among the sample insures.

4.3.9   Primer, United and SGI have maintained significantly higher values of 0.254, 0.23 and 0.215 respectively than the industry average 0.178. Himalayan has mean value 0.184 whereas Alliance could maintain the lowest ratio value of 0.074 thus showed the weakest performance in terms of net earnings trend. The forecast of the net earnings of the General insurance for the fiscal year 2066/67 is 0.174 which his lower than the current fiscal year.

4.3.10   Industry mean value of Net worth ratio during the study period fiscal year 2060/61 to 2065/66 is 0.103. SGI maintained the highest value of

0.124 thus better performance comparative to other sample insures. Himalayan and Primer maintained the moderate performance with same mean value 0.115 slightly greater than the industry mean. United and then Alliance are weaker performer in terms of the Net worth with mean values 0.087 and 0.072 % respectively. The forecast of the industry net worth for the fiscal year 2066/67 is 0.103 which is far less than the FY 2065/66 figure.

4.3.11   Himalayan maintained the retention ratio 61.8 percent which is slightly higher than the industry mean 56.8 percent. Other insures have mean value lower than the industry mean. The order of retention performance is Primer 54.7 percent, SGI 53.9 percent, Alliance 46.2 percent and United 41.9 percent. Since the average reinsurance ratio of industry is not significantly high it can be concluded that insures do not retained the high amount of risk.

4.3.12   The Alliance has the highest premium growth among the sample insurers which is 0.310 and positive throughout the study period except in FY 2061/62. United has negative growth the in the fiscal year 2061/62 but the average ratio is positive which is 0.308. Himalayan maintained the positive growth of the premium throughout the study period with average mean value of 0.274. SGI has negative growth in the FY 2061/62 and 2065/66 but average growth is positive that is 0.168. Primer has average premium growth is 0.182 but there was negative growth in the FY2063/64 and 2065/66. The industry premium growth trend is random, negative in the initial year of the study period then rapidly increased in the FY 2062/63 then decreased in FY 2063/64 again raised in FY 2064/65 and reduced in FY 2065/66. The premium growth is expected to deteriorate in the FY with the forecast value 0.158.

4.3.13   The mean technical reserve ratio of the company during FY 2060/61 to 2065/66 is 0.902. Since the industry technical reserve ratio is

90.2%, it can be concluded that Nepalese General insurance companies are capable to pay for the future unseen losses thus better performance in terms of maintain the sufficient reserves. Primer reported the highest mean value of 1.815 whereas Himalayan has lowest ratio value of 0.597. SGI, Alliance and United maintained the ratio value of 0.900, 0.771 and 0.746 respectively. The forecast of technical reserve ratio for the fiscal year 2066/67 is 0.910 which is little more than the current year.

CHAPTER-V

SUMMARIES CONCLUSION AND RECOMMENDATION

The summary, Conclusion and recommendation of the study are the content of this chapter. Summary includes the briefing of the study. Conclusions drawn from the study are mentioned under conclusion section and suggestions and recommendation of the study are placed under recommendation section.

5.1   SUMMARIES

The study has conducted as academic requirement of master of business studies entitled "A Study on Financial Performance of Nepalese non - life Insurance Industry". The motto of the study is to assess the financial performance of non - life insurance and forecast the future performance based on the past with the help of major ratios that are financial soundness indicators of the industry. Insurance is an important and growing part of the financial sector in almost all developed as well as developing economies. Economic liberalization and awareness of public toward the risk and natural disaster have facilitated growth of insurance industry in Nepalese economy. Insurance industry is growing rapidly in Nepalese economy and showing the attractive segment of the business in this recent time.

The insurance industry provides indemnification of risks faced by both individuals and companies, strengthens the linkages with other sector of the economy in promoting growth and stability and creating a sizable impact on the national income of a county. In peace, the insurance provides protection to trade and industry which ultimately contributes towards human progress. Thus insurance is the most lending force contributing towards economic, social and

technological progress of mankind. Without insurance over all industrial, economic and social activities of the world will come to a grinding halt. Thus insurance is an important and growing part of the financial sector in almost all developed and some developing economies.

The history of insurance business in Nepal is not as long as in other. Generally insurance activities of Nepal were executed by the Indian Insurance companies prior to the 2007 B.S. However the history shows the introduction of insurance company named 'Mal Chalani and Beema Company" in 2004 B.S. It was later converted into "Nepal Insurance and Transport Co. Pvt. Ltd" in 2016 B.S and now named as Nepal Insurance. To compete with the organized Indian insurance companies and to expand insurance business Rastriya Beema Corporation (RBC) was introduced under the insurance act 2025 as first public insurance company. In private sector National Life of General Insurance Company Pvt. Limited was established in 2043, as per insurance act of 2025 B.S. It is conducting both life and general insurance business. New insurance act was formed in 2049 after restoration of democracy and economic liberalization. After this a number of insurance companies have been established. Now there are 24 insurance companies in Nepal and financial performance of these companies are different at different level.

Various academic materials were reviewed in order to build up the conceptual foundation and clear destination of the research work. Historical development of insurance, meaning and function of insurance companies, types of insurance business, benefits of insurance, value of insurance, concept of financial performance of insurance companies, concept of premium, claim, risk retention and legal provision for insurance industry, insurance act 1992, insurance regulation 1992 and various legal documents of insurance were reviewed as conceptual review. Review of journals national as well as international and review of master's dissertations were included in research review section.

The study span is from fiscal year 2060/61 to 2065/66 from the inception of the listed sampled insurance companies. Study is concerned with financial performance of insurance company and forecast of the future performance. The study was designed within in the framework of descriptive and analytical research designed and analysis has been made in the same way. Sample population of the study is five general insurance companies out of 17 Non –life insurance companies in Nepal. The required data and information were collected from the secondary sources. The primary data are also used in the research work that was collected by using constructed interview with the concerned personnel. The insurance ratios have been collected by visiting the web site of Beema Samiti and IRDA and MAS.

Financial analysis is the key tools for marketing strategies and starting point for making plan before using sophisticated forecasting and budgeting procedures. The values of this approach are the quantitative relation which can be used to diagnose strengths and weakness in the firm's financial performance. Such analysis is the considerable thing for the common stockholders, investors, bondholders and others. Financial tools were used to analyze the major ratios that are the indicative E.W.S such as Solvency Margin Ratio, Change in Surplus, Underwriting Ratio, Claim Ratio, Combined Ratio, Net Commission Ratio, Expenses of Management Ratio, Operating Profit Ratio, Net Earnings Ratio, and Return on Net worth Ratio, Retention Ratio, Premium Growth Ratio and Technical Reserved Ratio. One year forecasting was performed analyzing time series of ratios using simple exponential smoothing technique. Similarly, graphical presentation used to show the pattern of different indicators of financial performance.

5.2   CONCLUSION

Initially, insurance was viewed primarily as a tax saving device. However, policyholders' perspective is slowly changing towards taking insurance cover irrespective of tax incentives. The improved performance in

the domestic economy is also reflected in the insurance industry. Higher per capita income, domestic savings and availability of more instruments for parking surplus funds have facilitated growth in the activities of financial services like insurance.

5.2.1 Solvency Margin of Non –Life Insurance Company

Solvency margin of all sample insurers and industry is more than 100 percent throughout the study period thus they are adequately capitalized in relation to level of retained premium with ability to meet long term obligations and can service over a long period. Study concludes that Shareholders performance is satisfactory for providing the cushion against uncertainty and declines in values of investments.

5.2.2 Profitability of Non- Life Insurance Company

The change in surplus ratio does not show the sharp decline or sharp increased pattern thus fair performance and stability of change in ownership. Overall, the industry underwriting ratio is satisfactory with positive and stable performance except in FY 2063/64. With this fair underwriting performance; Nepalese non- life insurance business shows profitability during study period with proper underwriting practices to commensurate premium rates with risk of the business in spite of the political instability in a country and global economic recession. The commission paid by sample insurer and the industry as whole is about less than 25%, thus paying not higher value of claim and experiencing proper underwriting practice by accepting the good quality of the risk. Having lower commission expenses means good performance for the industry but poor performance as an agent. Lower value of management expenses of sample insurers and insurance industry indicates the efficient management with improving the gross premium. As combined ratio of sample insurers as well as industry is ratio below 100 percent, non- life Insurance industry is making an underwriting profit paying out less money in claims that it is receiving from premiums. Operating profit of the industry is less than 50 percent and thus indicates that there is not an outstanding performance. Also

net earnings is satisfactory which is 17.8%. Poor performance in operating profit and net earnings might be due to low market penetration, poor management practices, falling to adopt the new technologies and the effective policies, the political instability of the country and the global economic recession. Study revealed that non-life insurers are experiencing the better performance of net worth of due to their higher investment.

5.2.3 Premium Stability of Non- Life Insurance Company

Since the average retention ratio of sample insurers and industry is not significantly high, it can be concluded that insures do not retained the high amount of risk rather feel secured by reinsuring the bad quality of risk (major part of the risk) is passed to the reinsurer rather than holding themselves. Also lower retention ratio means insurers are moderately relying on earning from reinsurance commission. Since the premium growth ratio 0.233 is positive but not significant value there is poor performance of premium growth of Nepalese non - life insurance industry is experiencing the inadequate reserve and instability in product mix. Also there is cash flow underlying and hence immediate regulatory action is required.

5.2.4 Technical Reserve of Non –life Insurance Company

Since average technical reserve ratio is 90.2%, insurers are capable to pay for the future unseen losses with better solvency margin with ability maintain the sufficient reserves. Also higher value of technical reserve indicates that non – life insurance portfolio is unprofitable.

5.2.5 Forecast of Future Performance of Non –Life Insurance Company

From the forecasting results obtained from the study it can be concluded that future performance of the Nepalese on - life insurance is fairly satisfactory in regards to major indictors like Solvency Margin Ratio, Surplus Ratio and Technical Reserved Ratio. Based on the assumed smoothing constant 0.2, the predicted future values of these indicators are noticeably greater than the previous year with a good syndrome of better performance in FY 2066/67.

Since forecasted values of the indicators such as Management Expenses and Combined Ratio are greater than the previous year value, insurers are likely to fail to manage the operating cost and the claim in the FY 2066/67. Forecast of other indicators such underwriting Ratio, Net Earnings Ratio, Net worth Ratio, and Premium Growth Ratios are lower than the previous year indicating the poor performance of the insurance in the FY 2066/67. On average insurers are able to maintain the past performance and strive to improve the future performance withstanding the various challenges and obstacles especially political instability of the country, global economic recession, limited market coverage, constrained resources, and lack of skilled manpower, intensive research and modern technology, threat of terrorist, threat of new entrants etc.

5.3   RECOMMENDATION

On the basis of the findings and issues that have been analyzed in the study, following recommendation have been made to improve the financial performance of the non-life insurance in Nepal.

5.3.1   Even though non - life insurance Solvency margin is more than 100 percent and adequately capitalized in relation to level of retained premium, insurers need to strive in competitive market by balancing the factors such as underwriting ratio, distribution of premiums and adequacy of reinsurance protection that affects the performance in regards to solvency margin. Since underwriting performance is fair, insurers need to improve the underwriting performance to maintain the adequate solvency margin and remain safe from the unseen losses. On - life insurance companies require ensuring year on year increase in the amount of underwritten premiums. Currently, they make profits from existing customer base but to continue to earn higher profits they need to increase underwritten premiums by exploring newer markets with newer policies and increase in already existing customer base.

5.3.2 Change in surplus is one of the major indicators of the profitability measurement. Since the change is surplus value is not significantly high, insurers have to adopt the effective strategies to improve performance indicators such as change in underwriting results, capital gains or loss, investment incomes, dividend payment, value of the assets and technical ratios that affect the performance of the company in regards of its surplus change.

5.3.3 Non - life insurers must work towards reducing their claims ratio which is currently above 25 percent. This can be done by increasing the amount of net premiums earned each year. Insurers must work towards improving net premiums earned to bring down the claims ratio and increase their profits. Insurers need to improve their operational activities with modern management practices. This would in turn help reducing in operating expenses and at the same level increase in net premium earned. Improved combined ratio would mean higher profits earned through operational activities rather than other investment activities.

5.3.4 Other profitability such as operating profit, net earnings and net worth are not satisfactory. Also insures have no stability of the premium growth. Thus insurers need to adopt necessary steps to improve the above indicators by increasing the amount of net premium earned year by year. With new business opportunities for various industrial sectors, non – life insurers must introduce innovative products to ensure achieve higher profitability and a steady long term growth. Beema Samiti must introduce segmental reporting by the insurers in terms of business from the individuals and from the corporate as well as utilize the modern regulatory frameworks. This would assist analyzing the penetration of the insurers into Nepalese market as well as to judge the awareness of insurance among the individuals.

5.3.5   In terms of Corporate Governance, Insurance companies could be mandated to disclose the number claims received and settled. The disclosure should also include the litigations initiated by the Insured and not accepted as a liability, but disclosed as a contingent liability in their annual reports. Non – Life sector needs to consider more innovative mix of products addressing risks such as those posed by natural calamities and terrorist activities. Products such as insurance against floods, earthquakes and such natural calamities or terrorism insurance would attract more people and thus improve underwritten premiums. Such products can be introduced in a combined effort with the government to achieve better market reach as well as maintain required financial support in terms of liquidity.

5.3.5   The largely underserved rural sector holds great opportunity of growth for non-life insurers. To realize this potential, insurance companies must show long-term commitment to the sector. Insurers will have to design products that are suitable for the rural population and utilize appropriate distribution mechanisms. Products such as crop insurance or weather insurance should be introduced. Insurers require paying special attention to the characteristics of the rural labor force, like the prevalence of irregular income streams and preference for simple products, before they can successfully penetrate this sector. Insurance industry is facing varied challenges such as losses due to acts of terrorism and rising incidents of natural calamities. The damage caused by natural calamities poses a big strain on profitability of the insurers. While macro-economic backdrop remains favorable to growth, there are still major hurdles to overcome in order for Nepal to realize the growth potential of its insurance industry.

5.3.6   The development of non - life insurance requires addressing major institutional and technical or operational challenges. Strong collaborations between the Government of Nepal, and particularly the Insurance Board, the domestic insurance industry, the farmer

cooperatives the microfinance and banking sectors, with support from the line ministries (Move) and the NGOs.

5.3.7 Since forecasted values of the indicators such as Management Expenses and Combined Ratio are greater than the previous year value, insurers are recommended to adopt the necessary steps to reduce the operating cost and the mange the claim settlement by accepting the low risk policies and special management of the high risked policies in days to come. Also insurer are required to take appropriate action before hand at least to maintain otherwise to increase the performance of the indicators such as Net Earnings Ratio, Net worth Ratio and Premium Growth Ratios as the expected forecast of these indicators is lower than the previous year.

Insurance industry is facing varied challenges such as losses due to acts of terrorism and rising incidents of natural calamities. The damage caused by natural calamities poses a big strain on profitability of the insurers. While macro-economic backdrop remains favorable to growth, there are still major hurdles to overcome in order for Nepal is to realize the growth potential of its insurance industry. Research could be conducted on the nature of growth in the written premiums accounted by insures. Since Beema Samiti is going to introduced new Insurance Act 2009, it would be useful to study the insurance sector s preparedness to comply with the new regulation provisions and standards.

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APPENDIX I

CALCULATION OF SHAREHOLDER'S FUND

PAID UP CAPITAL (I)

Fiscal Year	2060-2061	2061-2062	2062-2063	2063-2064	2064-2065	2065-2066
Alliance	49937500	49965500	54958600	54958600	59951700	59951700
Himalayan	30000000	30000000	30000000	30000000	63000000	100800000
Primer	30000000	30000000	30000000	63000000	63000000	102000000
SGI	56100000	56100000	79721053	78540000	102102000	102102000
United	56621500	56623500	60000000	72000000	72000000	72000000
Industry	45432750	45442417	51606376	58909533	76883950	89683950

Data Source: Beema Samiti Annual Reports

GENERAL RESERVE (II)

Fiscal Year	2060-2061	2061-2062	2062-2063	2063-2064	2064-2065	2065-2066
Alliance	16250185	17908951	21197066	41478708	39677413	45845949
Himalayan	28486112	30000000	30000000	30000000	33641794	33614864
Primer	25859757	30000000	30000000	30000000	53201631	63254535
SGI	26794070	35268752	43719927	49500475	37062988	33125986
United	38516242	43289963	47627708	50541012	58645116	63493669
Industry	27651061	31077944	35646144	42316137	50314262	49829885

Data Source: Beema Samiti Annual Reports

PROFIT AND LOSS APPROPRIATIONS ACCOUNT (III)

Fiscal Year	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Alliance	5395579	1798451	5086566	5411726	12919005	1102031
Himalayan	13688704	21483623	33326030	5558336	2491137	3614864
Primer	8111666	17977060	31038066	1830902	1980564	3125986
SGI	5599651	16295029	1125151	6905700	3701156	3543860
United	13688704	6024482	9758810	73538	12952658	8104104
Industry	11456454	10992499	13573222	3330535	1621590	2481950

Data Source: Beema Samiti Annual Reports

Shareholder's Fund = Paid up Capital (I) + General Reserve (II) + Profit and Loss Appropriation Account (III)

APPENDIX I .I SHAREHOLDERS FUND

Fiscal Year	2060/61	2061/62	2062/63	2063/64	2064/65	2065/66
Alliance	71583264	69618991	81242232	91995744	112548118	106899680
Himalayan	70472225	81483623	93376180	98558336	99132931	138029728
Primer	63971423	77977060	91038066	94830902	118182195	168380521
SGI	90714417	107663781	124566131	134946175	142866144	138771846
United	95732513	105937945	117386518	122614550	143597774	143597773
Industry	84121377	94025803	106674334	108564274	128819802	142932811

APPENDIX II

CALCULATION OF MAJOR INDICATORS FORECAST

The following formula is used to calculate the forecast value using simple exponential smoothing method.

$$\hat{Y}_{t+1} = \alpha Y_t + (1-\alpha)\hat{Y}_t$$

Where $\hat{Y}_{t+1}$ represents the forecast value for period $t + 1$; Y_t is the actual value of the current period t; $\hat{Y}_t$ is the forecast value for the current period t; and α is the smoothing constant. Here α' is assumed to be 0.2 considering the best forecast on several hit and trial approach.

APPENDIX II. 1 SOLVENCY MARGIN RATIO

$t+1$	$Y_{t)}$	α	αY_t	$\hat{Y}_t$	$(1-\alpha)$	$(1-\alpha)*\hat{Y}_t$	$\hat{Y}_{t+1}$
2060/61	1.878						
2061/62	2.172						1.878
2062/63	1.814	0.2	0.434	1.878	0.800	1.502	1.937
2063/64	1.514	0.2	0.363	1.937	0.800	1.549	1.912
2064/65	1.402	0.2	0.303	1.912	0.800	1.530	1.833
2065/66	1.594	0.2	0.280	1.833	0.800	1.466	1.746
2066/67		0.2	0.319	1.746	0.800	1.397	1.716

APPENDIX II. 2 CHANGE IN SURPLUS RATIO

$t+1$	Y_t	α	αY_t	$\hat{Y}_t$	$(1-\alpha)$	$(1-\alpha)*\hat{Y}_t$	$\hat{Y}_{t+1}$
2061/62	0.118						
2062/63	0.135						0.118
2063/64	0.018	0.2	0.027	0.118	0.800	0.094	0.121
2064/65	0.187	0.2	0.004	0.121	0.800	0.097	0.101
2065/66	0.11	0.2	0.037	0.101	0.800	0.081	0.118
2066/67		0.2	0.022	0.118	0.800	0.094	0.116

APPENDIX II. 3 FORECAST OF UNDERWRITING RATIO

t+1	Y$_t$		Y$_t$	$_t$	(1-)	(1-)* $_t$	$_{t+1}$
2060/61	0.294						
2061/62	0.364						0.294
2062/63	0.234	0.2	0.073	0.294	0.800	0.235	0.308
2063/64	0.133	0.2	0.047	0.308	0.800	0.247	0.293
2064/65	0.214	0.2	0.027	0.293	0.800	0.235	0.261
2065/66	0.268	0.2	0.043	0.261	0.800	0.209	0.252
2066/67		0.2	0.054	0.252	0.800	0.202	0.255

APPENDIX II.4 FORECAST OF MGMT. EXPENSE RATIO

t+1	Y$_t$		Y$_t$	$_t$	(1-)	(1-)* $_t$	$_{t+1}$
2060/61	0.138						
2061/62	0.113						0.138
2062/63	0.144	0.2	0.023	0.138	0.800	0.110	0.133
2063/64	0.126	0.2	0.029	0.133	0.800	0.106	0.135
2064/65	0.031	0.2	0.025	0.135	0.800	0.108	0.133
2065/66	0.013	0.2	0.006	0.133	0.800	0.107	0.113
2066/67		0.2	0.003	0.113	0.800	0.090	0.093

APPENDIX II. 5 FORECAST OF COMBINED RATIO

($_{t+1}$)	(Y$_t$)	( )	Y$_t$	$_t$	(1-)	1-)* $_t$	$_{t+1}$
2060/61	0.236						
2061/62	0.230						0.236
2062/63	0.313	0.2	0.046	0.236	0.800	0.188	0.234
2063/64	0.298	0.2	0.063	0.234	0.800	0.187	0.250
2064/65	0.165	0.2	0.060	0.250	0.800	0.200	0.260
2065/66	0.192	0.2	0.033	0.260	0.800	0.208	0.241

| | | 0.2 | 0.038 | 0.241 | 0.800 | 0.193 | 0.231 |

APPENDIX II.6 FORECAST OF NET EARNINGS RATIO

t+1	Y_t		Y_t	t	(1-)	(1-)* t	t+1
2060/61	0.189						
2061/62	0.269						0.189
2062/63	0.194	0.2	0.054	0.189	0.800	0.151	0.205
2063/64	0.116	0.2	0.039	0.205	0.800	0.164	0.203
2064/65	0.114	0.2	0.023	0.203	0.800	0.162	0.185
2065/66	0.185	0.2	0.023	0.185	0.800	0.148	0.171
2066/67		0.2	0.037	0.171	0.800	0.137	0.174

APPENDIX II.7 FORECAST OF NET WORTH RATIO

t+1	Y_t	( )	Y_t	t	(1-)	(1-)* t	t+1
2060/61	0.101						
2061/62	0.124						0.101
2062/63	0.113	0.2	0.025	0.101	0.800	0.080	0.105
2063/64	0.077	0.2	0.023	0.105	0.800	0.084	0.107
2064/65	0.077	0.2	0.015	0.107	0.800	0.085	0.101
2065/66	0.130	0.2	0.015	0.101	0.800	0.081	0.096
2066/67		0.2	0.026	0.096	0.800	0.077	0.103

APPENDIX II.8 FORECAST OF PREMIUM GROWTH RATIO

t+1	Y_t)		Y_t	t	(1-)	(1-)* t	t+1
2061/62	0.118						
2062/63	0.135						0.118
2063/64	0.018	0.2	0.027	0.118	0.800	0.094	0.121
2064/65	0.187	0.2	0.004	0.121	0.800	0.097	0.100
2065/66	0.110	0.2	0.037	0.100	0.800	0.080	0.118

| 2066/67 | | 0.2 | 0.022 | 0.118 | 0.800 | 0.094 | 0.116 |

APPENDIX II.9 FORECAST OF TECHNICAL RESERVE RATIO

t+1	Y_t		Y_t	t	(1-)	(1-)* t	t+1
2060/61	1.004						
2061/62	1.000						1.004
2062/63	0.874	0.2	0.200	1.004	0.800	0.803	1.003
2063/64	0.902	0.2	0.175	1.003	0.800	0.803	0.978
2064/65	0.811	0.2	0.180	0.978	0.800	0.782	0.962
2065/66	0.823	0.2	0.162	0.962	0.800	0.770	0.932
2066/67		0.2	0.165	0.932	0.800	0.746	0.910